Antecedents and Consequences of the Worldwide Diffusion of Accounting Innovations: The Case of International Accounting and Auditing Standards

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Abstract

This thesis examines the antecedents and consequences of the worldwide adoption of international accounting innovations by applying diffusion of innovation theory. Specifically, this study investigates the relative impacts of four key national antecedents, including legal, political, cultural and educational factors on the adoption of international accounting and auditing standards, by using a panel dataset consists of 3,240 observations, covering 162 countries over 1995-2014. Additionally, this study also examines the influences of adopting international accounting and auditing standards on the economic consequences of the adopting countries, by using a sample consists of 185 countries, covering 3,700 observations between 1995 and 2014.

This study provides great theoretical and methological contributions to the current literature by applying Diffusion of Innovation (DOI) theory as a main theory, which has not yet been employed to explain the antecedents and consequences of adopting international accounting innovations. Moreover, this study adds a big contribution to the existing ISAs empirical research, since there has been very little empirical research conducted so far to investigate the anteceddents and consequenses of adopting ISAs by buliding upon the empirical research that done by past IFRS studies. Furthermore, the present study makes a significant contribtion to the existing IFRS research by including four key national antecedents, including legal, political, cultural and educational factors, which have not been done before, alongside with using a wide range of economic consequenses of IFRS adoption, while past IFRS studies included very few indicators.

The results of this study show that legal and educational factors have the highest power on the early adoption of international accounting innovations. Particularly, the findings indicate that countries with the following legal antecedents are more likely to be the early adopters of international accounting innovations, including English common law, Socialist civil law, strong shareholder protection laws, strong legal integrity and higher levels of judicial efficiency and independence. In addition, the results show that countries with higher levels of educational attainment and literacy rates, along with lower levels of education quality are more likely to be the early adopters of the international accounting innovations. However, the findings suggest that the results relating to national political and cultural antecedents are generally mixed. Specifically, the results demonstrate that countries with weak levels of governance indictors, including voice and accountability, political stability, regulatory quality, and control of corruption are more susceptible to become early IFRS adopters, whilst the levels of voice and accountability and political stability, are found to be lower in countries that adopted ISAs early. Similarly, the findings indicate that countries with higher levels of cultural values, including individualism index, indulgence index, and long-term orientation index, alongside with lower level of uncertainty avoidance, power distance and masculinity index are more likely to be early IFRS adopters, whilst long-term orientation index is found to be higher for early ISAs adopters.

Finally, the results report that most economic indicators have significantly increased after the early adoption of ISAs, including economic growth, FDI, GDP, exports, imports, inflation and real interest rates. while, only three economic factors have significantly improved after the early adoption of IFRS, namely economic growth, FDI and real interest rates. In return, the levels of other three economic indicators have significantly increased post the mandatory adoption of IFRS, including GDP, import and export levels.

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Abbreviations

ISAs	International Standards on Auditing
IFRS	International Financial Reporting Standards
IAIs	International Accounting Innovations
IAS	International Accounting Standards
IAASB	International Auditing and Assurance Standards Board
IAPC	International Auditing Practices Committee
GAAS	Generally Accepted Auditing Standards of US
DOI	Diffusion of Innovation Theory
RBT	Resource-Based Thory
LLSV	La Porta, Lopez-de-Silanes, Shleifer & Vishny Legal Origin Theory
FASB	Financial Accounting Standards Board
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFAC	International Federation of Accountants
FSF	Financial Stability Forum
FSB	Financial Stability Board
SEC	Securities and Exchange Commission
WB	World Bank
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
EC	European Commission
EU	European Union
WFE	World Federation of Exchanges
WTO	World Trade Organization
FEE	European Federation of Accountants
OECD	Organization for Economic Cooperation and Development
AICPA	American Institute of Certified Public Accountants
ROSC	Report on the Observance of Standards and Codes
2SLS	Two Stage Least Squares
VIF	Variance Inflation Factor
DW	Durbin Watson Test
IV	Instrumental Variables
SW	Sanderson-Windmeijer Statistic Test

Chapter One : Introduction to the Study

1. Aims of the Chapter

This chapter provides a brief overview of the context and purpose of conducting this study. Specifically, this chapter is divided into the following sections. Section 1.1 presents the background of this study. Section 1.2 discusses the rationale and motivations for conducting this research. Section 1.3 identifies the research objectives and the research questions related to this study. Section 1.4 discusses contributions towards conducting this study. Section 1.5 outlines the structure of the entire thesis.

1.1 Background of the Study

New innovations are not merely the exploration of innovative ideas, products, services, or processes that meet the needs of society, government or a market, it can also refer to new standards that are adopted to enhance the quality of existing products and/or services (Rogers, 2003; Jawad & Xia, 2015; Shukla, 2009; Dainiene & Dagiliene, 2014). Drawing on Rogers' (1962) diffusion of innovation (DOI) theory, the adopters of new innovations can be classified into five major categories, based on their adoption-time including, innovators, early adopters, early majority, late majority, and laggards. The early adopters have a high-risk appetite, while the late adopters are risk averse, who prefer to avoid a high degree of uncertainty (Rogers, 2003). According to the DOI theory, the adoption level of an innovation can be highly influenced by the environmental context of the adopters, such as the geographical environment, societal culture, political status, and global consolidation (Wejnert, 2002).

Global financial crises, along with, globalization are the main drivers that led to an increase in the need to establish more rigid International Accounting Innovations (IAIs), including the International Standards on Auditing (ISAs), and International Financial Reporting Standards (IFRS), with a view to enhance the efficiency of the accounting and audit professions alike (Enrione et al., 2006; Dellaportas et al., 2008; Kleinman et al., 2014). This is because the financial scandals that occurred around the world are not merely based on the disappearance of corporate governance reforms, they are also broadly-based on manipulating accounting and auditing systems, due to a lack of local accounting and auditing standards (Yakhou & Dorweiler, 2004). Therefore, the International Accounting Standards Committee (IASC) issued the first set of the IAS in 1971, which were set forth after being replaced with the IFRS in 2001, developed by the International Accounting Standards Board (IASB) with a view to develop a single set of high-quality accounting standards, and thus enhance international transparency and comparability among various countries (De George et al., 2016). Similarly, by 1991, the first International Standards on Auditing (ISA) were issued by the International Auditing Practices Committee (IAPC), now known as the International Auditing and Assurance Standards Board (IAASB), which enhance the quality of auditing services (Gomez, 2012).

However, there is clear diversity among countries in the time and way every group of countries have adopted the international accounting and auditing standards, due to the differences between their

national antecedents including legal, cultural, political, educational and economic factors (Boolaky & Soobaroyen, 2014; Boța-Avram, 2014; Cardona et al., 2014). In this regard, the diffusion level of the IFRS can be explained by the theoretical framework suggested by the DOI theory, since the number of countries that adopted the IFRS has sequentially increased over time (Dayyala et al., 2016). However, very few studies have considered the international financial reporting standards (IFRS) as innovations (e.g., Dayyala et al., 2016; Voha & Jimoh, 2011). Therefore, although there are several theories that have been applied by different scholars to explain diversity among countries in adopting the International Accounting Innovations (IAIs), the DOI theory has not yet been used to illustrate the dynamic diffusion of the international accounting innovations.

With respect to audit reforms, most of the Anglo-Saxon countries have adopted the ISAs, without any modifications, whilst countries with code law or a continental European culture have established audit reforms to ensure consistency among countries in relation to ISAs adoption (Mennicken, 2008). In this regard, the European Union has issued audit reforms to enforce the audit firms in preparing their audit reports in accordance with the ISAs. The new audit reforms are primarily released to develop the quality of the audit profession and enhance the auditors' independence (Haller, 2002). Therefore, the Audit Directive of 2006/43/EC was issued to enforce all statutory audits in the European Union to adopt the ISAs (Merkt, 2009). However, although audit reforms can minimize audit failure and protect against misstatements, it cannot completely reduce the likelihood of potential fraud, even after the ISAs adoption. Hence, several economic and financial benefits should be provided to adopters with a view to encourage them to comply with the existing audit reforms (Nelson, 2006).

With reference to accounting reforms, the adoption of IFRS can be achieved either by adopting the IFRS, as they were issued by the IASB, or by reforming and modifying the local accounting standards of a country in relation to the original IFRS. In 2002, the Council of the European Union established an accounting reform of the E.U., namely Regulation No. 1606/2002, with a view to enforce the mandatory adoption of the IFRS for all listed companies, starting from 2005 (Guggiola, 2010). Nevertheless, the adoption of the IFRS is considered more complicated, especially for those countries with a Continental European model, rather than countries with an Anglo-Saxon model. This is because reforming the IAS requires various institutional changes, which would be difficult to apply (Trabelsi, 2016).

Accordingly, there is a clear diversity in accounting reforms across countries, due to the different historical roots of each country. Further, although many countries have adopted IFRS, some may suffer from inconsistency in the application of IFRS as a result of diversity in the accounting reforms between countries (Obradovic, 2014; Hyndman et al., 2014). Hence, to minimize inconsistency emerging from IFRS adoption, there is a need for a real incorporation between the IASB and several regulatory groups, such as professional accounting bodies, policymakers, and international organizations for establishing unified accounting reforms (Adhikari et al., 2013).

1.2 Rationale and Motivations for the Study

This study has been motivated by several factors that explain why this study is important. The first motivation is to obtain a comprehensive understanding of the determinants and related factors that encouraged or discouraged some countries in adopting international standards. Although over 100 countries have adopted a single set of the IAIs, many countries have not yet adopted them due to the influence of various institutional factors (e.g., Wall et al., 2010; Zehri & Chouaibi, 2013; Bhattacharjee, 2009). Hence, it has been considered important to include a considerable number of countries in one single study, with a view to examine the effects of their national antecedents on the adoption of IAIs, and further identify which factors have led either to adopting or impeding the adoption level. This study has therefore covered data for a large number of countries, including a wide variety of national legal, political, educational and cultural antecedents, in addition to a wide range of economic consequences, in order to understand the bigger picture of national antecedents and the salient consequences of the worldwide adoption of the international accounting and auditing standards.

Secondly, unlike previous studies, this study is mainly motivated by the need to apply a new theory, known as the Diffusion of Innovation (DOI) theory, which has not yet been utilized so far to explain the diffusion of IAIs. The DOI theory explains the adoption of IAIs across countries by using five main adopter groups, based on their adoption-times. Prior studies have relied on several individual theories to explain the effects of the institutional factors on the adoption of IAIs, such as institutional theory (e.g., Alon & Dwyer, 2014; Judge et al., 2010; Lasmin, 2011; Boolaky & Soobaroyen, 2017), Hofstede-Gray cultural theory (e.g., Borker, 2017; Clements et al., 2010; Zeghal & Mhedhbi, 2006; Boolaky & Omoteso, 2016), and the LLSV legal origin theory (e.g., Dimaa et al., 2013; Zehri & Chouaibi, 2013; Kolsi & Zehri, 2009). Similarly, previous IFRS studies have applied additional theories to explain the consequences of adopting the IFRS, such as economic network theory (e.g., Saucke, 2015; Ramanna & Sletten, 2014; Adereti & Sanni, 2016; Houqe et al., 2012), signalling theory (e.g., Masoud, 2017; Kolsi & Zehri, 2009; Shima & Yang, 2012; Phan et al., 2016), and resource-based theory (e.g., Shima & Yang 2012; Daude & Stein, 2007; Kim, 2017). Nonetheless, the DOI theory has been merely utilized by previous studies to investigate the influence of institutional factors on the diffusion of management accounting innovations (e.g., Al-Omiri, 2003; Alcouffe et al., 2008; Leftesi, 2008; Sisaye & Birnberg, 2012; Shil et al., 2015; Tucker & Parker, 2014).

Thirdly, this study is empirically conducted with a view to fill in some important limitations and gaps in the existing research literature regarding the adoption of IAIs, especially the ISAs adoption. More specifically, most prior studies have examined the relationship between the environmental factors and the strength of auditing and financial reporting standards, rather than investigating the adoption of ISAs (e.g., Boolaky & Cooper, 2015; Boolaky et al., 2013; Boolaky, 2011; Boolaky & O'Leary, 2011; Boolaky & Cooper, 2015). However, only two empirical studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017) have studied the effects of certain institutional factors on the ISAs adoption, by

combining certain factors and consequences of the ISAs in the same regression models, this can lead to obtaining inaccurate results. Previous ISAs research have conflated antecedents, including the democracy index, protection of minority stakeholders, regulatory enforcement and educational attainment with specific economic and financial indicators, namely GDP, market capitalization, foreign aids and imports over a short period of time from, 2009 to 2012.

Accordingly, implementing the present study will help provide important contributions to the current research and offer a better understanding of the key national antecedents of the ISAs adoption. This can be done by examining the influence of several proxies relating to the four national antecedent factors included in this study, namely legal, political, cultural, and educational factors on the ISAs adoption, with a view to identify national factors that can hinder the ISAs adoption. The legal antecedents include five proxies: legal origin, shareholder protection rights, judicial efficiency, judicial independence and legal system integrity. The cultural antecedents involve the six cultural dimensions suggested by Hofstede to explain the cultural values across countries. The political antecedents include four governance indicators developed by the World Bank, namely voice and accountability, political stability, regulatory quality and control of corruption. The educational antecedents include three proxies, namely educational attainment, literacy rates, and education system quality.

Fourthly, the present study seeks to address the existing research gaps among the current empirical studies, which have tried to examine the consequences of adopting the IAIs. Particularly, prior empirical IFRS studies examined the impact of IFRS adoption on just a few economic indicators (e.g., Zaidi & Huerta, 2014; Zeghal & Mhedhbi, 2006; Ramanna & Sletten, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013; Lasmin, 2012a; Pricope, 2017; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009; Hope et al., 2006; Clements et al., 2010). Similarly, previous ISAs research studied the influence of the ISAs adoption on very few economic indicators of the adopting countries (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). Therefore, distinct from the above-mentioned empirical studies, the present study investigates the effects of adopting the IAI on a wide range of economic consequences at the macro-country level, and for a longer period of time, to clearly identify the practical benefits and implications associated with the IAIs adoption.

Fifthly, this study can provide insights into the local standard setters regarding the national antecedents that might impede the worldwide adoption of IAIs, and further encourage them to establish the accounting and auditing reforms required to provide consistent application of the IAIs. Furthermore, this study also provides information to foreign investors and multi-national corporations regarding the current economic and financial situations for adopted countries following the adoption of IAIs by different countries around the world, which would help these investors to choose the right country suitable for their investments. Additionally, and most importantly, this study has implications for the international standards-setting bodies, including the International Auditing and Assurance Standards

Board (IAASB), which has established the ISAs, and the International Accounting Standards Board (IASB), which has released the IFRS about the types of national antecedents that might lead to hindering the global diffusion of the IAIs, thus encouraging the international standard setters to collaborate with national setters, in order to ensure the consistent application of the IAIs

Finally, the present study departs from previous ISAs studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017), that combined the parametric with non-parametric data analysis techniques to analyse categorical dependent variables, which are in fact considered to be statistically inaccurate. Likewise, most of the previous IFRS studies have applied linear regression models with ordinal IFRS dependent variables, which are deemed misleading statistical tests that might lead to inaccurate results (e.g., Ramanna & Sletten, 2014; Shima & Yang, 2012; Kossentini & Ben Othman, 2014; Judge et al., 2010). The reason for this is because the linear regression model can only be applied if the nature of the dependent variable is continuous (Williams et al., 2013). However, this study has employed non-parametric data analysis methods to analyse categorical outcome variables, by using a series of cumulative binary logit and probit regression models. According to the DOI theory, the categorical dependent variables that refer to the adopter groups were divided into the following five adopter groups: experimenters (*EXPR*); early adopters (*ERAD*); early majority (*ERMJ*); late majority (*LTMJ*) and laggards or non-adopters (*LGGR*). Additionally, this study also examines the impact of adopting the IAIs on a wide range of economic indicators. This can be achieved by employing parametric methods, namely multiple linear regression models, since the dependent variables related to this part of the study referring to the economic indicators are continuous in nature.

1.3 Research Objectives and Research Questions

This study aims to examine the national antecedents and consequences of the global adoption of two IAIs, namely ISAs and IFRS. Accordingly, the main purposes of conducting this study defined below:

- Examine the impact of four key national antecedents, including legal, cultural, political, and educational factors on the adoption of ISAs.
- Investigate the effect of four key national antecedents, including legal, cultural, political, and educational factors on the adoption of IFRS
- Evaluate the influence of adopting ISAs on the economic consequences of the adopting countries.
- Explore the impact of adopting IFRS on the economic consequences of the adopting countries.

Based on the above objectives, this empirical study seeks to answer the following questions:

- What are the key national antecedents that have influenced the worldwide adoption of ISAs?
- What are the main national antecedents that have affected the global adoption of IFRS?
- What are the major economic benefits achieved by the adopting countries following ISAs adoption?
- What are the main economic advantages obtained by the adopting countries post IFRS adoption?

1.4 Research Contributions

There are several significant contributions that can be achieved by conducting this research, the development of theories, empirical and methodological aspects related to examining the antecedents, and the consequences of the worldwide adoption of the IAIs from different viewpoints. Prior studies applied institutional theory to investigate the effects of certain institutional factors on the adoption of IAIs (e.g., Boolaky & Soobaroyen, 2017; Kossentini & Ben-Othman 2014; Alon & Dwyer, 2014; Pricope, 2016; Judge et al., 2010; Alon & Dwyer, 2016; Irvine, 2008; Lasmin, 2011; Yeow & Mahzan, 2013; Florou & Pope, 2012). Similarly, past studies used the Hofstede-Gray cultural theory to explain the impact of cultural values on the adoption of IAIs (e.g., Boolaky & Omoteso, 2016; Borker, 2012; Borker, 2014a; Borker, 2017; Borker, 2013; Borker, 2016; Tanaka, 2013; Combs et al., 2013). Likewise, the La-Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV) legal origin theory has also been employed by some scholars to examine the effects of legal factors on the diffusion of good corporate governance (e.g., Dam, 2006; Zattoni & Cuomo, 2008; Padgett, 2011; Gerner-Beuerle, 2017; Matoussi & Jardak, 2012).

Accordingly, this study employs the previous theoretical frameworks in addition to using the DOI theory that was developed by Rogers (1962) as the main theory to explain the key antecedents of the worldwide adoption of IAIs, which has not yet been applied so far. This can be done because the DOI theory provides five classifications for the adopter groups, based on their adoption-time, namely experimenters, early adopters, early majority, late majority and laggards.

Additionally, unlike previous research, which applied individual theories such as the signalling theory to explain the consequences of IFRS adoption (e.g., Masoud, 2017; Kolsi & Zehri, 2009; Akman, 2011; Iatridis, 2008; Smith, 2008; Shima & Yang, 2012; Phan et al., 2016; Guggiola, 2010; Balsam et al., 2016; Katselas & Rosov, 2017), the resource dependence theory to understand the effects of IFRS adoption (e.g., Lundqvist et al, 2008; Alon & Dwyer, 2014; Kim, 2017), and the economic network theory to address the effects of IFRS adoption (e.g., Ramanna & Sletten, 2014; Saucke, 2015; Phan et al., 2016; Adereti & Sanni, 2016; Ben-Othman & Kossentini, 2015; Houqe et al., 2012). The present study contributes to the existing theories by applying multiple theoretical frameworks consisting of the three previous theories as supplementary theories, in addition to the DOI theory as the main theory to explain the consequences of the global adoption of IAIs.

Empirically, the impact of national legal antecedents on the adoption of the ISAs has not yet been examined until the present, except for the effect of protecting the minority of investors on the ISAs adoption, which has been examined by very few studies (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016). However, little research has been conducted to examine the effects of the national legal antecedents of IFRS adoption, including legal origin (e.g., Zehri & Chouaibi, 2013; Dimaa et al., 2013; Dayanandan et al., 2016; Wang et al., 2008), shareholder protection laws (e.g., Renders &

Gaeremynck, 2007; Houqe et al., 2012; Chebaane & Othman, 2014; Houqe et al., 2014; Hope et al., 2006; Francis et al., 2008), judicial efficiency (e.g., Beuselinck et al., 2009; Cai et al., 2012; Li, 2010), and judicial independence (e.g., Houqe et al., 2012; Halabi & Yi, 2015; Avram et al., 2015; Ozcan, 2016; Cai et al., 2014; Houqe et al., 2016). Therefore, this study provides a significant contribution to the existing empirical literature, by studying the relationship between the adoption of IAIs and five national legal proxies, including legal origin, shareholder protections laws, judicial efficiency, judicial independence and legal system integrity.

Similarly, most empirical studies examined the impact of either few governance indicators, or the aggregate score for the worldwide governance indicators on IFRS adoption, including the voice & accountability index (e.g., Alon & Dwyer, 2014; Houqe et al., 2012; Ben-Othman & Zeghal, 2008; Houqe & Monem, 2016; Gresilova, 2013), the political stability index (e.g., Ozcan, 2016; Gresilova, 2013; Riahi & Khoufi, 2017a; Pricope, 2014; Hoque et al., 2011; Pricope, 2015; Zaidi & Huerta, 2014), the regulatory quality index (e.g., Houqe et al., 2012; Wieczynska, 2016; Gresilova, 2013; Louis & Urcan, 2012; Christensen et al., 2013; Mita & Husnah, 2015), and the control of corruption index (e.g., Amiram, 2012; Rahman, 2016; Nurunnabi, 2015a; Riahi & Khoufi, 2017; Houqe & Monem, 2016; Cai et al., 2014). However, this study uses four governance indicators, including voice and accountability, political stability, regulatory quality and control of corruption, in order to examine the national political antecedents of IFRS adoption. On the other hand, studying the effects of the worldwide governance indicators on ISAs adoption has not been investigated so far.

Additionally, most past studies applied one or two cultural values developed by Hofstede to examine the effects of cultural dimensions on the adoption of IAIs, including the power distance cultural index (e.g., Boolaky & Soobaroyen, 2017; Neidermeyer et al. 2012; Lasmin, 2012; Cardona et al., 2014; Clements et al., 2010), individualism cultural index (e.g., Boolaky & Soobaroyen, 2017; Cardona et al., 2014; Neidermeyer et al., 2012; Machado & Nakao, 2014; Lasmin, 2012; Clements et al., 2010), uncertainty avoidance index (e.g., Neidermeyer et al., 2012; Machado & Nakao, 2014; Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Cardona et al., 2014; Clements et al., 2010), masculinity index (e.g., Combs et al., 2013; Fearnley & Gray, 2015; Yurekli, 2016; Cardona et al., 2014; Clements et al., 2010; Lasmin, 2012), long-term orientation index (e.g., Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008), and indulgence index (e.g., Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014; Rotberg, 2016). However, this study contributes to the existing literature by applying six cultural dimensions, again developed by Hofstede, with a view to verify any impacts claimed by the prior studies, and further to extend their findings relating to the impact of cultural values on the adoption of IAIs.

Furthermore, very few studies have examined the effect of national educational factors, including educational attainment level in a country on the adoption of IAIs (e.g., Boolaky & Omoteso, 2016;

Boolaky & Soobaroyen, 2017; Judge et al., 2010; Lasmin, 2011a; Zehria & Chouaibi, 2013). Similarly, little research has been conducted by previous studies to investigate the influence of literacy rates in a country on IFRS adoption (e.g., Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009; Kolsi & Zehri, 2009; Masoud, 2014). In contrast, examining the effect of the education system quality in a country on the IAIs adoption has not yet been empirically studied. Therefore, this study makes a significant contribution to the current empirical research by examining the effects of three national educational antecedents, including educational attainment, literacy rates and the quality of the education system on the adoption of IAIs.

Similarly, distinct from prior empirical studies that limited their research to a few economic indicators (e.g., Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Zeghal & Mhedhbi, 2006; Ramanna & Sletten, 2014; Pricope, 2017; Zehri & Chouaibi, 2013; Lasmin, 2012), this study contributes to the existing empirical literature by examining the effects of a wide range of economic indicators on the adoption of IAIs.

Regarding the methodological contributions, distinct from prior studies that employed a linear regression as a main model to analyse their categorical dependent variables (e.g., Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Ramanna & Sletten, 2014; Shima & Yang, 2012; Kossentini & Ben Othman, 2014; Judge et al., 2010), this study has applied ordered logistic regression and a series of cumulative binary logit and probit regression models upon the dependent variable, which was divided into five main groups, as suggested by the DOI theory. Furthermore, unlike most prior IFRS studies that have conflated between the national antecedents and the consequences of IFRS adoption in one single regression model (Zeghal & Mhedhbi, 2006; Pricope, 2017; Shima & Yang, 2012; Judge et al., 2010; Zehri & Abdelbaki, 2013; Alon & Dwyer, 2014), the present study applies two separate statistical techniques to examine the antecedents and consequences of adopting the IAIs. Specifically, the current study uses a series of cumulative binary logit regression models towards studying the antecedents of adopting the IAIs, since the outcome variables are categorical in nature, along with multiple linear regression models to examine the continuous economic consequences of adopting the IAIs.

Additionally, unlike most prior IFRS studies that measured the level of IFRS adoption as a dichotomous variable (e.g., Pricope, 2015; Kolsi & Zehri, 2009; Zeghal & Mhedhbi, 2006; Hope et al., 2006; Lungu et al., 2017), this study extends the existing methodological methods by using the new classification suggested by the DOI theory, with a view to present the adopter groups, which are divided into five main groups based on their adoption-time, including experiments, early adopters, early majority, late majority and laggards.

1.5 Research Structure

This thesis is divided into ten chapters, as follows. The first chapter provides an introduction relating to the present study, which contains the following five sections: the background of the study, the rationale and motivations behind the study, the research objectives and questions, the research contributions, and research structure. The second chapter presents the history and the challenges of adopting the IAIs. Particularly, the second chapter discusses the history, along with the global events that led to an increased demand for adopting the IAIs, Additionally, it discusses the influence of the international organizations in increasing the demand for adopting IAIs, and further outlines the challenges relating to adopting the IAIs.

The third chapter reviews the theoretical frameworks applied in the study to explain the national antecedents and consequences of the global adoption of the IAIs. This chapter involves a review of the conceptual framework behind adopting the IAIs. Moreover, it discusses the rationale underlying the use of a multi-theoretical framework and identifies the main reasons for choosing the selected theories applied in this research. Furthermore, the chapter also reviews the theoretical frameworks selected to explain the antecedents of the worldwide adoption of the IAIs, along with the theoretical frameworks chosen to explain the economic consequences of adopting the IAIs. Additionally, the chapter provides a critical review of the selected theoretical literature utilized to explain the adoption of IAIs.

The fourth chapter presents an empirical literature review and hypotheses development relevant to examining the association between the key national antecedents and the global adoption of the IAIs. Specifically, the chapter reviews the extant empirical literature conducted to ascertain the relationship between national legal antecedents and the global adoption of the IAIs, the association between national cultural antecedents and the global adoption of the IAIs, the relationship between national political antecedents and the global adoption of the IAIs, and the association between national educational antecedents and the worlwide adoption of the IAIs. Additionally, the chapter provides a critical reflection on the existing empirical literature conducted to examine the relationship between the key national antecedents and the global adoption of the IAIs.

The fifth chapter discusses the empirical literature and hypotheses developments that are relevant to investigating the impact of adopting the IAIs on the economic consequences of the adopting countries. The chapter reviews the extant empirical literature conducted to examine the influence of adopting the IAIs on the economic consequences of the adopting countries. The chapter outlines a critical reflection on the existing empirical literature conducted to examine the effects of the global adoption of the IAIs on the economic consequences of the adopting countries.

The sixth chapter presents the philosophical and methodological approaches that are applied in this study. Firstly, the philosophical underpinnings are presented, including the philosophical research

paradigm, ontological position, epistemological position, axiological position, theoretical perspectives, and justifications for choosing the selected philosophical positions. Secondly, the research methodology is discussed, which comprises of the following sections: research approach, research design, research methods, research quality, variables measures and definitions, data sources and model specifications.

The seventh chapter discusses the descriptive statistics of the data, which includes univariate and bivariate statistics relevant to all variables included in this study. Firstly, the univariate descriptive presents the most common numerical and graphical measures of central tendency, dispersion and frequency tables for all variables involved in the regression models applied to this study. Secondly, the bivariate descriptive statistics are discussed, which involves the correlation coefficients by using two statistical analysis methods, namely Pearson and Spearman correlation matrices, with a view to examine the bivariate correlation of each variable against each other variables included in this study.

The eighth chapter presents the inferential statistics, which involves the empirical results and discussion of the findings obtained by using the parametric and non-parametric regression methods, in addition to fixed effect models, and is organized as follows. Firstly, the empirical findings are analysed by using multiple non-parametric statistical methods to examine the relationship between the key antecedents and ISAs adoption. Secondly, the empirical results are studied by using multiple non-parametric statistical methods to examine the association between the key antecedents and IFRS adoption. Thirdly, the empirical findings are analysed, using multiple linear regression and fixed effects models to study the impact of ISAs adoption on the economic consequences of the adopting countries. Finally, the empirical results were gained by applying multiple linear regression and fixed effects models to examine the effects of IFRS adoption on the economic consequences of adopting countries.

The ninth chapter discusses the robustness analysis and the sensitivity tests applied in this study to check the validity of the main findings obtained in chapter eight, and is organized as follows. The robustness analysis used to check the validity of a series of binary logistic regression models applied to examine the association between and the key national antecedents the adoption of the IAIs is prsented. Subsequently, the robustness analysis and sensitivity tests applied to check the validity of the multivariate linear regression models that employed to examine the effects of adopting the IAIs on the economic consequences of the adopting countries are detailed.

The tenth chapter presents a summary of the results and conclusions from conducting this study. Specifically, the chapter summaries the main findings and draws some general conclusions relating to the antecedents and consequences of the worldwide adoption of the IAIs. Thereafter, the theoretical, empirical and methodological contributions relating to conducting this research will be discussed. Then, a summary of the implications on practice, theory and policymakers will be presented. Finally, this chapter will highlight the research limitations and will offer recommendations for further research.

Chapter Two : Development and Challenges of Adopting the IAIs

2. Aims of the Chapter

This chapter discusses the developments and challenges in adopting the international accounting innovations, and is organized as follows. Firstly, Section 2.1 presents the development of international standards on auditing (ISAs), and is divided into the three following subsections. Section 2.1.1 reviews the history of international standards on auditing (ISAs). Section 2.1.2 presents the role of international organizations on the adoption of ISAs. Section 2.1.3 discusses the challenges of adopting international standards on auditing (ISAs). Secondly, Section 2.2 presents the development of international financial reporting standards (IFRS), which is divided into the three next subsections. Section 2.2.1 reviews the history of international financial reporting standards (IFRS). Section 2.2.2 presents the role of international organizations on the adoption of IFRS. Section 2.2.3 discusses the challenges of adopting international financial reporting standards (IFRS). Finally, Section 2.3 provides a brief summary of this chapter.

2.1 The Development of International Standards on Auditing (ISAs)

This section presents the development, history and the challenges facing countries that adopted the international standards on auditing, and is divided into three subsections, as follows. Firstly, it provides a brief history and the global events that led to increasing the need for adopting the ISAs. Secondly, it discusses the influence of international organizations on increasing the adoption of ISAs. Thirdly, it presents the obstacles and challenges facing countries that have adopted ISAs.

2.1.1 The History of International Standards on Auditing (ISAs)

In the past, there was no need to have one single set of international accounting and auditing standards. However, over the last forty years, the need to obtain international accounting and auditing standards has increased due to the presence of multinational corporations and world globalization which in turn has created a greater need to obtain harmonized international accounting and auditing standards (Roussey, 1992). Thereafter, the development of the international standards on auditing has been significantly influenced by many international developments, and several other factors. These global developments involve the world's biggest financial scandals, the Sarbanes–Oxley Act, financial globalization, and the international convergence of auditing standards (Anerud, 2004). The need to establish the international standards on auditing has increased because of a new generation of multinational corporations that were established in the 1960s (Needles et al., 2002). The desire to issue one single set of international standards on auditing significantly increased after the financial crisis, with a view to enhance the quality of financial statements and develop the quality of auditing services (Humphrey et al., 2009; Boolaky & Omoteso, 2016; Mennicken, 2008).

By 1977, the International Federation of Accountants (IFAC) was launched by the International Accounting Standards Committee (IASC) to enhance the worldwide accountancy and auditing

professions (Roussey, 1992; Loft et al., 2006). Thereafter, the IFAC established the International Auditing Practices Committee (IAPC) (Gomez, 2012). In 1978, the International Auditing Practices Committee was replaced by the International Auditing and Assurance Standards Board (IAASB), which formally commenced its work to develop guidelines on generally accepted auditing practices and identify the content and form of auditing reports (Humphrey et al., 2014). Between 1980 and 1990, the IAASB issued a series of International Auditing Guidelines (IAG). By 1990, the IAASB had issued exactly 29 international auditing guidelines IAG (Roussey, 1999; Roussey, 1996). Then, the IAASB renamed the international auditing guidelines 'the international standards on auditing' (ISAs) (Humphrey and Loft, 2008). Since 1991, the IAASB began to release one single set of International Standards on Auditing, with a view to internationally increase the quality of auditing services among different countries (Gomez, 2012).

Since the Asian Financial Crisis of 1997, the Big Audit firms received a large amount of criticism for using local accounting standards rather than applying international accounting and auditing standards. These criticisms came from many international organizations, including the International Monetary Fund (IMF), the World Bank (WB) and the Securities & Exchange Commission (SEC) (Needles et al., 2002). However, after the Asian crisis of 1997, there was an intense pressure from the international bodies, such as the World Bank and the United Nations Conference on Trade and Development (UNCTAD) upon the international standard setting bodies, including the International Federation of Accountants and its International Auditing Practices Committee. This pressure was intended to encourage the standards setting bodies to improve the quality of international accounting and auditing standards to avoid a similar crisis in the future (Kelly, 1998).

In 2004, the European Commission (EC) announced that it was ready to encourage European countries to adopt the International Standards on Auditing, so long as these standards led to increase the transparency of their financial reporting (Loft et al., 2006). Accordingly, the Audit Directive of 2006/43/EC was issued to enforce all statutory audits in the European Union to adopt the ISAs. The EC divided the empowerment of the ISAs adoption within the EU between two political parties: the European Parliament and the Council of the EU. The reason for this was to make the adoption of the ISAs part of the legal system of the European Union (Merkt, 2009). Moreover, the European Group of Auditors' Oversight Bodies (EGAOB) was established to monitor the system of statutory auditors in Europe. Thereafter, the EGAOB was replaced by the European Securities and Markets Authority (ESMA) recently with a view to work as a supervisory authority for ISAs adoption in the European Union (Humphrey & Loft, 2013).

Further, the European Parliament and the Council of the EU have amended the Directive 2006/43/EC twice after they were issued in 2006. Hence, the statutory audits of annual accounts and consolidated accounts have been amended by the Directive of 2008/30/EC, thereafter, amended by the Directive of

2014/56/EU (European Commission., 2016). Although the European Parliament and the Council jointly issued the Directive 2006/43 with a view to create harmonization within the audit standards across the EU countries by adopting the ISAs. However, the EC has not forced the EU members to adopt the ISAs so far (Bloomfield et al., 2017). Therefore, some of the EU countries have not yet embraced the ISAs, while other EU nations have complied with the ISAs regulations (Kohler, 2009).

Regarding the ISAs adoption by the US, before establishing the Sarbanes-Oxley Act of 2002, the Generally Accepted Auditing Standards (GAAS) were launched by the American Institute of Certified Public Accountants (AICPA), with a view to set the local auditing standards in the US (Ye & Simunic, 2013). However, attention on adopting the international standards on auditing ISAs significantly increased after the financial scandals of 2001, for the most innovative large companies in the US, namely Enron and WorldCom (Brody et al., 2005; Collings, 2011). After the Enron scandal, the Sarbanes-Oxley Act was passed in 2002 following the collapse of the biggest companies in the US, with a view to avoid such collapses in future (Fearnley et al., 2005). Therefore, the Public Company Accounting Oversight Board (PCAOB) was one of the most significant outcomes from establishing the Sarbanes–Oxley Act of 2002, after the Enron financial collapse, with a view to monitor the auditors of public firms (Burns & Fogarty, 2010; Fraser, 2010; Ye & Simunic, 2013). The Sarbanes-Oxley act granted the PCAOB the power to release the audit standards required from the public firms in the United States, whereas the US GASS were launched by the AICPA for private firms. Therefore, this complicated development of audit standards in the US led to hindering the harmonization process of its auditing standards (Arens & Elder, 2006).

By 2009, the Clarity Project was created by the IAASB as a response to the pressure that came from certain international bodies, namely the IOSCO and the EC, to enhance the clarity of the ISAs (Nobes & Parker, 2008). Interestingly, the main reason for establishing the Clarity Joint Project between the IAASB and the American Institute of Certified Public Accountants (AICPA) was to increase the convergence between the ISAs and the US. GAAS, thus moving more closely towards the ISAs harmonization (Morris & Thomas, 2011; Cullinan, et al., 2013). Although the ISA and the US. GAAS standards have moved together towards a convergence, they are still firmly incomparable due to the considerable differences between the PCAOB standards that are applied by the US publicly traded companies and the ISAs (Anandarajan & Kleinman, 2015). Although there are few differences and many similarities between the US GAAS and the ISAs, those few differences require various auditing services, which can be challenging for investors and auditors alike (Colbert, 1996). Consequently, the US has not yet adopted the ISAs. However, the AICPA has used the Clarity Project as a means to move toward convergence with the ISAs, while the PCAOB standards that are used for auditing the US publicly traded companies are not moving toward convergence with the ISAs (Cullinan, et al., 2013).

2.1.2 The Role of International Organizations on the Adoption of ISAs

Following several financial collapses, such as the Asian financial collapse in 1997 and the Enron financial scandal in 2001, many international organizations such as the World Bank, IMF and WTO tried to take advantage of this matter and enforced many countries to adopt the international accounting and auditing standards (Botzem, 2012). Applying the international accounting and auditing standards with consistency requires international cooperation from different international organizations, in order to obtain compatible accounting and auditing reports (Maijoor & Vanstraelen, 2012). Therefore, many international bodies have endorsed the adoption of the ISAs. These organizations include the International Organization of Stock Exchange Organizations (IOSCO), the Financial Stability Board (FSB), the World Federation of Exchanges (WFE) and the European Federation of Financial Analysts Societies (EFFAS) (Fraser, 2010).

Initially, the World Trade Organization (WTO) was one of the international bodies that drove the need for adopting the ISAs. As a result, auditing the financial statements in accordance with the international standards on auditing is one of the most important concerns of the WTO (Boolaky & Omoteso, 2016). Accordingly, the WTO has made many international trade agreements to eliminate regional legislations that create barriers to trade and investment in goods (GATT) and services (GATS). The General Agreement on Trade in Services (GATS) provides the legal infrastructure for establishing a single market for accounting and auditing services (Arnold, 2005). In 1996, significant effort was exerted by the WTO to consolidate the international accounting and auditing standards by establishing a statement of support for both the IFAC and the IASC, with a view to provide harmonized international accounting and auditing standards worldwide (Humphrey et al. 2014; Al-Akra et al., 2009). Many countries have adopted the international accounting innovations as a part of their legal responsibility to meet the requirements of the general agreement on trade in services GATS (Fajardo, 2008). The agreement between the General Agreement on Trade in Services (GATS) and the World Trade Organization (WTO) is most beneficial for both the international standard-setters and for investors. This is because the GATS is an integral part of the WTO and the GATS treaty must be applied by all members of the WTO. Therefore, implementing the GATS agreement leads to enhancing the international trade between various nations, which thus increases the harmonization of international standards among different countries (Matsushita et al., 2015).

Furthermore, the Financial Stability Forum (FSF) was established in 1999 by the G-7 finance leaders from seven developed countries, namely the US, Canada, Japan, Germany, France, Italy and the UK (Berry & Indart, 2003). The main reason for establishing the FSF was to coordinate between the authorities of different emerging international standards setters worldwide and the various international bodies, including IOSCO, IASB, EU, IMF, WB, and OECD (Helleiner, 2010). The ISAs adoption has several implications for the Financial Stability Forum (FSF), such as financial reporting transparency

and financial stability (Humphrey et al., 2009). By 2009, the FSF was replaced by the Financial Stability Board (FSB), which was established by the G-20 major economy countries. The FSB endorsed the compilation of the Compendium of Standards, established by the FSF. In addition to the compendium's twelve key standards that were endorsed by the FSB, the IFRS and the ISAs were also incorporated into the Compendium of Standards (De Bellis, 2011). Hence, the FSF is one of the international organizations who has supported the adoption of the ISAs. The main aim of establishing the FSF, which later became the FSB, was to enhance the stability of the international stock markets. Accordingly, the FSB has determined twelve key accounting and auditing standards to strengthen the financial regulations of the international stock exchanges (Humphrey & Loft, 2011).

In terms of the role of the IOSCO in ISAs adoption, one of the most important activities that has been carried out by the IFAC and its committee (the IAPC) to support the ISAs adoption is cooperation with the International Organization of Securities Commissions (IOSCO) (Roussey, 1996). Moreover, the International Organization of Securities Commissions (IOSCO) works with both IASC and IAPC to develop international accounting and auditing standards. The IOSCO represents the world securities regulators which forces any company that seeks to invest in the international stock markets to adopt the international accounting and auditing standards (Roussey, 1992; Needles et al., 2002). The IFAC works with the IOSCO to ensure the harmonization of international standards on auditing ISAs among countries, with a view to enhance the consistency of the financial statements and improve investment decisions (Ashe et al., 2014). Since 2009, the IOSCO has endorsed the clarified project of the ISAs in order to boost the efficiency of global capital markets and provide confidence for investors when they make investment decisions into different stock markets (Fraser, 2010).

The European Federation of Accountants (FEE) is the responsible party for the audit requirements of the European Union (Garcia-Benau & Zorio, 2004). According to a report provided by the European Federation of Accountants (FEE) in 1998, the auditing standards applied in the European Union are considered very similar to the ISAs (Garcia-Benau & Zorio, 2004). However, in 2000, the FEE conducted another survey to compare the content of auditing reports provided by statutory auditors across the EU. The FEE's survey summarized that there are some variations of statutory auditors' reports among the EU members owing to different local regulations, which shape the content of auditors' reports in those EU countries (Fakhfakh, 2012). In 2003, the European Federation of Accountants (FEE) encouraged roughly 500,000 accountants in the European Union to adopt the ISAs. However, this was not the case for the private and small companies that were not registered at any financial markets that existed within the EU region (Crumbley et al., 2004).

The global market for auditing services has been dominated by the Big Four audit firms, which are, Deloitte, Ernst & Young, PwC and KPMG (Kleinman et al., 2014). The Big Four firms have subsidiaries all over the world, and they are the auditing firms that most comply with the international auditing

standards. Therefore, countries that have subsidiaries of the Big Four audit firms have been encouraged to voluntarily adopt the ISAs (Joshi et al., 2010). This is because the Big Four audit firms provide guidance towards how audit firms could apply the ISAs to achieve high-quality auditing reports (Kleinman et al., 2014). Additionally, the big audit firms worked with the IFAC to establish the Forum of Firms (FOF) to perform transnational audits by using the ISAs across multinational regional borders (Street, 2002). However, the worldwide application of the ISAs by the Big Four audit firms still faces significant challenges, involving the legal circumstances, and other conditions in a given country (Kleinman et al., 2014). Furthermore, the performance of the Big Four Audit firms is affected by several macro-level factors, namely language, culture, legal, political, and economic variables (Needles et al., 2002). Adopting the ISAs is required by the foreign companies, who work with the Big Four firms. This is because providing auditing services in accordance with the international auditing standards is not very profitable and is only done to meet the needs of foreign investors (Mennicken, 2006).

2.1.3 The Challenges of Adopting International Standards on Auditing (ISAs)

There are several challenges that must be addressed to support the adoption of international standards on auditing. These challenges and difficulties include a lack of incentive for policymakers, cultural barriers, regulatory problems, the complexity of international standards, translation accuracy, and shortage of education and training related to applying the international standards (Wong, 2004). Although adopting the international standards on auditing comes with some basic benefits, such as increasing the credibility of audited financial reporting, there are some additional costs that emerge from audit firms and stock markets that should be considered if a country decides to adopt the ISAs. Nevertheless, the benefits of adopting the ISAs still outweighs the costs (Kohler et al., 2010). Similarly, there are many factors that can hinder the adoption of the ISAs. These challenges include a lack of effective auditing regulations, a scarcity of human and financial resources, inconsistency between international standards and the legal system of a country, a shorter period of transition from local to international auditing standards, and differences in language between national and international standards on auditing (Hegarty et al., 2004).

Accordingly, countries must ensure that they are able to implement the international standards on auditing before they decide to embrace them. This can be done by assessing if they have the required financial and human resources that can accurately translate the original version of the international auditing standards into the local language, without changing the original meaning (Obaidat, 2007). Furthermore, the adoption of ISAs is associated with certain economic advantages, such as increasing the level of foreign direct investments (FDI), which in turn would create new challenge for local auditors. The technical skills needed to implement the ISAs are one of the basic challenges for local auditors. Additionally, legal constraints are further challenges for auditors to implement the ISAs. Hence, regulators must collaborate with local auditors to overcome any restrictions existing in the

national laws and regulations, which might impede the ISAs adoption (Fraser, 2010). Moreover, the harmonization of the international auditing standards is significantly affected by the diversity in several factors, including language, beliefs, demands and expectations from local auditors and clients alike (Mennicken, 2008).

Although adopting the international standards on auditing has led to increasing the complexity of the auditing services, which in return increases the audit fee, some factors have been significantly improved after the ISAs adoption, including profitability and institutional ownership, which have led to decreases in external audit costs (Harahap et al., 2018). Besides, the ISAs adoption is more challenging for Small and Medium Enterprises (SMEs), which usually suffer from shortages in different resources, including financial, technical, organizational and human resources needed to effectively implement the ISAs (Yong & Mahzan, 2013). In addition, the adoption of ISAs in developing countries with civil law legal origins has been significantly influenced by several factors, such as higher costs, audit laws and regulation, foreign investors demand, and a lack of professional staff (Al-Awaqleh, 2010).

2.2 The Development of International Financial Reporting Standards (IFRS)

This section presents the development, history and the challenges facing countries that have adopted the international financial reporting standards, and is divided into three subsections, as follows. Firstly, it provides a brief history, detailing the global events that led to increasing the need for adopting the IFRS. Secondly, it discusses the influence of international organizations on increasing the demand for IFRS adoption. Thirdly, it presents the challenges facing countries that have adopted the IFRS.

2.2.1 The History of International Financial Reporting Standards (IFRS)

Regarding the development of IFRS, due to the substantial diversity among the local accounting standards applied in many countries around the world, the need to issue one single set of international accounting standards has significantly increased, with a view to solve the comparability problem arising from comparing financial reporting between different countries especially for those countries that seek capital from other countries, stock markets or international organizations (Ali, 2005). Therefore, the International Accounting Standards Committee (IASC) released the first set of international accounting standards (IASs) in 1971 (De George et al., 2016). Approximately forty international accounting standards IASs were released by the International Accounting Standards Committee (IASC). By 1977, the IFAC was founded and thereafter it decided to support the ISAC by encouraging the IFAC member countries to adopt the international accounting standards (Sercemeli, 2016). This is because most of the IASC members were also members of the IFAC (Sawani, 2009).

In 1977, the IFAC was founded and worked with the International Accounting Standards Committee (IASC) as a standard setting body to issue several statements relevant to international accounting standards (Skotarczyk, 2011). After the Asian crisis of 1997, many countries adopted the international

accounting standards to enhance the quality of their financial statements (Outa, 2013). In 1998, the International Organization of Securities Commissions (IOSCO) endorsed the international accounting standards (IAS) released by the IASC as a unified single set of global accounting standards that can increase the quality of financial statements (Skotarczyk, 2011). As a result, many early IFRS adopters were members of one or more of the international organizations, such as the IFAC, the International Organization of Securities Commissions (IOSCO), and the G-20 Group of countries (Hamidah, 2013).

In 2001, the IASC was replaced by the International Accounting Standards Board (IASB), which established the international financial reporting standards (IFRS) to promote the quality of financial reporting among different countries (Ball, 2006; Fathima, 2016). From 2001 to 2004, a group of experts were assigned by the IASB to enhance the quality of international accounting standards to make them more globally acceptable. In 2002, the European Commission issued regulations requiring firms listed on the EU stock markets to mandatory adopt the IFRS starting from 2005 (Ben Othman & Kossentini, 2015; Ortega, 2017). Moreover, by 2002, the IASB signed an agreement with the Financial Accounting Standards Board (FASB) to satisfy the Securities & Exchange Commission (SEC) and to converge the IFRS with the US GAAP. However, although collaboration has increased between IASB, FASB and SEC, lots of work is still needed to develop new accounting standards that satisfy both groups (Camfferman & Zeff, 2018).

In 2007, the Securities & Exchange Commission (SEC) cancelled the harmonization between the financial statements prepared under the IFRS with the US GAAP for foreign firms listed on the US stock markets (Tan et al., 2016). Furthermore, the most recent Financial Crisis of 2007-2008 did not influence many countries to adopt the IFRS. Nevertheless, the International Accounting Standards Board (IASB) has received a large amount of pressure from different internal and external bodies to increase the quality of the international standards on auditing (ISAs), with a view to mitigate the impact of any Financial Crisis that might happen in the future (Mala & Chand, 2012). Moreover, the earnings quality significantly decreased during the Financial Crisis of 2008, although only for countries that had not yet adopted the IFRS. The Financial Crisis did not affect the earnings quality of countries that adopted the IFRS during the crisis period. Nevertheless, the earning quality significantly recovered after the global Financial Crisis for both adopters and non-adopters of the IFRS (Slaheddine, 2017). Additionally, although the Financial Crisis might have lead to reducing some financial ratios, such as profitability and liquidity ratios for countries, who adopted the IFRS during the crisis period, confidence in the financial information rapidly returned after the crisis period, as a result of higher transparency in the financial statements, which in return enhanced the stability of the stock markets (Abu Alrub et al., 2018).

2.2.2 The Role of International Organizations on the Adoption of IFRS

There are many international organizations that collaborated with the International Accounting Standards Committee to increase the demand for adopting the IFRS, especially by firms listed on the

stock markets. These international bodies include the International Organization of Securities Commissions (IOSCO), the IFAC, the Organization for Economic Cooperation and Development (OECD), the World Trade Organization (WTO) and the European Union (Triyuwono et al., 2015; Lasmin, 2012; Rodrigues & Craig, 2007; Lasmin, 2011). Therefore, the adoption of IFRS has significantly increased due to the collaboration between the International Accounting Standards Board and several international organizations, such as the G20, IOSCO and IFAC (Triyuwono et al., 2015).

For example, the International Organization of Securities Commissions required listed firms in the IOSCO member countries to adopt the international accounting standards (Whittington, 2005). Accordingly, IFRS adoption by the international stock markets significantly increased due to the pressures that emerged from the International Organization of Securities Commissions, with a view to enhance the credibility of accounting information provided by firms listed on the global capital markets (Burca & Cilan, 2013). However, there are major differences between certain national accounting standards and the international accounting standards. Hence, the IASC and IOSCO are required to offer more accounting information to local and foreign investors relating to the IASs application, with a view to provide a better understanding of the financial statements prepared in accordance with the IASs (Adams et al., 1993).

In 2002, the European Union (EU) decided to adopt IFRS as compulsory, starting from 2005 to enhance their legitimacy and increase the compatibility of financial reporting among the European countries (Koning et al., 2018). Accordingly, the IFRS have been embraced by many European countries due to the pressures that emerged from the European Union (EU) with a view to increase the institutional legitimacy of the European Union. As a result, foreign direct investment (FDI) inflows for adopted nations have considerably increased after they were enforced in 2005 to embrace the IFRS by the European Union (EU). This is because IFRS adoption has led to increases in the comparability and transparency of the financial statements, thus ultimately attracting more foreign investors (Lasmin, 2012; Akman, 2011).

Further, there are two additional international organizations that have played a key role in encouraging many countries to adopt the international financial reporting standards (IFRS), namely the World Bank and IMF, especially for those nations who sought to receive financial aid from these international organizations (Hasan et al., 2008; Unerman, 2003; Pricope, 2015; Traistaru, 2014). For this reason, these international organizations play a leading role in expanding IFRS adoption, by encouraging the developing countries with less financial resources to embrace the IFRS to improve their economic performance and develop their stock exchanges. This is because most emerging economies seek to obtain financial resources from international bodies such as the EU, the IMF, and the WB, to support their economic and financial situations (Ozcan, 2016; Thompson, 2016).

Additionally, IFRS adoption has also been influenced by the pressures arising from the IFAC, which encouraged many IFAC member countries to incorporate their local accounting standards with the IFRS (Ali, 2005; Alsuhaibani, 2012). Moreover, the IFAC supported the efforts exerted by IASB, by setting guidelines to practically apply the IFRS to promote the worldwide accounting profession. However, membership in the IFAC was restricted by having at least one professional accounting organization in a given country (Mwaura & Nyaboga, 2009). Therefore, many developing countries have adopted the IFRS as a response to the pressures emerging from professional accounting organizations, with a view to help them improve the quality of their financial statements (Pricope, 2015). This is because the professional accounting bodies existing in some countries have motivated their nations to adopt the IFRS and imitate the other current successful accounting associations towards gaining gtreater institutional legitimacy (Hassan, 2008).

Since 2002, the IASB has signed an agreement with the US GAAP standards setting bodies, including the SEC and the Financial Accounting Standards Board, to publish financial statements with high quality standards, based on the international financial reporting standards IFRS (Camfferman & Zeff, 2018). However, although the United States controls many international organizations, it has not yet adopted the IFRS, because the US does not intend to lose their capability to dominate these international organizations, which can be used to serve their interests (Thompson, 2016). Additionally, even though the US has an English common legal origin and an Anglo-American culture, the adoption of IFRS by the European Union was easier than when it was adopted by the United States. This is because the US believes that IFRS adoption is not necessary for companies operating in the US, since it seeks to encourage many countries in the world to convert their national accounting standards into the US GAAP, but not vice versa (Eroglu, 2017).

2.2.3 The Challenges of Adopting International Financial Reporting Standards (IFRS)

Although IFRS adoption has been supported by several national and international organizations in many countries around the world, such as professional bodies, governments and the World Bank, these efforts faced certain challenges and difficulties, including the presence of weak legal enforcement, in addition to a lack of training and experience required to implement the IFRS (Mohammed & Lode, 2012; Boateng et al., 2014; Rudzani & Manda, 2016). Specifically, the lack of legal enforcement is one of the main challenges that hindered the application of IFRS in developing economies (Irvine & Lucas, 2006). In this regard, Zakari, (2014) states that developing countries suffer from lacking several aspects related to IFRS adoption, including weak regulations, a lower level of accounting education, an absence of professional bodies and a shortage of skills and knowledge needed to apply the IFRS. Likewise, Alsaqqa and Sawan (2013) report that IFRS adoption decision in developing countries is significantly affected by three basic factors: the level of accounting education, the training provided to IFRS users, and the strength of law enforcement level existing in a country.

Accordingly, the complexity of implementing the IFRS is not a considerable issue, since it can be solved by offering a higher level of education and training. However, the major challenges for adopting the IFRS is a lack of education system and weak level of training provided to the IFRS users. Hence, countries that provide a higher level of training relating to IFRS are more prone to benefit from adopting the international standards (Weaver & Woods, 2015). Although some users believe that training to apply the IFRS is not a big challenge, however, most developing countries struggle with providing sufficient training related to IFRS implementation. This is because they suffer from a lack of professional accountants especially in countries where the IFRS is adopted for the first time (Owolabi & Iyoha, 2012). Therefore, external auditors must be carefully trained with expertise in properly revising the financial reporting prepared under the IFRS. This can address any challenges that might face auditing firms if they audit financial statements prepared in accordance with the IFRS (Garuba & Donwa, 2011).

Additionally, the adoption of IFRS has been influenced by two major obstacles, including the translation and interpretations of the IFRS from the Original English version to a local language, and the costs of training users to prepare financial reporting in accordance with the IFRS (Miao, 2017). Therefore, the challenges of adopting the IFRS can be seen either from the preparer's viewpoint or from a practitioners' perspective. The main obstacle facing the IFRS from the preparer's point of view is to ensure that the translation and interpretation of IFRS is consistent with the original standards released by the IASB, whereas the major challenges facing the IFRS from the users' standpoint is to guarantee if the level of education and training required towards applying IFRS is adequate (Sharma et al., 2017). Although the translation of IFRS into multiple local languages is the best solution for non-English-speaking countries who adopted the IFRS, the impact of knowledge accounting skills and the English language on decision-making quality represents a new challenge towards translating the IFRS from English to other local languages (Holthoff et al., 2015).

Further, the adoption of IFRS has introduced some new complex challenges because of the global expansion of the IFRS (Unegbu, 2014). Hence, the adoption of IFRS requires making changes in several institutional factors of adopted countries, which vary significantly among countries. For this reason, the diversity of national factors among nations has led to impeding the application of the IFRS, including socio-economic, legal, political and cultural factors (Aljifri, 2013). In a similar vein, there are several challenges that have led to delays in the IFRS decision by the US, which require significant changes in certain areas related to IFRS application, including preparing financial statements in accordance with the IFRS, training existing staff in implementing the IFRS, which involves higher costs and provides audit and tax experts who can offer sufficient support to the IFRS. In addition, changing from the rules-based accounting used by the US GAAP to the principle-based accounting applied by the IFRS requires developing a new accounting curriculum consistent with the IFRS requirements (Gornik-Tomaszewski

& Showerman, 2010). Besides, the continuous amendments to IFRS by the IASB is another challenge that might lead to creating differences between the old and new financial statements (Mbawuni, 2017).

2.3 Chapter Summary

This chapter has discussed the development and challenges facing countries, who decided to adopt the international accounting and auditing standards. Specifically, this section has been divided into three subsections relevant to the developments of adopting the international accounting innovations. The first subsection reviewed the history and the global events that led to increases in the demand for adopting the international accounting innovations. The second subsection presents the influence of the international organizations on increasing the demand for adopting the international accounting innovations. The third subsection discusses the challenges and difficulties related to adopting the international accounting innovations.

In 1977, the IFAC established the International Accounting Standards Committee, which in return issued the international accounting standards to enhance the quality of financial statements. By 1991, the International Auditing and Assurance Standards Board released the first set of International Standards on Auditing (ISAs) to promote the quality of auditing services among different countries. Whereas, in 2001, the International Accounting Standards Committee was replaced by the International Accounting Standards Board, which published the international financial reporting standards to promote the quality of financial reporting among different countries.

Regarding the impact of international organizations, the adoption of the international accounting innovations has been influenced by several global financial collapses, including the Asian financial collapse of 1997, the Enron financial scandal in 2001, and the most recent Financial Crisis of 2008. Additionally, the adoption of international accounting innovations has significantly increased due to the pressures that exerted by several international organizations, such as WB, IMF, WTO, IOSCO, IFAC, OECD, and G20 Group and the European Union.

There are many challenges that have led to impeding the worldwide adoption of the international accounting innovations. These challenges include, but are not limited to the following areas, namely the complexity of international standards, the translation accuracy, shortage of accounting education, lack of training related to applying the international standards, cultural barriers, weaknesses in legal enforcement, a lack of human and financial resources, the absence of professional bodies, and a shortage of skills and knowledge needed to apply the international accounting and auditing standards. Finally, the next chapter presents the theoretical literature employed in this study to explain the national antecedents and consequences of the global adoption of international accounting innovations.

Chapter Three : Conceptual and Theoretical Frameworks

3. Aims of the Chapter

The aims of this chapter are, firstly, to present the conceptual framework for adopting the international accounting innovations, and secondly, to provide a scientific justification for the use of a multi-theoretical approach and explain why these theories can be applied to explain the national antecedents and the consequences of the worldwide diffusion of the international accounting innovations. This chapter therefore has been divided into seven sections. Section 3.1 reviews of the conceptual framework for adopting the international accounting innovations and presents a flowchart to explain the relationship between the variables included in this study. Section 3.2 discusses the rationale underlying the use of a multi-theoretical framework. Section 3.3 displays the main reasons for choosing the selected theories applied in this research. Section 3.4 discusses the theories that have been selected to explain the association between national antecedents and the adoption of the international accounting innovations. Section 3.5.1 reviews the theories that have been selected to explain an association between the adoption of international accounting innovations and the economic consequences of the adopting countries. Section 3.6 offers critical reflections on the theoretical literature and explains how the selected theories can help in the understanding of the adoption of the international accounting innovations. Section 3.7 provides a summary of the chapter.

3.1 The Conceptual Framework for Adopting International Accounting Innovations

The conceptual framework of any empirical research must aim to identify all research variables included in the study and clarify which variables impact the other variables, with a view to answer the research questions that drive the study (McGaghie et al., 2001). Likewise, Jabareen (2009) reported that the conceptual framework of quantitative research provides an obvious understanding of specific phenomenon or facts. Moreover, it can also graphically provide a clear interpretation of the relationship between variables. In a similar vein, Ostrom (1999) argued that a conceptual framework helps to visually sketch a set of variables and their underlying relationships with a view to explain the phenomena under study. Besides, Miles and Huberman (1994) outlined, whilst developing a successful conceptual framework, many concepts that should be integrated, either narratively or through graphical methods. These insights might include key factors, assumptions, variables, beliefs, expectations, and theories that enhance an understanding of the complex situations of the current research. Shoemaker et al. (2004) state that a conceptual framework can be used to visually explain how a theory works. Rubin and Babbie (2001) mentioned that the word ‘variables’ is commonly used instead of ‘concepts’. This is because variables are generally expected to vary among different individuals who have various characteristics. Accordingly, the relationships among variables are usually predicted in advance by researchers to illustrate how changes in the independent variable affect the outcome variable.

Regarding conceptualization in quantitative inquiry, Rocco et al. (2009) claim that the research problem of a quantitative study might be presented either by following a conceptual and theoretical framework, or may be posterior to an empirical literature review, which may provide more critical views. Therefore, a theoretical framework relating to quantitative research should be generally designed to investigate a specific theory, whereas, a conceptual framework is mainly produced to map the theoretical and empirical literature review relevant to the study. In this regard, Tamen (2016) states that both the theoretical and conceptual frameworks fundamentally refer to the epistemological positions that a researcher decides to use with a view to answer a research problem. Hence, the two frameworks should be clearly illustrated and linked to the questions at hand.

Furthermore, the relationship between the cause and effect variables can also be either influenced by mediating variables which intervene between them or by moderating variables which are sometimes known as control variables, with a view to examine the relationship with each category of control variables independently (Rubin & Babbie, 2001). In this respect, Fairchild and MacKinnon (2009) argue that moderation and mediation effects can be applied to test an association between independent and outcome variables jointly or even separately. Yet, choosing the right model depends on the type of primary research questions that a researcher wants to investigate. Hence, the moderation model uses for 'whom questions', whereas the mediation model is ideal for examining the 'how' and 'why' questions, since it provides good clarification about two or more intervening variables. For instance, if a researcher expects indirect effects between explanatory and outcome variables, the moderation approach is the optimal model that can be used to investigate the relationship. On the other hand, if a study expects an interaction effect between two independent variables, then the mediation model is the valid model that can be utilized to explain the relationship between dependent and independent variables.

In a comparable way, Wu and Zumbo (2008) report that there are basic differences between the moderation and mediation models. The moderation and mediation methods are not data analysis techniques, in fact, they are theoretical hypotheses used to examine a causal relationship among variables. Moreover, the moderation variable is uncorrelated with predictor variables, and more frequently occurs before the cause, whereas the mediation variable correlates with explanatory variables and most often occurs after the cause. Additionally, the moderation model is used to answer the questions 'when' and 'for whom' the cause and effect happens, whereas the mediation model answers the questions of 'why' and 'how' the cause leads to potential effects. Additionally, MacKinnon (2011) argue that the moderator variable might be either a categorical or continuous moderator.

The conceptual framework is jointly utilized in both qualitative and mixed methods approaches, while the theoretical framework is widely applied in quantitative and mixed methods designs alike (Ngulube et al., 2015). However, Taylor (2005) argues that so long as the conceptual framework is primarily designed to reasonably guide a researcher through the research process in mixed methods

research. Therefore, it can also be utilized to separately conduct either quantitative or qualitative research methods. In the same manner, Creswell (2003) states that theoretical framework can be applied in both quantitative and qualitative methods simultaneously. Nonetheless, it is designed to test a theory in quantitative studies, whilst adequate support must be provided by empirical and conceptual frameworks towards the theoretical framework in qualitative research. Likewise, Chukwuedo (2015) reports that theoretical and conceptual designs are the most substantial components in achieving a valid quantitative research method. For this reason, both theoretical and conceptual frameworks must be jointly applied in any quantitative research.

The conceptual framework towards adopting new innovations can be categorized into three main elements. The first part is the innovation characteristics, which can be established either by comparing the benefits of adoption against its costs, or the personal versus public consequences of the adoption. The second element is the characteristics of the innovators, such as the socioeconomic factors for several types of innovators, namely individuals, institutions and countries. The third component involves the environmental context characteristics, which affect the diffusion process. These characteristics contain four factors namely geographical position, political status, cultural norms and global consistency (Wejnert, 2002). Similarly, Zhu et al. (2006) point out that the adoption level of new innovations can be more understandable if we not only include the characteristics of innovation itself, but also cover the characteristics of the environmental context as well. Moreover, the economic and legal factors of a country can extensively impact the diffusion level of new innovations. Therefore, considerable attention must be paid to those factors even in the most advanced countries. Additionally, Dorward (2001) suggested a framework to considerably enhance our understanding of institutional factors. This can be achieved by integrating the institutional environment with the socio-economic characteristics and the economic and technical characteristics of the adopter's groups.

As stated by the DOI theory, there are five features that can encourage adopters to adopt or reject new innovations, including trialability, compatibility, observability complexity, and relative advantage (Rogers, 1995). In this regard, Baldridge and Burnham (1975) reported that large organizations with complicated activities and heterogeneous environments are more susceptible to embrace new innovations than small organizations with simple and homogeneous environment. This is because integration among the organization size, complex activities and the heterogeneous environments will jointly increase demand to adopt new innovations as a solution to their complicated issues.

According to the DOI theory, adopters of new innovations over time can be classified into five categories based on the adoption time of an innovation. These groups are innovators, early adopters, early majority, late majority, and laggards (Rogers, 1995; Mahajan et al., 1990). Furthermore, as suggested by the diffusion of innovation theory, Rogers (2002, p 990) writes that *"there are four main elements in the diffusion of innovations are (1) innovation, (2) communication channels, (3) time, and*

(4) the social system". In this regard, Klonglan et al. (1971) outlines that investigating the diffusion process of innovations can be achieved either by comparing the changes of the diffusion rate of one innovation over time, or by comparing the diffusion level of more than one innovation at one point in time. Moreover, Gray (1973) reveals that the adoption-time of innovations has been considerably affected by political and economic differences among adopters, which in turn has led to forming a specific group of adopters who have a similar social system, and who became early or late adopters of innovations. However, Roman (2003) argued that the conceptualization of the consequences of adopting new innovations seems to be more challenging than the diffusion of innovations. This is because the consequences of adopting innovations are more complicated and based on value judgements.

By relying on the assumptions of the DOI theory, this research examines the key antecedents and consequences, including the economic and financial effects post the decision to adopt the international accounting innovations. This research has developed a conceptual framework to examine the relationship between the outcome and independent variables, as shown in figure (1). The first part of the conceptual model focuses on the socio-economic antecedents, including four key factors, namely legal political, cultural and educational factors. The second part of the conceptual framework concentrates on the extent of the changes in the economic consequences among the five adopter groups suggested by the DOI theory at the time of adopting the international accounting innovations.

The diffusion of innovations process requires an explicit combination of environmental factors and the characteristics of adopters. This can lead to a better understanding of the factors that promote the adoption of innovations (Baldridge & Burnham, 1975). Accordingly, Figure (1) describes the conceptual framework of this research, which examines the two key issues, including the national antecedent and consequences of adopting the international accounting innovations. In terms of the national antecedents, the five adopter categories of accounting innovations are located in the middle of the diagram, and represent the dependent variables for the antecedents' model, while they represent the independent variables for the consequences model. These five groups were derived from the DOI theory, including experimenters, early adopters, early majority, late majority and laggards. The boxes and arrows to the right of the dependent variables illustrate the key four national antecedents, namely legal, political, cultural and educational factors, which represent the independent variables of the antecedent's model. Regarding the consequences model, the five adopter categories represent the independent variables for the consequences model, while the rectangle in the far-left side of Figure (1) illustrate the economic consequences, which represent the dependent variables of the consequence's models. The three control variables (moderating variables) include geographical reign, official language and colonial history, which have been selected to examine their effect on the diffusion of international accounting innovations.

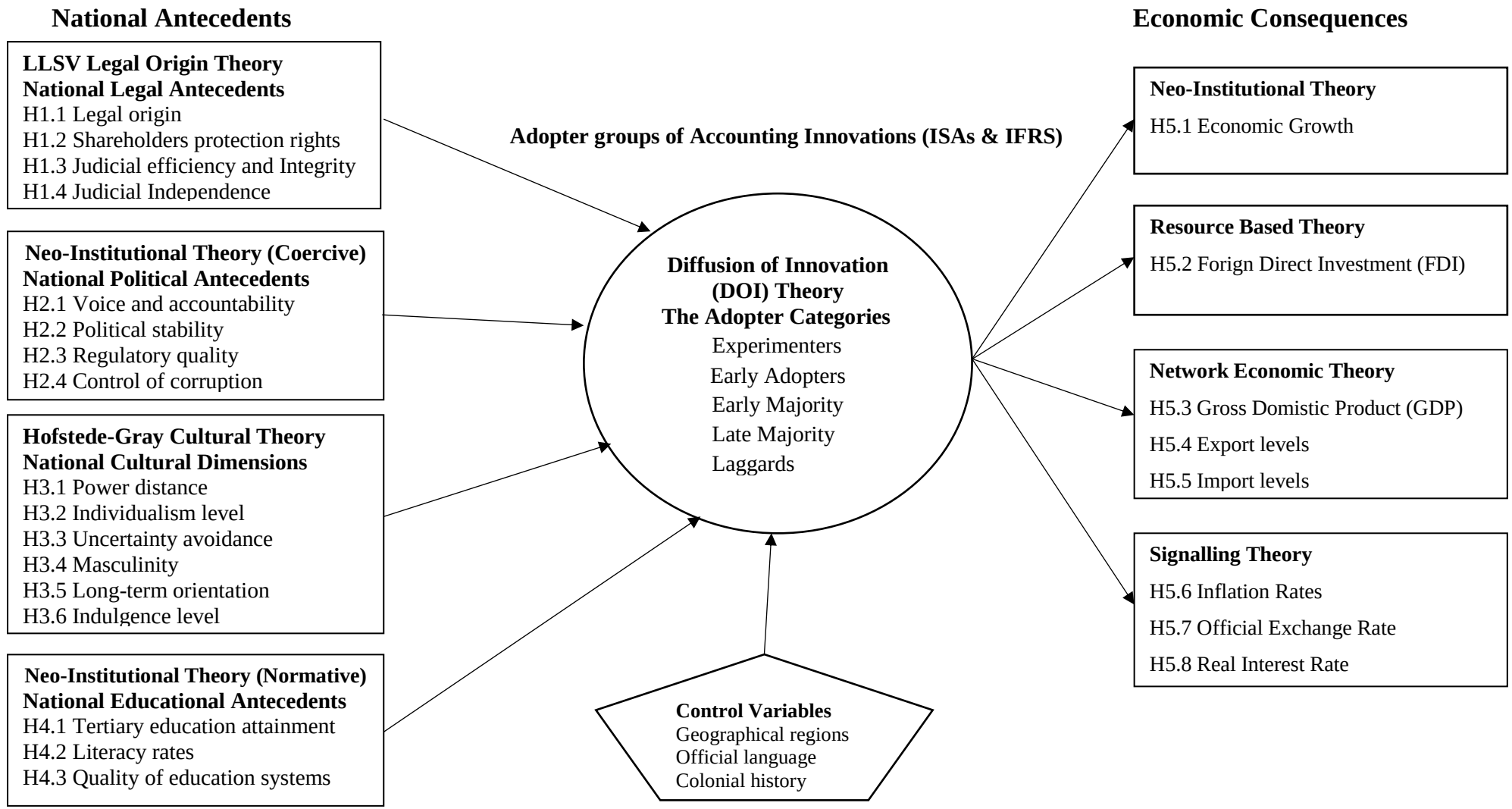


Figure 1: The Conceptual Framework of National Antecedents and Economic Consequences of the Worldwide Adoption of International Accounting Innovations

Source: Developed by the Researcher

3.2 The Rationale for Applying Multi-Theoretical Approach

The present study depends on multiple positive accounting theories, which provide varying perspectives on the diffusion of the international accounting innovations. Accordingly, this thesis uses seven theories: the LLSV legal origins theory, Hofstede-Gray cultural theory, economic network theory, resource-based theory, signalling theory, neo-institutional theory and the diffusion of innovation theory. The first and second theories are utilized to explain the antecedent factors towards adopting the international accounting innovations. In return, the third, fourth and fifth theories examine the economic consequences of adopting the international accounting innovations. The last two theories are used for the benefit of both issues, namely the antecedents and the consequences of adopting the international accounting innovations. The following debate summarizes the rationale for utilizing multiple-theoretical frameworks in this study.

Although some theories have been used to illustrate the determinants and consequences of adopting the international accounting standards, there are still some limitations in the existing theoretical frameworks, which offer incomplete and insufficient knowledge. This is because the evidences that has been provided by these theoretical approaches so far remains somewhat ambiguous (Ball, 2016). Accordingly, there is clear diversity in the existing theoretical approaches applied by different scholars to explain the rationale behind the worldwide adoption of the international accounting standards at various times (Lundqvist et al., 2008). Table 1 shows the theoretical frameworks applied by prior studies to illustrate the worldwide adoption of the international financial reporting standards (IFRS).

Table 1: The theoretical frameworks applied by prior studies to explain the diffusion of the IFRS

Theoretical Framework	Prior research that examined the determinants and effects of IFRS
Institutional Theory	(e.g., Kossentini & Ben-Othman 2014; Hope et al. 2006; Alon & Dwyer, 2014; Pricope, 2016; Judge et al., 2010; Alon & Dwyer, 2016; Irvine, 2008; Lasmin, 2011; Phan, 2014; Yeow & Mahzan, 2013; Florou & Pope, 2012; Hassan et al., 2014).
Legitimacy Theory	(e.g., Kossentini & Ben-Othman 2014; Phan, 2014; Ben-Othman & Kossentini, 2015; Phan et al., 2016).
Stakeholder Theory	(e.g., Feltham, 2013; Fox, et al., 2013; Yapa et al., 2015; Sanyaolu et al., 2017; Kimeli, 2017; Van der Laan Smith et al., 2014; Albu et al., 2013; Joshi et al., 2016; Deaconu et al., 2012).
Economic Network Theory	(e.g., Ramanna & Sletten, 2009; Kossentini & Ben-Othman 2014; Saucke, 2015; Ramanna & Sletten, 2014; Phan et al., 2016; Adereti & Sanni, 2016; Ben-Othman & Kossentini, 2015; Houqe et al., 2012).
Agency Theory	(e.g., Kolsi & Zehri, 2009; Leung & Ilsever, 2013; Hudson, 2014; Masoud, 2017; Kimeli, 2017; Agyei-Mensah, 2013; Hallberg & Persson, 2011; Horton & Serafeim, 2010; Tsalavoutas, 2011).
Contingency Theory	(e.g., Taouab et al., 2014; Othman & Kossentini, 2015; Ahsina, 2012; Nnadi et al., 2015).
Resource-Based Theory	(e.g., Lundqvist et al., 2008; Alon & Dwyer, 2014; Kim, 2017).
Signalling Theory	(e.g., Masoud, 2017; Tsalavoutas, 2011, Kolsi & Zehri, 2009; Hallberg & Persson, 2011; Akman, 2011; Iatridis, 2008; Smith, 2008; Samaha & Khlif, 2016; Shima & Yang, 2012; Phan et al., 2016; Abdul-Baki et al., 2014; Olugbenga et al., 2014; Ifeoluwa et al., 2016; Guggiola, 2010; Balsam et al., 2016; Lopes & Rodrigues, 2007; Katselas & Rosov, 2017).
Hofstede Cultural Theory	(e.g., Borker, 2012; Borker, 2014; Borker, 2017; Borker, 2013; Borker, 2016; Tanaka, 2013; Combs et al., 2013).
Bonding Theory	(e.g., Hope et al., 2006; Pine, 2010; Zaidi & Huerta, 2014; Han & He, 2011).

In terms of the ISAs adoption, there are a few theories that have been applied by previous studies to explain the worldwide adoption of the ISAs, such as the institutional isomorphism theory developed by DiMaggio and Powell (1983), which was employed by very few studies (Boolaky & Soobaroyen, 2017; Boolaky & Cooper, 2015), Nobes theory (1983), which was applied by Boolaky and O'Leary (2011), Nobes' classification theory of 1998 (Boolaky, 2011; Boolaky, et al., 2013; Boolaky & Cooper, 2015), the network theory (Mennicken, 2008), the resource-based theory of 1959 employed by Yong and Mahzan (2013), and the Hofstede-Gray cultural theory of 1988 (Boolaky & O'Leary, 2011; Boolaky & Omoteso, 2016). Following prior studies, the present study draws on multiple theoretical perspectives to examine the determinants and consequences of adopting the international accounting innovations for the following major reasons.

Firstly, this study examines two main aspects, including national antecedents and the consequences of adopting the international accounting innovations. Hence, using multi-theoretical perspectives can offer a better explanation to address various situations concerning the same issue, simultaneously. This is confirmed by Cobb (2007), who reports that applying an individual theory is sometimes inadequate to explain the relationship between various variables, particularly in the social sciences. Consequently, many scholars use multiple theories (triangulating theories), with a view to enhance the validity of their explanations and promote a deeper understanding of the phenomenon under investigation. Similarly, Nilsen (2015) states that relying on one single theory that concentrates only on studying a specific issue does not help a researcher tell the whole story. As a result, integrating multiple theoretical frameworks together in one study might provide more comprehensive clarification about the same phenomenon. Furthermore, Christopher (2010) contends that considerable attention must be paid to the integration of multi-theoretical frameworks which will offer obvious complementary effects among the underlying theories and decrease any practical gaps.

Secondly, although combining multiple theories might be a complex approach due to the conflict between various theoretical perspectives, it can also be used to reduce inconsistency among a range of theories to explain the phenomenon under study (Ngulube et al., 2015). Reconciliation between different views of underlying theories is not necessary to address multiple theoretical lenses, because it is useful in explain diverse drivers (Jones-Smith, 2012; Zimmermann, 2011). Therefore, using multiple theories to explain a phenomenon from complementary perspectives can offer various viewpoints of the same problem. Therefore, identifying the key factors and linking them with the theoretical framework leads to thoroughly answering the research questions and interpreting the findings in accordance with the chosen framework (Grant & Osanloo, 2014).

Thirdly, there is no one accepted theory that can be used to simultaneously illustrate all accounting issues. Hence, a multiplicity of social theories has been adopted by many scholars to explain different accounting problems (Porwal, 2001; Reddy, 2004; Deegan & Unerman, 2006; Aldredge et al., 2017).

Therefore, studying a complex phenomenon such as defining the determination of IFRS adoption cannot merely be explained by using an individual accounting theory. A multiple-theoretical framework is the best solution to study such type of complex issue (Unegbu, 2014). Additionally, Deegan and Unerman (2006) argue that although some accounting theories might not be able to provide perfect predictive capabilities about a specific issue, nevertheless, it might still be useful in examining other accounting issues that cannot be explained by certain theories.

Finally, a multi-theoretical framework has been extensively used by many different scholars to illustrate the extent of IFRS adoption (e.g., Ahsina, 2012; Kossentini and Ben-Othman 2014; Alon & Dwyer, 2014; Kimeli, 2017; Phan, 2014; Kolsi & Zehri, 2009; Lundqvist et al., 2008; Masoud, 2017; Phan et al., 2016; Taouab et al., 2014; Tsalavoutas, 2011; Samaha & Khlif, 2016), and to explain the adoption level of the ISAs (e.g., Boolaky and Cooper, 2015; Boolaky and O'Leary, 2011). Consequently, this thesis has followed in this line by adopting multi-theoretical approaches to provide empirical support for this thesis and offer comparisons between different theoretical approaches with results that have been obtained by previous accounting and auditing studies.

3.3 Reasons for Choosing the Selected Theories

This section discusses the main reasons for choosing the underlying theories to explain the two key issues relevant to the diffusion of the international accounting innovations. Firstly, this thesis relies on the LLSV legal origins theory and the Hofstede-Gray cultural theory to explain the first issue, namely the national antecedents of the worldwide diffusion of accounting innovations. Secondly, this thesis depends on three additional positive accounting theories, namely economic network theory, signalling theory and resource-based theory to explain the second issue, which is the consequences of adopting the accounting innovations that have also been applied by some scholars to illustrate the economic consequences of adopting the international accounting innovations. Additionally, this study uses the DOI theory as the main theory and neo-institutional theory as a complementary theory to illustrate the two most salient issues, namely the national antecedents and consequences of simultaneously adopting the international accounting innovations. Accordingly, more detailed reasons for choosing the selected theories are expanded on the following arguments.

According to the DOI theory, the adoption of new innovations has been significantly influenced by the characteristics of three basic groups namely, the innovation itself, the actors, and the environmental factors. The environmental factors group might involve the geographical environment, culture values, political status, and global integration (Wejnert, 2002). Moreover, based on the DOI theory, adopters of an innovation can be classified into five major categories: innovators, early adopters, early majority, late majority, and laggards. This classification is defined according to their adoption time, which varies among the five groups as a result of the various characteristics of each adopter category (Rogers, 2003; Mahajan et al., 1990). Therefore, the DOI theory has been particularly applied to the adoption of

management accounting innovations by a variety of scholars (e.g., Lapsley & Wright, 2004; Alcouffe et al., 2008; Nassar et al., 2011a; Ax & Bjørnenak, 2005; Shil et al., 2015; Askarany et al., 2016; Nassar et al., 2011; Tucker & Parker, 2014). Nevertheless, there were hardly any studies that utilized the framework of the DOI theory on addressing the adoption of the international accounting innovations. Therefore, this thesis uses the DOI theory as the main theory to explain the international differences among countries in adopting the international accounting innovations.

Regarding the national legal antecedents, the influence of legal origins and investor protection both have a significant impact on the economic outcomes and financial development of a country and can be explained by the LLSV legal origins theory (Puri, 2009; La Porta et al., 2008; Levine, 2008; Beck et al., 2003; Armour et al., 2009; Beck & Levine, 2008). Accordingly, differences in corporate governance practices have emerged because of different legal origins and their enforcements across countries (La Porta et al., 2000; Wardhani, 2015). Similarly, there is a clear difference in the adoption level of IFRS among countries owing to diversity in the laws for protecting shareholders' rights across nations (Dayanandan et al., 2016; Renders & Gaeremynck, 2007; Narktabtee & Patpanichchot, 2011; Soderstrom & Sun, 2007). Therefore, the LLSV legal origin theory can also be applied to the international accounting innovations to explain differences in their adoption level and examine the influence of various legal origins and the strength of shareholder protection on the adoption of international accounting innovations.

Concerning national cultural values, Gray's cultural theory suggests that diversity in the cultural and social values among countries influences accounting practices and leads to adopting different accounting standards (Gray, 1988; Tsakumis et al., 2009). Based on Hofstede's cultural dimensions, Gray has defined four favourable accounting dimensions required for implementing the IFRS, namely professionalism, transparency, flexibility and secrecy. After matching the four accounting values with the Hofstede cultural values, Gray found that power distance, uncertainty avoidance and long-term orientation have positively influenced all accounting values except in countries with high professionalism, which were negatively influenced. Meanwhile, individualism and indulgence levels have negatively influenced Gray's accounting values, except for the professionalism, which was positively affected (Borker, 2012; Borker, 2014a). Arguably, to a certain extent, Hofstede cultural dimensions lead to impacting the IFRS implementation through the following accounting values: professionalism, flexibility, transparency, and secrecy. Nevertheless, adopting the IFRS cannot completely eliminate the impacts of cultural values (Cardona et al., 2014; Schutte & Buys, 2011; Naghshbandi et al., 2016; Ding et al., 2005; Ritsumeikan, 2012). Accordingly, it could be said that studying the influence of cultural values through the Hofstede cultural dimensions and Hofstede-Gray cultural theory can be considered one of the bases for understanding the differences between countries

in adopting the international accounting innovations and offers support to the other theoretical frameworks included in this study.

Arguably, there are two main theories that have been adequately used to explain the voluntary adoption of the IFRS, which are institutional theory and legitimacy theory (Hallberg & Persson, 2011; phan 2014). Legitimacy theory and institutional theory both seek to examine institutional legitimacy through cognitive and regulative legitimacy, while legitimacy theory emphasizes moral legitimacy (Freitas et al., 2007). IFRS adoption has been previously explained by utilizing institutional theory because it offers diverse insights into different institutional factors that explain how institutions respond to change, such as educational, political, legal and economic factors, which can impact the adoption level of the international accounting standards (Judge et al., 2010; Pricope, 2016; Lasmin, 2011; Zeghal & Mhedbi, 2006; Palea, 2013; Alon & Dwyer, 2014; Irvine, 2008).

Drawing on institutional theory, the adoption of new standards is generally motivated by three types of isomorphic pressures: coercive, mimetic and normative pressure towards institutional change (DiMaggio and Powell 1983). Coercive isomorphism arises from legal and political factors, which seeks to gain more regulative (pragmatic) legitimacy. Coercive isomorphisms can also comprise of pressures that arise from foreign multinational corporations (Lasmin, 2011; Guler et al., 2002). Mimetic isomorphism refers to the standards' response regarding uncertain events, with a view to gain more cognitive legitimacy. Moreover, mimetic isomorphism helps examine the economic network benefits of adopting IFRS (Kossentini & Ben-Othman 2014). Normative isomorphism refers to the formal education level associated with the professionalization that was produced by professional institutions (DiMaggio & Powell, 2000; DiMaggio & Powell, 1991; Lasmin, 2011). However, Venard (2009) argues that coercive isomorphism includes three institutional factors, namely the quality of financial markets, which refers to the external environmental factors in addition to the quality of legal system and political enforcement, which represent the internal environmental factors. Moreover, Lasmin (2011) contends that mimetic isomorphism can be explained by examining the globalization of national economies. Hence, countries with greater economic globalisation are more prone to follow other nations that have adopted the IFRS as a response to the global economic integration. Therefore, this thesis also uses the neo-institutional theory, because it provides a complementary lens of viewpoints.

The economic network theory was previously utilized to predict the decision of adopting the IFRS due to the network effects between adopting and non-adopting countries (Kossentini & Ben-Othman 2014; Ramanna & Sletten, 2009; Samaha & Khlif, 2016; Ramanna & Sletten, 2014; Emeni & Urhoghide, 2014; Zaiyol et al., 2017; Adereti & Sanni, 2016). The economic network theory suggests that network effect can be influenced by two factors, namely the direct value of the product and the network related value (Katz & Shapiro, 1985). A country is more likely to adopt the IFRS only if the direct value of the product and the network related value are greater than the value of the local generally

accepted accounting principles GAAP (Adereti & Sanni, 2016). There are two kinds of network effect, namely the direct network effect, which refers to the number of adopters of a product and the indirect network effect, which indicates the situations where the adoption of a product becomes beneficial, and thus, the number of adopters would undoubtedly increase (Katz & Shapiro, 1985). The network effects of adopting the IFRS by a country in a specific year can be measured by evaluating its perceived economic benefits through foreign direct investments and international trade. This is because the adoption of IFRS will explicitly lead to reducing the cost of monitoring foreign investments (Ramanna & Sletten 2014; Opanyi, 2016). Network effects might also occur due to geographic and colonialism influences. Accordingly, countries located in one region are more likely to follow other countries that have already adopted the IFRS. Similarly, colonized countries are more susceptible to copying their former colonizer in adopting the IFRS, owing to network effects among these nations (Ramanna & Sletten 2014). Therefore, this thesis depends on the economic network theory to examine economic network benefits due to IFRS adoption.

Based on the resource-based theory, failure to comply with laws and regulations enacted in a country would lead to exposing either legal sanctions, or to losing the chance to access financial resources. This can also be observed from coercive pressures explained by the institutional theory (Zucker, 1987). The coercive isomorphism of the institutional theory is derived from resource dependence and legitimacy theories alike. Hence, IFRS adoption has been affected by the dependence degree on the pressure exerted by legal and financial institutions that enforce nations to adopt the IFRS (Judge et al., 2010; Guerreiro et al., 2012). Drawing on resource-based theory, countries with a higher level of political factors are more likely to attract and benefit from external resources (Globerman & Shapiro, 2003). Therefore, countries with lower levels of political and economic factors are more prone to adopting the IFRS, since they are in a great need to access financial resources compared to countries with a higher level of political and economic factors, which are less likely to be influenced by transnational pressures (Alon & Dwyer, 2014). The scarcity of financial resources and capability might be an obstacle in moving toward IFRS adoption (Yeow & Mahzan, 2013). Therefore, this study will also apply the resource dependence theory with the three other positive theories towards providing a better understanding of the economic consequences of adopting the international accounting innovations.

Signalling theory is widely applied to examine IFRS adoption at the micro-firm level, but not at the macro-country level because signalling theory can explain microeconomic variables and provides a better understanding of the environment of corporations, rather than illustrating the macroeconomic factors, such as legal, political, cultural, economic and educational factors (Kolsi & Zehri, 2009). Based on signalling theory, adopters with an excellent financial performance tend to signal their superior position to their investors. Therefore, they are more prone to voluntarily disclose their financial performance to their investors (Agyei-Mensah, 2016). Hence, signalling theory plays a crucial role in

minimizing the existence of information asymmetry and offers more financial disclosure to investors regarding the financial performance of corporations (Sun et al., 2010; Morris, 1987). Accordingly, this study will employ signalling theory to explain the consequences of adopting the international accounting innovations at the macro-country level.

3.4 Theories Selected to Explain the Adoption of International Accounting Innovations

There is great need to use multiple perspectives and apply the DOI theory to explain the diffusion of complex innovations. Hence, several institutional factors and alternative theoretical perspectives should be taken into consideration to demonstrate the diffusion of new innovations (Lyytinen & Damsgaard, 2001). Accordingly, this study uses the DOI theory as the main theory to explain the antecedents of the worldwide diffusion of the international accounting innovations. Additionally, this thesis relies on other positive accounting theories as complementary theories to illustrate different national antecedents and as such factors cannot be merely explained by using an individual theory. Therefore, this study will employ the following theories to illustrate the antecedents of the worldwide diffusion of the international accounting innovations and to support the DOI theory (Rogers, 1962) including the legal origins theory (La Porta et al., or LLSV, 1997, 1998), Hofstede-Gray cultural theory (Gray, 1988; Hofestede, 1984) and neo-institutional theory (DiMaggio & Powell, 1983; Powell & DiMaggio, 1991).

It is generally accepted that individual theories might be useful in explaining the antecedents of adopting the international accounting innovations, however, they also have some weaknesses and limitations in terms of providing a full explanation for the national antecedents that drive the diffusion level of the international accounting innovations around the world. Therefore, the following section will provide a brief history and offers clarification regarding the assumptions, theoretical applicability and the weaknesses of each individual theory utilized in this study, with a view to explain the antecedents of adopting the international accounting innovations.

3.4.1 The Diffusion of Innovation Theory

This section discusses the four main aspects related to the diffusion theory, namely the background, theoretical assumptions, applicability, and the limitations of the diffusion of innovation (DOI) theory.

3.4.1.1 Background and the History of DOI Theory

The origins of the general diffusion theory can be traced through multiple disciplines, although mainly from the sociological sciences, which concentrates on different components to create the general DOI theory (Surry & Farquhar, 1997). In 1903, the DOI was first developed by the French sociologist and researcher Gabriel Tarde, who defined an S-shaped diffusion curve for innovations' rate of adoption (Rogers, 1995; Toews, 2003). Subsequently, the early DOI theory has been defined by two rural sociologist researchers, Ryan and Gross (1943) to examine several factors related to diffusion. Nevertheless, due to a lack of support for the diffusion theory in the sociological field, interest was lost

in it in the development of sociological studies (Valente & Rogers, 1995; Rogers, 1995). The DOI theory has been widely influenced by the work of rural sociologists. Consequently, Everett Rogers published his first book regarding the diffusion of innovations (DOI) theory in 1962.

3.4.1.2 Theoretical Assumptions of DOI Theory

There are four main factors that influence the adoption rate of new innovations. These factors include the characteristics and flexibility of innovations, communication channels, structure and units of social system and adoption time (Rogers, 1995; 2003; Sahin, 2006). The rate of adopting an innovation is highly influenced by five innovations' attributes, namely relative advantage, complexity, compatibility, trialability, and observability (Rogers, 1995). Specifically, innovations with the following characteristics are more susceptible to early adoption: relative advantage, compatibility, observability, trialability and less complexity. On the other hand, complicated innovations are more prone to be adopted during the late phases, since they are more difficult to implement and understand (Rogers, 1995; 2003). Moreover, the economic consequences are one of the relative advantages that adopters can benefit from by adopting new innovations (Rogers, 2003; Ram, 1987). The consequences of adopting an innovation may be classified into either desirable, or undesirable effects (Rogers, 2003). "*According to diffusion theory, IFRS will be more quickly adopted as senior financial mangers recognize the relative advantages of IFRS adoption*" (Chalmers et al., 2007, p. 235).

The communication channel represents the way by which an innovation diffuses among two or more members of a social system (Sahin, 2006). There are two basic kinds of communication channel, namely mass media and interpersonal communication (Rogers, 2003). The most common forms of mass media are television, radio, newspapers, magazines and the Internet (Cardoso, 2008; Chaffee & Metzger, 2001). Furthermore, it is most essential to use interpersonal communication channels with peers to encourage them to adopt new innovations (Rogers & Kincaid, 1981). An interpersonal network provides more effective communication between peers, which helps with adopting an innovation more rapidly than other communication channels (Rogers et al., 2009; Rogers, 2003).

The adoption of innovations can be influenced by the structure and nature of the social system, including the social system norms, and the interaction degree of the communication network among the members of a social system (Rogers, 1995; 2003). Based on the DOI theory, classifying the adopter of innovations into four categories, namely early adopters, early majority, late majority and laggards is not only achieved by using the entire social system, but can also be done by separately relying on the personal network for each adopter (Valente, 1996). Early adopters usually receive advice from their social system members regarding adopting new innovations, because they are more deeply integrated into a local social system. The early majority members mostly follow the early adopters, since they have a good reputation when adopting new innovations. However, the adoption of innovations by the late majority group often occurs due to the pressure that comes from the social system members, or

otherwise, in order to gain better economic effects (Rogers & Shoemaker, 1971). Moreover, "*Adopter categories were created to compare early adopters with later adopters to determine differences in their social and personal characteristics*" (Valente, 1996, p.74).

Time is one of the most essential elements affecting the adoption of innovations, based on three basic assumptions. Firstly, the adoption of an innovation evolves and gradually increases over time, since the awareness of the importance of innovation has grown considerably. Secondly, the characteristics of adopters differ across the social system. Hence, adoption usually starts with a small number of adopters who are risk takers, then the number of adopters increases over time, so long as more information has been provided about the innovation. Thirdly, the adoption rate can generally be measured by computing the number of adopters that adopted the innovation over a certain period of time (Rogers & Scott, 1997; Botha & Atkins, 2005).

There is another assumption that indicates how the adoption of innovations mainly exists to satisfy the needs of the adopters. Nevertheless, it is true to say that different adopters seek to adopt the same innovation for various needs (Botha & Atkins, 2005). Adopting new innovations by potential adopters cannot be directly be done after they have been initially developed by the innovators. However, they must be improved in accordance with the circumstances and needs of different potential adopters (Godfrey & Chalmers, 2007). Accordingly, to persuade more adopters to accept adopting new innovations, greater consideration must be paid to the needs of the diffusion of innovations such as, market-centred values rather than a focus on the needs for innovations, and innovation-centred values (Moore, 1991).

3.4.1.3 Applicability of DOI theory to the Adoption of IAIs

Owing to support for the application of diffusion theory to the accounting practice, this section provides number of the key ideas regarding the applicability of the diffusion theory. Rogers (1995, p.11) defined "*an innovation as an idea, practice, or object that is perceived as new to an individual or another unit of adoption*". Moreover, the diffusion process refers to an integration between three key elements, namely innovation, communication channels and the members of a social system. This adoption should take place over a certain period, since each one of the social system members possesses different contextual factors (Rogers, 2003). As the number of countries who have adopted the IFRS has sequentially increased over time, this complies with the theoretical framework suggested by the DOI theory (Dayyala et al., 2016). Therefore, the international accounting standards are considered new innovations and the diffusion of innovation (DOI) theory is the most suitable theory that can be utilized to explain the dynamic diffusion of the international accounting innovations, such as the IFRS (e.g., Dayyala et al., 2016; Rathi & Abusef, 2014; Alon, 2010).

The DOI theory suggests that the innovation process often begins with the ealization of a problem or the need to begin research and development, in order to create an innovation to solve a problem or meet a need. Thereafter, the innovation is transferred through communication channels to commence its adoption by potential adopters, since then the consequences of adopting the innovation can be explicitly visible to users (Regres, 1962, 1983).

Accordingly, the application of the DOI theory in the accounting literature is very useful when explaining the adoption of the international accounting standards. This is because the international accounting innovations have been primarily designed to address many accounting problems and meet various needs. For example, IFRS adoption emphasizes the importance of providing high quality information to investors, offering convergence to financial reporting, improving transparency and disclosure, enhancing international comparability, providing global integration to financial markets, enhancing the quality of financial reporting and increasing the efficiency of financial markets (Jorissen, 2015; Abata, 2015; Tweedie & Seidenstein, 2005; Herath & Alsulmi, 2017; Cai & Wong, 2010; Bruggemann et al., 2013; Palea, 2013; Ebimobowei, 2012; De George et al., 2016; Pascan, 2015; Alnodel, 2015). Furthermore, adopting the other international innovations, such as the international standards on auditing would also lead to supporting and addressing similar accounting concerns (Wong, 2004; Mourik & Walton, 2014).

The adoption of accounting changes has been considered the diffusion of new innovations in the accounting literature. Therefore, they can be explicitly explained by the theory of the diffusion of innovation (Tritschler, 1970). As a result, the adoption of accounting practices, such as the LIFO method of inventory accounting, has been previously explained by utilizing the DOI theory (Bao & Bao, 1989; Copeland & Shank, 1971; Nash, 1971; Brummet, 1971). In a similar vein, studying the impact of contextual factors on the adoption and diffusion of management accounting innovations has also been explained by employing the theoretical framework of the DOI theory (e.g., Lapsley & Wright, 2004; Al-Omiri, 2003; Alcouffe et al., 2008; Leftesi, 2008; Nassar et al., 2011a; Sisaye & Birnberg, 2012; Ax & Bjornenak, 2005; Shil et al., 2015; Askarany et al., 2016; Nassar et al., 2011; Epstein, 2012; Tucker & Parker, 2014; Sisaye & Birnberg, 2010; Malmi, 1999). In this regard, some scholars have suggested applying the DOI theory towards explaining the diffusion of the IFRS (e.g., Alon, 2010; Pelucio-Grecco et al., 2016; Ball, 2016; Jayeoba et al., 2016). Hence, the adoption of the international accounting and auditing standards can also be viewed as innovations, thus they can be described by the DOI theory.

The socio-economic status of each individual adopter is well-connected with every stage of the innovation development process, which will ultimately influence the diffusion level. Therefore, considerable attention must be paid to the socio-economic status of different members of the social system (Rogers, 1962). The diffusion of new innovations is highly influenced by many institutional factors, including economic, political, geographical, and legal systems (Zanello et al., 2016). The

adoption of innovations has been affected by the characteristics of three basic groups, innovation itself, the characteristics of actors, and socio-economic factors, which involve the geographical environment, societal culture, political status, and global integration (Wejnert, 2002).

According to the DOI theory, adopters of an innovation can be classified into five major categories: innovators, early adopters, early majority, late majority, and laggards. This classification is defined according to distinct characteristics of each individual type of adopter category. Therefore, early adopters have a generally higher socio-economic status than late adopters who are considered risk averse, because they usually prefer to avoid a high degree of uncertainty, which can be reduced through adopting the innovation primarily by the early adopter group (Rogers, 2003). Therefore, the DOI theory is the most suitable theory to explain the international accounting innovations. This is because it provides new insights into the applicability of the diffusion theory, with a view to examine and explain the impact of the antecedent factors, namely the characteristics of adopter groups on the diffusion of international accounting innovations.

3.4.1.4 Limitations and Criticism of DOI Theory

Although the DOI theory has some practical implications, it still suffers from several limitations. For instance, identifying the most significant factors that affect the diffusion of innovations is relatively hard to achieve. This is because the diffusion process can be influenced by the interaction between various contextual factors of adopters, such as technological and social circumstances (MacVaugh & Schiavone, 2010). Furthermore, four key features of adoption must be sought to offer a better explanation for the adoption of new innovations, including socio-economic factors, organizational characteristics, innovation characteristics and the characteristics of the adopters. Nevertheless, the integration of the key ideas of these four core features together may be a difficult and more challenging task to implement (Wisdom et al., 2014). Moreover, owing to the apparent difficulties in studying the diffusion of some complex innovations, there is a great need to use multiple theoretical lenses, alongside with the diffusion theory, with a view to provide a better understanding of the key factors influencing the spread of new innovations (Lyytinen & Damsgaard, 2001).

3.4.2 The Institutional Theory

This section discusses the four main aspects relating to the institutional theory, namely the background, theoretical assumptions, applicability and the limitations of the institutional theory.

3.4.2.1 Background and the History of Neo-Institutional Theory

It essential to distinguish between the three main phases of institutionalism, namely i) the old institutionalism, which was founded in 1940s, ii) the institutional theory that was developed in the 1970s, and iii) the neo-institutional theory, which was established in the 1980s (Najeeb, 2014). Old institutionalism was originally developed by the American economists Veblen and Commons, in the

early 20th century. The old institutional economics were derived from the old American institutionalism, through the German Historical School (Richter, 2015; Rutherford, 1994; Petrovic & Stefanovic, 2009; Hodgson, 1998; Veblen, 1919; Commons, 1934). However, other scholars argue for old institutionalism, which was founded by Carl Friedrich and Herman Finer in the 1940s to articulate the administrative responsibility for the formal legal institutions (Jackson, 2009; Al-Habil, 2011; Finer, 1941; Friedrich, 1940). Thereafter, old institutionalism expanded to include the historical institutionalism of political institutions and the rational choice of institutionalism for economic institutions (Rhodes, 2009; Rhodes et al., 2008). Old institutionalism examines how the social behaviour of institutions has been influenced by their social actions and activities (Selznick, 1949).

Neo-institutional theory was formulated from various debates in different integrated disciplines, including sociology, psychology, politics, economics and management (Lounsbury & Zhao, 2013; Chmielewski, 2010). Since the 1970s, the first neo-institutional debates were discussed by several scholars (e.g., Meyer & Rowan, 1977; Zucker, 1977). Subsequently, Meyer and Scott, (1983) argued that institutional theory must not only include the technical environment that was dominated by market forces, but also should include multiple institutional environments, namely regulative, normative, and cultural values, which are dominated by organizational structure. Similarly, DiMaggio and Powell (1983) defined three institutional isomorphism pressures, including coercive, normative and mimetic pressures, which can explain institutional changes. This represents the theoretical framework of the neo-institutional theory of isomorphisms. Scott and Meyer (1991) outlined how the technical environment refers to efficiency and responses to market compliance. On the other hand, the institutional environment responds to the institutional pressures with a view to gain greater institutional legitimacy.

3.4.2.2 Theoretical Assumptions of Institutional Theory

Institutional theory supposes that institutions are primarily established through a combination of collective interests and the power of certain actors, rather than the interests of individuals (Meyer, 2008). Institutional theory emphasizes three theoretical assumptions: the rationale of institutional myths, organizational legitimacy (Meyer & Rowan, 1977), and institutional isomorphism pressures (DiMaggio & Powell, 1983). The institutional structure of an organization includes the formal structure of state bodies, such as legal and political parties, in addition to the informal structure of social groups, such as cultural norms and religious values (Helmke & Levitsky, 2004). Institutional myths are highly influenced by formal and informal structures, such as regulations, educational systems, technology and the social values of certain entities (Meyer & Rowan, 1977). Therefore, institutions that integrate rationalized myths into their institutional context are more likely to survive and maintain their social legitimacy in an institutional environment (Meyer & Scott 1983; Meyer & Rowan,1977; Hatch, 1997).

Additionally, institutional legitimacy assumes that institutional behaviour can be altered as a response to the structure of organizations. Hence, institutional actions have also been influenced by their norms,

values and beliefs (Suchman, 1995). Furthermore, institutions are more likely to adopt similar institutional structures due to the influences of three types of isomorphism pressures. Coercive pressures emerge from legal and political systems, with a view to gain regulative legitimacy. Mimetic pressures arise from global integration with other institutions through copying successful institutions to reduce uncertainty. Normative pressures emerge from professional institutions, and offer homogeneous practices (DiMaggio & Powell, 1983). Institutional change is based on the assumption that decision makers rely on information provided by other institutions and determine the best choice available. Hence, so long as the preferable choice spreads widely, it would undoubtedly become the optimal choice (Tolbert & Zucker, 1996).

3.4.2.3 Applicability of Institutional Theory to the Adoption of IAIs

Institutional theory cannot merely be used to explain IFRS adoption at the micro- institutional level, it can also be used to illustrate the behaviour of countries in adopting the international accounting standards at the macro-institutional level (Wysocki, 2011; Suárez & Bromley, 2015; Powell & Colyvas, 2008; Arnold, 2009). Accordingly, institutional theory can generally examine various institutional factors when compared to other theoretical approaches. For this reason, institutional theory has the most appropriate theoretical framework to study the accounting practices of different nations (Rahman et al., 2010). IFRS adoption has been significantly influenced by different institutional pressures, with a view to gain greater institutional legitimacy, which can be enforced by legal and political organizations (coercive isomorphism), uncertain situations (mimetic isomorphism), and professional organizations and educational system (normative isomorphism) to accept adopting the IFRS (Kossentini & Ben-Othman 2014; Pricope, 2016; Irvine, 2008; Lasmin, 2011; Phan, 2014; Dufour et al., 2014). This can occur even in countries that have been incorporated into business alliances, such as the EU members, where institutional factors are fundamentally different and are still far away from being uniform across all European nations (Palea, 2013). This was also emphasized by Khdir (2016), who reported that "*there is no one size fits all standard that can lead EU to conform at the same time"*.

Institutional theory emphasizes the global adoption of standards and practices around the world and explains how such practices are influenced by the national institutional factors of different countries (Brammer et al., 2012). Furthermore, institutional theory was also developed to address many applicable concerns about accounting choices and how they become widely adopted by various institutions in different countries (Tolbert & Zucker, 1996). Moreover, new insights can be achieved by studying the institutional context, such as cultural, political, legal and economic factors. Additionally, institutional theory emphasizes the significance of legitimacy, which provides additional insights in explaining the worldwide adoption of the IFRS (Heidhues & Patel, 2012). Arguably, institutions tend to adopt the IFRS as a response to external pressures, including cognitive, normative, and regulative structures, rather than enhancing their internal efficiency. Similarly, institutions who operate in a

comparable institutional environment are more prone to following the same behaviour (Wu & Patel, 2013). Besides, institutional theory has been widely employed by many scholars to illustrate the impact of institutional pressure on IT adoption. Hence, it is possible to extend the applicability of institutional theory to include the adoption of other standards (Henderson et al., 2011).

3.4.2.4 Limitations and Criticism of Institutional Theory

Although institutional theory provides new insights into the accounting literature, it also has some limitations. The institutional approach needs to be extended to include the continuity and exchange between different institutions in the market. This is because institutional factors and cultural norms are inadequate to qualify institutions as individual actors (Khalil, 1995). One further criticism to institutional theory is that institutions might adopt inconsistent and conflicting standards, because they only concentrate on satisfying their investors' needs through gaining greater institutional legitimacy (D'Aunno et al., 1991). Based on institutional theory, multinational corporations are more susceptible to be influenced by the institutional factors of their home country, rather than the institutional factors of their host countries, when the regulatory quality of their home countries is greater than the host countries. Nonetheless, due to increasing uncertainty, multinational institutions might choose a joint venture if there is significant difference in the normative and cognitive distances between the home and origin countries (Avila et al., 2015). However, although the institutional theory has a good explanation to build a robust multi-dimensional distance, it is necessary to rely on other pertinent theories to create a wide overview of the matter (Drogendijk & Martin, 2015).

3.4.3 The LLSV Legal Origins Theory

This section discusses the four main aspects relating to the LLSV legal origin theory, namely the background, theoretical assumptions, applicability and the limitations of the LLSV theory.

3.4.3.1 Background and the History of the LLSV Theory

The LLSV legal origins theory has been developed by the law and finance research scholars La Porta, Lopez-De-Silanes, Shleifer, and Vishny in the 1990s (LLSV, 1997-2002; Yoon, 2012). In 1997, LLSV was used to illustrate the determinants of obtaining external funds for financial stock markets and it showed that external finance including equity and debt are significantly influenced by different legal origins. Specifically, common law countries are more likely to have the most developed financial markets and the strongest investor protections when compared to civil law nations (La Porta et al., 1997). In 1998, the LLSV theory was used to explain the association between several types of legal origins and the protections of corporate shareholders (La Porta et al., 1998). In 1999, the legal origin theory was utilized to explain both financial and political aspects. Firstly, the LLSV theory was applied to examine the relationship between corporate ownership structures and the legal protection of minority shareholders (La Porta et al., 1999a). Secondly, it was employed to study the quality of governments' performance among diverse legal origins. It summarised that the larger the size of the government, the

better the government's performance (La Porta et al., 1999b). In 2000, the LLSV theory was used to examine the association between investor protection and corporate governance reforms and shows that common law countries with strong investor protection are more prone to having effective governance codes (La Porta et al., 2000).

3.4.3.2 Theoretical Assumptions of LLSV Theory

The legal origins theory emphasizes that legal origins are a matter not only for the financial domain, it also influences other disciplines such as legal, political and economic consequences (La Porta et al., 2013). These legal origins include English common law and the other civil legal origins, namely French, German, Socialist, and Scandinavian civil law (La Porta et al., 1997; 2008). The theoretical framework of the legal origin theory suggests that the English common law approach can result in better economic consequences than the civil law approach, especially within effective financial markets (Beck et al., 2003). Furthermore, the LLSV theory argues that the English common law approach is mainly associated with strong investor protection, higher ownership dispersion and higher judicial independence, which eventually leads to better access to external funds and more sophisticated financial markets, which in return drives less corruption (La Porta et al., 1997; 1998; 1999a; 1999b; 2008; Gerner-Beuerle, 2011).

Further assumptions have been proposed by the LLSV theory. Common law countries with strong investor protection are more likely to have more developed corporate governance codes. This is because the benefits of adopting such good governance codes would lead to facilitate the external funds of financial markets (La Porta et al., 2000). Moreover, the LLSV legal origin theory emphasizes that common law countries have higher quality legal enforcement than civil law countries (La Porta et al., 1997; 2006; 2008). Additionally, the legal origin has been affected by two interconnected channels, namely political and adaptability (Beck et al., 2003). For example, the political channel of the common law approach focuses more on protecting investor rights against state rights (La Porta et al., 1999b), whereas the political channel of civil law emphasizes more attention on state power and less on investor rights (Mahoney, 2001). In terms of adaptability channel, English common law and German civil code countries are more legally flexible and adjustable to changes in the financial circumstances than the other civil law countries, such Frence (Beck et al., 2003). However, although developed civil law countries perform better in financial situations than developing countries, the financial markets in common law countries are more sophisticated than the markets in civil law countries (Roland, 2016).

3.4.3.3 Applicability of LLSV Theory to the Adoption of IAIs

The legal origin theory has been primarily developed to help researchers empirically compare institutional factors among countries with various aspects of corporate regulations, such as legal enforcement, protection of investors and creditors rights (Martynova & Renneboog, 2013). According to the LLSV theory, common law countries have effective corporate governance reforms, which stress

the protection of investor and creditors' rights (La Porta et al., 2000; Kock & Min, 2016; Daniel et al., 2012). Identical to what has been assumed by LLSV theory, good corporate governance codes are more susceptible to be adopted by English common law countries with strong shareholder protection rights, for efficiency reasons (Aguilera & Cuervo-Cazurra, 2004; Ben Othman & Zeghal, 2008; Cuervo-cazurra & Aguilera, 2004), and from countries with a higher enforcement level (Ben Othman & Zeghal, 2008). However, countries with a civil law approach tend to develop codes of good governance as a response to legitimation pressures rather than efficiency reasons (Zattoni & Cuomo 2008). Therefore, civil law countries with weak protection of investors' rights are more prone to issue corporate governance codes as compensation for the lack of their judicial systems and probe to gain more legitimacy by adopting good governance codes (Klapper & Love, 2004; Enikolopov et al., 2014; Francis et al., 2013).

Similarly, IFRS adoption has been influenced by two different legal origins, namely common law and civil codes (Nobes, 2011; Ahmed et al., 2013). IFRS adoption is more widely used in common law countries than in civil code countries (Kossentini and Ben-Othman, 2014). According to LLSV legal origin theory, when comparing English law origin to civil law legal systems, countries with the English common law approach tend to have better accounting standards, strong investor protection, better economic growth, developed capital markets, strong legal enforcement, and more independent judicial systems (La Porta et al.,1998, 1999a; 1999b, 2008). Common law countries are more prone to adopting the IFRS, since their national accounting standards are very similar to IFRS, which makes the adoption process faster and easier (Shima & Yang, 2012). Nevertheless, civil codes nations, particularly the EU countries have adopted the IFRS to provide consolidated financial statements for their foreign investors (Nobes, 2011; Soderstrom & Sun, 2007).

Additionally, the adoption of IFRS by the EU members has been affected by different legal systems. For instance, the English common-law countries in the EU, such as the UK and Ireland, are mainly focused on satisfying the desires of their shareholders, whilst the other civil law members in the EU are concentrated on fulfilling the creditors' needs, because they are the most important users of financial statements (Dunne et al., 2008). Accordingly, IFRS adoption has significantly improved the performance of capital markets in English common law countries, more than civil law countries (La Porta et al., 1997; Khurana & Michas, 2011), and driven these common law countries to gain higher levels of economic growth (Zehri & Chouaibi, 2013). Therefore, it could be said that using the LLSV legal theory can explicitly explain the diffusion of international accounting innovations.

3.4.3.4 Limitations and Criticism of LLSV Theory

One basic criticism is that the legal origin is not a proxy for the other institutional factors (politics, culture and colonial history). This is because these factors can also impact the legal rules and the economic outcomes of a country (La Porta et al., 2008). A further criticism is that financial and

economic developments cannot be precisely explained by using different legal families proposed by the LLSV legal origin theory. The reason for this is because most of economics rely on a statistical analysis to explain economic outcomes. Nevertheless, policy-makers cannot rely on such statistical patterns to make decisions about their society's needs (Garoupa & Pargendler, 2014). Another criticism of the legal origin theory is that the economic consequences might not be affected merely by legal origins, but also by other administrative factors, such as technology, religion, culture, and language (La Porta et al., 2008; Siems, 2007). Similarly, some scholars have criticized the legal origin theory, since it supposes a direct relationship between legal origins and economic outcomes, while the economic consequences are first influenced by the political situation, rather than the legal system of a country (Cioffi, 2009). Other researchers argued that although the relationship between legal origins and economic developments is increasingly important, using the legal families of economists to evaluate the economic consequences of a country is still an insufficient approach (Garoupa & Pargendler, 2014).

3.4.4 The Hofstede–Gray Cultural Theory

This section discusses the four main aspects related to the Hofstede cultural theory including the background, theoretical assumptions, applicability and the limitations of the Hofstede Cultural Theory.

3.4.4.1 Background and the History of Hofstede–Gray Cultural Theory

The origin of the cultural theory was initially proposed by Parson and Shils (1951), who suggested that cultural motivations are essential for developing a general cultural theory, which can be highly influenced by human behaviours and actions. Thereafter, Kluckhohn and Strodtbeck (1961) developed the values orientation theory, which emphasized that many problems can be resolved by incorporating human societies. Nonetheless, different people in the world have different opinions, due to the diversity of their cultural preferences. Posteriorly, Hall (1976) developed some basic cultural dimensions towards understanding human perceptions, including individualism versus collectivism, indulgence versus restraint, and long-term orientation versus short-term orientation. Since 1980, Geert Hofstede began developing the culture theory by identifying four major cultural dimensions to classify distinct cultural values among countries in the world. These cultural dimensions include power distance, uncertainty avoidance, individualism and masculinity (Hofstede, 1980, 1983, 1984). Based on the four cultural dimensions of Hofstede's theory (1980), Gray (1988) has defined another four accounting values that can be used to explain the international differences in accounting standards. Therefore, Gray (1988) matched his four accounting values with Hofstede's cultural dimensions, with a view to identify the relationship between cultural dimensions and the development of accounting systems, which resulted in the development of the Hofstede-Gray cultural theory (Gray, 1988; Hofstede, 2001).

Furthermore, Hofstede et al. (2010) added two cultural dimensions, which were derived from the earlier work of Hall (1976), who has previously defined these two cultural values. These new cultural values include indulgence versus restraint and long-term orientation versus short-term orientation, in

addition to the other four cultural values. Further comprehensive cultural dimensions have been defined by the GLOBE project, by the Robert House team in 1992. Their work was based on Hofstede's (1980) and Trompenaar's (1993), who wrote a book for understanding cultural differences that can impact the process of doing business (House & Javidan, 2004; Dorman & House, 2004). Although many scholars have tried to develop the cultural theory at different points in time, specific attention has been paid to the Hofstede-Gray cultural theory, since it provides a clear explanation for the cultural differences among different countries in the world (Lee & Herold, 2016).

3.4.4.2 Theoretical Assumptions of Hofstede–Gray Cultural Theory

After Gray (1988) matched his four accounting values (professionalism, transparency, flexibility and confidentiality) with Hofstede's (1980) cultural dimensions (power distance, uncertainty avoidance, individualism and masculinity), the cultural theory resulted in the following theoretical assumptions. Based on the Hofstede–Gray cultural theory, Anglo-Saxon and Scandinavian countries are more likely to have the most developed professional associations and the most flexible accounting practices, since they have the greatest levels of individualism and the lowest levels of power distance and uncertainty avoidance (Gray, 1988; Borker, 2012). Furthermore, Anglo-Saxon countries, including the US, the UK, Canada, Ireland, Australia and New Zealand, as well as the Nordic countries including Finland, Denmark, Sweden, Norway and Iceland, are the most open, transparent, and publicly accountable nations in the world (Gray, 1988).

On the other hand, Latin American countries are more likely to have the highest uniformity levels, since they have a lower level of individualism and higher level of power distance and uncertainty avoidance. The European countries are more likely to have the highest conservatism levels, since they have higher levels of uncertainty avoidance and lower levels of masculinity and individualism levels. The Asian and African emerging economies are more likely to have the highest confidentiality levels, since they have higher levels of uncertainty avoidance and power distance and lower levels of individualism (Borker, 2012; Borker, 2014; Gray, 1988). Moreover, one of the key assumptions of Gray's cultural theory is that the distributions of accounting systems in different countries in the world are identical to the classifications suggested by Hofstede's (1980) cultural dimensions (Heidhues & Patel, 2011; Gray, 1988).

3.4.4.3 Applicability of Hofstede–Gray Cultural Theory to the Adoption of IAIs

Arguably, the presence of diversity in the cultural and social values among countries influences the developments of accounting practices and leads to adopting different accounting standards (Gray, 1988; Belkaoui, 1995; Perera, 1989; Tsakumis et al., 2009; Heidhues & Patel, 2011; Nobes & Parker, 2012; Salter & Niswander, 1995). The accounting cultural values proposed by Gray (1988) have remarkably influenced the adoption of IFRS (Cardona et al., 2014; Nobes, 1998), and the adoption of the international standards on auditing (Boolaky and O'Leary, 2011; Boolaky & Omoteso, 2016).

There are four accounting values that were significantly connected with IFRS adoption, including professionalism, optimism, flexibility and transparency. If one or more of these major accounting values are available in a country, it would be more likely to embrace the IFRS, since the country has culturally met the requirements of the IFRS (Borker, 2012; Perera, 1994; Perera & Mathews, 1990). However, there is still a great need to empirically investigate the influence of cultural dimensions and accounting values, particularly in terms of transparency and disclosure, even after the mandatory adoption of the IFRS in Europe (Naghshbandi et al., 2016). This is because the cultural effect has not significantly changed, even after IFRS adoption. This can be explicitly seen in countries with higher levels of confidentiality as a result to the limited amount of information disclosed (Akman, 2001).

Drawing on the Hofstede–Gray cultural theory developing countries with an Anglo-Saxon culture are more prone to adopting the IFRS than other nations, since their accounting cultural values are consistent with the IFRS interests (Chamisa, 2000; Carmona & Trombetta, 2008). Accordingly, countries with high individualism and indulgence levels are more likely to adopt the IFRS. This is because these countries have active professional associations that encourage their nations to adopt the international accounting standards (Borker, 2012; Chanchani & MacGregor, 1999; Borker, 2013).

On the other hand, countries with higher levels of cultural factors, including power distance, uncertainty avoidance and long-term orientation are more susceptible to have the following accounting values, namely uniformity, confidentiality and conservatism, which exerts a negative influence on IFRS adoption (Braun & Rodriguez, 2014; Chanchani & MacGregor, 1999; Borker, 2012; Borker, 2013; Naghshbandi et al., 2016). Furthermore, countries with higher levels of masculine versus feminine cultural characteristics are less likely to have the accounting values of conservatism versus optimism, and confidentiality versus transparency. Hence, these countries are more prone to adopting IFRS, since their accounting values are culturally consistent with IFRS concerns (Borker, 2013, 2012).

3.4.4.4 Limitations and Criticism of Hofstede–Gray Cultural Theory

Although culture dimensions have been recognised as important tools that can impact the development of accounting standards, many accounting studies have failed to explain the existence of cultural differences between countries (Belkaoui & Picur, 1991; Patel, 2004). Moreover, Hofstede's cultural dimensions have been treated as equally important across countries in accounting research. However, Hofstede's cultural indices have failed to explain the national cultural differences between nations (Baskerville, 2003). One further important criticism of Hofstede's measures is that the Hofstede-Gray cultural theory assumes that there are homogeneous cultural dimensions within a given country, and it uses one scale to represent the cultural values of a country, whereas in fact, there are large cultural differences between various regions located in any given country (Heidhues & Patel, 2012; Didero et al., 2008). Additionally, the Hofstede-Gray cultural theory has been widely used by different scholars to the explain the link between IFRS adoption and the Hofstede cultural dimensions. Nevertheless,

studying the other contextual factors of countries, such as political, legal, cultural, educational and historical environments can increasingly lead to enhance our understanding of IFRS adoption (Heidhues & Patel, 2011; Chand et al., 2008).

3.5 Theories Selected to Explain the Consequences of Adopting the IAIs

This section explains the theoretical frameworks used to illustrate the economic consequences post the decision to adopt the international accounting innovations. This study uses the DOI theory as the main theory to explain the consequences for each category of adopters separately instead of dividing the adopters into two groups (developed and developing countries), as many scholars usually do when performing their research. Additionally, this thesis employs three other commentary theories, including the resource dependence theory, signalling theory and the economic network theory to investigate the association between the economic consequences and the worldwide diffusion of the international accounting innovations. Therefore, this section discusses the origins and the history of the theory, the assumptions underlying the theory, the applicability of the theory to the accounting innovations, and the limitations and criticisms for the two commentary theories. However, this section comprises solely of the applicability of the DOI theory and institutional theory to the international accounting innovations, whereas, the other theoretical aspects, including origins, assumptions, and limitations regarding to the diffusion theory and the institutional theory were mentioned in the previous subsection.

3.5.1 Resource-Based Theory

This section discusses the four main aspects relating to the resource dependence theory, including the background, theoretical assumptions, applicability and the limitations of the resource-based theory.

3.5.1.1 Background and the History of Resource-Based Theory

The development of the resource-based theory can be traced to earlier studies conducted between the 1950s and the late 1970s. Specifically, it began with the earlier work of Selznick (1957), Penrose (1959), Chandler (1962), and Williamson (1975), who illustrated the importance of the internal resources of firms and their capabilities in providing a sustainable competitive advantage, and the work of Pfeffer and Salancik (1978), Lamb (1984), and Porter (1980), who emphasised the importance of external resources in gaining a sustainable competitive advantage for firms. Accordingly, the resource-based theory has been developed through many publications in a wide range of books and academic journals, starting from the 1980s, and persisting through the 1990s (Barney & Arikan, 2001). The early development of the resource-based theory has been exerted by several scholars in the field of strategic management (Akio, 2005). In the 1980s, only a few scholars paid attention to the resource-based theory, including Wernerfelt (1984), Rumelt (1984), Williamson (1985), Barney (1986a, 1986b). However, other researchers have also contributed to the development of the resource-based view in the 1990s, such as (Castanias & Helfat, 1991; Mahoney & Pandian, 1992; Conner, 1991; Rumelt, 1991).

3.5.1.2 Theoretical Assumptions of Resource-Based Theory

According to the resource-based view, strategic resources and capabilities represent substantial determinants in gaining a successful competitive advantage and maintaining the best performance of a given firm against its competitors (Bridoux, 2004). The resource-based view has two primary theoretical assumptions, namely resource heterogeneity and resource immobility (Mata et al., 1995; Peteraf & Barney, 2003; Barney, 1991). More specifically, with a view to make a firm gain a sustained competitive advantage in the marketplace, the firm must possess unique resources and capabilities that cannot be owned by other competing firms, due to the higher costs of using such resources, or the weaknesses of internal strategies (Mata et al.,1995).

Many scholars endeavour to theoretically examine the competitive advantage by using several types of resources. For example, the theoretical framework developed by Porter (1980) emphasizes the benefits of using external opportunities, by relying on external resources to generate a competitive advantage. On the other hand, the resource-based view emphasizes using internal resources that a firm possesses to gain a successful competitive advantage (Akio, 2005; Grant, 1991; Barney, 1991). The resource-based view theory aims to explain the differences in performance between firms operating in the same industry and explains how they use their internal resources to compete (Mahoney & Pandian, 1992; Barney, 2007). Additionally, the resource-based view clarifies how firms use their internal resources to generate a sustained competitive advantage, and how industry and country-related factors have influenced this process (Ozdemir & Denizel, 2007; Bridoux, 2004). The competitive advantage of a country emerges from the continuous developments of internal resources, including human, physical, financial, infrastructure, and natural resources (Porter, 1990). Nevertheless, Hall (1992) has argued that intangible resources lead to creating a greater competitive advantage than tangible resources.

"The resource-based view (RBV) of the firm defines a strategic asset as one that is rare, valuable, imperfectly imitable and non-substitutable" (Halawi et al., 2005, p. 75). Drawing on the resource-based view, strategic resources that can be controlled by a company to generate competitive advantage might include both tangible and intangible resources owned by the company (Barney, 1991; Wernerfelt, 1984). Accordingly, strategic resources represent the core internal resources that can create a successful competitive advantage and leads to enhancing the firm's performance (Wernefelt, 1984; Malika & James, 2016). Arguably, firms can gain entry to strategic resources, such as human, physical, organizational and financial resources through collaboration with their competitors (Fensterseifer, 2009; Goodwin et al., 2003).

3.5.1.3 Applicability of Resource-Based Theory to the Adoption of IAIs

The resource-based theory cannot merely be used to explain the importance of firm specific resources, it can also be extended to explain country specific advantages (Porter, 1990). This is because there is a robust interdependence between firm- and country-specific resources. Nonetheless, the

influence of country-specific advantages seems to be more beneficial than firm-specific resources (Marinova et al., 2011). Regarding the IFRS adoption, the resources-based view is useful to jointly evaluate the resources and capabilities of firms and country-specific factors alike. This is because including country specific factors can lead to identifying which factor has complied with the environmental threats and opportunities that emerged from the IFRS adoption (Lian & Patel, 2010).

Drawing on the resource-based view, the lack of internal resources and capabilities of listed companies on emerging economies such human resources and financial resources can lead to impeding the full adoption of IFRS (Yeow & Mahzan, 2013). In a comparable manner, the adoption of ISAs by developing countries has been influenced by two main internal resources, namely human resources and organizational resources. However, there is no full agreement on the influence of financial resources and intellectual resources in adopting the auditing standards (Yong & Mahzan, 2013). Therefore, before any country decides to convert to the international accounting standards, four types of potential costs must be considered: human resources, technological resources, financial resources and physical resources. This is because any shortage in these four internal resources will eventually lead to delaying and hindering the adoption process of the IFRS (Schmidt & Schoeppey, 2016).

Based on the resource-based view, IFRS adoption is more likely to occur in emerging countries as a response to external pressures levied by the resource holders to use a single set of accounting standards before they can compete in the global market (Irvine, 2008). Arguably, countries with limited internal resources are more likely to embrace the IFRS, instead of improving their national accounting standards to attract foreign investments, thus eventually improving their economic development (Shima & Yang 2012). Accordingly, developing countries with lower levels of economic development are more prone to complying with transnational pressures levied by resource holders, such as the full adoption of IFRS. Hence, they are more resource dependent than developed countries who have already obtained a higher level of economic development and diverse internal resources (Alon & Dwyer, 2014).

According to the resource-based theory, organizations are usually controlled by other external groups who control their dependence on resources, such as foreign ownership and government funding. Therefore, they tend to comply with the interests of foreign investors or the government's desires, because they rely on these external resource controllers to provide resources they might need (Pfeffer and Salancik, 1978). Accordingly, many developing countries with lower resources rely on external funding sources, such as the World Bank and IMF, to obtain financial resources. Therefore, these countries often comply with the requirements of those resource granters, such as IFRS adoption, to gain access to their resources, even with the presence of economic uncertainty (Kim, 2017).

Regarding human resources, the adoption of IFRS has not been solely affected by tangible resources such as, financial resources, it has also been influenced by intangible resources, such as human capital

(Bullen & Eyler, 2010). The IFRS are more likely to occur in developing countries with higher levels of economic growth and an advanced educational system (Zehri & Chouaibi, 2013). The reason for this is because the adoption of IFRS requires a certain level of education and training of their human resources until they can apply these international standards (Street, 2002). The education attainment of a country reflects the development level of the human capital in that country. Therefore, the higher quality of the national education system of a country, the greater the economic growth can be obtained due to investments in the human resources of the country (Hanushek, 2013). Therefore, it could be said that the resources-based view theory can be used to evaluate the tangible (financial) and intangible (human) resources of countries and evaluate the impact of the financial and human resources of the adopting countries on the adoption of the international accounting innovations.

3.5.1.4 Limitations and Criticism of Resource-Based Theory

There are many criticisms relevant to the resource-based view theory. One of the basic criticisms lodged against the RBV theory is that the generalizability and applicability of the RBV has been restricted by several factors including (1) heterogeneity among firms (Gibbert, 2006), (2) differences in size among firms (Connor, 2002), and (3) the capability to generate a sustained competitive advantage (Miller, 2007). One further key criticism regarding the RBV theory is that the sustained competitive advantage is very hard to achieve, because it requires full integration between resources and capabilities, which is quite difficult to attain (Barney, 1991). This is because integration between resources and capabilities is the best solution to solve complex issues affecting the performance of firms (Salonen & Jaakkola, 2015). Moreover, there is no clear definition of strategic resources, since they include several types of internal resources that help create sustained strategic advantages (Kraaijenbrink et al., 2010).

The resource dependence theory also has some other limitations. Firstly, the firm's size, or a country's economy, are one of the basic obstacles that face the RBV theory. This is because large firms tend to have more resources than small firms, who often have limited resources, which in turn restricts their competitive advantage (Lundqvist et al., 2008). Secondly, the resource dependency theory does not explain three basic matters relating to the external resources available to firms. These three issues are restrictions of the obtainable resources, cost of resources, and information about alternative resources available (Abou-Assi, 2013). Thirdly, the resources dependence theory does not provide a clear link between profitability and economic uncertainty because the theory does not present a long-term strategy about future actions and events (Grant, 1991).

3.5.2 Economic Network Theory

This section discusses the four main aspects relating to the economic network theory, including the background, theoretical assumptions, applicability and the limitations of the economic network theory.

3.5.2.1 Background and the History of Economic Network Theory

The economic network theory was initially developed by Boorman (1975), who found a link between social networks and economic theory. Boorman assumed that economic actors mostly tend to choose weak relations with a view to save time and costs, compared to strong connections that require a longer amount of time. Subsequently, Rogers (1979) emphasized that the network approach is not merely useful in explaining the diffusion of new innovations, it can also include ideas or information. Thereafter, Granovetter (1983) studied the role of social networks and weak relations in affecting consistency in complex social systems from the network theory point of view. Posteriorly, Katz and Shapiro (1985) used the network theory to explain the economic benefits of adopting products. They emphasized that network effects can be significantly influenced by either the direct network-related value or by the network-related product. Afterwards, Hakansson (1987, 1989) examined the influence of different economic network actors, including individuals, companies and markets on the technical development of innovations, which depend on resource mobilization and resource coordination.

Additonally, Johanson and Mattsson, (1987, 1988) applied the network theory to analyse the strategies of industrial markets and their impact on internationalisation. They assumed that multinational firms in networks tends to have direct relations with investors and users to gain access to external resources rather than indirect relationships through agents. In the 1990s, Jackson and Wolinsky, (1996) examined the role of the stability of efficient economic networks in allocating resources among business units. In more recent times, Jackson and Watts, (2002) studied the link between networks connecting individuals and their economic and social activities over time. Meanwhile, Hakansson and Lind (2004) examined the role of network coordination in designing and developing accounting methods, and later, Eagle et al. (2010) studied the impact of network structure on the economic development of societies, which were found to be significantly correlated with each other.

3.5.2.2 Theoretical Assumptions of Economic Network Theory

The network approach has been applied to a range of sciences, such as social psychology, sociology, economics, and political science. Hence, there is no one formal assumption of the network view, but there are still some basic ideas that most network scholars have agreed on (Katz et al., 2004). Wellman (1988) identified five basic assumptions of the network approach. Firstly, examining relationships between actors is the best way to study their actions. Secondly, social networks are the channel of relationships between different actors. Thirdly, there is an internal interdependence between actors and their actions. Fourthly, the transformation of information and resources depends on the relations between all embedded actors. Fifthly, the relations between actors include coherent relationships with many groups and overlapping networks, rather than discrete groups. Kamann (1993) added two main assumptions of the social network theory including actors rely on other actors to fulfil their aims and improve their performance, and the relationship between different actors are subject to social cohesion and are based on mutual trust.

More specifically, Rowley (1997) reports that there are four assumptions regarding the social network theory, including, (1) there is an internal interdependence between distinct types of actors and their activities, (2) the relationships between actors represent the communication channels that help to transfer resources among actors, (3) the actors' activities can be explicitly restricted by the structure of social networks, and (4) the nature of network structure among actors involves different patterns of relations and activities, such as legal, economic, social and political activities.

3.5.2.3 Applicability of Economic Network Theory to the Adoption of IAIs

The complexity and risk of adopting new innovations are the main factors that can hinder the diffusion level of new innovations. Therefore, communication channels can offer much needed information to reduce the risk and complexity of innovations (Fidler & Johnson, 1984). "*Social network theory is the study of how the social structure of relationships around a person, group, or organization affects beliefs or behaviours*" (Erçetin & Bisaso, 2016, p. 108). According to economic network theory, innovations with network benefits and direct network effects can be widely embraced by different actors because of their interdependent networks (Katz & Shapiro, 1985; Liebowitz & Margolis, 1994). The economic network theory suggests that network effects are influenced by two factors namely the direct value of the product and the network related value (Katz & Shapiro, 1985). Accordingly, IFRS adoption is more likely to occur in countries where the direct value of the product and the network related value are greater than the value of the local accounting standards (Adereti & Sanni, 2016).

The economic network theory has been utilized to examine IFRS adoption due to the network effects between adopters and non-adopters (Kossentini & Ben-Othman 2014; Ramanna & Sletten, 2014; Emeni & Urhoghide, 2014; Zaiyol et al., 2017; Adereti & Sanni, 2016). The IFRS are considered to have network-related value and can trigger positive economic consequences. Therefore, countries can greatly experience positive economic network benefits by adopting the IFRS (Kossentini & Ben-Othman 2014; Zaiyol et al., 2017). Moreover, the benefits of adopting IFRS cannot be solely seen through direct improvements in the economic systems of adopters, but can also be noticed through the developments of their political systems as well (Ramanna & Sletten, 2009).

"Networks play an important role in a wide range of economic phenomena" (Konig & Battiston, 2009, p. 23). Based on network theory, studying the effects of networks on economic activities is most essential because it provides a clear explanation about network configuration and structure (Jackson, 2010). Network theory can be used to explain the economic and financial consequences that arise from the network when adopting the IFRS (Ramanna & Sletten, 2014; Kossentini & Ben-Othman 2014). Drawing on the economic network theory, the economic effects of IFRS adoption can obviously be seen through examining international trade between countries (Samaha & Khlif, 2016). Furthermore, the IFRS network effects can also occur due to geographic and colonialism influences. Therefore, countries located in one region might follow other countries who have already adopted the IFRS. Similarly, some

countries may copy their former colonizer in adopting the IFRS, owing to the network effects between those nations and their colonizer (Ramanna & Sletten 2014).

According to the economic network theory, the effects of the network on adopting the IFRS depends on the economic integration between countries that have not adopted the IFRS with other partner-countries that have already embraced IFRS. Therefore, the globalization of economies must be considerably high, otherwise, there would not be any network effects when adopting the IFRS (Emeni & Urhoghide, 2014; Zaiyol et al., 2017). Therefore, the economic network benefits of adopting the IFRS are generally higher in developed countries than developing countries. This is because developed countries have higher economic integration with each other, whereas there are no network effects among emerging economies (Emeni & Urhoghide, 2014). "*Although there are arguments that IFRS are irrelevant to developing countries, but they are adopting it because IFRS is a product with network effects*" (Odia & Ogiedu, 2013, p. 389).

Additionally, the diffusion of innovations mostly occurs through relations within a network structure between different economic actors. Therefore, the economic network theory is the most appropriate theory that can be used to explain the diffusion of innovations (Konig & Battiston, 2009; Oerlemans et al., 1998). Similarly, the network approach can be explicitly utilized to explain complicated socioeconomic issues from complex networks to economic activities, including the spread of innovations, economic development and financial markets (Varela et al., 2015). Therefore, this thesis depends on the economic network theory as a complementary theory to examine the economic network effects of adopting the international accounting innovations.

3.5.2.4 Limitations and Criticism of Economic Network Theory

Despite the economic network theory providing an explanation for the consequences of the global adoption of international accounting innovations, it also has some limitations and criticisms. Economists tend to use the economic network theory, with a view to explain socio-economic consequences. Nevertheless, it needs to be more focused on examining the properties of networks themselves in addition to their economic activities (Rauch, 2010). Furthermore, a social structure represented by a social network can be explicitly used to explain observed economic outcomes because it influences the flow and quality of information (Granovetter, 2005). Nonetheless, there is a huge amount of heterogeneity among different networks of social structures, which can have a significant impact on matching economic consequences (Jackson, 2007). Moreover, although the network approach has been widely used to examine different disciplines, it has not yet been thoroughly used towards understanding internationalization, because it neglects many external factors that lead to internationalization, such as economic policies (Vissak, 2004). Additionally, there is a common belief that network ties are fixed and immobile. Therefore, they have been widely used to predict the outcomes

of networks, rather than network antecedents. However, the networks' flows of resources are in fact a dynamic issue and can be changed over time (Borgatti et al., 2014).

3.5.3 Diffusion of Innovation (DOI) Theory

The first three aspects of the theoretical framework of the diffusion theory, including its history, assumptions and their limitations have been discussed in the previous subsection. Therefore, only the applicability of the diffusion theory to the consequences of adopting the international accounting innovations will be addressed in the following subsection, given that this has not yet been explained.

3.5.3.1 Applicability of DOI Theory to the Economic Consequences of Adopting IAIs

The DOI theory can be explicitly utilized to explain the consequences of adopting new innovations, since it provides a better understanding of post-adoption outcomes (Zhu et al., 2006). According to the DOI theory, the innovation process often begins with the realization of a specific problem and begins to develop an innovation to settle a problem. Thereafter, there is a spread of innovation through the communication channels to encourage potential adopters to embrace the innovation. Subsequently, users can notice the consequences of adopting the innovation directly after a short time post adopting the new innovation (Regres,1962; 1983). *"Consequences are the changes that occur in an individual or a social system as a result of the adoption or rejection of an innovation"* (Rogers, 2003, p. 436).

Similarly, the consequences of adopting an innovation may create uncertainty for the potential adopters and stop them from embracing the innovation. Therefore, with a view to reduce the uncertainty of adopting the innovation, adopters must be informed about all consequences, including any advantages and disadvantages relevant to adopting the innovation (Sahin, 2006). Based on the DOI theory, the consequences of innovation can be classified into three main divisions, namely i) desirable versus undesirable outcomes, ii) direct versus indirect outcomes, and iii) expected versus unexpected outcomes (Rogers, 1995, 1983). The expected consequences are often desirable and direct, whilst, the unexpected consequences are usually direct and undesirable (Rogers, 1995).

The DOI theory has been widely employed by many scholars to examine the spread and management of accounting innovations (e.g., Lapsley & Wright, 2004; Alcouffe et al., 2008; Shil et al., 2015; Askarany et al., 2016; Nassar et al., 2011; Tucker & Parker, 2014). However, a very limited number of studies have used the DOI theory to explain the diffusion of the IFRS (e.g., Alon, 2010; Pelucio-Grecco et al., 2016; Ball, 2016; Jayeoba et al., 2016). In the same manner, the effects of adopting the international auditing standards on the economic consequences of the adopting countries can also be viewed and explained by using the DOI theory.

3.5.4 Institutional Theory

The first three aspects of the theoretical framework of the institutional theory, including the history, assumptions and limitations of the theory have been discussed in the previous subsection. Therefore,

the applicability of the institutional theory on the consequences of adopting the international accounting innovations will be addressed in the following subsection, given that it has not yet been discussed.

3.5.4.1 Applicability of Institutional Theory to the Economic Consequences of Adopting IAIs

The institutional theory examines the internal influences of individuals or organizations. Consequently, institutional theories can be applied at micro and macro levels alike (Mishler & Rose, 2001). Although converting to IFRS can have a big effect on financial reporting for early adopters, it is necessary to examine the consequences of IFRS adoption in the long term (Mohammadrezaei et al., 2015). IFRS adoption has also been significantly motivated by social legitimization pressures towards achieving favourable economic consequences (Shima & Yang, 2012; Ball, 2006; Judge et al., 2010), and by the pursuit of obtaining greater financial benefits for stock markets (Brüggemann et al., 2013; Lourenço et al., 2015; Phan, 2014; Lasmin, 2011).

Additionally, IFRS adoption has been influenced by external institutional isomorphisms, such as coercive pressures forced by financial markets to attract more foreign investors due to enhanced transparency and comparability, which thus decreases the cost of equity under IFRS adoption (Wahyuni, 2013; Tan et al., 2016; Houqe et al., 2016; Mohammadrezaei et al., 2015; Wu & Patel, 2015; Odia, 2016), and further through mimetic pressures that can emerge from multinational corporations and trade partners in achieving greater economic benefits, such as increasing foreign direct investments (Pricope, 2016; Jang et al., 2016; Mohammadrezaei et al., 2015; Al-Omari, 2010; Lasmin, 2011a; Irvine, 2008). Nevertheless, the costs of capital have remarkably decreased after the mandatory adoption of the IFRS in countries with strict enforcement systems (Daske et al., 2008; Li, 2010; Ionascu et al., 2014). The mandatory adoption of IFRS leads to either intended or unintended consequences at the macro-economic level. Consequently, further research must be conducted to evaluate both the intended and the unintended consequences of IFRS adoption (Brüggemann et al., 2013).

Based on the institutional theory, IFRS adoption is widely motivated by three institutional isomorphic pressures, namely coercive, mimetic, and normative, rather than motivated by improving the economic performance of the adopting countries (Judge et al., 2010; Phan, 2014; Lasmin, 2011; Hassan et al., 2014). However, some scholars argue that IFRS adoption in developing countries is significantly affected by the perceived economic benefits that emerge from mimetic pressures (Pricope, 2016). There is an acute scarcity in the existing research of the examinations of the economic consequences of IFRS adoption, especially in emerging economies (Samaha & Khlif, 2016). Accordingly, institutional theory can help researchers examine the potential economic benefits of adopting similar international standards that have been influenced by institutional isomorphism pressures (Tolbert & Zucker, 1996). However, Soderstrom and Sun (2007) argued that the consequences of the voluntary adoption of IFRS varies significantly from those outcomes that can be achieved from the mandatory adoption of the IFRS. This can occur due to differences in the institutional factors possessed by each group separately.

3.5.5 Signalling Theory

This section discusses the four main aspects relating to signalling theory, including the background, theoretical assumptions, applicability and the limitations of signalling theory.

3.5.5.1 Background and the History of Signalling Theory

In 1973, Spence (1973) developed the signalling theory, arguing that it is necessary to study the presence of job market signalling and that is important to examine its absence. Similarly, Talmor (1981) used signalling theory to illustrate the ability of financial instruments to disclose confidential information to show the true value of companies, without facing any risk. In a similar vein, Downes and Heinkel (1982) applied signalling theory to explain the disclosure of investors' information, including ownership retained and the dividend policy as a positive signal of firm value. Likewise, Healy and Palepu (1993) employed signalling theory to explain the financial disclosure and superior information that managers try to send as a signal to outside investors on stock prices. Recently, Bird and Smith (2005) reported that signalling theory is beneficial not only to the receiver, who can benefit from being informed about hidden actions, but also to the signaller, who sends information, with a view to increase trust and communication with the observers.

3.5.5.2 Theoretical Assumptions of Signalling Theory

Signalling theory assumes that there are simultaneous mutual benefits to the sender and receiver due to the truthful communication between them (Bird & Smith, 2005). Based on signalling theory, signallers might not fully decide to disclose information about their performance to receivers as a result of a conflict of interest, which might take place between the desires of senders and the demands of receivers (Cronk, 2005). Therefore, receivers can also send feedback to signallers to reduce information asymmetry and strengthen the communication channels between them and the senders, who might also seek to obtain reliable information about receivers (Gulati & Higgins, 2003). Drawing on the signalling theory's assumptions, there are two motivations that can encourage firms to voluntarily disclose to investors about their financial performance. These incentives include any reduction in the cost of capital and boosts to the company's value (Frankel et al., 1995). Accordingly, signalling theory assumes that IFRS adoption leads to reducing information asymmetry and enhancing the compatibility of financial reporting, thus attracting more foreign investments and increasing the financial performance of capital markets (Shima & Yang, 2012; Tarca, 2004).

3.5.5.3 Applicability of Signalling Theory to the Economic Consequences of Adopting IAIs

Signalling theory can be used to explain the behaviour of individuals and organizations alike. It illustrates how the receiver interprets any signal from other parties and how such information can be important to the sender (Connelly et al., 2011). According to signalling theory, the use of the IFRS provides a signal to investors that the company is using rigorous accounting standards and has accepted to disclose more information about its financial performance (Tarca, 2004). Similarly, the voluntary

financial disclosure of the IFRS has been influenced by the signalling theory and capital needs, since some firms might disclose to investors about improvements in the underlying financial performance of the company (Abdul-Baki et al., 2014). However, there is still clear diversity in the amount of disclosure among developed countries, even after they embraced the IFRS due to many institutional differences. Therefore, successful firms operating in developed countries provide more information to their investors as a signal to display their current financial situation (Akman, 2011).

3.5.5.4 Limitations and Criticism of Signalling Theory

Although the signalling theory can be applied to explain the diffusion of international accounting innovations, it has some limitations, which might restrict the applicability of signalling theory. Firstly, signalling theory has not yet provided a clear explanation for why listed firms operating in developing countries have voluntarily complied with the IFRS, and mixed empirical results have been reported by previous research (Samaha & Khlif, 2016). Secondly, most emerging economies have adopted the IFRS, because embracing these standards is cheaper than developing new national accounting standards. Hence, many countries have applied the IFRS to avoid the higher costs of releasing new accounting standards, which is also used as a signal to attract more foreign investors. However, implementing the IFRS poses many obstacles, which lead to increasing information asymmetry (Shima & Yang, 2012). Finally, although signalling theory leads to providing information that can satisfy the demands of receivers, conflict of interests can happen regularly between senders and receivers, because providing information that can satisfy all groups is quite difficult (Brigham & Houston, 2012).

3.6 Reflections on the Theoretical Literature

It is commonly believed that links between the theoretical frameworks used with the practice can minimize the gap between theory and practice. Furthermore, it can also develop more inclusive ways of understanding reflective practices (Fook et al., 2006). Most of the extant accounting research have been transformed by applying a normative approach to using empirical practices, with a view to investigate the reality of accounting research. Therefore, many theoretical frameworks from different disciplines have been adopted to explore the reality of the various fields of accounting research (Hudaib, 2016).

At the macro-country level, prior studies have examined the influence of national antecedents on the adoption of the IFRS by using a number of individual theories, including institutional theory (e.g., Alon & Dwyer, 2014; Judge et al., 2010; Hope et al. 2006; Lasmin, 2011), legitimacy theory (e.g., Phan, 2014; Ben-Othman & Kossentini, 2015; Phan et al., 2016), signalling theory (e.g., Kolsi & Zehri, 2009; Hallberg & Persson, 2011; Akman, 2011; Smith, 2008), LLSV legal theory (e.g., Dimaa et al., 2013; Zehri & Chouaibi, 2013; Palea, 2013; Dunne et al., 2008; Houqe et al., 2012; Kim et al., 2012), and contingency theory (e.g., Ahsina, 2012; Nnadi et al., 2015). Similarly, other scholars have employed some individual theories to examine the impact of national antecedents on the adoption of ISAs,

including institutional theory (Boolaky & Cooper, 2015; Boolaky & Soobaroyen, 2017), Nobes' classification theory (Boolaky, 2011; Boolaky, et al., 2013; Boolaky & Cooper, 2015), Nobes theory (Boolaky & O'Leary, 2011), and the Hofstede-Gray cultural theory (Boolaky and O'Leary, 2011; Boolaky and Omoteso, 2016).

Regarding the consequences of ISAs and IFRS adoption, previous studies have applied other individual theories to investigate the effects of adopting the IFRS on the consequences of the adopting countries, including economic network theory (e.g., Saucke, 2015; Ramanna & Sletten, 2014; Phan et al., 2016; Adereti & Sanni, 2016; Ben-Othman & Kossentini, 2015; Houqe et al., 2012; Zaiyol et al., 2017), resource based theory (e.g., Alon & Dwyer, 2014; Lundqvist et al., 2008; Kim, 2017), and signalling theory (e.g., Masoud, 2017; Tsalavoutas, 2011, Kolsi & Zehri, 2009; Hallberg & Persson, 2011; Akman, 2011; Iatridis, 2008; Smith, 2008; Shima & Yang, 2012). However, very few studies have been utilized to examine the effects of adopting the ISAs, including the resource-based theory (Yong & Mahzan, 2013; Wong, 2004), and the network theory (Mennicken, 2008; Jeppesen, 2010). For the remainder of the theoretical frameworks, signalling theory was widely used at the micro-firm level to explain accounting issues, but not at the macro-country level, because it has been applied to explain microeconomic variables and the environment of corporations, rather than illustrate the macroeconomic factors, such as legal, political, cultural, economic and educational antecedent factors (Kolsi & Zehri, 2009).

Therefore, this thesis uses multi-theoretical frameworks that have already been applied by prior studies to demonstrate how those theories can help the researcher understand the practice, namely the adoption of international accounting innovations (ISAs & IFRS). Specifically, this thesis applies the DOI theory and institutional theory to explain both the antecedents and the consequences of adopting the international accounting innovations. It also employs the LLSV legal origins theory and the Hofstede-Gray cultural theory, which have been previously utilized to explain the national legal and cultural dimensions. Additionally, this study applies the economic network theory, signalling theory and resource-based view theory, which have been employed by prior studies to explain the consequences of adopting the international accounting innovations.

3.7 Chapter Summary

This chapter has concentrated on the conceptual and theoretical frameworks applied in this thesis to illustrate the antecedents and the consequences of the worldwide diffusion of the international accounting innovations. Although there are plenty of differences in the existing literature in applying the theoretical frameworks concerning the diffusion of the international accounting innovations, it is obvious that there are similarities between all theoretical frameworks used in this thesis, which provides a comprehensive overview of the antecedents and economic consequences of adopting the international accounting and auditing standards.

Due to the limitations of using an individual theoretical framework, this thesis applies a multi-theoretical approach to explain the antecedents and consequences of the worldwide diffusion of the international accounting innovations. This study uses various theoretical prospectives that have been previously applied by many scholars in studying the diffusion of the international accounting innovations. Accordingly, the multi-theoretical framework applied in this study has been divided into two divisions. Firstly, theories that have been applied to explain the association between national antecedents and the adoption of the international accounting innovations, include the DOI theory, institutional theory, LLSV legal origins theory, and the Hofstede-Gray cultural theory. Secondly, theories that have been used to explain the association between the adoption of the international accounting innovations and the economic consequences involve the DOI theory, institutional theory, economic network theory, resource dependence theory, and signalling theory.

The next chapter presents a review of the theoretical and empirical literature for all variables employed in this study, with a view to developing specific hypotheses that examine national antecedents and consequences of the global adoption of the international accounting and auditing standards.

Chapter Four : Empirical Literature Concerning the Antecedents of Adopting IAIs and Hypotheses Development

4. Aims of the Chapter

This chapter aims to review the empirical studies that examined the association between the global adoption of the international accounting innovations and the national antecedents of the adopting countries. Specifically, section 4.1 provides a critical review of the empirical literature concerning the association between the adoption of the international accounting innovations and four key species of national antecedents, including legal, political, cultural, and educational factors. As a result, section 4.1.1 reviews the empirical literature by examining the relationship between national legal antecedents and the global adoption of the international accounting innovations and develop hypotheses relevant to the legal factors. Section 4.1.2 shows the empirical literature regarding national cultural antecedents and the global adoption of the international accounting innovations and develops hypotheses relevant to the cultural factors. Section 4.1.3 exhibits the empirical literature regarding national political antecedents and the global adoption of the international accounting innovations and develop hypotheses relevant to the political factors. Section 4.1.4 reviews the empirical literature regarding national educational antecedents and the global adoption of the international accounting innovations and develops hypotheses relevant to the educational factors. Section 4.2 offers critical reflections on the extant empirical literature review regarding the association between national antecedents and the global adoption of the international accounting innovations. Section 4.3 outlines a summary of this chapter.

4.1 Legal Antecedents and the Adoption of IAIs

The global adoption of international accounting innovations has been widely affected by the national legal antecedents of adopting countries, such as legal origin (e.g., Al-Awaqleh 2010; Simunic et al., 2015; Zehri & Chouaibi, 2013; Dimaa et al., 2013; Haxhi & Ees, 2010; Zattoni & Cuomo, 2008), shareholder protection laws (e.g., Aguilera & Cuervo-Cazurra, 2004; Renders & Gaeremynck, 2007; Houqe et al., 2012), protection of minority investors (e.g., Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016; Marchini et al., 2005), judicial independence (Houqe et al., 2012), and judicial efficiency (Boolaky, 2011; Hope, 2003; Boolaky & O'Leary, 2011; Boolaky et al., 2013). Therefore, this study uses a wide range of proxies for the national legal antecedents, including legal origin, shareholders protection laws, judicial independence, judicial efficiency and judicial integrity, with a view to predict the expected relationships between the national legal antecedents and the global adoption of the international accounting innovations.

4.1.1 Legal Origin and the Adoption of IAIs

Theoretically, the consequences of legal origins can be clearly explained by employing the LLSV legal origins theory (Puri, 2009; La Porta et al., 2008; Levine, 2008). According to LLSV theory, common law countries are more prone to better accounting systems than civil law countries. This is

because common law countries have strong protections for financial investors, and seek to satisfy their investors, since they represent the main source of financing (La Porta et al., 1998). Accordingly, common law countries are more prone to adopting the IFRS than civil law countries. This is because the international accounting standards have already been issued with an Anglo-Saxon origin (Rusu, 2012). Therefore, diversity in the accounting standards among countries has emerged from the variety of the legal origins among countries (Lozada, 2014).

Puri (2009) argues that the LLSV theory is difficult to apply in countries with mixed common and civil legal origins. Additionally, from the DOI theory viewpoint, English common law countries are more prone to adopting new accounting innovations, such as codes of good governance during the initial stages, with a view to add legal legitimacy to their countries. In the contrary, civil law countries are usually late adopters of new innovations, since they do not want to lose their legitimacy (Zattoni & Cuomo, 2008). The international accounting and auditing standards have been mainly issued for English common law countries, where there are advanced judicial systems. However, civil law countries need to adjust their legal systems to the requirements of the international standards before they can truly adopt the ISAs and IFRS (Narasimham, 2010).

Empirically, most prior research suggests that a common legal origin is significantly associated with the adoption of the international accounting innovations (Zehri & Chouaibi, 2013; Dimaa et al., 2013; Kossentini & Ben Othman, 2014; Kolsi & Zehri, 2009; Dayanandan et al., 2016; Wang et al., 2008; Haxhi & Ees, 2010; Zattoni & Cuomo, 2008). For example, by using a sample of 74 developing countries, Zehri and Chouaibi (2013) concluded that the adoption of the IFRS is more likely to occur in emerging countries with English common law systems. Another study conducted by Dimaa et al. (2013), through a sample of 162 countries, reports that countries with common law origins are more prone to fully adopt the IFRS. Likewise, by using 50 nations, Kossentini and Ben Othman (2014) highlighted that IFRS adoption extensively exists in emerging economies with common law rather than those with civil law codes. Similarly, Kolsi and Zehri (2009) sampled 74 developing countries and found that Anglo-Saxon nations are more prone to adopting the IFRS.

In the same way, Haxhi and Ees (2010) examined the impact of legal origins on the diffusion of codes of good governance (CGGs) by using a sample of 67 countries. The study found that the worldwide diffusion of CGGs has been significantly influenced by an Anglo-Saxon legal origin. A further study implemented by Zattoni and Cuomo (2008) studied the global diffusion of CGGs by studying 44 countries, 15 countries of which used English common law and 29 had various civil legal origins. The study documented that common law countries are more susceptible to become early adopters of corporate governance codes, whereas civil law countries tended to be late adopters due to influence from external pressures. Therefore, civil law countries seek to gain more legitimacy by adopting these rigid international standards, and not for efficiency reasons. However. Al-Awaqleh (2010) reported that

the ISAs adoption in Jordan has been influenced by its civil legal origin, due to the huge cost in issuing new auditing standards instead of issuing new local auditing standards.

Prior studies have studied the impact of the legal origin of a country on IFRS adoption (Zehri & Chouaibi, 2013; Dimaa et al., 2013; Kossentini & Ben Othman, 2014; Kolsi & Zehri, 2009; Dayanandan et al., 2016; Wang et al., 2008) and on the codes of good governance CGGs (Haxhi & Ees, 2010; Zattoni & Cuomo, 2008). However, only two empirical studies have been applied so far to examine the effect of legal origin on ISAs adoption. The first study was implemented by Al-Awaqleh (2010), who used a survey to collect data about the ISAs adoption in Jordan, while the second study was conducted by Simunic et al. (2015), who studied the impact of legal origin on ISAs adoption by using a game theory model. Hence, this study contributes to current literature by examining the impact of the legal origin on the adoption of IAI by using data provided by the World Factbook, which offers more comprehensive information on the legal origins for large number of countries. Therefore, this study posits the following hypothesis based on the outcome achieved by most previous research:

H1.1: *Countries with English common law origins are more likely to be early adopters of the international accounting innovations.*

4.1.2 Shareholders Protection Laws and the Adoption of IAIs

Based on the LLSV theory, countries with strong investor protection laws are more prone to having effective corporate governance codes (La Porta et al., 2000). The protections of shareholders' rights are more prone to being higher in English common law countries than in countries with civil codes (Armour et al., 2009). The reason for this is because common law countries often follow each other, while civil law countries are more susceptible to following and imitating their former colonists (Schauer, 2000). As a result, English common law countries with strong shareholder protection laws tend to adopt the accounting innovations such codes of good governance, during the initial stages for efficiency reasons (Aguilera & Cuervo-Cazurra, 2004; Ben Othman & Zeghal, 2008; Cuervo-cazurra & Aguilera, 2004).

Empirically, the findings of most previous empirical literature reports that the higher the level of investor protection laws, the more the accounting innovations are adopted (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016; Houqe et al., 2012; Aguilera & Cuervo-Cazurra, 2004; Houqe et al., 2014; Renders & Gaeremynck, 2007). For instance, Boolaky and Soobaroyen (2017) studied 89 countries and deduced that the ISAs adoption are more likely to occur in countries with strong laws for the protection of minority investors. This happens as a response to the coercive institutional pressures exerted by the legal system of those countries in the mandatory enforcement of their firms to adopt the ISAs. A further study conducted by Boolaky and Omoteso (2016) included data for 50 countries. The study reported that there is a positive and significant association between the ISAs adoption and the country's laws for protecting the minority of investors.

Similarly, towards investigating IFRS adoption and by using 46 countries, Houqe et al. (2012) demonstrated that countries with strong protection of investors' rights are more likely to force their local corporations to adopt the IFRS, thus eventually increasing earnings quality. An additional study carried out by Renders and Gaeremynck (2007) found that countries with strong laws for protecting investors are more likely to adopt the IFRS, since the costs of adopting the IFRS are relatively small when the investor protection laws are stronger. Likewise, for CGGs adoption and by studying 49 countries, Aguilera and Cuervo-Cazurra (2004) pointed out that countries with strong shareholder protection laws are more susceptible to the influence of internal pressures and develop codes of good governance with a view to enhance the efficiency of the country's governance system.

However, by using data from 2003-2011 for three civil law European countries, namely France, Germany and Sweden, Houqe et al., (2014) studied the impact of mandatory IFRS adoption in these three low investor protection countries, on the quality of their financial reporting. The study stated that countries with low levels of investor protection and mandatory IFRS adoption are more likely to have high quality financial reporting. Similarly, by using a sample of 38 countries, Hope et al. (2006) revealed that IFRS adoption is more likely to occur in countries with weak shareholder laws than countries with strong shareholder protection laws, which can facilitate their chance to access global markets. Likewise, by covering data from 56 countries, Francis et al. (2008) studied the effect of shareholder protection rights levels on IFRS adoption. The study reported that firms from developing countries with poor investor protections are more prone to apply IFRS, since they can enhance their benefits from adopting IFRS by facilitating contracting.

Previous research has been limited to using a small number of countries to examine the impact of shareholder protection rights on IFRS (Houqe et al., 2012; Houqe et al., 2014; Renders & Gaeremynck, 2007; Francis et al., 2008; Hope et al., 2006), and on ISAs adoption (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016), and on the adoption of codes of good governance CGGs (Aguilera and Cuervo-Cazurra, 2004). However, this study contributes to the existing literature by examining the effect of shareholder protection laws on the adoption of IAI by including large number of countries and for a long period of time. Therefore, due to the results that were achieved by most previous research, this study suggests the following hypothesis:

H1.2: *Countries with strong laws for protecting investors' rights are more likely to be early adopters of the international accounting innovations.*

4.1.3 Judicial Efficiency and the Adoption of IAIs

According to the LLSV theory, the quality of the accounting and auditing standards in a given country can be considerably influenced by the quality of the law enforcement of its legal system. In terms of law enforcement and judicial efficiency level, higher income nations, including Scandinavian and

German civil law countries, have the highest levels of law enforcement, while common law countries have the second highest enforcement of laws. However, French civil law countries have the lowest levels of law enforcement (La Porta et al., 1998). Legal enforcement tends to be higher in countries with a decentralized judicial system (Federal system), which can generally be found in both common law states, such as the US and in civil law states, such as Germany and Scandinavian countries (Walker, 2010). In this regard, English common law countries are more subject to a decentralized judicial system, whereas civil law countries tend to have more centralized judicial system (Law, 2008).

Due to the scarcity of theoretical literature used to explain the legal enforcement proxies (judicial independence, judicial efficiency and judicial integrity), this thesis relies on other studies that address related issues, by reviewing contextually relevant literature. Specifically, there is a range of legal system proxies that can be utilized to capture differences in law enforcement among countries in relation to IFRS adoption. These legal enforcement proxies include the rule of law, judicial efficiency, judicial integrity and judicial independence (Brown et al., 2014). In this regard, IFRS adoption is more beneficial in countries with stronger law enforcement than in countries with lower legal enforcement (Daske et al., 2008; Barth & Israeli, 2013; Christensen et al., 2013; Byard et al., 2011; Palea, 2013; Charitou et al. 2015). The independence of the judicial system of a country can have a significant impact on enhancing the economic development of the adopting country (Abouharb et al., 2013). However, owing to the flexibility in the IFRS, law enforcement regimes in strong enforcement countries might not be able to enforce IFRS implementation, especially in countries where the domestic GAAP varies significantly from the IFRS (Ahmed et al., 2013).

Empirically, prior studies have not yet examined the association between the adoption of the international accounting innovations and judicial efficiency and judicial integrity. Nevertheless, very few studies examined the relationship between the judicial efficiency of a country and the strength of accounting standards, and have shown mixed results (Boolaky, 2011; Hope, 2003; Boolaky & O'Leary, 2011; Boolaky et al., 2013). For example, Boolaky (2011) investigated the relationship between the efficiency of the legal systems of 41 European countries and the strength of their auditing standards. The study reported that there is a positive and significant association between the strength of auditing standards and the efficiency of the legal systems in European countries. Similarly, Hope (2003) reported that IFRS adoption highly correlates with countries that have strong judicial systems. This is because the international accounting standards are more effective in countries with a strong judicial framework where the enforcement is relatively high.

However, Boolaky and O'Leary (2011) investigated the relationship between the efficiency of the legal system of a country and the strength of the auditing standards in 28 of sub-Saharan countries. The study concluded that there is no association between the strength of the auditing standards and the efficiency of the legal systems in developing countries. Likewise, Boolaky et al., (2013) studied the

impact of the efficiency of the legal systems of 133 countries on the strength of their auditing standards. They found that there is no relationship between the efficiency of the legal system and the strength of reporting and auditing standards in countries with strong standards.

The existing research has investigated the impact of the judicial efficiency of a country on the strength of auditing and accounting standards by using data provided by the World Economic Forum (WEF) (Boolaky, 2011; Boolaky & O'Leary, 2011; Boolaky et al., 2013). However, there is only one study, conducted by Hope (2003), who studied the impact of judicial efficiency on IFRS adoption. Hence, the present study provides a significant contribution to the existing literature by including large number of countries to examine the impact of their judicial efficiency on the adoption of IAIs. Hence, this study proposes the following hypothesis based on the results obtained by most previous studies:

H1.3: *Countries with higher levels of judicial efficiency and integrity are more likely to be early adopters of the international accounting innovations.*

4.1.4 Judicial independence and the Adoption of IAIs

Theoretically, judicial independence refers to the ability of the courts to enforce their decisions without interference from any political party (Zackin, 2012). In a contextual manner, judicial independence and the rule of law are linked to each other and both are used to measure the extent of compliance with law. However, the rule of law is more comprehensive than judicial independence, since it includes the power of the government in each country (Boies, 2006). Based on institutional theory, coercive isomorphism arises when an institution is forced to adopt certain practices as a response to external pressures that emerge from powerful institutions (DiMaggio & Powell, 1983). Institutional pressures emerge from law enforcement, which represents the coercive isomorphism and in turn demonstrates the corruption level in a given country. Hence, the higher the law enforcement in a country, the lower the level of corruption in the country (Venard, 2009). Moreover, drawing on institutional theory, many countries are legally enforced by law to adopt the IFRS to gain social legitimacy, and are not necessarily influenced by achieving economic benefits (Lasmin, 2011; Judge et al., 2010; Kossentini & Ben Othman, 2014). However, countries can largely obtain economic benefits by adopting the IFRS only when they have strong levels of law enforcement rules (Zaidi & Huerta, 2014; Christensen et al., 2013; Daske et al. 2008).

Empirically, most previous studies suggest that there is a positive relationship between judicial independence or the rule of law in a country, and the adoption of IFRS (Avram et al., 2015; Houqe et al., 2012; Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014; Houqe et al., 2016). For instance, by using the data of 132 countries, Avram et al. (2015) investigated the influence of legal environment factors on the strength of accounting and auditing standards. The study found that there is a positive and significant association between the rule of law and the strength of accounting and auditing

standards. A further study conducted by Houqe et al. (2012) used data for 46 countries and revealed that countries with strong investor protection are more prone to higher levels of judicial independence, which in turn leads them to have higher levels of efficiency and integrity in their legal systems. Likewise, Zaidi and Huerta (2014) outlined how there is a positive and significant association between IFRS adoption and the economic growth rate of a country, but only in countries with a strong level of law enforcements.

Similarly, by studying data for 70 countries, Ozcan (2016) concluded that there is a positive and significant association between IFRS adoption and economic growth in countries with a stronger rule of law, which represents the law enforcement in those countries. Furthermore, Cai et al. (2014) indicates that the strongest level of legal enforcement can obviously occur in countries with a higher level of judicial efficiency, judicial independence and strong legal system for shareholder protection rights. Moreover, Ali and Isse (2003) report that countries with a higher level of judicial integrity are most likely to have lower levels of economic corruption. However, by using data for 16 European countries, Houqe et al. (2016) concluded that there is no association between IFRS adoption and the strongest level of judicial independence in the EU countries.

Prior studies investigated the influence of judicial independence of a country on IFRS adoption (Avram et al., 2015; Houqe et al., 2012; Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014; Houqe et al., 2016; Ozcan, 2016). However, studying the impact of judicial independence of a country on ISAs adoption has not yet been investigated so far. Therefore, this study provides a great contribution to the current research by examining the effect of judicial independence on the adoption of IAI for a large number of countries. Hence, this study posits the following hypotheses based on the outcomes that have been achieved by the majority of previous empirical studies:

H1.4: *Countries with higher levels of judicial independence are more likely to be early adopters of the international accounting innovations.*

4.2 Political Antecedents and the Adoption of *IAIs*

The worldwide diffusion of the IFRS has been significantly affected by a range of political antecedents which represent the government quality level in a country (e.g., Houqe et al., 2012; Rahman, 2016; Houqe & Monem, 2016; Alon & Dwyer, 2014). Furthermore, prior studies have used an aggregate governance index instead of using individual indexes regarding the worldwide governance indicators, to empirically examine the influence of each governance indicator on IFRS adoption separately (e.g., Alon & Dwyer, 2014; Houqe et al., 2012). Accordingly, this study examines the effect of four political proxies, namely the worldwide governance indicators developed by Kaufmann et al. (2010) and supported by the World Bank, which in fact refer to the quality of the political institutions in a given country. These governance indicators include voice and accountability, political stability,

regulatory quality, and the control of corruption, and should predict the expected relationships between these national political antecedents and the global adoption of the international accounting innovations.

4.2.1 Voice and Accountability Index and the Adoption of IAIs

Theoretically, although the worldwide governance indicators have not been explained and rooted in a specific theory yet, the governance indicators representing the quality of political institutions in a country can be used to measure the political attitudes that arise from political pressures exerted by governments (Thomas, 2010). According to institutional theory, governments need to create an adequate political environment, which individuals and institutions must comply with in order to gain greater social legitimacy (DiMaggio & Powell 1983). Political pressures mostly emerge from the power of a political group existing within a country, who support the institutional environment in the country (Scott, 2013). DiMaggio and Powell (1983) suggested that coercive isomorphism basically emerges from legal and political pressures, with a view to acquire greater social legitimacy. However, Nurunnabi (2015a) argues that political forces generally arise from mimetic isomorphism, due to a higher level of government interference and pressures to satisfy the international policy makers, such as the World Bank and the IMF, and further to please the professional accounting bodies, such as IASB by adopting the IFRS. Langbein and Knack (2010) claim that although the worldwide governance indicators measure different political dimensions, they are conceptually related to each other and there is an explicit overlap between them. Nonetheless, all governance indicators are logically consistent with various theories that test cause and effect.

Empirically, mixed outcomes have been achieved by different scholars who investigate the relationship between the voice and accountability index and the adoption of the international accounting innovations (Houqe et al., 2012; Houqe & Monem, 2013; Ben-Othman & Zeghal, 2008; Houqe & Monem, 2016; Gresilova, 2013; Avram et al., 2015; Alon & Dwyer, 2014). For instance, Houqe et al. (2012) examined the relationship between government quality and IFRS adoption by choosing external auditors for 46 countries. The study revealed that countries with higher levels of voice and accountability are more likely to choose external auditors, who operate in one of the Big Four Accounting firms. This is because of the increasing demand for preparing financial reporting in accordance with IFRS. Likewise, by covering 166 countries, Houqe and Monem (2013) point out that countries with a higher score of voice and accountability are more likely to benefit most from IFRS adoption. Similarly, by collecting data for 135 countries, Gresilova (2013) examined the relationship between political factors and adoption of the IFRS. The Gresilova study revealed that IFRS adoption has a positive and significant association with voice and accountability. In a similar vein, Houqe and Monem (2016) studied the association between IFRS adoption and the strength of political institutions in reducing the corruption level. The study outlined how developing countries with a higher level of voice and accountability are more susceptible to lower levels of corruption because of IFRS adoption.

In return, Alon and Dwyer (2014) examined the association between the quality of governance indicators and IFRS adoption for 71 countries. They found that countries with a lower score of voice and accountability are more prone to benefit from IFRS adoption, since they are extremely resource dependent. However, by using data for 57 emerging economies, Ben-Othman and Zeghal (2008) investigated the relationship between corporate governance disclosure and country attributes including voice and accountability and IFRS adoption. Their study reported that there is no association between corporate governance disclosure and voice and accountability and IFRS adoption. Comparably, Avram et al. (2015) investigated the relationship between the country-level governance indicators on the strength of auditing and financial reporting standards for 132 countries. Their findings suggest that there is no significant association between voice and accountability level and the strength of auditing and financial reporting standards in a country.

Most prior research that examined the impact of voice and accountability index on the adoption of IFRS have been restricted by using an aggregate governance score rather than using the voice and accountability index provided by the World Bank (Houqe et al., 2012; Houqe & Monem, 2013; Ben-Othman & Zeghal, 2008; Houqe & Monem, 2016; Gresilova, 2013; Avram et al., 2015; Alon & Dwyer, 2014). However, the impact of voice and accountability as a proxy to measure the worldwide governance indicators on the adoption of ISAs has not been examined yet. Therefore, this research contributes to the existing literature by studying the effect of voice and accountability index on the adoption of IAI. Accordingly, the present study posits the following hypothesis based on the outcomes obtained by most prior empirical research:

H2.1: *Countries with a higher level of voice and accountability index are more likely to be early adopters of the international accounting innovations.*

4.2.2 Political Stability Index and the Adoption of IAIs

According to institutional theory, coercive pressures arise from political antecedents and organizational legitimacy. This type of pressure can be applied when countries intend to force their organizations to adopt new standards (Pricope, 2016). In terms of coercive isomorphism, greater legitimacy can be achieved through the pressure that can arise from political influences (Lasmin, 2011a). Drawing on institutional pressures, coercive isomorphism arises from different political pressure groups (governments, regulators and policy makers) to mitigate any asymmetric relationships among organizations. This type of pressure can be achieved be using both formal and informal laws and regulations (Yapa et al., 2015). Accordingly, Dufour et al. (2014) pointed out that coercive isomorphism has led to the adoption of new accounting standards, such as the international financial reporting standards (IFRS) as a response to the institutional forces that emerge from political groups and with a view to gain more political legitimacy.

Empirically speaking, mixed results have been obtained by several scholars, who empirically investigated the relationship between the political stability of a country and IFRS adoption (Ozcan, 2016; Gresilova, 2013; Riahi & Khoufi, 2017a; Pricope, 2014; Hoque et al., 2011; Pricope, 2015; Zaidi & Huerta, 2014; Avram et al., 2015; Fajri et al., 2012; Rios-Figueroa, 2016). For example, Hoque et al. (2011) emphasized that countries with a higher level of political stability are more prone to embrace the IFRS, with a view to improve the quality of their financial reporting. A further study conducted by Riahi and Khoufi (2017a) examined the relationship between the power of political governance and IFRS adoption for 108 developing countries. Their study highlighted that the higher the level of political instability in developing countries, the lower the likelihood they will adopt IFRS. Similarly, by relying on 25 poor countries, Pricope (2015) examined the association between political stability and economic development to illustrate IFRS adoption. Pricope's study demonstrates that poor countries with a higher score of political stability are more susceptible to acquiring a higher level of economic development as a result of IFRS adoption. Correspondingly, Zaidi and Huerta (2014) examined the influence of political stability on IFRS adoption by studying 102 countries. Their study reported that there is a positive and significant correlation between the level of political stability of a country and IFRS adoption.

In contrast, Pricope (2014) used data for 16 developing countries to study the relationship between political stability and economic freedom, with a view to explain IFRS adoption. This study revealed that developing countries with a higher score of political stability are less likely to adopt IFRS. A further study conducted by Gresilova (2013) studied the relationship between political factors and foreign direct investment for 135 countries who have adopted the IFRS. The study revealed that FDI has been significantly and negatively influenced by a higher rank of political stability but only for developing countries that have adopted the IFRS.

Avram et al. (2015) discussed the impact of the worldwide governance indicators on the strength of accounting and auditing standards. Their study found an insignificant relationship between the strength of accounting and auditing standards and political stability. A similar outcome was found by Fajri et al., (2012), who investigated the impact of political stability for 35 Asian countries on the implementation of IFRS. Their study concluded that there is no relationship between the IFRS implementation and political stability in the Asian countries. Similarly, Ozcan (2016) examined the relationship between the economic growth level of a country and political stability for 70 countries. The study showed an insignificant relation between political stability and economic growth in countries that have adopted the IFRS.

Previous studies investigated the influence of political stability index on IFRS adoption (Ozcan, 2016; Gresilova, 2013; Riahi & Khoufi, 2017a; Pricope, 2014; Hoque et al., 2011; Pricope, 2015; Zaidi & Huerta, 2014; Avram et al., 2015; Fajri et al., 2012; Rios-Figueroa, 2016). However, there has not been any empirical research conducted so far to investigate the impact of political stability index on the

adoption of ISAs. Therefore, this study offers a significant contribution by examining the influence of political stability index as a proxy for political factors on IAI adoption. Hence, this study expects the following hypothesis based on the results achieved by most previous literature:

H2.2: *Countries with a higher level of political stability index are more likely to be early adopters of the international accounting innovations.*

4.2.3 Regulatory Quality Index and the Adoption of IAIs

According to political economy theory, the quality of governance institutions can lead to regulating the economy of a country. Hence, governments should establish high quality regulatory regimes, which can drive countries to obtain the best economic benefits (Ben-Othman & Kossentini, 2015; Alem, 2015). However, based on economic development theory, IFRS adoption does not necessarily lead to enhancing the economic situation of developing countries due to the lack of their regulatory quality (Larson & Kenny, 1996).

From an institutional theory point of view, institutional changes can be affected by three institutional pressures, namely regulative, normative, and cognitive forces. Each element of these dimensions provides a fundamental pillar for achieving institutional legitimacy (Palthe, 2014; Scott, 1995). Specifically, coercive pressures mostly arise from legal and political institutions, with a view to gain more regulative legitimacy (DiMaggio & Powell, 1983; Scott, 2001). However, legitimacy theory emphasizes how social legitimacy in addition to institutional pressures, including cognitive, normative and regulative legitimacy has been proposed by the institutional theory (Freitas et al., 2007).

Accordingly, the interaction between organizational cultures and institutional dimensions influences the adoption of new innovations (Liu et al., 2010). Drawing on institutional theory, IFRS adoption has been significantly influenced by coercive isomorphism, with a view to gain more institutional legitimacy, which in turn has been affected by legal and political institutions (Kossentini & Ben-Othman 2014; Pricope, 2016; Irvine, 2008; Lasmin, 2011; Phan, 2014; Judge et al., 2010). Additionally, institutions generally do not embrace IFRS for achieving internal efficiency. They mostly adopt IFRS as a response to the external pressures that emerge from cognitive, normative, and regulative institutions (Wu & Patel, 2013). Nonetheless, the global adoption of codes of good governance has been considerably affected by both internal and external pressures. The endogenous forces aim to improve the efficiency of the corporate governance system of a country, whereas the exogenous forces seek to bring social legitimation to the country's governance system (Aguilera & Cuervo-Cazurra, 2004).

Empirically, previous research suggests that regulatory quality plays a critical role in increasing the desire for adopting the IFRS (e.g., Houqe et al., 2012; Wieczynska, 2016; Gresilova, 2013; Louis & Urcan, 2012; Avram et al., 2015; Christensen et al., 2013; Mita & Husnah, 2015). In this regard, Sunder (2002) contends that a competitive regulatory regime is essential for the quality and efficiency of

accounting standards. It can be also helpful for setting and choosing from a set of accounting standards both nationally and internationally. Moreover, prior studies argue that the economic benefits of adopting the IFRS cannot be achieved with certainty, except for countries with a higher level of regulatory quality and a strong level of enforcements (e.g. Christensen et al., 2013; Zaidi & Huerta, 2014; Daske et al. 2008; Mita & Husnah, 2015).

For example, Houqe et al. (2012) investigated the association between regulatory quality index and IFRS adoption. The study found that countries with strong government quality are more likely to embrace the IFRS and hire auditors, who have valuable experience in implementing IFRS from the Big Four firms. Similarly, by using data for 5 European countries, Wieczynska (2016) studied the relationship between IFRS adoption and the quality of regulatory regimes. Wieczynska's study found that countries with high-quality regulations, who have adopted the IFRS, are more susceptible to employ the global Four Accounting firms. A further study executed by Gresilova (2013) studied the relationship between political factors and the adoption of IFRS for 135 countries. The study revealed that IFRS adoption has a positive and significant association with the regulatory quality of a given country. Additional research conducted by Avram et al. (2015) examined the relationship between the worldwide governance indicators for 132 countries and the strength of auditing and reporting standards in these countries. The study reported that countries with a higher level of regulatory quality are most likely to adopt high-quality of auditing and financial reporting standards.

Further, Christensen et al. (2013) investigated the association between IFRS adoption and the various levels of reporting enforcement in countries with various regulatory quality levels. Their findings outlined how countries with high regulatory quality are more prone to properly enforce IFRS, although this does not necessary lead to improving the liquidity of financial markets after IFRS adoption. Correspondingly, Louis and Urcan (2012) found that the economic benefits of IFRS adoption are mainly based on the quality of regulations implemented in a given country. The study found that the FDI tends to increase in countries with strong regulatory quality after IFRS adoption.

However, by using a sample of 128 countries, Kaya and Koch (2015) examined the association between the regulatory quality index and IFRS adoption for SMEs. Their findings revealed that countries with a lower score of governance quality are more susceptible to adopting the IFRS for SMEs to enhance their financial reporting, and thus obtain loans from international organizations. Likewise, Ramanna and Sletten (2009) argued that the costs of IFRS conversion are more likely to be restively expensive in countries with a higher level of governance quality and stable regulatory environment. This is because IFRS adoption is required and driven by financial markets in countries with well-developed governance institutions. Hence, countries with lower ranks of governance quality are more prone to adopting the IFRS than countries with higher levels of governance quality scores.

Previous researches have examined the influence of regulatory quality on the adoption of IFRS (Houqe et al., 2012; Wieczynska, 2016; Gresilova, 2013; Louis & Urcan, 2012; Avram et al., 2015; Christensen et al., 2013; Mita & Husnah, 2015). A Study on the effect of regulatory quality on the adoption of ISAs has not been performed so far. Therefore, the present study contributes to the current research by investigating the impact of regulatory quality on the adoption of IAIs. Hence, this study suggests the following hypothesis based on the outcomes that obtained by prior studies:

H2.3: *Countries with a higher level of regulatory quality index are more likely to be early adopters of the international accounting innovations.*

4.2.4 Control of Corruption Index and the Adoption of IAIs

Theoretically, institutional theory emphasizes how the institutional environment affects the behaviour of organizations (Meyer & Scott, 1983). Hence, institutional theory can be used to explain the corruption level exists in public sector institutions. The corruption level is mainly based on the institutional environment that arises from coercive forces, which include three elements namely fairness, transparency, and complexity of political institutions that exist in a country (Luo, 2005; Sudibyo & Jianfu, 2015). Institutional theory emphasizes the effects of certain institutional determinants, such as the effect of corruption level on business outcomes (Alon & Hageman, 2017). Institutional theory is important in the examination of corruption level for three reasons. Firstly, it explicitly investigates the impact of corrupt behaviour on the consequences of institutions. Secondly, institutional theory can explain the effects of institutional structures. Finally, institutional theory shows the relationship between individuals and their institutions (Pillay & Kluvers, 2014; Luo, 2002; Kaufmann et al., 2011).

Accordingly, institutional theory can be utilized to examine the diffusion of accounting innovations, such as corporate governance codes. This is because institutional theory explains the national antecedents and clarifies why these innovations have been globally diffused (Fiss, 2008). Similarly, based on institutional theory, the institutional environment of a country steers its business activities and determines its organizational behaviour. Therefore, the corruption level that exists in a country determines its institutional behaviour towards IFRS adoption (Martinez-Ferrero, 2014). Drawing on institutional theory, a strong accounting environment plays a vital role in controlling the level of corruption in a country. Hence, countries that plan to minimize their corruption level must adopt higher-quality accounting standards (Houqe & Monem, 2013).

Empirically, mixed outcomes have been achieved from prior studies that were implemented to investigate the relationship between IFRS adoption and the corruption level. Most prior studies indicated that there is a positive and significant association between the control of corruption level in a country and the adoption of IFRS (Amiram, 2012; Rahman, 2016; Nurunnabi, 2015a; Riahi & Khoufi,

2017; Uchenna, 2016; Houqe & Monem, 2013; Borker, 2016; Riahi & Khoufi, 2015). In contrast, other studies found a negative and significant correlation between IFRS adoption and the control of corruption in a country (Houqe & Monem, 2016; Cai et al., 2014; Avram et al., 2015; Gresilova, 2013).

For example, Amiram (2012) studied the impact of IFRS adoption on foreign investment decisions. Their study outlined how foreign investors tend to invest in countries that use the IFRS where there is a lower level of corruption, than in countries that have not yet adopted the IFRS. Likewise, a recent study conducted by Rahman (2016) reported that countries with a lower score of corruption are more susceptible to adopting the IFRS, with the exclusion of countries that have better local accounting standards, such the USA. A further study conducted by Nurunnabi (2015) examined the influence of corruption on the IFRS implementation in Bangladesh (a developing country). The study pointed out that the adoption of IFRS is less likely to occur in developing countries with a higher score of corruption, given that the society in Bangladesh does not culturally accept changes. By using 108 developing countries, Riahi and Khoufi (2017) examined the relationship between the power of political governance and IFRS adoption. Their study showed that the higher the level of political corruption in developing countries, the less probable it is they will adopt the international accounting standards.

Further, recent research conducted by Uchenna (2016) examined the impact of IFRS on foreign direct investment, for 42 African countries with distinct levels of corruption. The study revealed that countries with higher levels of control of corruption are more likely to adopt the IFRS with a view to attract more foreign investors, and thus increase their FDI inflow. Whereas countries with lower levels of corruption control are less likely to adopt the IFRS, since these nations do not tend to attract foreign investors. Another study executed by Houqe and Monem (2013) outlined how adopting IFRS cannot lead to the control of corruption, especially for those countries with weak political institutions. Whereas, countries with strong government institutions can reduce their corruption levels, especially after they have adopted the IFRS. Similarly, Borker (2016) studied the impact of socio-cultural factors on IFRS adoption in BRIC countries. The study reported that IFRS adoption does not necessarily lead to reducing the corruption level. Hence, the BRIC countries need to provide greater control on their corruption to facilitate the application of IFRS, since they are relatively ranked with higher levels of corruption and political risk, even after they have embraced the IFRS.

In contrary, Houqe and Monem (2016) investigated the role of IFRS adoption in reducing corruption levels for 104 countries. Their study revealed that IFRS adoption leads to reducing the level of corruption in a given country. Hence, developing countries are more prone to adopt the IFRS, with a view to benefit from reducing their corruption levels. In this regard, Cai et al. (2014) outlined how developing countries with a higher level of corruption can benefit more from adopting the IFRS than advanced countries, for the sake of reducing their corruption levels. Likewise, Avram et al. (2015) studied the influence of the worldwide governance indicators on the strength of accounting and auditing

standards, by using 132 countries, with data spanning from 2009 to 2011. Their study concluded that there is a negative significant association between the strength of accounting and auditing standards in a country and its control of corruption level. Likewise, by covering data for 135 countries, Gresilova (2013) reported that there is a negative and significant correlation between IFRS adoption and the control of corruption in a country.

Prior studies were conducted to investigate the effect of control of corruption index as a proxy to measure governance indicators on the adoption of IFRS (Amiram, 2012; Rahman, 2016; Nurunnabi, 2015a; Riahi & Khoufi, 2017; Uchenna, 2016; Houqe & Monem, 2013; Borker, 2016; Riahi & Khoufi, 2015; Houqe & Monem, 2016; Cai et al., 2014; Avram et al., 2015; Gresilova, 2013). However, the impact of control of corruption index on the adoption of ISAs has not been studied yet. Therefore, this study contributes to the existing studies by using a large number of countries to investigate the impact of control of corruption index of a country on the adoption of IAI. Accordingly, this study proposes the following hypothesis based on the results suggested by most prior research:

H2.4: *Countries with a higher level of control of corruption index are more likely to be early adopters of the international accounting innovations.*

4.3 Cultural Dimensions and the Adoption of IAIs

The worldwide adoption of international accounting innovations has been extensively influenced by a range of cultural dimensions, which have been developed by the Hofstede-Gray cultural theory (e.g., Cardona et al., 2014; Clements et al., 2010; Boolaky & Soobaroyen, 2014; Neidermeyer et al., 2012; Lasmin, 2012; Machado & Nakao, 2014; Shima & Yang, 2012; Akman, 2011). Accordingly, this study uses the six Hofstede's cultural dimensions (power distance, individualism, uncertainty avoidance, masculinity, long-term orientation, and indulgence indexes) to predict the expected relationships between these cultural values and the adoption of international accounting innovations.

4.3.1 Power Distance Index and the Adoption of IAIs

Based on the Hofstede-Gray cultural theory, diversity in the cultural dimensions of countries leads to those countries embracing various accounting standards (Gray, 1988; Belkaoui, 1995; Fang, 2007; Finch, 2010; Tabara & Nistor, 2014). The IFRS are the most transparent accounting standards in the world, because they do in fact lead to higher transparency in the financial statements of the adopting countries (Braun & Rodriguez, 2014). According to Gray's cultural theory, countries with lower levels of uncertainty avoidance and power distance, and with higher levels of individualism and masculinity, are prone to be more confident than conservative, flexible rather than uniform, and transparent rather than confidential (Gray, 1988).

On the contrary, countries with higher levels of power distance, uncertainty avoidance and long-term orientation are more susceptible to the following accounting values: uniformity, confidentiality and

conservatism, and are thus less prone to adopting the IFRS. This is because these accounting values do not actually stay in line with the interests of the IFRS (Braun & Rodriguez, 2014; Borker, 2012; Naghshbandi et al., 2016). Hence, Anglo-Saxon countries are more likely to be early IFRS adopters, since they already have a higher score of individualism and lower levels of power distance and uncertainty avoidance (Borker, 2012). Likewise, developing countries with a lower level of accounting conservatism are more prone to adopt the IFRS (Riahi & Khoufi, 2017).

Empirically, mixed results have been obtained from prior studies about the association between power distance and the adoption of international accounting innovations (Neidermeyer et al. 2012; Lasmin, 2012; Haxhi & Ees, 2008; Boolaky & Soobaroyen, 2017; Cardona et al., 2014; Clements et al., 2010). For example, Neidermeyer et al. (2012) examined the influence of cultural dimensions on the adoption of the IFRS, by using a sample that consisted of 39 countries. Their study concluded that there is a negative and significant association between countries with higher levels of power distance and the adoption of the IFRS. Equivalent results have been achieved by Lasmin (2012), who found that there is a negative significant association between the adoption of IFRS and the power distance index in a country. Likewise, Haxhi and Ees (2008) studied the impact of the power distance index on the adoption of good governance codes. Their study concluded that the CGGs are more likely to be adopted either by governments in countries with higher levels of power distance index or by the stock exchange in countries with lower levels of power distance index.

However, by relying on 89 countries, Boolaky and Soobaroyen (2017) investigated the impact of power distance level, which was suggested by Hofstede (1984), on ISAs adoption. Their study illustrated that there is no association between power distance and the adoption of the ISAs. Similarly, in terms of IFRS adoption, Cardona et al. (2014) studied the impact of power distance index on IFRS adoption for 69 countries. They found that there is no relationship between the degree of power distance index in a given country and IFRS adoption. Moreover, Clements et al. (2010) studied the influence of cultural dimensions on IFRS adoption by using a cross-country sample of 61 countries. Their study did not find a significant association between the power distance index of a country and IFRS adoption.

Prior studies have studied the impact of the power distance cultural index on the adoption of IFRS (Neidermeyer et al. 2012; Lasmin, 2012; Cardona et al., 2014; Clements et al., 2010). However, only one study was conducted by Boolaky and Soobaroyen, (2017), who examined the influence of power distance index on the adoption of ISAs by examining a small number of countries. Therefore, this study contributes to the existing literature by investigating the effect of the power distance index on the international accounting innovations by studying a large number of countries. Hence, this research suggests the following hypothesis based on the results achieved by most previous studies:

H3.1: *Countries with a higher level of power distance index are less likely to be early adopters of the international accounting innovations.*

4.3.2 Individualism Index and the Adoption of IAIs

Based on the Hofstede-Gray cultural theory, societies with higher scores of individualism, masculinity, and indulgence index are more prone to having the following accounting values: professionalism, confidence, flexibility and transparency, and are thus more likely to adopt the IFRS. The reason for this is because these four accounting values are highly consistent with the previous cultural dimensions and are in line with the IFRS requirements (Borker, 2012; Perera & Mathews, 1990; Borker, 2013). The Anglo-Saxon countries have higher scores of individualisms and a lower score of power distance, uncertainty avoidance, and masculinity indexes. Therefore, these countries are more prone to adopting the international accounting innovations, such as codes of good governance (Sasan et al., 2014). However, Rabbimov (2014) argued that although the six Hofstede's cultural dimensions are very similar across the Anglo-Saxon countries, nevertheless, relying merely on these cultural values to explain the delay of IFRS adoption in the US is not empirically adequate.

Most previous empirical studies show a positive association between the individualism index and the adoption of international accounting innovations (Cardona et al., 2014; Neidermeyer et al., 2012; Machado & Nakao, 2014). In a similar vein, prior studies reported a positive and significant association between the individualism index and financial disclosure (Akman, 2011; Gray & Vint, 1995; Zarzeski, 1996; Archambault & Archambault, 2003; Jaggi & Low, 2000; Hope, 2003). However, there has only been one study that has been implemented by Lasmin (2012), which showed that there is a negative and significant association between these two variables. There is also only one empirical study conducted by Clements et al. (2010), which reported that there is no correlation between the individualism index and IFRS adoption.

For instance, Cardona et al., (2014) examined the impact of the individualism dimension on IFRS adoption for 69 countries. Their study revealed that there is a positive and significant correlation between countries with higher levels of individualism index and IFRS adoption. Similar outcomes have been obtained by Neidermeyer et al. (2012), who investigated the impact of the Hofstede's measure of individualism on IFRS adoption for 39 countries. Their study found that countries with a higher individualist culture are positively and significantly associated with IFRS adoption. Likewise, Machado and Nakao (2014) examined the impact of cultural differences on the adoption decision of the IFRS. Their study concluded that there is a positive association between IFRS adoption and the individualism index in a given country.

Similarly, Akman (2011) outlined how countries with higher levels of individualism are more likely to have higher levels of financial disclosure. Nevertheless, even though financial disclosure has

significantly improved after IFRS adoption, there are still differences among countries in disclosure level as a result of the impact of individualistic cultural dimension. Similarly, by covering 27 countries, Gray and Vint (1995) studied the relationship between cultural dimensions and accounting disclosure. Their study documented that cultural values, including individualism and uncertainty avoidance, have the highest significant influences on accounting disclosure, when compared to other cultural dimensions. This was also emphasized by several scholars who examined the relationship between the cultural dimension, namely the individualism index and financial disclosure. They found a positive and significant association between accounting disclosure in the financial statements and the individualism index (e.g., Zarzeski, 1996; Jaggi & Low, 2000; Archambault & Archambault, 2003; Hope, 2003).

However, Lasmin (2012) indicated that countries with lower ranks of individualism index are more prone to embracing the IFRS, for 40 developing countries. Whereas, by using a sample of 61 countries, Clements et al. (2010) studied the influence of cultural dimensions on IFRS adoption. The study did not find any relationship between the individualism index and IFRS adoption.

Prior empirical studies investigated the influence of the individualistic cultural index and the adoption of IFRS (Cardona et al., 2014; Neidermeyer et al., 2012; Machado & Nakao, 2014), while other scholars have examined the relationship between the individualism index and the financial disclosure at the micro-firm level (Akman, 2011; Gray & Vint, 1995; Zarzeski, 1996; Archambault & Archambault, 2003; Jaggi & Low, 2000; Hope, 2003). However, there has not been any study that examined the association between individualistic cultural index and the adoption of ISAs. Therefore, this study has a great contribution to knowledge by studying the impact of individualistic cultural index on the adoption of international accounting innovations (ISAs & IFRS). Hence, this research proposes the following hypothesis based on the outcomes obtained by previous research:

H3.2: *Countries with a higher level of individualism index are more likely to be early adopters of the international accounting innovations.*

4.3.3 Uncertainty Avoidance Index and the Adoption of IAIs

Drawing on the Hofstede-Gray cultural theory, countries with higher ranks of individualism, masculinity, and indulgence index are more likely to have the following accounting values: professionalism, confidence, flexibility and transparency, and are thus more likely to adopt the IFRS. The reason for this is because these four accounting values are highly linked to the previous cultural dimensions, and are consistent with the IFRS interests (Borker, 2012). Therefore, if a country has culturally possessed any one of the previous accounting values, it would be consequently more prone to embracing the IFRS (Perera & Mathews, 1990; Borker, 2013). This is consistent with the cultural values that exist in the Anglo-Saxon countries, who have already possessed higher ranks of individualism and lower levels of power distance, uncertainty avoidance, and masculinity index (Sasan

et al., 2014). Hence, the adoption of the IFRS is more likely to happen in emerging countries with an Anglo-American culture (Zeghal & Mhedhbi, 2006; Hove, 1986).

Empirically, different results have been achieved by prior studies regarding the influence of the cultural dimension, namely uncertainty avoidance on the adoption of accounting innovations. Some of these studies show a positive relationship (Neidermeyer et al., 2012; Machado & Nakao, 2014), while other studies revealed a negative relationship (Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Fearnley & Gray, 2015), whereas the remainder of the empirical studies have reported that there is no association between the uncertainty avoidance index and the adoption of the international accounting innovation (Boolaky & Soobaroyen, 2017; Cardona et al., 2014; Clements et al., 2010).

For example, through using 39 countries, Neidermeyer et al. (2012) examined the influence of cultural dimensions on the adoption of the IFRS. The study concluded that there is a positive and significant association between countries with higher levels of uncertainty avoidance and the adoption of the IFRS. Similarly, Machado and Nakao (2014) investigated the impact of cultural differences on the adoption decision of the IFRS. The study concluded that there is a positive and significant correlation between IFRS adoption and the uncertainty avoidance index. Correspondingly, through choosing a sample that consists of 69 countries, Shima and Yang (2012) studied the impact of uncertainty avoidance of the Hofstede cultural factors on IFRS adoption. The findings showed that uncertainty avoidance has a negative and statistically significant association with IFRS adoption as a result of the perceived increased transparency.

Additionally, Yurekli (2016) pointed out that countries with a lower level of uncertainty avoidance index are more prone to adopt the IFRS, since they have a higher level of recognition for flexibility and innovations. Similarly, with a data sample of 64 countries, Felski (2015) stated that countries with higher levels of uncertainty avoidance are less likely to adopt IFRS. Furthermore, through using data for 40 developing countries, Lasmin (2012) concluded that countries with lower ranks of uncertainty avoidance are more prone to embrace IFRS. A further study implemented by Fearnley and Gray (2015) stated that national cultural values have significantly influenced IFRS implementation in Europe. Particularly, they found that uncertainty avoidance has a negative relationship with IFRS adoption.

However, Boolaky and Soobaroyen (2017) investigated the impact of the uncertainty avoidance cultural index on the ISAs adoption. The study showed that there is an insiginficant association between the uncertainty avoidance dimension and the adoption of the ISAs. Similarly, by using 69 nations, Cardona et al., (2014) examined the impact of uncertainty avoidance on IFRS adoption. The study showed that there is no relationship between countries with higher levels of uncertainty avoidance and IFRS adoption. Furthermore, Clements et al. (2010) studied the influence of cultural dimensions on

IFRS adoption, by using a sample of 61 countries. Their study did not find any relationship between the uncertainty avoidance index and IFRS adoption.

Previous studies have investigated the effect of the uncertainty avoidance index on the adoption of IFRS and they showed mixed results (Neidermeyer et al., 2012; Machado & Nakao, 2014; Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Fearnley & Gray, 2015; Cardona et al., 2014; Clements et al., 2010). Yet, there has been only one empirical study implemented by Boolaky and Soobaroyen (2017), examined the association between the uncertainty avoidance index and the adoption of ISAs by studying a small number of countries. Therefore, this research provides a significant contribution to the existing studies by investigating the impact of the uncertainty avoidance index on the adoption of international accounting and auditing standards for a large number of countries. Hence, this study proposes the following hypothesis based on the results achieved by most prior studies:

H3.3: *Countries with a higher level of uncertainty avoidance index are less likely to be early adopters of the international accounting innovations.*

4.3.4 Masculinity Index and the Adoption of IAIs

According to the Hofstede-Gray cultural theory, countries with higher ranks of individualism, masculinity, and indulgence index are more susceptible to the following accounting values: professionalism, confidence, flexibility and transparency, and are thus more likely to adopt the IFRS. This is because if a country has culturally possessed any one of the previous accounting values, it would be consequently more prone to embracing the IFRS (Borker, 2012; Perera & Mathews, 1990; Borker, 2013). Accordingly, Islamic countries have higher levels of collectivism, power distance, uncertainty avoidance, and masculinity index, whereas Anglo-Saxon countries have higher ranks of individualism and lower levels of power distance, uncertainty avoidance, and masculinity index. In return, continental European countries have higher levels of collectivism, power distance, uncertainty avoidance and lower levels of masculinity index (Sasan et al., 2014). Hence, the adoption of the IFRS is more likely to happen in countries with an Anglo-American culture (Zeghal & Mhedhbi, 2006).

Empirically, very few empirical studies have examined the relationship between the masculinity index and the adoption of the international accounting innovations, and show a positive and significant correlation between them (Combs et al., 2013; Fearnley and Gray, 2015), whereas only one empirical study has reported that there is a negative association between them (Yurekli, 2016), whilst other prior empirical studies revealed that there is no significant relationship between them (Cardona et al., 2014; Clements et al., 2010; Lasmin, 2012). Similarly, other previous studies endeavoured to investigate the association between the masculinity index and financial disclosure, which in turn emerges from IFRS adoption and shows a positive correlation between them (Akman, 2011; Houqe et al., 2016; Jaggi &

Low, 2000; Zarzeski, 1996), whereas other prior studies report a negative association between the masculinity index and financial disclosure (Archambault & Archambault, 2003; Hope, 2003).

For example, Combs et al. (2013) studied the cultural impact on IFRS adoption in Russia. They reported that IFRS adoption in Russia has been delayed, since Russia is ranked high on power distance and uncertainty avoidance, and low on the masculinity and individualism index. Hence, Russian accountants are anticipated to be strictly confidential, rather than transparent. Another study conducted by Fearnley and Gray (2015) documented that national cultural values have significantly influenced the IFRS implementation in Europe. Their study revealed that the masculinity index has a positive and significant correlation with IFRS adoption in a given country. Similarly, Akman (2011) pointed out that financial disclosure has been remarkably improved upon in countries with higher levels of masculinity versus femininity, after the adoption of the IFRS. Likewise, by using data for 16 European countries, Houqe et al. (2016) examined the cultural influence on the quality of financial reporting, specifically in terms of transparency. Their study found that countries with higher levels of masculinity are more susceptible to high earnings quality as a result of IFRS adoption. In a similar vein, several scholars found a positive relationship between masculinity index and financial disclosure (Jaggi & Low, 2000; Zarzeski, 1996). Other scholars, on the other hand, found a negative relationship between masculinity index and financial disclosure (Archambault & Archambault, 2003; Hope, 2003). Likewise, by examining data for 13 developed countries, Yurekli (2016) report that countries with a lower level of masculinity index are more prone to adopting IFRS than countries with a higher level of masculinity.

However, Cardona et al., (2014) examined the impact of masculinity on IFRS adoption, and found that there is no association between countries with higher levels of masculinity and IFRS adoption. Likewise, Clements et al. (2010) studied the influence of cultural dimensions on the adoption of the IFRS. Their study did not find any relationship between the masculinity cultural index and the adoption of the IFRS. Similarly, through using 40 developing countries, Lasmin (2012) found that there is an insignificant association between the adoption of IFRS by emerging economies and the masculinity index of these countries.

Prior research examined the impact of the masculinity index on the adoption of IFRS and they have showed mixed results (Combs et al., 2013; Fearnley and Gray, 2015; Yurekli, 2016; Cardona et al., 2014; Clements et al., 2010; Lasmin, 2012). Yet, examining the effect of masculinity index on the adoption of ISAs has not been conducted so far. Therefore, this research contributes to current studies by investigating the influence of masculinity cultural index on the adoption of international accounting innovations (ISAs & IFRS). Accordingly, this study posits the following hypothesis based on the outcome achieved by most prior research:

H3.4: *Countries with a higher level of masculinity index are more likely to be early adopters of the international accounting innovations.*

4.3.5 Long-term Orientation Index and the Adoption of IAIs

Theoretically, according to the Hofstede-Gray cultural theory, long-term orientation cultural value is negatively associated with professionalism and positively linked with the following accounting values: conservatism, uniformity, and secrecy (Borker, 2012, 2013, 2016; Radebaugh et al., 2006). *"In 1985, Hofstede added a fifth dimension: long-term versus short-term orientation"* (Cardona et al., 2014). Contextually, the Anglo-Saxon countries are more susceptible to having a relatively low long-term orientation. This is because these countries mostly rely on their stock markets, which require a rapid reporting of current financial earnings (Borker, 2016a). Long-term orientation index is relatively low in Anglo-Saxon countries, African countries, Latin American, and continental Europe countries, whereas there is a relatively high score of long-term orientation in East Asian countries (Rusu et al., 2015; Goodrich & Mooij, 2015). Anglo-Saxon countries are mainly oriented towards the needs of investors and creditors. Therefore, these countries often tend to adopt IFRS with a view to attract more investors, by publishing credible accounting information (Beke, 2011; Trabelsi, 2016). The adoption of the IFRS can take place in countries with short-term orientation, since these nations accept changes in their societal values (Naghshbandi et al., 2016).

Empirically, quite a few studies have investigated the relationship between long-term orientation and the adoption of the international accounting innovations and reported a negative association between them (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008). For example, Chand and Patel (2011) examined the impact of cultural factors on the decision of using the IFRS by professional accountants, in a comparative study between two countries, namely Australia and Fiji. The study revealed that professional accountants in countries with a long-term orientated society, such as Fiji tend to be more conservative than the professional accountants operating in countries with short term orientation, such as Australia, who prefer to be more transparent. A further study implemented by Tsui and Windsor (2001) investigated the cultural differences between China and Australia in terms of professionalism value. The study reported that Australian auditors have greater professionalism values than Chinese auditors. This is because the professionalism value is positively associated with a short-term orientation society, such as Australia, and is negatively linked with a long-term orientation, such as China. Similarly, Ge and Thomas (2008) reported that due to the higher levels of long-term orientation prevailing in China compared to Canada, the ethical reasoning score, which represents the professionalism level, is relatively higher in Canada than in China.

However, Erkan and Agsakal (2013) examined the relationship between cultural values and the strength of the international accounting and auditing standards. With data from 79 countries, the study

revealed that countries with higher levels of long- term orientation are more prone to higher strength levels of international accounting and auditing standards.

Very few empirical studies have examined the association between long-term orientation culture and the adoption of IFRS (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008), whereas, the impact of long-term orientation culture and the adoption of ISAs has not yet been studied so far. Therefore, this study offers a great contribution to knowledge by investigating the impact of long-term orientation culture and the adoption of international accounting innovations, especially ISAs adoption, which has not been conducted yet. Accordingly, this thesis formulates the following hypothesis based on the results obtained by the majority of previous empirical research:

H3.5: *Countries with a lower level of long-term orientation index are more likely to be early adopters of the international accounting innovations.*

4.3.6 Indulgence Cultural Index and the Adoption of IAIs

Based on the Hofstede-Gray cultural theory, the indulgence index is positively associated with professionalism and negatively correlates with the following accounting values: conservatism, uniformity, and secrecy (Borker, 2012, 2013, 2016). The sixth cultural dimension namely the indulgence index versus restraint index was added by Hofstede in 2010 (Hofstede et al., 2010). The indulgence versus restrained indexes refers to the degree at which individuals seek to control their desires and motivations. When this control is relatively weak, it is known as indulgence, and when it is strong, it is known as restraint (Hofstede et al., 2010; Boyadzhieva, 2016). Accordingly, countries with higher ranks of individualism, masculinity, and indulgence index are more likely to have the following accounting values: professionalism, confidence, flexibility and transparency, thus they are more prone to adopting the IFRS (Borker, 2012; Perera & Mathews, 1990).

Empirically, most of the prior research suggests that there is a positive and significant correlation between the indulgence index and the adoption of the international accounting innovations (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014), whereas so far there is only one empirical study that has shown that there is a negative association between the indulgence index and IFRS adoption (Rotberg, 2016). For instance, Quinn (2015) studied the impact of the Hofstede cultural dimensions in three BRICs countries (Brazil, South Africa, and India) on IFRS adoption. The study found that IFRS adoption is more likely to occur in countries with a higher level of indulgence such as (South Africa and Brazil) and less likely to happen in countries with a lower level of indulgence index, such as India. Likewise, by using five Anglo-American countries, Borker (2013) reported that Anglo-American countries with a higher indulgence index score are more prone to adopting the IFRS. This is because these Anglo-Saxon societies are characterized by the following accounting values: professionalism, flexibility, confidence, and transparency, which are in fact consistent with the IFRS

concerns. Similarly, by using data from 79 countries, Erkan and Agsakal (2013) concluded that countries with a higher indulgence index score are more susceptible to have flexible standards, including the international accounting and auditing standards.

Furthermore, Gierusz et al. (2014) reported that although the mandatory adoption of IFRS has been enforced by law in European countries since 2005, the accounting values still vary across European countries, due to differences in their cultural values. This may have happened, since some of European countries such Poland and Germany, have a high score of uncertainty avoidance and a low score of indulgence, therefore, they have a higher tendency towards secrecy. On the other hand, the UK has a low score for uncertainty avoidance and a higher level of indulgence, therefore, it has a higher tendency towards transparency and professionalism. However, by using data for 94 countries, Rotberg (2016) pointed out that countries that experience a higher level of indulgence index are less likely to replace their national accounting standards with IFRS.

Prior studies investigated the impact of the indulgence cultural index on the adoption of IFRS by studying a small number of countries as a sample for their research (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014; Rotberg, 2016). However, the influence of indulgence cultural index on the adoption of ISAs has not yet been examined so far. Therefore, this study provides a significant contribution to existing research by including large number of countries to investigate the effect of indulgence cultural index on the adoption of international accounting innovations, especially the adoption of ISAs, which has not been conducted yet. Accordingly, this study posits the following hypothesis based on the outcomes achieved by most previous empirical research:

H3.6: *Countries with a higher level of indulgence index are more likely to be early adopters of the international accounting innovations.*

4.4 Educational Antecedents and the Adoption of *IAIs*

The global adoption of the IFRS has been significantly affected by the level of education achieved within a country (e.g., Judge et al., 2010; Ozcan, 2016; Kossentini & Ben-Othman, 2014; Pricope, 2016; Zaidi & Huerta, 2014; Lasmin, 2011a; Shima & Yang, 2012; Zehria & Chouaibi, 2013). Similarly, the worldwide adoption of the ISAs has been considerably influenced by the level of education within a given country (e.g., Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013; Boolaky, 2011; Boolaky & O'Leary, 2011). Therefore, this study examines the effect of three educational proxies, namely educational attainment, literacy rates, and the quality of education systems in a given country, with a view to predict the expected relationships between these educational antecedents and the global adoption of the international accounting innovations.

4.4.1 Educational Attainment Level and the Adoption of IAIs

According to institutional theory, the effects of educational institutions can be clearly seen on the social structure of society and on the behaviour of its institutions (Meyer, 1977). The institutional theory suggests that normative isomorphism arises as a response to the pressures that come from professional institutions to encourage organizations to adopt new standards (DiMaggio & Powell, 1983). Studying educational development from an institutional theory point of view can provide comparative research the factors that impact changes occurring over time, not only at a national level, but also at an international level (Wiseman & Baker, 2006). Based on institutional theory, the education attainment level that arises from normative pressures has been considered a more robust predictor of IFRS adoption than all three institutional isomorphisms. This is because the educational advantages of using such professional accounting standards are expected to be higher than any national norms (Judge et al., 2010). In this regard, Lasmin (2011) indicates that countries with a lower level of education are more prone to follow other successful countries that adopted IFRS as a response to normative pressures.

Empirically, the results of most prior research suggest that there is a positive significant association between the educational attainment level in a country and ISAs adoption (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013), and IFRS adoption (Judge et al., 2010; Lasmin, 2011a; Zehria & Chouaibi, 2013). For instance, Boolaky and Omoteso (2016) investigated the influence of tertiary education level on the ISAs adoption for 50 countries. Their research reported that there is a positive and significant association between the educational attainment of a given country and ISAs adoption in that country. A similar outcome was obtained by Boolaky et al. (2013), who studied the impact of tertiary education level of a country on the strength of auditing standards, by including data from 133 countries. The study concluded that there is a positive significant correlation between post-secondary education and the strength of the auditing standards. Likewise, by employing data for 89 countries, Boolaky and Soobaroyen (2017) discussed the influence of tertiary education enrolment on the adoption of the ISAs. The study revealed that there is a positive and significant association between the tertiary education level of a country and the ISAs adoption.

In a similar vein, Judge et al. (2010) investigated the association between IFRS adoption and the educational attainment level of a country. Their study found that educational attainment (which refers to the normative pressure) has a significant positive effect on IFRS adoption. A further study conducted by Lasmin (2011a) studied the relationship between IFRS adoption and the level of education, as a proxy for normative pressure. The study revealed that there is a significant positive association between educational level in developing countries and their level of IFRS adoption. Additional research was conducted by Floropoulos and Moschidis (2004), who outlined that readiness to apply the IFRS by SMEs depends on the educational level and professional experience of their accountants. Similarly, Rudzani and Charles (2016) reported that accountants who operate in South African SMEs suffer from

a dearth in their advanced accounting education. Hence, most of these SMEs firms have not adopted the IFRS so far.

However, by covering data for 50 emerging economies, Kossentini and Ben-Othman (2014) stated that there is a negative significant association between the normative isomorphism measured by the educational attainment level in a country and their IFRS adoption level. Correspondingly, Boolaky (2011) examined the relationship between the tertiary education score of 41 European countries and the strength of their auditing standards. Their study revealed that tertiary education score does not play a crucial role in strengthening the auditing and reporting standards in Europe. Likewise, Boolaky and O'Leary (2011) studied the effects of tertiary education level on the strength of auditing standards by using data from 28 sub-Saharan African countries. Their study did not find any empirical support for emphasizing the relationship between the tertiary education level and the strength of accounting and auditing standards in a country.

Previous research investigated the influence of educational attainment on the adoption of IFRS (Judge et al., 2010; Lasmin, 2011a; Zehria & Chouaibi, 2013; Kossentini & Ben-Othman, 2014), while only two empirical studies have been implemented to examine the effect of educational attainment on ISAs adoption by studying a small sample (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). Whereas, other scholars have conducted their studies to examine the relationship between educational attainment and the strength of accounting and auditing standards in a country (Boolaky et al., 2013; Boolaky, 2011; Boolaky & O'Leary, 2011). Therefore, this study contributes to the current research by including a large number of countries to investigate the influence of educational attainment on the adoption of international accounting innovations (ISAs & IFRS). Therefore, this study suggests the following hypothesis based on the outcomes of most previous studies:

H4.1: *Countries with a higher level of educational attainment are more likely to be early adopters of the international accounting innovations.*

4.4.2 Literacy Rate Level and the Adoption of IAIs

Theoretically, the institutional theory suggests that normative pressures mostly emerge from professional institutions to enforce organizations to adopt new standards (DiMaggio and Powell, 1983). The full benefits of adopting IFRS can be achieved if a country has a higher level of education. This is because the educational institutions in these countries offer further education to implement the IFRS (Thompson, 2016). Based on institutional theory, normative pressure explains how IFRS adoption is affected by accounting professionalism. Therefore, the professionalism level can be identified by measuring various proxies of an education system's development, such as educational attainment and literacy rates (Pricope, 2015). Nevertheless, the professionalism level in emerging economies is expected to be lower, because the normative pressures in these countries tend to be relatively weak.

Therefore, the Big Four Firms play a vital role in creating normative pressures in developing countries (Albu et al., 2011). In an equivalent manner, Irvine (2008) argued that normative pressures often arise from professional accounting firms, namely the Big Four international accounting firms, to gain greater level of professionalism by adopting the IFRS.

Empirically, most previous studies suggest that educational level, namely literacy rates in a country, have a positive significant relation with IFRS adoption (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009; Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014).

For instance, Zeghal and Mhedhbi (2006) examined the relationship between the literacy of 64 developing countries and IFRS adoption. The study found that developing countries with higher literacy rates are more prone to adopting the IFRS. Similarly, Zehri and Chouaibi (2013) investigated the influence of literacy rates on IFRS adoption in 74 developing countries. Their study revealed that there is a positive significant association between IFRS adoption and the level of literacy rates in developing countries. Likewise, Archambault and Archambault (2009) examined the influence of literacy rates on IFRS adoption for 120 nations. Their findings illustrated that there is a significant and positive relationship between literacy rates and IFRS adoption. Further research conducted by Shima and Yang (2012) studied the impact of literacy rates on IFRS adoption for 69 countries. Their study showed that literacy rates have a positive and significant association with IFRS adoption.

Another further study executed by Zehri and Abdelbaki (2013) examined the relation between IFRS adoption level and the literacy rates in 74 developing countries. The study outlined, there is a positive and significant correlation between literacy rates and IFRS adoption in emerging economies. Likewise, Kolsi and Zehri (2009) used a sample that consisted of 74 developing countries. Their study found that countries with higher levels of literacy rates are more susceptible to adopting the IFRS. Similarly, Pricope (2015) examined the association between the IFRS and institutional factors for 45 poor countries. The study concluded that IFRS adoption is more likely to occur in countries with higher levels of literacy rates. Masoud (2014) reported that developing countries with higher level of literacy rates tend to adopt IFRS.

However, Mita and Husnah (2015) studied the association between IFRS adoption and institutional factors for 54 developing countries. Their study revealed that there is no significant correlation between the literacy rates of a country and IFRS adoption level. Likewise, by including data for 36 countries, Delcoure and Huff, (2015) examined the determinants of IFRS adoption in emerging economies. The study found that there is no significant correlation between IFRS adoption and the literacy rates in emerging countries.

Prior studies have investigated the influence of literacy rate level on the adoption of IFRS (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009; Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014). In contrast, the influence of literacy rates on the adoption of ISAs has not yet been examined. Therefore, the present study makes an empirical contribution to the extant auditing research by examining the impact of literacy rates on the adoption of ISAs. Accordingly, this study proposes the following hypothesis based on the results suggests by most previous research:

H4.2: *Countries with a higher level of literacy rates are more likely to be early adopters of the international accounting innovations.*

4.4.3 Education Quality Level and the Adoption of IAIs

According to institutional theory, normative isomorphism emerges from normative pressures, which seek to apply unified standards for any institutional change (DiMaggio & Powell, 1983). More specifically, normative isomorphism relies on the quality of higher education systems which in turn depends heavily on diversified education systems and peer review (Maassen & Potman, 1990). Hence, normative pressures influence the behaviour of higher education institutions which in turn socially reflect the spread of new norms, values, and standards in society (Joo & Halx, 2012).

Drawing on institutional isomorphism, normative isomorphism emerges from the pressures that hail from professional bodies, enforced by higher educational institutions, which can ultimately affect the level of professionalism in a given country (Pricope, 2016; Phan, 2014). Accordingly, countries with a higher level of educational quality are more prone to implementing more sophisticated standards for several reasons. Firstly, these countries often seek to acquire higher levels of professionalism (Turner, 1993). Secondly, they need to meet the diverse needs of stakeholders and other users from different educated groups (Shima & Yang, 2012). Thirdly, institutions do not adopt international accounting standards solely to compete and gain more economic and financial resources, they also aim to acquire greater social and institutional legitimacy (Lasmin, 2011; Felski, 2015).

Empirically, although the existing literature has not yet examined the relationship between education quality in a country and the adoption of the international accounting innovations, there is a contextual evidence of a significant association between the education quality and the adoption of the IFRS (Bova & Pereira, 2012; Ayuba, 2012). Furthermore, IFRS adoption has been significantly influenced by the quality of education systems in a country, especially in terms of accounting education. More specifically, IFRS adoption has been affected by a shortage of knowledge and skills needed to apply the IFRS (Masoud, 2014a; Zakari, 2014; Dowa et al., 2017). Moreover, the quality of accounting education depends on the IFRS materials and incentives provided to university staff. These factors are very low in developing countries and require support from developed economies (Alzeban, 2016).

Nevertheless, the impact of accounting education systems on IFRS still differs greatly across all adopting countries. This is because each country has adopted IFRS for different purposes, such as taxation demands or to satisfy the needs of investors and creditors (Jackling et al., 2012). Besides, the accounting education system in the U.S is mainly based on the U.S. GAAP, which differs from the IFRS. Hence, moving towards IFRS requires real adjustment in the education system of a country to include the implementation of IFRS, which would be unnecessary and costly for countries that have higher educational quality, such the U.S (Jamal et al., 2008).

However, Bova and Pereira (2012) argue that IFRS adoption is quite costly in developing countries, since these nations have a shortage in the necessary skills needed to implement such sound accounting standards. Similarly, Carmona and Trombetta (2008) reported that IFRS adoption needs substantial changes in the educational systems of the accounting curriculum, particularly in developing countries, where accounting and auditing professions are relatively weak. Therefore, this study contributes to the current research by including large number of countries to investigate the impact of education quality on the adoption of international accounting innovations and it suggests the following hypothesis:

H4.3: *Countries with a higher levels of education quality are more likely to be early adopters of the international accounting innovations.*

4.5 Reflections on the Antecedents of Adopting IAIs

The existing empirical research examined the relationship between the diffusion of IFRS and the key national antecedents, including legal, cultural, political and educational factors. However, there is a dearth of empirical research conducted to investigate the association between the worldwide adoption of the ISAs and its national antecedents. Therefore, the motivation for implementing this study stems from the fact that the current empirical studies generally suffer from several shortcomings that limit their capability to examine the association between the national antecedents and the global diffusion of the international accounting innovations, especially the ISAs.

More specifically, there have been very few empirical studies executed so far to examine the relationship between the national legal antecedents and ISAs adoption (Al-Awaqleh, 2010; Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). These few empirical studies are subjects to certain limitations, such as using small sample sizes which might affect the generalisability of their findings (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). Furthermore, some prior studies used a survey to collect data on the determinants of the ISAs adoption, but this might cast doubt on the validity and reliability of the data (Al-Awaqleh, 2010). Moreover, the extant empirical studies have not yet examined the association between the global adoption of the international accounting innovations and judicial efficiency and integrity. Nevertheless, very few empirical studies have analysed the relationship between the judicial efficiency of a country and the strength of accounting innovations, these few

studies have demonstrated mixed results (Boolaky, 2011; Hope, 2003; Boolaky & O'Leary, 2011; Boolaky et al., 2013). Besides, early empirical research has not yet investigated the relationship between the ISAs adoption and the legal antecedents, including legal origin and judicial independence.

With regards to the cultural dimensions, a number of empirical studies have been conducted to examine the association between IFRS adoption and the cultural dimension, including power distance (e.g., Neidermeyer et al. 2012; Lasmin, 2012; Cardona et al., 2014; Clements et al., 2010), uncertainty avoidance (e.g., Neidermeyer et al., 2012; Machado & Nakao, 2014; Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012), individualism index (e.g., Cardona et al., 2014; Neidermeyer et al., 2012; Machado & Nakao, 2014; Akman, 2011; Lasmin, 2012; Clements et al., 2010), masculinity index (e.g., Combs et al., 2013; Fearnley & Gray, 2015; Yurekli, 2016; Cardona et al., 2014; Clements et al., 2010; Lasmin, 2012), and the long-term orientation index (e.g., Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008; Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013). However, only one single empirical study has been executed so far to study the relationship between ISAs adoption and two cultural dimensions: power distance and uncertainty avoidance (Boolaky & Soobaroyen, 2017).

With respect to political antecedents, mixed outcomes have been achieved by prior studies, which examined the association between IFRS adoption and the worldwide governance indicators including, the voice and accountability index (e.g., Houqe et al., 2012; Houqe & Monem, 2013; Ben-Othman & Zeghal, 2008; Alon & Dwyer, 2014), political stability index (e.g., Ozcan, 2016; Riahi & Khoufi, 2017a; Pricope, 2014; Hoque et al., 2011; Zaidi & Huerta, 2014; Fajri et al., 2012; Rios-Figueroa, 2016), regulatory quality index (e.g., Houqe et al., 2012; Wieczynska, 2016; Louis & Urcan, 2012; Christensen et al., 2013), and the control of corruption index (e.g., Amiram, 2012; Rahman, 2016; Nurunnabi, 2015; Riahi & Khoufi, 2017; Uchenna, 2016; Borker, 2016; Houqe & Monem, 2016; Cai et al., 2014). However, there is an acute absence of empirical research conducted to study the association between ISAs adoption and the political antecedents, namely the worldwide governance indicators. Currently, only one empirical study has been implemented by Avram et al. (2015) to examine the relationship between the worldwide governance indicators and the strength of auditing standards.

In terms of educational antecedents, previous studies have examined the relationship between ISAs adoption and educational antecedents, namely the level of educational attainment in a country (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013). In contrast, the influences of other educational antecedents, including literacy rates and education quality, on the adoption of the ISAs have not yet been examined. Similarly, early studies examined the association between IFRS adoption and educational antecedents, including the level of educational attainment (Judge et al., 2010; Lasmin, 2011a; Kossentini & Ben-Othman, 2014; Zehria & Chouaibi, 2013) and literacy rates (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014). However, examining the relation between IFRS adoption

and education quality has not yet been empirically studied. Thus, there is a clear need for more empirical research on examining the link between the adoption of ISAs and its antecedents. Hence, this study contributes to the current literature by examining the four key national antecedents of adopting the international accounting innovations, with a view to fill the gaps in the existing empirical research.

4.6 Chapter Summary

This chapter has reviewed the empirical literature that has studied the influence of key national antecedents on the global diffusion of international accounting and auditing standards, including legal, cultural, political and educational factors. The first section outlined the empirical research that has studied the relationship between the adoption of the international accounting innovations and national legal antecedents. A range of legal factors has been separately used by prior studies as proxies for legal antecedents, including legal origin, shareholder protection rights, judicial independence, judicial efficiency, and judicial integrity. Hence, this study will jointly employ all previous national legal antecedents to explore their impact on the adoption of international accounting innovations.

The second section reviewed the empirical literature that has examined the relationship between the adoption of the international accounting innovations and Hofstede's cultural dimensions. Most early studies utilized the initial three cultural indexes (power distance, individualism, and uncertainty avoidance), with a view to examine their influence on the adoption of accounting innovations. This study will include all previous cultural dimensions, in addition to the three addition cultural indexes, namely masculinity, long-term orientation, and indulgence cultural index.

In section three, the present study outlined the empirical literature that has studied the relationship between the adoption of the international accounting innovations and the worldwide governance indicators developed by the World Bank, which represent national political antecedents. Most previous studies have used either one governance indicator, or applied the aggregate governance index, which involves all six-governance indicators together in one single index, which in turn cannot identify the most influential political factors that impact the adoption of the international accounting innovations. Accordingly, this study will use four governance indicators as proxies for political antecedents (voice and accountability, political stability, regulatory quality, and control of corruption) to individually investigate their effects on the global adoption of the international accounting innovations.

In section four, this study reviewed the empirical research that has studied the relationship between the adoption of the international accounting innovations and national educational antecedents. This study will involve three basic educational factors as proxies for national educational antecedents, namely tertiary education attainment, literacy rates, and education systems quality. The next chapter will present an overview of the empirical literature, which has studied the influence of the adoption of international accounting innovations on the economic consequences of the adopting countries.

Chapter Five : Empirical Literature Concerning the Economic Consequences of Adopting IAIs and Hypotheses Development

5. Aims of the Chapter

The current chapter seeks to present the empirical literature that has dealt with the impact of adopting the international accounting innovations on the economic consequences of the adopting countries. More specifically, section 5.1 provides a critical review of the empirical research concerning the link between the global adoption of the international accounting innovations and the economic consequences of the adopting countries. Section 5.2 presents critical reflections on the existing empirical literature that has studied the association between the global adoption of the international accounting innovations and the economic consequences of the adopting countries. Section 5.3 provides a brief overview of the chapter.

5.1 Economic Consequences of the Adoption of IAIs

Most of the extant empirical studies have emphasized the importance of examining the impact of economic gains, such as the cost of equity on the decision to adopt the IFRS at the micro-firm level, with a view to evaluate firm-level performance in particular individual countries, such as New Zealand (Houqe et al., 2016), the UK (Christensen et al., 2007), South Korea (Jang et al., 2016; Kwon et al., 2017), Indonesia (Utama et al., 2016), and Nigeria (Herbert & Tsegba, 2013; Okpala, 2012). However, applying cross-country comparisons to assess the influence of IFRS adoption decision on a set of economic effects for adopting countries has not yet been adequately explored. Thus, some of the previous empirical research has jointly examined a few economic factors, such as FDI and GDP (Zehri &Abdelbaki, 2013; Zehri & Chouaibi, 2013; Hudson, 2015; Zaidi & Huerta, 2014), and the imports and exports (Lasmin, 2012; Shima & Yang, 2012; Bruggemann, 2011). Other empirical studies have compared the influence of IFRS adoption on the economic effects of different countries located in the same region, such as Latin America and the Caribbean (Birau et al., 2014; Rathke et al., 2016; Berrios, 2015), the European Union (Soderstrom & Sun, 2007; Bruggemann et al., 2013; Platikanova & Perramon, 2012; Pascan, 2015; Andre et al., 2015), and Africa and Asia (Chebaane & Ben-Othman, 2014). Nevertheless, so far, there has been almost no research that has focused on studying the impact of the worldwide adoption of the IFRS on a comprehensive set of economic consequences.

Similarly, the influence of adopting the ISAs on certain economic factors, such as economic growth rate, has been examined by very few scholars (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016), as is the same in terms of the exports of goods and services (Boolaky & Cooper, 2015; Boolaky & O'Leary, 2011). Therefore, this thesis reviews the extant empirical, with a view to examine the impact of adopting international accounting innovations on the economic consequences of the adopting countries, and further to provide predictions of the expected empirical results.

5.1.1 The Adoption of IAIs and Economic Growth Rates

Based on institutional theory, the IFRS are more likely to be adopted by common law countries with better accounting standards, along with higher rates of economic growth. This happens as a response to coercive pressures that arises from internal institutional factors, namely legal and political systems (Zehri & Chouaibi, 2013; Soderstrom & Sun, 2007). IFRS adoption is not only motivated by the desire to gain efficiency related to boosting the economic performance of adopting countries, it is also motivated by the necessity to acquire social legitimacy through institutional isomorphic pressures (Judge et al., 2010; Phan, 2014; Lasmin, 2011; Hassan et al., 2014). Achieving higher rates of economic growth is one of the main reasons for conducting audits in accordance with the ISAs of financial statements prepared in accordance with the IFRS (Wong, 2004). Moreover, economic performance has been significantly affected by institutional factors, such as political and legal systems, which can have an impact on the economic growth rate of a country (Lal, 2000). Therefore, institutional theory emphasizes the importance of political and legal rules in explaining cross-country differences in economic performance, such as the rates of economic growth (Acemoglu et al., 2005; Sukharev, 2010).

Drawing on institutional theory, the quality of government institutions is the most significant institutional factor that illustrates the differences in economic growth rates between countries (Valeriani & Peluso, 2011; Afonso & Jalles, 2016; Vijayaraghavan & Ward, 2000). Higher quality political institutions lead to a more positive impact on economic growth. This is because it provides a sound institutional environment, which trigger inducing investors to invest more in economic activities thus enhancing economic performance (Zouhaier & Karim, 2012; Nawaz et al., 2014). Similarly, the quality of regulatory institutions has a positive impact on the economic performance of developing countries, which leads to enhancing their rates of economic growth (Jalilian et al., 2007).

Empirically, mixed results have been obtained by previous studies in terms of the relationship between economic growth rates and IFRS adoption. Most prior studies show an insignificant relationship between the economic growth of a country and IFRS adoption (Woolley, 1998; Zaidi & Huerta, 2014; Delcoure & Huff, 2015; Zeghal & Mhedhbi, 2006; Ozcan, 2016; Paknezhad, 2017; Pricope, 2016; Judge et al., 2010), and ISAs adoption (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). On the other hand, some scholars have demonstrated a negative relationship between economic growth rates and IFRS adoption (Larson & Kenny, 1995; Ramanna & Sletten, 2014), whereas others found a positive significant association between the rates of economic growth and IFRS adoption (Larson, 1993; Stainbank, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013).

For example, Larson (1993) examined the impact of adopting the international accounting standards on economic growth in 35 African countries. The findings show that there is a positive significant association between IAS adoption and the economic growth rate of African countries. Similarly, Stainbank (2014) studied the relationship between economic growth rates and IFRS adoption in 32

African countries. The study concluded that African countries with higher levels of economic growth are more likely to embrace the IFRS. A further study conducted by Zehri and Abdelbaki (2013) examined the role of adopting IFRS in promoting the economic growth of 74 developing countries. The findings show that economic growth rates have increased remarkably after the adoption of the IFRS by developing countries.

Further, a similar outcome was achieved by Zehri and Chouaibi (2013), who examined the effect of IFRS adoption on the economic growth of 74 developing countries. Their results show that there is a positive and significant association between IFRS adoption and the economic growth of developing countries. In contrast, Larson and Kenny (1995) studied the influence of adopting the international accounting standards on economic growth in 27 emerging economies. Their study shows that there is a negative relationship between the IAS adoption and the economic growth rates of developing countries. Likewise, by analysing data for 89 countries from 2003 to 2008, Ramanna and Sletten (2014) reported that countries with lower levels of economic growth are more likely to adopt the IFRS as a response to economic network implications that steer countries towards IFRS adoption.

In contrast, in an analysis of 101 countries, Zaidi and Huerta (2014) reported that there is an insignificant relationship between IFRS adoption and economic growth rates. Nevertheless, the study found that the effects of IFRS adoption on the economic growth rate of a country basically depend on the enforcement level within the country. Similarly, Woolley (1998) found that there is an insignificant association between the international accounting standards (IAS) and economic growth rates in Asian countries. A recent study conducted by Delcoure and Huff (2015), examined the impact of voluntary adoption of IFRS on the economic growth of both emerging and frontier countries. Their study concluded that there is no significant association between the adoption of IFRS and the economic growth rates of emerging and frontier countries. Likewise, Zeghal and Mhedhbi (2006) studied the influence of the economic growth of 64 developing countries on IFRS adoption. Their results indicate that there is statistically insignificant relationship between IFRS adoption and economic growth in developing countries. A further study, conducted by Ozcan (2016), examined the relationship between the economic growth rates of 70 countries and IFRS adoption. The study reported that IFRS adoption has positively, but insignificantly, enhanced the economic growth of adopting countries. Similarly, Pricope (2016) also found an insignificant correlation between IFRS adoption and economic growth rates in developing countries. Judge et al. (2010) used economic growth rates as a control variable to examine their capability in explaining IFRS adoption. Their study found an insignificant association between IFRS adoption and the economic growth rates of a country.

Regarding the role of ISAs adoption in boosting economic growth rates, Boolaky and Omoteso (2016) studied the impact of economic growth rates, measured by the changes of GDP, on the adoption of the ISAs. The study revealed that the economic growth rate of a country is positively but

insignificantly, associated with ISAs adoption. Likewise, by analysing data for 89 countries from 2009 to 2012, Boolaky and Soobaroyen (2017) investigated the determinants of ISAs adoption in developing and developed countries alike. Their results showed that there is an insignificant association between ISAs adoption and economic growth rate.

Prior studies examined the relationship between the economic growth of a country and IFRS adoption by analysing a small number of countries, and they have shown mixed results (Woolley, 1998; Zaidi & Huerta, 2014; Delcoure & Huff, 2015; Zeghal & Mhedhbi, 2006; Ozcan, 2016; Paknezhad, 2017; Pricope, 2016; Judge et al., 2010; Larson & Kenny, 1995; Ramanna & Sletten, 2014; Larson, 1993; Stainbank, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013). However, there have been only two empirical studies that examined the influence of ISAs adoption on the economic growth of a country (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). Therefore, the present study contributes to the current research by including a large number of countries to investigate the relationship between economic growth rates and the adoption of international accounting innovations, especially the adoption of ISAs. Accordingly, this study proposes the following hypothesis based on the results achieved from most prior studies:

H5.1: *There is an insignificant relationship between the economic growth rate of a country and the early adoption of the international accounting innovations.*

5.1.2 The adoption of IAIs and FDI Inflows

According to the resource-based theory, a finance seeker generally aims to fulfil the desires of their resource providers, such as foreign investors, with a view to satisfy them and increase their potential probabilities in obtaining financial capital (Pfeffer & Salancik, 2003). Accordingly, poor countries with limited economic resources are more likely to embrace the IFRS instead of improving their national accounting standards to attract foreign investments, and thus eventually improve their economic performance (Shima & Yang 2012). Therefore, IFRS adoption is expected to take place in emerging countries, since these countries are considered to have the most finance seekers. Hence, developing countries are often subject to external pressures arising from the resource holders to use a single set of accounting standards, such as the IFRS (Irvine, 2008). Moreover, the higher the quality of government institutions, the more foreign investors are attracted. Hence, poor countries are often forced by their governments to follow the needs of the resource providers to receive greater FDI inflows (Daude & Stein, 2007; Alem, 2015; Benassy-Quere et al., 2007).

Empirically, most prior studies have found a positive and significant association between IFRS adoption and FDI inflows, particularly in developing countries, since these countries are the most common resource-seekers in the world (e.g., Gordon et al., 2012; Akpomi & Nnadi, 2017; Boachie, 2016; Okpala, 2012; Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016; Rakesh & Shilpa, 2013;

Pricope, 2017). Similarly, other scholars have found a positive strong relationship between FDI and IFRS adoption in developed countries (e.g., Marquez-Ramos, 2011; Louis & Urcan, 2012; Chen et al., 2014). In contrast, other prior empirical studies have found a negative and significant association between FDI inflows and IFRS adoption in developing countries (e.g., Nnadia & Soobaroyen, 2015; Zehri & Chouaibi, 2013; Lasmin, 2012).

For instance, by using data for 124 countries, Gordon et al. (2012) outlined how IFRS adoption has positively and significantly driven to increase the inflows of FDI in developing countries, however this was not significant for developed economies. This is because emerging economies comply with the needs of resource providers, with a view to satisfy them and receive further financial aid. Further research conducted by Louis and Urcan (2013) studied the effects of adopting the IFRS on inflows of FDI. Their results report that there is a positive significant association between the IFRS and FDI inflows, especially in developed countries with strong enforcement levels. Similarly, by analysing data for 48 African countries, Akpomi and Nnadi (2017) reported that IFRS adoption has significantly promoted FDI inflows, especially in countries with strong regulatory qualities. This is because IFRS adoption improves the comparability of financial reporting and reduces information asymmetry for foreign investors. A recent study executed by Pricope (2017) covered data for 38 poor countries and concluded that there is a positive and significant association between the level of FDI and IFRS adoption in poor countries. Additionally, by using data for 92 countries, Efobi and Nnadi (2015) found that FDI inflows have been significantly linked with IFRS adoption, with a view to attract more foreign investments. In this regard, Vidal-Garcia and Vidal (2016) pointed out that IFRS adoption can attract foreign investors from various countries, even from non-IFRS adopter countries.

Some previous studies have examined the relationship between IFRS adoption and FDI inflows in a single developing country. For example, the impact of using the IFRS on the FDI inflows in Nigerian economy has been widely studied by many scholars (Okpala, 2012; Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016). All prior studies have reported that there is a positive and significant association between IFRS adoption and the FDI inflows in Nigeria. Likewise, Boachie (2016) studied the relationship between IFRS and inflows of FDI in Ghana. The study reported that IFRS adoption has strongly led to promoting FDI inflows in Ghana. Similarly, Rakesh and Shilpa (2013) studied the impact of IFRS adoption on the FDI inflows in India. Their findings showed that there is a positive and significant association between IFRS adoption and the inflows of FDI in India. This is because IFRS adoption leads to increasing the uniformity and credibility of financial statements, and thus attracts more foreign investors. Other scholars have examined the influence of IFRS adoption on FDI flows in developed economies. Marquez-Ramos (2011) pointed out that there is a positive and significant association between IFRS adoption and the FDI flows in European countries. Similarly, Chen et al.,

(2014) investigated the role of adopting IFRS on enhancing the FDI flows in the OECD countries. Their study found that there is a positive and significant correlation between IFRS adoption and FDI inflows.

In contrast, by selecting a sample of 34 African countries, Nnadia and Soobaroyen (2015) studied the impact of IFRS adoption on promoting inflows of FDI. Their results indicate that the FDI inflows of African countries have decreased after adopting the IFRS. This is because foreign investors seek to invest in countries with strong legal systems and higher levels of corruption control, which in turn are relatively weak in developing nations. A similar result was obtained by Zehri and Chouaibi (2013), who investigated the impact of IFRS adoption on enhancing the FDI of 74 developing countries. Their results show that there is a negative and significant association between IFRS adoption and the FDI inflows of emerging countries. This is because most developing countries have not yet adopted the IFRS for attracting foreign investors, rather it has been adopted for improving the quality of the financial reporting of their domestic business sectors. A further study conducted by Lasmin (2012) examined the effects of IFRS adoption on the FDI inflows of 48 developing countries. The study revealed that developing countries that have adopted the IFRS are less likely to have higher levels of FDI inflows.

Adetula et al. (2014) examined the relationship between the IFRS and the FDI inflows in Nigeria. Their findings showed that there is a positive, but insignificant, relationship between IFRS adoption and FDI flows in Nigeria. Similarly, Lasmin (2011) analysed a sample of 46 developing countries to investigate the impact of IFRS adoption on their level of FDI. The study reported that there is an insignificant correlation between IFRS adoption in developing countries and their levels of FDI inflows. Likewise, Pricope (2015; 2016) reported that there is a positive, but insignificant, association between the FDI inflows of developing countries and their decision to adopt the IFRS. Additionally, Zeghal and Mhedhbi (2006) pointed out that there is an insignificant relationship between FDI and the decision to adopt the IFRS in developing countries. In the same manner, Emeni (2014) reported that IFRS adoption is positively and insignificantly associated with the FDI inflows in African countries.

Prior studies have examined the relationship between IFRS adoption and FDI inflows by using small samples and they showed mixed results (Gordon et al., 2012; Akpomi & Nnadi, 2017; Boachie, 2016; Okpala, 2012; Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016; Rakesh & Shilpa, 2013; Pricope, 2017; Marquez-Ramos, 2011; Louis & Urcan, 2012; Chen et al., 2014; Nnadia & Soobaroyen, 2015; Zehri & Chouaibi, 2013; Lasmin, 2012). However, the impact of FDI inflows on the adoption of ISAs has not yet been investigated. Accordingly, this study contributes to the current auditing research by examining influence of ISAs adoption on FDI inflows. Hence, this study posits the following hypothesis based on the outcomes reported by most previous research:

H5.2: *Countries that adopted the international accounting innovations early are more likely to have higher levels of FDI inflows.*

5.1.3 The adoption of IAIs and GDP Growth

According to the network economic theory, the network theory is extremely beneficial in explaining the economic benefits of adopting new innovations (Katz & Shapiro, 1985). Therefore, based on the network economic theory, IFRS adoption is more likely to happen in countries where the direct value and network of adopting the international accounting standards is significantly high among the network related countries (Adereti & Sanni, 2016). The IFRS are considered a network-related value, which can trigger positive economic consequences for the adopting countries (Kossentini & Ben-Othman 2014; Zaiyol et al., 2017). Based on the economic network theory, the perceived economic effects of the IFRS network can be clearly seen by examining international trade between countries to reduce the cost of information needed by foreign investments (Samaha & Khlif, 2016; Ramanna & Sletten 2014; Opanyi, 2016). Moreover, the size of a country's economy, which can be measured by GDP rate, can drive the country's desire to adopt the IFRS. This is because large countries can still obtain higher levels of GDP despite continuing to use their local accounting standards, due to the network's impact on other business partners. Whereas, smaller countries tend to adopt IFRS, with a view to promote their economic performance (Ramanna & Sletten, 2009; Ramanna & Sletten, 2014). Accordingly, the economic benefits of adopting the IFRS are more likely to be higher in developed economies where there is a strong network effect among nations (Emeni & Urhoghide, 2014).

Empirically, most prior research highlighted how IFRS adoption decision is strongly linked with lower levels of GDP, which continue to exist in developing countries, rather than developed economies (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015; Bohusova & Blaskova, 2013; Larson & Kenny, 1995). Nevertheless, very few studies have reported a positive relationship between the IFRS and GDP rates (Masoud, 2014). Some scholars found an insignificant association between IFRS adoption and the levels of GDP growth rates (Akpomi & Nnadi (2017; Zeghal & Mhedhbi, 2006; Lasmin, 2011).

For example, by analysing data for 124 countries, Gordon et al. (2012) reported that the country's GDP is negatively and significantly associated with the decision of adopting the IFRS. Similarly, by using data for 61 countries, Clements et al. (2010) indicated that the size of the country measured, by their GDP rate, is strongly and negatively related to the decision of IFRS adoption. This is because large countries have already established strong accounting and reporting standards. Likewise, Ramanna and Sletten (2014) found that countries with a small economy size (measured as GDP) are more likely to adopt the IFRS due to the network effects relating to business partners, who have already adopted the international financial reporting standards.

Additionally, by using data for 47 African countries, Efobi (2015) found that IFRS adoption is more likely to occur in developing countries with a lower level of GDP per capita. In the same way, and by analysing data for 142 countries, Evgenidis et al. (2016) indicated that the economy size in developing

countries plays a significant role in explaining the adoption of the IFRS to attract more foreign investments. Therefore, IFRS adoption is more likely to happen in emerging countries with a lower level of GDP. In the same manner, Bohusova and Blaskova (2013) reported that countries with a lower level of GDP per capita are more prone to adopt the IFRS for SMEs when compared with countries with a larger level of GDP per capita. This is because most countries with a larger level of GDP are developed countries, and they already have well-established financial and accounting standards in place. Comparably, by using data for 27 emerging economies, Larson and Kenny (1995) found a negative and significant association between IFRS adoption and GDP growth in emerging economies with equity markets. Correspondingly, Masoud (2014) investigated the relationship between GDP levels and IFRS adoption decision in 78 emerging economies. The study concluded that the decision for adopting the IFRS is positively and significantly linked with the GDP rates in emerging countries.

However, by applying data for 48 African countries, Akpomi and Nnadi (2017) reported that the relationship between IFRS adoption and the level of GDP is positive, but statistically insignificant. This is because the FDI inflows in African countries are mainly determined by the availability of resources and not by the size of the country's economy. Similar outcomes have been achieved by previous research (Zeghal & Mhedhbi, 2006; Lasmin, 2011), which has reported that the GDP rate in a country is not significantly related to the IFRS adoption decision, particularly in emerging economies.

Prior research investigated the influence of IFRS adoption on GDP level in a country by analysing a small number of countries, and they have also shown mixed results (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015; Bohusova & Blaskova, 2013; Larson & Kenny, 1995; Masoud, 2014; Akpomi & Nnadi, 2017; Zeghal & Mhedhbi, 2006; Lasmin, 2011). However, the impact of ISAs adoption on GDP rate in a country has not yet been examined so far. Therefore, this study provides a great contribution to the extant audit literature by studying the effect of the ISAs adoption on GDP rates for large number of countries. Hence, this research suggests the following hypothesis based on the outcomes suggested by most previous studies:

H5.3: *Countries that adopted the international accounting innovations early are more likely to have lower levels of GDP.*

5.1.4 The adoption of IAIs and Export Levels

According to the economic network theory, the network effects can be influenced by the direct value of the product and the network related value (Katz & Shapiro, 1985). A country is more likely to adopt the IFRS only if the direct value of the product and the network related value are greater than the value of the local generally accepted accounting principles (Adereti & Sanni, 2016). The network effects of adopting the IFRS by a country in a specific year can be measured by evaluating its economic benefits that can be received by the international trade among trade partners (Ramanna & Sletten 2014; Opanyi,

2016). According to network economic theory, the export levels for the EU members remain higher even before they have adopted IFRS in 2005 as a result of the strong network among these countries and due to the greater export levels among EU countries (Ramanna & Sletten, 2009). Therefore, export performance can be fairly explained by using the network economic theory, with a view to determine the level of international trades among trade partners. This can be done by measuring the annual level of exports (Ramanna & Sletten 2014).

Empirically, prior studies have shown a positive significant association between export levels and IFRS adoption (Marquez-Ramos, 2008; Marquez-Ramos, 2011; Ramanna & Sletten, 2009; Neel, 2017). Other studies have reported that export levels have significantly decreased after IFRS adoption (Lasmin, 2012; Pricope, 2017). Furthermore, so far there have been very few studies that have examined the influence of ISAs adoption on the export levels of the adopting countries, and those few have shown mixed results (Boolaky & Cooper, 2015; Boolaky & O'Leary, 2011).

For example, by using data from 35 countries over a period from 1999-2007, Marquez-Ramos (2008) concluded that the level of exports in transitional economies has significantly increased, especially after IFRS adoption. This is due to the benefits relevant to IFRS adoption, which include minimizing information asymmetry and maximizing transparency and comparability among countries. A further study was conducted by Marquez-Ramos (2011), which involved 27 European countries over a period from 2002-2007. The findings revealed that the level of exports has dramatically increased in EU countries after IFRS adoption, because it enhances the transparency of financial reporting and reduces information costs. Similarly, Ramanna and Sletten (2009) found that EU countries reached the highest level of exports after they adopted the IFRS as a result of the quality of their financial reporting, which in turn lead to providing better financial information to investors. Likewise, by using data from 23 countries, Neel (2017) pointed out that the level of exports is expected to increase in countries with a weak institutional environment among those who have adopted the IFRS. The reason for this is because IFRS adoption leads to improve comparability and the quality of financial reporting, especially in countries that suffer from weak domestic accounting standards.

However, by examining data for 34 developing countries, Lasmin (2012) found that the adoption of IFRS by developing countries is negatively and significantly linked with the levels of export volumes. The reason for this is because the probability of gaining higher economic benefits depends on similar institutional environments, which in fact vary significantly among developing countries. Similarly, by using 38 poor countries, Pricope (2017) reported that the economic openness (measured as the level of imports and exports relative to GDP) has a negative and significant impact on IFRS adoption.

In terms of ISAs adoption, by analysing data for 41 European and 31 Asian countries, Boolaky and Cooper (2015) reported that although the foreign export markets in Europe is greater than the export

markets in Asia, the growth of export trading from Europe to Asia has positively and significantly affected the strength of auditing and reporting standards in Asia, rather than Europe. Correspondingly, by using data for 28 sub-Saharan African countries, Boolaky and O'Leary (2011) investigated the relationship between the strength of auditing and reporting standards and the total value of exports, which were used as a proxy to measure foreign market size in African countries. The study showed that there is a positive, but insignificant association, between export levels and the strength of auditing and reporting standards. However, this might not be the case for advanced countries.

Prior studies examined the influence of adopting IFRS on export levels by using small samples and they have also shown mixed results (Marquez-Ramos, 2008; Marquez-Ramos, 2011; Ramanna & Sletten, 2009; Neel, 2017; Lasmin, 2012; Pricope, 2017). However, very few studies have examined the influence of the strength of accounting and auditing standards on the export levels of the adopting countries (Boolaky & Cooper, 2015; Boolaky & O'Leary, 2011). Therefore, this study contributes to the current literature by examining the effect of ISAs adoption on the export levels of the adopting countries for a large number of nations. Accordingly, this study posits the following hypothesis based on the results achieved by most previous research:

H5.4: *Countries that adopted the international accounting innovations early are more likely to have higher levels of exports.*

5.1.5 The adoption of IAIs and Imports Level

Network theory can be utilized to explain the economic benefits of adopting new innovations. This is because the economic network effects can be significantly influenced by the direct network-related value and the network-related product (Katz & Shapiro, 1985). However, it has been argued that the economic benefits of adopting IFRS cannot be merely obtained due to the direct network-related value, it can also be achieved as a result to the higher quality of political and legal systems within a country (Ramanna & Sletten, 2009). Based on economic network theory, the network effect of IFRS adoption can be explicitly measured by examining its perceived economic benefits from engaging into international trade with other business partners (Ramanna & Sletten 2014; Kossentini & Ben-Othman 2014; Opanyi, 2016; Samaha & Khlif, 2016). Accordingly, countries tend to adopt the IFRS, with a view to increase opportunities to extend their international trade with other trading partner countries, who have already embraced the IFRS (Murphy, 2000). Therefore, countries that have adopted IFRS are more likely to experience positive economic benefits as a result of the network effects between peers (Zaiyol et al., 2017; Kossentini & BenOthman 2014). Moreover, according to DOI theory, adopting new innovations can be more rapid if the adopters have a strong interpersonal network and effective communication channel with their peers (Rogers et al., 2009; Rogers, 2003).

Previous empirical studies suggest that the imports level between countries has significantly increased after IFRS adoption, due to the reduction of information asymmetry among trade countries (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009). For instance, by applying a sample of 97 developing countries, Pricope (2016) reported that there is a positive and significant association between the level of import penetration rate and the likelihood of IFRS adoption by developing countries. This indicates that mimetic isomorphism plays a leading role in the decision of adopting the IFRS in the developing world. Likewise, by including data for 73 countries, Shima and Yang (2012) pointed out that there is a positive and significant association between the probability of IFRS adoption and global trades, with major import countries that have already embraced the IFRS.

Similarly, Gordon et al. (2012) examined how the presence of imports and exports influences the IFRS adoption decision. Their study revealed that there is a positive and significant correlation between the level of imports and exports in a country and the probability of adopting the IFRS. In a comparable way, and by utilizing data for 132 nations, Judge et al. (2010) pointed out that the diffusion of IFRS has been positively and strongly linked with the rates of import penetration that exist in a country, owing to the mimetic pressures that emerge from trade partners. Additionally, by using a sample that consisted of 120 countries, Archambault and Archambault (2009) concluded that the import levels of goods have positively and significantly affected the decision to permit IFRS adoption, specifically in developing countries. In contrast, by studying 34 developing countries, Lasmin (2012) found that IFRS adoption has negatively and significantly driven to a decrease in the import levels of developing countries.

Prior literature has studied the effect of IFRS adoption on the level of imports as a proxy to measure the international trade among countries by including a small number of countries and they have also reported mixed outcomes (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009). However, studying the impact of ISAs adoption on the import levels among trading countries has not yet been examined so far. Therefore, this study contributes to the existing research by investigating the influence of adopting the international accounting innovations on the rate of imports in a country. Hence, this study suggests the following hypothesis based on the outcomes achieved by most previous research:

H5.5: *Countries that adopted the international accounting innovations early are more likely to have higher levels of imports.*

5.1.6 The adoption of IAIs and the Inflation Rates

Theoretically, the rate of inflation depends on certain economic factors, including money demands, money supply, monetary shocks and the efficiency of political institutions (Totonchi, 2011). Accordingly, inflation arises as a result of the absence of the supporting role of political institutions to

internally generate and distribute money in addition to the lack of their ability to control the money supply (Malkina & Rozmainsky, 2013). Therefore, inflation leads to losing the legitimacy of accounting information due to instability of the economic system of a country. Consequently, several practical actions should be undertaken to regain information legitimacy, either coercively by governments or normatively by professional institutions (Oliver, 1991). In this regard, the International Accounting Standard 29 (IAS 29) was issued to correct for higher inflation rates in a country by adjusting the financial statements in those countries in accordance with the requirements of IAS 29 (Schreiner & Yaron, 2001). Hence, adopting the IAS 29 for inflation is the best solution that can be applied to reduce higher levels of inflation rates (Rezende et al., 2012). Drawing on signalling theory, countries with a higher level of inflation rates are more prone to adopt IFRS with a view to create signalling economic incentives by adopting high quality standards. Nevertheless, this might be affected by the adoption cost concerns by the political parties and the standard setters in a country (Shima & Yang, 2012; Ben Othman & Kossentini, 2015). According to signalling theory, higher level of inflation rate in a country signals a presence of higher economic instability and leads to obtaining lower levels of foreign investors eventually (Khurana & Michas, 2011).

Accordingly, the application of inflation accounting practices can remarkably affect the quality of financial statement information. Nevertheless, there is another factor that must be carefully considered because it can mediate the IFRS effects (Balsari et al., 2009). Owing to the presence of hyperinflation in many developed and developing economies, IAS 29 has been issued with a view to provide inflation-adjusted accounting regardless of the level of inflation rates in a given country (Elliott & Elliott, 2008). Inflation rates have been significantly influenced by the decision to adopt the IFRS in a given country (Nobes & Parker, 2004). In this regard, the economic and political situations in developed nations are more stable than emerging economies. Hence, developing countries with higher levels of inflation rates tend to adopt the international standards for accounting inflation (Cerne, 2009).

However, higher levels of inflation rates may provide disincentives for IFRS adoption. This is because preparing financial information in accordance with IFRS will lead to displaying the accounting numbers that appear in financial reporting higher than the accounting numbers that are prepared in accordance with historical costs due to inflation effects (Odia, 2016). Similarly, using inflation accounting methods might lead to cause diversity in the financial information among countries. This is because inflation-adjusted accounting is not necessary in countries with lower inflation rates, whereas it is required for hyperinflationary economies that have already adopted the IFRS (Smith, 2012). Signalling theory has been widely utilized to examine the effects of IFRS adoption on the performance of multinational corporations, but it has not sufficiently applied to investigate the impact of IFRS adoption on the economic consequences of adopting countries at the macro-country level (Kolsi & Zehri, 2009).

Empirically, the extant studies that examined the relationship between IFRS adoption and inflation rates are very limited and show mixed outcomes. Some of the previous research have shown a positive association between inflation rates and the IFRS (Archambault & Archambault, 1999; Agustini, 2016; Archambault & Archambault, 2009; Arsoy & Gucenme, 2009). However, other prior studies revealed that there is a negative relationship between inflation rates and the adoption of IFRS (Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008; Gucenme & Arsoy, 2006).

For example, Archambault and Archambault (1999) reported that the financial reporting system of a country has been considerably influenced by country specific characteristics including accounting regulations and inflation rates. Hence, countries that experience higher inflation rates with strong accounting regulations are more prone to adopting inflation accounting practices as a solution for their high inflation rates, rather than using historical costs as a reporting method. Similarly, by using data from 31 countries. Agustini (2016) examined the effects of IFRS adoption in combination with inflation rates on reducing the cost of capital. The study revealed that IFRS adoption does not necessarily lead to reducing the cost of capital, neither in countries with higher inflation rates, nor in countries with lower inflation rates. This is because investors tend to demand higher returns if there is a higher risk in terms of the existence of high inflation rates.

Additionally, by using data for 120 countries, Archambault and Archambault (2009) pointed out that IFRS adoption is more likely to occur in countries with higher levels of inflation rates, since it is deemed one of the basic economic indicators that influences IFRS adoption. Likewise, Arsoy and Gucenme (2009) stated that countries with high inflation rates tend to apply the inflation adjusted accounting methods, with a view to mitigate inflation effects and benefit from expected incentives such as tax advantages. However, by using data for 76 developing countries, Riahi and Khoufi (2015) reported that there is a positive influence, yet statistically insignificant correlation between the level of inflation and the decision to adopt the IFRS by developing countries.

In contrast, Khurana and Michas, (2011) reported that higher levels of inflation rates signal additional economic instability, which can potentially lead to reducing foreign investments in a country. Thus, a negative relationship is expected between inflation rates and IFRS adoption as a result of the presence of lower levels of foreign investments in a country. Similarly, by analysing data for 73 countries, Shima and Yang (2012) concluded that there is a negative and significant association between IFRS adoption and the inflation rate. This is because IFRS adoption is expected to increase conversion costs, which will be a problem especially for countries with higher levels of inflation rates. In the same way, and by including data for 155 countries, Felski (2015) examined the relationship between economic factors including inflation rates and IFRS adoption. The findings showed that countries with higher levels of inflation rates are less susceptible to embracing the IFRS. Likewise, Choi and Meek (2008) indicated that inflation has a negative relationship with IFRS adoption. Similar outcomes have been achieved by

Gucenme and Arsoy (2006), who concluded that countries with lower levels of inflation rates and have adopted the IFRS, do not necessarily need to implement inflation adjusted accounting suggested by IAS 29. This is because these countries do not suffer from inflation effects and can use historical costs.

Previous empirical research has examined the impact of IFRS adoption on the inflation rates of adopting countries and has reported mixed results (Archambault & Archambault, 1999; Agustini, 2016; Archambault & Archambault, 2009; Arsoy & Gucenme, 2009; Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008; Gucenme & Arsoy, 2006). However, studying the influence of the adoption of ISAs on the inflation rates of adopting countries has not yet been examined. Therefore, this study contributes to the current auditing literature by investigating the impact of ISAs adoption on reducing inflation rates. Hence, this thesis suggests the following hypothesis based on the outcomes obtained by most prior empirical research:

H5.6: *Countries that adopted the international accounting innovations early are more likely to have higher levels of inflation rates.*

5.1.7 The Adopting the IAIs and the Foreign Exchange Rates

Theoretically, foreign exchange rate regimes can be defined either by government preferences, which are known as the fixed exchange rate, or by market forces, which are known as the floating exchange rate (Shortland, 2004; Rajan, 2012; Frankel, 2006). The behaviour of choosing the optimal choice of exchange rate regime has been influenced by institutional factors, including the economic and political situation of a country (Frieden et al., 2006; Fernandez-Albertos, 2012). According to signalling theory, IFRS adoption helps to convert all foreign currency transactions across different countries by using exchange rates into one single currency, which leads to sending positive signals to foreign investors about their desires for increasing uniformity and comparability among various foreign currencies around the world (Unegbu, 2014). Therefore, an integration between reforms issued by central banks and IFRS adoption can send a positive signal to investors about their attention towards improving the credibility of the financial information provided to local and foreign investors alike (Nnadi & Nwobu, 2017). In this regard, the fluctuations in foreign exchange currencies have been addressed by the international accounting norms of IAS 21 and IAS 39, with a view to clarify their impact on converting foreign currencies into a more functional currency (Butler, 2009). Hence, international trade among the EU members has significantly improved as a result of the stability of exchange rates across all the EU countries for substantial length of time (Marquez-Ramos, 2008).

Empirically, some extant research has shown a positive relationship between exchange rate changes under the IAS and the equity market value (Ashbaugh & Pincus, 2001; Ashbaugh, 2001; Pinto, 2005; Bonetti et al., 2012; Huang & Vlady, 2012), while other studies reveal that there is a negative association

between exchange rate changes under IAS 21 and the market value of equity (Sarea & Al Nesuf, 2013; Heidrich, 2005; Tereshchenko, 2016; Louis, 2003; Goodwin et al., 2008).

For example, by examining 80 firms using IAS from 13 countries, Ashbaugh and Pincus (2001) reported that there has been a considerable increase in the market value of equity, specifically after controlling for changes in foreign exchange rates, since this reduces forecasting errors. Similarly, by analysing 211 non-US firms listed on the London Stock Exchange, Ashbaugh (2001) pointed out that firms tend to use the IFRS when their shares in trade in foreign exchange markets are due to post-IFRS improvements in earnings forecast accuracy for foreign analysts, such as foreign exchange gains and losses. Likewise, Pinto (2005) indicated that foreign currency translation is positively and significantly associated with earnings and firms' value, only when they measure economic risk regarding exchange rate changes. Additionally, by using a sample of Italian firms, Bonetti et al. (2012) reported that sensitivity to changes in foreign exchange rates have significantly decreased after adopting IFRS 7 to disclose information about fluctuations in foreign currency translation. Additionally, Huang and Vlady (2012) indicated that firm value has been positively associated with fluctuations in the foreign exchange rate under IAS 21.

However, by using a sample that consisted of 19 listed banks in the Bahrain Stock Exchange, Sarea and Al Nesuf (2013) concluded that fluctuating foreign exchange rates have negatively affected the value of listed banks in the Bahrain Stock Exchange. Similarly, by using a sample of big Chilean firms, Heidrich (2005) reported that firms using the IAS are more exposed to facing exchange rate changes, which can considerably influence firms' value when they prepare their consolidated financial reports under IFRS. Moreover, by using data for 35 firms in the Ukraine, Tereshchenko (2016) reported that changes in foreign currencies have considerably driven reductions in foreign investments as a response to the relevant financial risks. In the same way, Louis (2003) found that foreign currency changes are negatively and significantly linked with market value due to losses from foreign exchange rate fluctuations. Likewise, Goodwin et al. (2008) examined IFRS adoption of the accounting quality of firms listed on the Australian Stock Exchange. Their findings showed that the equity market value has significantly decreased after using IAS 21, owing to the loss of changes in foreign exchange rates, which has led to reducing the earnings of listed firms by applying the current rate of exchange.

Almost all prior empirical studies have focused more on the relationship between compliance with IAS/IFRS 21 to disclose information about fluctuation in foreign exchange rates and stock market value at the micro-firm level (e.g., Ashbaugh & Pincus, 2001; Goodwin et al., 2008; Heidrich, 2005; Sarea & Al Nesuf, 2013; Pinto, 2005; Tereshchenko, 2016; Ashbaugh, 2001; Bonetti et al., 2012; Huang & Vlady, 2012; Louis, 2003). However, a study of the association between the adoption of international accounting innovations (IFRS & ISAs) and the level of foreign exchange rates at the macro-country level has not yet been empirically conducted. Therefore, this study contributes to the existing research

by investigating the impact of adopting international accounting innovations on the level of foreign exchange rate in a country. Hence, this study assumes the following hypothesis:

H5.7: *Countries that adopted the international accounting innovations early are more likely to have higher levels of foreign exchange rates.*

5.1.8 The Adoption of IAIs and the Real Interest Rates

Theoretically, investment volume can be improved by reducing interest rates and can be restricted by increasing interest rates. According to signalling theory, most borrowers tend to adopt IFRS with a view to send a positive signal to foreign lenders about their intention to improve their capital investment decisions (De George & Shivakumar, 2016). This is because IFRS adopters are more prone to having loans with longer maturities, but they are required to pay lower levels of interest rates, thus attract more foreign lenders (Kim et al., 2011). Based on signalling theory, IFRS adoption sends a positive signal to foreign lenders about the borrowers' intention to minimize the interest rate risk change, thus this leads to reducing the cost of equity capital. However, the cost of equity capital might be significantly influenced by the interest rates policies existing in a country (Uwalomwa et al., 2016).

Additionally, the financial regulations including the interest rate policy, are one of the basic institutional factors that affect accounting quality. This is because the impact of IFRS adoption on accounting quality will vary widely across countries due to differences in financial regulations among the finance institutions existing in various countries. (Gebhardt et al., 2011). Therefore, IAS 39 has been issued to determine an effective interest rate method and identify the major risks that face financial institutions, such as interest rate risk change (Epstein & Jermakowicz, 2010). However, IAS 39 has been criticised because it ignores changes in the fair values of financial statement items that stem from changes in interest rates (Cairns, 2006; Whittington, 2005). Moreover, although the EU has adopted IAS 39 to reduce volatility in hedging financial instruments, some EU members do not use fair values to account for interest rate risks change. This is because the requirements of IAS 39 are basically different from their local accounting standards (Armstrong et al., 2010).

Empirically, very few empirical studies have examined the association between the level of interest rates and IFRS adoption and they have yielded conflicting results. Specifically, some of the prior research shows a positive and strong association between interest rates and IFRS adoption (Chen et al., 2015; Zhang, 2008; Bischof, 2009), whereas, other empirical studies have reported a negative and strong relationship between the level of interest rates and IFRS adoption (Kim et al., 2011; Palea, 2007; Gordon et al., 2012; Choi & Lee, 2015).

For instance, by analysing data for 31 countries, Chen et al. (2015) reported that the level of interest rates has significantly increased for borrowers who have been forced to adopt the IFRS. Whereas, interest rates have considerably decreased for borrowers, who have not mandated IFRS adoption up to

2005. Similarly, Zhang (2008) indicated that lenders tend to charge lower interest rates for firms with a lower disclosure and a higher conservatism level. This is because conservative borrowers are more likely to breach debt contracts than less conservative borrowers, who have adopted the IFRS. Likewise, by using a sample that consists of 171 banks from 28 European countries, Bischof (2009) examined the influence of IFRS adoption on market risk including the changes in interest rates, which can affect the quality of bank disclosures in the Europe region. The findings show that the levels of interest rates have slightly increased after the adoption of the IFRS by the EU members.

However, by using data for 40 countries, Kim et al. (2011) suggest that financial institutions charge higher lending interest rates to non-IFRS adopters and lower lending interest rates to the IFRS adopters, who demand a large number of loans and use the IFRS voluntarily. Furthermore, by selecting 35 financial institutions from 7 European countries, Palea (2007) reported that IFRS adoption has significantly led to reductions in the level of interest rates, with no risk of monetary loss and a lower cost of capital in European countries. Similarly, Choi and Lee, (2015) studied the impact of IFRS adoption on the cost of debt of firms listed on the Korean Stock Market. Their study revealed that IFRS adoption has considerably driven minimizing the level of interest rates for Korean listed firms. Likewise, by selecting data for 124 countries, Gordon et al. (2012) examined the impact of national lending interest rates on the adoption of the IFRS over the period of 1996-2009. Their study found that interest rates are negatively and significantly associated with the IFRS adopted by developed countries, however it was found to be insignificant for developing countries.

Most prior empirical studies have studied the relationship between IFRS adoption and interest rate risk at the micro-firm level (Chen et al., 2015; Zhang, 2008; Bischof, 2009; Kim et al., 2011; Palea, 2007; Gordon et al., 2012; Choi & Lee, 2015). However, there is an acute dearth in examining the impact of adopting the international accounting innovations (ISAs & IFRS) on the level of interest rates at the macro-country level. Therefore, this study contributes to the existing research by studying a large number of countries to investigate the effects of adopting the international accounting innovations on changes in interest rates of adopting countries. Hence, this study posits the following hypothesis:

H5.8: *Countries that adopted the international accounting innovations) early are more likely to have higher levels of interest rates.*

5.2 Reflections on the Economic Consequences of Adopting IAIs

Although the extant empirical studies have investigated the influence of IFRS adoption on the economic consequences of adopting countries, the existing empirical research is still subject to several limitations. There is currently an acute shortage of empirical studies that have been implemented to examine the effects of ISAs adoption on the economic consequences of adopting countries. Therefore, the main reason for conducting this study is to highlight the gaps in the existing empirical research

regarding the consequences of adopting the international accounting innovations, thus providing empirical evidence to fill these gaps. Accordingly, the present study is one of the few empirical studies that explores the impact of adopting the international accounting innovations, specifically the ISAs adoption on the economic consequences of adopting countries.

Regarding the effects of ISAs adoption on the economic consequences of adopting countries, very few attempts have been reported so far in terms of examining the influence of adopting the ISAs on two salient economic factors, namely economic growth rate (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016), and the exports level of goods and services (Boolaky & Cooper, 2015; Boolaky & O'Leary, 2011). Nevertheless, so far, there has been almost no research that has focused on studying the influence of adopting the ISAs on other economic factors, including foreign direct investments (FDI), gross domestic product (GDP), import levels of goods and services, inflation rates, foreign exchange rates and interest rates.

With respect to the effects of IFRS adoption on the economic indicators, despite the considerable number of prior empirical studies examining the relationship between IFRS adoption and the economic consequences of adopting countries, these studies have ended with mixed results. This might happen due to many reasons that caused mixed and inconsistent outcomes, such as sample selection bias, omitted variable problems and the model specification (Palea, 2013).

More precisely, previous studies have shown mixed results between IFRS adoption and certain economic consequences, such as economic growth rates, where some previous studies showed positive relationships (Stainbank, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013), and others found negative relationships (Larson & Kenny, 1995; Ramanna & Sletten, 2014). Similarly, prior research found a positive relationship between IFRS adoption and the FDI inflows in developing countries (e.g., Gordon et al., 2012; Akpomi & Nnadi, 2017; Boachie, 2016; Okpala, 2012; Jinadu et al., 2016; Pricope, 2017), whereas others showed negative relationships between the FDI inflows and IFRS adoption in developing countries (Nnadia & Soobaroyen, 2015; Zehri & Chouaibi, 2013; Lasmin, 2012). Likewise, prior studies found that export levels have increased following the adoption of the IFRS (Marquez-Ramos, 2008; Marquez-Ramos, 2011; Ramanna & Sletten, 2009; Neel, 2017). whereas, other studies reported that export levels have decreased after IFRS adoption (Lasmin, 2012; Pricope, 2017).

In the same manner, some previous studies found a positive relationship between inflation rates and the IFRS (Archambault & Archambault, 1999; Agustini, 2016; Archambault & Archambault, 2009; Arsoy & Gucenme, 2009). Other prior studies showed a negative relation between inflation rates and IFRS adoption (Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008; Gucenme & Arsoy, 2006). Furthermore, all prior empirical research has studied the impact of IFRS

adoption on interest rates at the micro-firm level (Chen et al., 2015; Zhang, 2008; Bischof, 2009; Kim et al., 2011; Palea, 2007; Gordon et al., 2012; Choi & Lee, 2015).

To summarize, most of the existing empirical literature has focused on studying the influence of adopting the international accounting innovations on the economic consequences of adopting countries, either by using small sample sizes (e.g., Zehri & Chouaibi, 2013; Lasmin, 2012; Boolaky, 2011; Boolaky & O'Leary, 2011), or by applying data for a sample at the firm-level (e.g., Ashbaugh & Pincus, 2001; Bonetti et al., 2012; Heidrich, 2005). Therefore, this study examines the economic consequences of adopting the international accounting innovations at the country-level, by including a comprehensive set of economic indicators for a large sample of countries for the period between 1995–2014. Additionally, most previous studies have concentrated on examining the relationship between economic effects and mandatory IFRS adoption, rather than investigating the effects of voluntary IFRS adoption. However, it is true to say that the effects of the mandatory IFRS reporting undoubtedly differ from the voluntary IFRS consequences (Drake et al., 2010). Hence, this study contributes to the existing literature by studying a large number of countries that have voluntarily adopted the international accounting innovation at the early times, alongside those countries that have mandatory adopted the international accounting innovations at the late stages as well.

5.3 Chapter Summary

This chapter has reviewed the empirical literature on the influence of adopting the international accounting innovations on the consequences of the adopting countries. The first section has shown the empirical research that studied the impact of the adoption of international accounting innovations on a range of economic indicators that has been individually utilized by prior studies as proxies for economic benefits, including economic growth, FDI, GDP, exports, imports, inflation rates, exchange rates and interest rates. Hence, this study will employ all previous economic effects to examine the impact of a comprehensive set of economic factors on the adoption of the international accounting innovations. In section two, this study offered a critical reflection on the extant empirical literature, and studied the influence of the global adoption of international accounting innovations on the economic consequences of the adopting countries with a view to highlight the empirical gaps in the extant literature.

The next chapter reviews the research design and research methodology. The research design will include the research paradigms and the philosophical underpinnings of this study, whilst the research methodology will involve data collection and sources, sample selection, the research approach, research validity, research reliability, variables definitions and measurement, and the models' specification.

Chapter Six : Research Philosophy and Research Methodology

6. Aims of the Chapter

This chapter discusses the philosophical foundations and methodological assumptions underlying this research study. Firstly, the philosophical underpinnings of this study are discussed, including the philosophical research paradigm, ontological position, epistemological position, axiological position, and justifications for selecting the philosophical positions. Secondly, the research methodology section involves the following subsections: research approaches, research designs, research methods, research quality, variables, measures, data sources, model specification, and finally the chapter provides a summary of its contents.

6.1 Philosophical Underpinnings

The philosophical underpinnings represent the main starting point for any research within the social sciences. Therefore, the philosophical underpinnings of any research must be clearly defined from the beginning (Trigg, 1985). The social sciences include two main groups of sciences, namely psychology and sociology. Psychology science is the science of human behaviours, whereas sociology studies the interaction between different social groups, such as individuals, organizations, societies, and economies (Bhattacherjee, 2012). Research in accounting and finance disciplines is generally considered to fall under one of the basic social sciences. This is because accounting and finance research are widely applied to examine many social phenomena, rather than studying natural events (Ryan et al., 2002). Most research in the social sciences have four philosophical mechanisms: ontology, epistemology, axiology and methodology. However, every study employs a different model, depending on its research approach, which will either be quantitative, qualitative, or mixed methods, since each approach can be used to answer specific types of research questions (Mingers, 2003). Moreover, philosophical positions do vary across the major research paradigms, namely positivism, post-positivism, interpretivism, critical theory, and pragmatism (Ponterotto, 2005).

6.1.1 Philosophical Paradigms

There are four major philosophical paradigms that are widely adopted by researchers within the social sciences. The first two paradigms, positivism and post-positivism, are designed for quantitative research, whereas, the two remaining paradigms, interpretivism and critical theory, are generally designed for qualitative research (Burrell & Morgan, 1979; Saunders et al., 2009; Neuman, 2014; Aliyu et al., 2014). Furthermore, a new paradigm, namely pragmatism, has been designed for mixed methods research in the social sciences, because it can provide a better understanding of the philosophical aspects of pragmatism. It can also improve the use of a wide variety of methodological pluralism relevant to applying qualitative and quantitative approaches simultaneously (Johnson & Onwuegbuzie, 2004; Denscombe, 2008).

6.1.2 Ontological Position

The major ontological assumptions of the social sciences involve two types of reality, physical reality and moral reality. The physical reality is objective and exists independently of human perceptions, whereas, rational thinking is based on human subjectivity and depends on human thoughts and beliefs (Searle 1995; Douglas & Wykowski, 2010). Naive realism and relativism both represent the basic assumptions associated with the nature of ontological positions in the social sciences. The realism approach presents the ontology for quantitative research in the social sciences as a single and tangible reality, whereas, the relativism approach presents the ontology for qualitative research in social sciences as multiple realities (Morgan & Smircich, 1980). More specifically, the ontological position of the positivist paradigm is naive realism, while the ontological position of post-positivist paradigm is critical realism, and both ontological issues represent an objective reality and can be applied to quantitative research. Furthermore, the ontological position of the critical theory paradigm is historical realism, whereas the ontological position of constructivism is relativism, and furthermore both ontological issues represent a subjective reality and can apply to qualitative research (Maxwell, 2012).

Likewise, the ontological position of the positivism paradigm is naive realism, which depends on a single and tangible reality, whereas the ontological position of the post-positivism paradigm is critical realism, which also relies on an actual, but imperfect reality. In return, the ontological position of the critical theory paradigm is historical realism, which is shaped by the values of different social sciences over time, whereas, the ontological position of the constructivism paradigm is relativism, which indicates that reality is based on human perceptions (Guba & Lincoln, 1994). Moreover, there is another research paradigm, namely the pragmatic approach, which can be used to examine reality in mixed methods research. This is because pragmatism is based on both objective and subjective reality and can provide ontological positions that are generated by other paradigms, including both critical realism and relativism (Proctor, 1998).

6.1.3 Epistemological Position

Epistemologically speaking, acquiring knowledge about a phenomenon depends on the nature of the phenomenon being investigated, and further depends on an adequate paradigm that can be used to acquire knowledge from various sources about the phenomenon (Morgan & Smircich, 1980). There are three common epistemological positions that can be applied in social sciences, namely inductive, deductive, and abductive reasoning (Spens & Kovacs 2006). The inductive process is used for building theories related to specific patterns and is often applied in qualitative research, whereas, the deductive process is utilized to test theories by testing hypotheses concerning relationships between variables, and is mostly used in quantitative research. The abductive process combines the inductive and deductive methods together, and is widely applied in mixed methods research (Gray, 2004; Zalaghi, 2016).

More precisely, inductive reasoning is used to develop a theory, which begins with general observations, then seeks to generalize the findings upon a given population. Deductive reasoning is used to test theories and seeks to investigate if the adopted theory can be applied to a given domain (Hyde, 2000). Nevertheless, the deductive process can also be used in qualitative studies, such as case studies, and action research, due to the integration between theory and empirical observations (Dubois & Gadde 2002). Abductive reasoning combines both inductive and deductive approaches, because it starts with actual observations, then systematically combines them with prior theoretical knowledge, either to develop existing theories or build a new theory (Kovacs & Spens, 2005).

Most experimental research in the social sciences are primarily deductive in nature, because they often rely on existing theory to examine a phenomenon (Gray, 2004). The epistemological position of the positivist paradigm is generally designed for testing theories. Therefore, the positivist approach is deductive in nature and is usually used to test a hypothesis or theory (Dieronitou, 2014; Wilson, 2014). Furthermore, the epistemological position of the post-positivist paradigm is generally deductive in nature, but can only provide an approximation of the truth and cannot explore the complete truth (Onwuegbuzie et al., 2009). Additionally, the post-positivism paradigm assumes that gaining knowledge about a social phenomenon cannot merely be achieved through using a deductive approach of testing theories, it can also be obtained by using an inductive approach of building new theories (McGregor & Murnane, 2010). Accordingly, the post-positivist paradigm must be applied when the research questions under investigation include some human meanings, which require applying interpretive research either sequentially or concurrently with a positivist paradigm (Wildemuth, 1993).

6.1.4 Axiological Position

The axiological position of the positivist philosophy is value-free. This is because the positivist approach assumes that reality in the social sciences is primarily objective and it does not allow researchers' values to influence the research process (Oppong, 2014). On the other hand, the axiological position of a post-positivism philosophy might involve the personal values of a researcher. This is because the values of critical theory assume that the observations might be extensively influenced by the beliefs and the knowledge held by the researcher (Chilisa & Kawulich, 2012). More specifically, the axiological position of quantitative research, namely positivist inquiry, is objectivist and value-free, while the axiological inquiry of post-positivists studies is value-laden, because it can be influenced by theories and the values of investigators alike. However, the axiological position of qualitative research, namely constructivism studies, is subjectivist and value-bound, whereas the axiological inquiry of critical theory studies is concerned by being value-laden (Tashakkori & Teddlie, 1998; Mertens, 2003). Additionally, the axiological inquiry of the pragmatism paradigm is objectivist and subjectivist simultaneously, therefore, it is value-laden between the value-free facts, which are observer-independent, and the value-bound facts, which are observer-dependent (Pruyt, 2006).

6.1.5 Justifications for Selecting the Research Paradigm and Philosophical Foundations

There are three basic research paradigms that can be applied in accounting research: interpretive, positivist and post-positivism paradigms. The interpretive research paradigm is widely applied in qualitative research, while the positivist research paradigm is commonly used in quantitative studies. Although the post-positivism paradigm is primarily utilized in quantitative studies, it can also combine both the quantitative and qualitative approaches (Bisman, 2010).

Accordingly, this study relies primarily on the positivism paradigm and adopts the philosophical perspectives that have been conducted within the positivist paradigm, as it is deemed the most appropriate approach for this research, for several reasons. Firstly, from the ontological point of view, this study uses objective data, and views this through naive realism, since it represents merely one single reality, and it is visible and tangible. Therefore, the positivism paradigm is the most suitable approach that can be applied for this research. In this respect, Guba and Lincoln (1994) reported that the positivist paradigm is usually utilized when the nature of a phenomenon is an objectivist reality, viewed through naive realism, yet it is quite understandable.

Secondly, from an epistemological point of view, this study uses the deductive approach for testing positive accounting theories and provides empirical support for certain positive theories applied in this research. Hence, the positivism paradigm is the most appropriate approach for the present study. In this regard, Hoijer (2008) argued that most quantitative researchers in the social sciences rely on the deductive approach by using other theoretical frameworks from different disciplines, with a view to examine their phenomena. Likewise, Hyde (2000) pointed out that the deductive approach is often used to test theories and ascertain if the theory tested can be applied to the domain of the phenomenon under investigation. Accordingly, Zalaghi (2016) reported that applying the deductive approach is more effective than the inductive approach in explaining the reasons behind adopting the international accounting standards. This is because the deductive approach provides more reliable results, which can be empirically investigated, whereas, the inductive method depends on a logical argument, which relies on a very strong claim towards using a specific type of accounting standard.

Following prior research (Lundqvist et al., 2008; Isa, 2014; Samaha & Khlif, 2016; Demaria & Dufour, 2007; Ahsina, 2012; Kimeli, 2017), positive accounting theories can be used to explain the differences between countries in adopting the IFRS. Therefore, most previous studies have adopted various theoretical frameworks to test whether or not these theories models can successfully provide a better understanding of the differences in adopting the international accounting innovations from different viewpoints, such as institutional theory (e.g., Alon & Dwyer, 2014; Pricope, 2016; Judge et al., 2010), LLSV legal theory (e.g., Zehri & Chouaibi, 2013; Kolsi & Zehri, 2009; Houqe et al., 2012; Kim et al., 2012), economic network theory (e.g., Ramanna & Sletten, 2009; Kossentini & Ben-Othman 2014; Ramanna & Sletten, 2014), resource based theory (e.g., Lundqvist et al., 2008; Alon & Dwyer,

2014; Kim, 2017), and signalling theory (e.g., Masoud, 2017; Tsalavoutas, 2011, Kolsi & Zehri, 2009; Akman, 2011; Smith, 2008).

Thirdly, from an axiological point of view, this study is value-free research because the dataset used for this study is based on secondary data that was archived by international organizations, such as the World Bank and the IMF without any personal interference from the researcher. Therefore, the researcher's perceptions and values are independent from the whole dataset gathered in this study. In this regard, Chilisa and Kawulich (2012) reported that the axiological position of the positivist paradigm is a value-free inquiry, because it is truly based on objective data, which is considered independent of the influences of human values and beliefs.

Finally, from a methodological point of view, this study purely relies on a quantitative research approach, with a specific focus on a non-experimental research design (causal-comparative research), with a view to determine the cause of existing differences in adopting the international accounting innovations among the five adopters' groups, which have generally been derived from the DOI theory. Causal-comparative research is the most appropriate research design for the present study. This is because causal-comparative research seeks to explore cause-and-effect relationships of more than two groups, without manipulating the independent variables by the researcher. In this respect, Ellis and Levy (2009) reported that the researcher can measure and compare the cause-effect relationships between different individual groups in causal-comparative research, but independent variables should not be manipulated by the observer. Following prior studies (Judge et al., 2010; Houqe et al., 2012; Cardona et al., 2014; Lasmin, 2011a; Shima & Yang, 2012; Zaidi & Huerta, 2014; Fajri et al., 2012), this study applies causal comparative research design to examine the causal relationship between IFRS adoption and the national antecedents of the adopting countries. Moreover, following previous research (Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013; Lasmin, 2012; Pricope, 2017; Alnodel, 2016; Felski, 2015; Clements et al., 2010; Leuz & Verrecchia, 2000), this study uses causal comparative design to investigate the effects of IFRS adoption on the economic consequences of adopting countries.

6.2 Research Methodology

The methodology of this study consists of the following dimensions: research strategy, research quality, research variables, measures, data sources, and model specification.

6.2.1 Research Strategy

The quantitative research strategy includes three key elements of methodological foundations, namely research approaches, research designs, and research methods (Creswell, 2014). Therefore, this section discusses the research strategy applied in this study, as explained in the following subsections.

6.2.1.1 Research Approach

There are three types of research approach that have been widely used in the social sciences, which include the quantitative approach, the qualitative approach, and the mixed methods approach, where each has a unique purpose for being adopted (Creswell, 2009; Williams, 2007; Neuman, 2014). More specifically, the qualitative approach is commonly applied to examine a single social phenomenon regarding the participants' meanings and perceptions. The quantitative approach is often utilized for testing objective theories, through measuring and analysing the relationship between different variables by using statistical procedures. The mixed methods approach is a mixture of the two previous approaches and is generally used to provide a better understanding of a research problem, rather than using either quantitative or qualitative approach separately (Creswell, 2014).

Arguably, choosing the most appropriate research approach is based on combining two research dimensions, namely research methods and research designs, with a view to answer the research questions (Creswell, 2014). More precisely, selecting an appropriate research approach depends on the type of data required to answer the research questions. For example, if the research questions require numerical data, a researcher should employ the quantitative approach, whereas, if the research questions require textual data, the qualitative method is the most suitable approach. However, if the data needed requires a mixture between both numerical and textual data, then the mixed methods approach must be chosen (Williams, 2007). Furthermore, the choice of applying either the qualitative or quantitative approach relies on the philosophical assumptions, namely the ontological and epistemological viewpoints of the phenomenon being investigated, which have been adopted by the researcher to justify the chosen research approach (Slevitch, 2011).

6.2.1.2 Research Design

The research design of quantitative studies includes two major approaches: the experimental and non-experimental research designs (Creswell, 2009). Non-experimental studies consist of three kinds of research designs: descriptive, correlational, and causal-comparative research, whereas experimental research encompasses two further major research designs: quasi-experimental and true experimental studies (Chilisa & Kawulich, 2012). More specifically, in non-experimental research design, the researcher observes what occurs without intervening in any way. Therefore, this kind of design does not require any manipulation of independent variables, comparison groups, or random sampling. Experimental research, on the other hand, either merely requires the manipulation of an independent variable (quasi-experimental design), or it might require interventions, control groups and random sampling, where it is known as a true-experimental study (Sousa et al., 2007).

More specifically, the research design in quantitative research includes three basic types of study, namely descriptive-correlational, causal-comparative, and experimental studies (O'Dwyer & Bernauer, 2014). Descriptive-correlational studies usually describe and explore the correlation between two

variables, without examining the cause and effect relationships, whereas the causal-comparative studies seek to examine the cause and effect relationships between two or more unmanipulated explanatory variables and an outcome variable. Further, experimental studies seek to investigate the cause and effect relationship between manipulated independent variables and the dependent variable of the phenomenon under investigation (Williams, 2007). Similarly, the experimental study seeks to investigate the relationship between the treatment and control groups by examining the cause and effect relationships between the manipulated independent variables and the dependent variable. In return, a descriptive research design seeks to observe the characteristics of groups or situations. Causal-comparative design seeks to observe cause and effect between the variables, and seeks to make predictions (Walker, 2005).

6.2.1.3 Research Methods

Choosing the best research method does not merely rely on the justifications that can be provided by researchers in terms of the ontological and epistemological positions of the phenomenon under investigation, it also depends on the techniques that can be used to collect and analyse the data (Slevitch, 2011). Quantitative research methods include three basic elements, namely data collection methods, sampling methods and data analysis methods.

6.2.1.3.1 Data Collection Methods

This subsection explains the data collection methods, which comprises of four main elements: the type of data collection, types of time horizon, missing data techniques**,** and justifications for the data collection methods used in this thesis.

I) Types of Data Collection

In quantitative studies with a positivist paradigm, the data collection techniques are either based on primary or secondary data sources. Primary data is mainly prepared and collected by the researcher directly from the original sources, such as through surveys and interviews. In contrast, secondary data is mostly archived by existing data sources and collected by the researcher from publicly available data sources (Collis & Hussey, 2014). More precisely, quantitative data is mainly designed to empirically quantify social phenomena across many cases, by collecting and analysing numerical data. On the other hand, qualitative data is essentially developed to provide a better understanding about the human perceptions of social phenomena among a small number of cases, by collecting and interpreting textual data (Antwi & Hamza, 2015), whereas quantitative data collection methods have been developed for gathering objective numerical data that can be collected about a phenomenon that needs to be investigated (Allen-Meares & Lane, 1990). In return, qualitative research is often used to describe subjective meanings by examining the feelings and perceptions of participants (Sutton & Austin, 2015; Marshall & Rossman, 2016).

Accordingly, there are two types of archival data that can be collected from quantitative studies: primary data and secondary data. Primary data in quantitative studies are gathered by the researcher

either by using quantitative data collection methods, such as a questionnaire with closed-ended questions, or by employing qualitative data collection techniques, such as a structured interview (Hox & Boeije, 2005). In contrast, the most common sources of quantitative research are secondary data, which are prepared by someone else and can be gathered from published or unpublished data sources. Published secondary data can be obtained from sources that are prepared by several reliable bodies, such as governments, financial institutions, trade associations, international organizations, stock markets, books, magazines, journals, and newspapers (Kothari, 2004; Tavakoli, 2012).

II) Types of Time Horizon

There are three types of time horizons of data collections in quantitative studies: time series, cross-sectional, and longitudinal (panel) data (Heckman & Leamer, 2007). These classifications of time horizons are mainly based on the number of observations and the length of time for each individual variable included in a study (Goldstein, 1968). More specifically, time series data refers to different observations of the same subject at different points in time, whereas cross-sectional data refers to different observations for two or more subjects at the same point in time. However, panel data points to an integration between the time series and cross-sectional data. Therefore, panel data refers to different observations on the same subjects at different points in time (Deaton, 1985; Hsiao, 2014; Diggle et al., 2002). Moreover, there are two types of panel data, namely longitudinal data and pooled cross-sectional data, which emerge from a combination between time series data and cross-sectional data. The pooled cross-sectional data examines different subjects at different points in time, whereas longitudinal data examines the same subjects in different points in time (Chetty, 1968; Mundlak, 1978; Misra, 1972). Additionally, longitudinal data might involve either balanced panel data, which do not include any missing observations, or unbalanced panel data which include random missing observations on certain subjects and in different point of times (Judson & Owen, 1999; Baltagi & Song, 2006).

III) Missing Data Techniques

"Almost all data sets include some missing data" (Boslaugh, 2007, p.10). "Missing data can reduce the statistical power of a study and can produce biased estimates, leading to invalid conclusions" (Kang, 2013, p. 402). There are three sorts of missing data that a researcher might face when collecting data: missing completely at random, missing at random, and not missing at random. Hence, choosing the right techniques for dealing with incomplete data depends on the types of missing data in the database in question. Accordingly, since the missing data are not large and randomly distributed across the sample, the statistical analyses would be unbiased (Davey & Savla, 2010; Pigott, 2001; Bennett, 2001). There are several techniques that can be used for addressing incomplete data. Nevertheless, the single imputation methods (mean substitution and last value carried forward techniques) are the most commonly used and widely accepted methods for handling missing values, especially with the data missing completely at random (Bennett, 2001; Dong & Peng, 2013; Kang, 2013; Pigott, 2001).

V) Justifications for Data Collection Techniques Used in This Study

The main reason for using secondary data is to address the research objectives and answer the quantitative research questions, which cannot be achieved by using primary data (Boslaugh, 2007). Due to difficulties in obtaining valid and reliable results from using primary data, secondary data are considered the most appropriate type of data, because they are generally less biased and possibly less costly (Cowton, 1998). The macro-country level data needed for this study have been gathered from different reliable secondary data sources, including databases and public sources provided by international organizations, such as the IMF and the World Bank. Specifically, the data sources for all dependent variables, independent variables and control variables included in this study are shown in Tables 2, 3, and 4. This study examines the antecedents and the consequences for the same group of countries at different points of time. Therefore, this thesis employs balanced panel data of country-year observations, spanning from 1995 to 2014. Therefore, this study relies mostly on secondary data sets, which were prepared by the World Bank, such as the Worldwide Governance Indicator, World Development Indicators. International Debt Statistics, and Global Financial Development Database in addition to other secondary data provided by the IMF.

There are several justifications for using secondary data as the main source of data for this study. Firstly, the data needs to be gathered from multiple secondary sources, because the macro-country level data required for this thesis are fully available online, and it is not difficult to obtain access to these secondary data. Secondly, the data sources needed for conducting this study are large and requires experts who use rigorous test methods to obtain robust data sets. Thirdly, this study relies on employing secondary data, because they can enhance the credibility and the reliability of the research findings more significantly than using primary data. Finally, and most importantly, the secondary data used in this thesis have been collected to answer specific types of quantitative research questions which certainly cannot be addressed by collecting primary data.

6.2.1.3.2 Sampling Methods

There are two major kinds of sampling methods, namely probability sampling (random), which is ordinarily used in quantitative research and non-probability sampling (non-random), which is commonly applied in qualitative research (Onwuegbuzie & Collins, 2007; Kothari, 2004; Ritchie et al., 2014; Onwuegbuzie & Leech, 2005; Teddlie & Yu, 2007). The main reason for using random sampling techniques in quantitative research is to acquire a representativeness sample of the target population by selecting a large sample size, which results in increasing its generalizability. However, non-random sampling techniques are often used in qualitative research, because they often require a smaller sample size to examine a phenomenon more in-depth and therefore achieve better results (Patton, 2002). The probability sampling techniques applied in quantitative research includes five main categories, namely simple random sampling, systematic sampling, cluster sampling, stratified sampling, and multi-stage

sampling (Luo et al., 2009; Omair, 2014). The non-probability sampling techniques applied in qualitative research includes four basic methods, namely convenience sampling, purposive sampling, quota sampling, and snowball sampling (Acharya et al., 2013; Henry, 1990).

However, although non-probability sampling methods are mostly applied in qualitative research, they can also be employed in quantitative research, particularly when it is not possible to use random sampling methods (Schutt, 2009). Relatively, non-probability sampling approaches can be used in quantitative studies, especially when researchers are unable to apply probability sampling techniques (Check & Schutt, 2011). More specifically, quantitative studies sometimes need to use non-probability sampling techniques, especially if there is large data and limited resources where it is not possible to choose sampling randomly, with a view to represent the entire population (Etikan et al., 2016). Moreover, convenience (availability) and purposive selection techniques are both non-probability sampling methods that can be applied to qualitative and quantitative studies alike. Nonetheless, convenience sampling is commonly used in quantitative research because increasing the sample size can lead to enhancing the statistical power analysis of the availability sample. In contrast, purposive sampling is widely applied in qualitative research, because identifying the sample size and selecting subjects is generally based on the study purposes but not on its statistical analysis (Suen et al., 2014).

I) Determination of Sample Size

Regarding the sample size calculation, the sample size of quantitative research depends on the availability of required database sources and accessibility to online databases. Therefore, the larger the available database resources that a researcher can find and access, the better the sample size will represent the target population (Ali et al., 2015). Nonetheless, the sample sizes might be either too small or too large to represent the entire population and to generalize the achieved outcomes to the target population. Hence, careful consideration should be given to the sample selection criteria to determine an adequate sample size and avoid selection bias (Sandelowski, 1995; Guo et al., 2013). Therefore, it is essential to determine the extent to which the required datasets have covered the entire population (Johnston, 2017).

Furthermore, the data provider is the main determinant that can control the sample size used in a study. Hence, so long as the providers of the secondary data have offered more information about the entire population, the larger sample will be collected by researchers, which will accordingly lead to enhancing the internal and external validity alike (Smith, 2008). Most secondary data suppliers demonstrate various characteristics regarding their datasets, including variables definitions, study time, and measurement scales. This can provide a better explanation to researchers about the factors that can affect the sample size, with a view to answer the research questions (Smith et al., 2011). Therefore, the sample size calculation is generally based on several factors including available data, type of data (numerical or categorical), and the alpha and beta errors. These elements can explicitly help identify

the minimum number of subjects needed for the study and determine the estimated sample size (Gogtay, 2010).

From a statistical viewpoint, it is important to align the data analysis techniques used in a study and establish the most appropriate sample size needed to ensure reliable findings and results (Muller et al., 1992). For instance, it is necessary to run an empirical study with at least 5 cases per independent variable as a minimum sample size to obtain reliable and credible outcomes, and further minimize bias in results (Vittinghoff & McCulloch, 2007). Another point of view suggests that the minimum number of subjects must range from 15 to 20 cases per independent variable to ensure accurate results (Schmidt, 1971). With respect to the sample used to run the linear regression model, one study suggested that the best sample size should involve no less than 50 subjects for a correlation or linear regression analysis, especially if the number of independent variables involves more than two subjects. Nevertheless, the number of cases included in a study should be increased as the number of explanatory variables increases (VanVoorhis & Morgan, 2007).

One study reported that linear regression models require at least two subjects per independent variable for obtaining accuracy of estimated regression coefficients, standard errors, and relative bias of less than 10% (Austin & Steyerberg, 2015). A further study pointed out that the optimal sample size for linear regression models must include a minimum of 5 cases per independent variable to obtain reliable outcomes (Tabachnick & Fidell, 2001), whereas another study revealed that the linear regression requires at least 10 subjects per explanatory variable as a minimum sample size to obtain accurate predictions of estimated coefficients (Harrell, 2001). Furthermore, the rules-of-thumb formula was developed by Green (1991) to calculate the regression sample sizes that must be included in a study to obtain reliable results with higher statistical power. This formula suggests that N > 50 + 8m, where N is the required sample size and m is the number of independent variables used in a study. Additionally, Suresh and Chandrashekara, (2012) developed a formula to calculate the optimal sample size that should be applied in quantitative studies at two tailed 95% confidence intervals, which does not specify the direction of the difference and 5% significance level, as follows: $N = (1.96)^2 * p(\frac{1-\mathrm{p}}{E^2})$, where p is the proportion of event expected to occur in a population, E is the acceptable margin of error.

II) Sampling Error

There are four inter-related elements that can significantly affect the sample size of a study, including desired margin of error, level of significant (type I error: alpha α), statistical power (type II error: beta β) and effect size (magnitude of differences). Hence, these interrelated factors should be carefully specified to select the best sample size required to conduct rigorous quantitative studies (Ellis, 2010; Kelley, 2013; Sink & Mvududu, 2010). More specifically, there is a negative association between the sample size of a study and the magnitude of the sampling error (Carlson & Winquist, 2017). As a result, the larger the sample size, the lower the level of sampling error at a higher level of confidence will be

produced (Sullivan & Feinn, 2012). *"As sample size increases, sampling error decreases and sample reliability increases"* (Blaikie, 2009, p. 185). Moreover, when the sample size of a study increases, the standard error decreases, which leads to obtaining more precise results (Brown, 2007; Albright & Winston, 2014; Babbie, 2013).

In terms of type I, and type II errors, a type I error (false-positive) happens when a researcher rejects a null hypothesis, which is true and accepts the alternative hypothesis which is false. In contrast, a type II error (false-negative) happens when a researcher accepts a null hypothesis, which is in fact false and rejects the alternative hypothesis, which is basically true in the population (Banerjee et al., 2009). Therefore, the optimal sample size relies on the significance level of alpha (α) and the desired level of statistical power (1-β). Most quantitative research accepts a significance level of 5% as the maximum chance of incorrectly rejecting the null hypothesis. Nevertheless, another significance level of 10% is also commonly used and is considered acceptable in many quantitative studies (Kadam & Bhalerao, 2010). However, a researcher might choose to reduce the statistical significance level from 5% to 1%, with a view to minimize the probability of having a type I error (Biau et al., 2008). Nevertheless, type I and type II errors are inversely related, since reducing the level of significance can lead to decreasing the likelihood of having a type I error, however it will drive towards an increase in the probability of committing a type II error, if a researcher increases the p-value level above the level of 5% (Ho, 2006).

Regarding statistical power, most quantitative studies accept a statistical power (1-β) of 80%, which indicates that they only accept (β) of 20%, which refers to the probability of committing a type II error (Kadam & Bhalerao, 2010). More precisely, there is a positive strong linkage between the power of various statistical tests applied in quantitative research and the sample size needed. Consequently, the larger the sample size included in a study, the higher the statistical power will be obtained, and the lower the levels of type II error (VanVoorhis & Morgan, 2007). Accordingly, there is a negative association between the statistical power of a study and the chances of making a type II error (Kadam & Bhalerao, 2010). Using multiple linear regression might lead to obtaining either good statistical power or excellent prediction levels. Therefore, each statistical power requires a different sample size and depends on the number of predictor variables included in a study. (Knofczynski & Mundfrom, 2008). Consequently, including a larger sample size is the best way to avoid type I and type II errors and obtain excellent statistical power. This is because detecting any true differences between groups is quite difficult, especially if the sample size used in the study is relatively small (Akobeng, 2016).

In terms of the effect size, when the difference between the means of two separate groups is equal to 0.2, this means that the effect size is small if the difference between two groups is equal to 0.5, this indicates that the effect size is medium, while if the difference between means in two groups is greater than 0.8, this suggests that the effect size is relatively large (Cohen, 1988). Accordingly, there is a negative and significant association between the effect size and the sample size, especially among two

heterogeneous groups (Slavin & Smith, 2009). However, when a researcher wants to compare more than two group means for continuous data, then the one-way analysis of variance (ANOVA) is the best analysis procedure for comparing means instead of the t test (Kim, 2014). For categorical variables, there are two non-parametric tests that can be used to compare means for more than two groups namely, the Kruskal-Wallis test and Friedman's ANOVA test (Woodrow, 2014; Akobeng, 2016).

Regarding the margin of error, the optimal sample size in social research is higher if a study has included categorical variables other than the continuous variables. Therefore, 3% is the most acceptable margin of sampling error for continuous data, whereas 5% is the most acceptable margin of error for categorical data (Krejcie & Morgan, 1970; Barlett et al., 2001). For example, if the population size is 100, the alpha = 0.05 at a confidence level of 95%, the t value is equal to 1.96 and the margin of error is 0.03 for continuous data and 0.05 for categorical variables, then the appropriate sample size that can be used is 55 cases for continuous data and 80 cases for categorical data. Similarly, if the population size is 200, the alpha equal to 0.05, t value is equal to 1.96 at a confidence level of 95%, and the margin of error is 0.03 for continuous data and 0.05 for categorical variables, then the appropriate sample size that can be used is 75 cases for continuous data and 132 cases for categorical data (Barlett et al., 2001). Nonetheless, a recent study reported that the acceptable margin of error in social research usually ranges between 5%-10%, assuming 95% as a desired confidence interval and 5% as an acceptable significance level for obtaining reliable outcomes. The margin of error formula can be computed as follows: $E = (1.96)^2 * p(\frac{1-\mathrm{p}}{\sqrt{N}})$, where E is the margin of error, p is the proportion of the event expected to occur (0.50 if it is unknown), N is the sample size (Suresh & Chandrashekara, 2012).

III) Justifications of Sampling Techniques and Sample Size Used in this Study

This subsection contains a review of the basic sampling method and the procedure utilized for selecting the sample size for the present study. This thesis uses one of the most common non-probability sampling techniques, which has been widely applied for data gathered from both primary and secondary sources in accounting research, which is known as the convenience (availability) sampling selection method (e.g., Preetham & Mahadevappa, 2014; Chimtengo, 2016; Bandi, 2016; Matero & Matero, 2011). Nonetheless, many prior studies in the accounting domain have also used another non-probability sampling technique, known as the purposive sampling selection method, especially when they investigate a phenomenon within a specific industry, market, country or region (Pratiwi et al., 2013; Nugrahanti, 2016; Al Masum & Parker, 2013). Quantitative studies sometimes apply the non-probability sampling techniques, especially when there is a large dataset and limited resources and when it is not possible to choose the selected sampling randomly with a view to represent the entire population (Etikan et al., 2016). Moreover, convenience sampling is commonly used in quantitative research because increasing the sample size through accessibility can lead to enhancing the statistical power analysis of the selected sample, whereas purposive sampling is widely applied in qualitative research,

because identifying the sample size and selecting the subjects is generally based on the study purposes and it does not improve the statistical analysis (Suen et al., 2014).

With respect to the sample size used in this thesis, the research sampling initially begun with all 196 countries in the world. Nevertheless, due to the limited availability of required data to implement this study, the target sample size has been reduced from 196 countries to 162 countries, in terms of data needed for the antecedent factors. However, the target sample size has included 185 countries for the data required for the economic consequences, because of the availability of a large database relevant to the economic outcomes. Accordingly, the sizes of chosen samples are still relatively large in comparison to the population size, which represent approximately 83%, and 94% of the target population for national antecedents, and economic consequences respectively thus eliminating the potential probability of bias and sampling error. Therefore, when a researcher includes a large sample size, the sampling error will be significantly decreased (Reis & Judd, 2000).

Furthermore, the sample size must involve at least 10 subjects per explanatory variable, with a view to avoid obtaining biased coefficients from running logistic regression (Peduzzi et al., 1996). Relatively, running a linear regression requires at least 10 subjects per explanatory variable as a minimum sample size to obtain accurate predictions of estimated coefficients (Harrell, 2001). Accordingly, this study is based on an analysis of 18 proxies regarding the antecedents, which means that this study requires at least 180 countries, while the analysis of this study included only 162 countries, which could be considered good for the study. Similarly, this study has utilized a further 8 proxies pertinent to the economic consequences, which means that at least 80 countries must be included, while this study only involved 185 countries, which represents 94% of the entire population.

This study examines the antecedents and consequences of adopting the international accounting innovations. Therefore, the time horizon for this study covers 20 years between 1995-2014. This is because the first International Standards on Auditing (ISAs) has been issued by the International Auditing and Assurance Standards Board (IAASB) in 1991 (Gomez, 2012). Whilst, the first International Accounting Standards (IASs) were released over the period between 1973 and 2001 by the International Accounting Standards Committee (IASC). Thereafter, since 2001, a new set of International Financial Reporting Standards (IFRS) has been issued by the International Accounting Standards Board IASB (Unegbu, 2014). In 1991, the Financial Accounting Standards Board (FASB) issued a strategic plan for international activities to reduce international accounting diversity and enhances the comparability between international and local accounting standards, which was quite low over the period between 1973-1991 (Street & Gray, 1999; Beresford, 1997). Finally, the sampling period of this study was limited up to 2014, because the data collection started in 2015 and the data needed for this thesis were only available until 2014 at the time.

This study has grouped the selected samples in accordance with the theoretical sampling suggested by the DOI theory developed by Rogers in 1962. The DOI theory suggested five main categories of adopters, namely innovators (experimenters), early adopters, early majority, late majority, and laggards (non-adopters). Therefore, regarding ISAs adoption, the main groups have been unequally divided into five categories according to their first-time adoption of the ISAs, which represents the dependent variable for the first aspect, which are termed national antecedents of the ISAs adoption for 162 nations.

Accordingly, appendices 1 and 2 report that countries adopted the ISAs within five years after they issued in 1991 were classified as the experimenters' group, which included only 6 countries, namely Jordan, Malta, the Netherlands, Peru, Slovenia, and Sri Lanka. Countries that adopted the ISAs after the Asian Crisis of 1997, precisely between 1996-2000 were classified as the early adopters' group, which involved only 21 countries. Countries that adopted the ISAs after the Enron scandal of 2001 up to 2006 were classified as the early majority adopters' group, which involved 45 countries. Countries that adopted the ISAs over the period from 2007-2014 and after the Directive 2006/43/EC on statutory audits released in 2006 to harmonize the auditing standards across the EU countries were classified as the late majority adopters' group, which involved 57 countries. The remainder of the countries included 33 nations that have not embraced the ISAs up to 2014, thus, they were classified as non-adopters of the ISAs. Appendices 1 and 2 show the classification of sampling groups for countries that have adopted the ISAs based on their firs-time adoption as suggested by the DOI theory for a sample that consists of 162 and 185 countries related to the antecedents, the economic consequences of the ISAs respectively.

In terms of IFRS adoption, appendices 3 and 4 show that the five IFRS adopter categories are classified according to their first-time adoption, which represents the dependent variable for the first aspect, termed the national antecedents of IFRS adoption for 162 nations. Countries that adopted the IFRS, which were known as the international accounting standards (IAS) since they were issued by the IASC in 1973 up to 1995, were classified as the experimenters' group, which included only 3 countries, namely Bangladesh, Barbados, and Gambia. Countries that adopted the IFRS (IAS) after the Asian Crisis of 1997 specifically between 1996-2000 were classified as the early adopters' group, which involved only 23 countries. Countries that adopted the IFRS since they were issued in 2001 by the International Accounting Standards Board (IASB) and after the Enron scandal of 2001 up to 2004 were classified as the early majority adopters' group, which involved only 24 countries. Countries that adopted the IFRS over the period between 2005-2014, which were classified as the late majority adopters' group that involved 82 countries specifically after the adoption of IFRS became mandatory for all companies listed in the European Union since 2005. The remainder of the countries, which included 30 countries have not embraced the IFRS up to 2014, thus they were classified as laggards of the IFRS. Appendices 3 and 4, exhibited the classification of sampling groups for countries, who have adopted the IFRS based on their first-time adoption as suggested by the DOI theory for a sample that

consists of 162 and185 countries relevant to the antecedents and the economic consequences of IFRS adoption respectively.

6.2.1.3.3 Data Analysis Methods

Choosing to use either quantitative or qualitative data analysis techniques relies on the type of data that is needed to answer the research questions, with a view to solve the research problem. More precisely, quantitative data analysis methods address the research questions requiring numerical data, whereas the qualitative data analysis methods are used to handle research questions requiring textual data (Williams, 2007; Sousa et al., 2007; Parab & Bhalerao, 2010). Furthermore, although quantitative and qualitative data analysis might investigate the same phenomenon, each method addresses distinct types of research questions (Al-Busaidi, 2008). Selecting the most appropriate types of quantitative research questions depends on the quantitative research design applied in a given study. For instance, descriptive research requires descriptive questions that are used to explore events, which begin with the 'how' and 'what' questions. Whereas, correlational research requires inferential questions, which begin with the 'which' and 'why' questions, and further develop hypotheses that are used to predict if there is a difference in effect between several groups on a dependent variable (Creswell, 2008).

The quantitative data analysis methods include two core statistical techniques, namely descriptive statistics and inferential statistics (Rubin & Babbie, 2012). The descriptive statistics involve two basic descriptive analysis techniques: univariate and bivariate analysis methods. The univariate descriptive analysis examines the attributes of a single variable, such as the measures of central tendency and dispersion. The bivariate descriptive analysis explores the strength of the relationship between two variables, such as the correlation coefficients. In return, the inferential statistics comprise of multivariate analysis methods, which are commonly used to measure the association between more than two variables, and they cover both parametric and non-parametric methods by applying either multiple linear or non-linear regressions (Singh, 2007). Selecting the correct inferential statistics depends on the nature of the data used in the study. For example, if the nature of the outcome variable used in a study is continuous (interval and ratio data), parametric inferential statistics is the most appropriate method that should be used. If the nature of the dependent variable applied in a study is discrete (nominal and ordinal data), the non-parametric statistics analysis is the best method to analyse the data (Felix, 2015).

I) Descriptive Statistical Techniques

Regarding the univariate analysis methods, describing continuous data can be conducted by using summary measures of univariate statistics, such as location (central tendency), variability (dispersion), and shapes (skewness and kurtosis) (Oja, 1983). More precisely, descriptive statistics for numerical variables can be calculated by using multivariate distributional characteristics, such as central tendency and dispersion, along with the graphical methods, such a scatter plot and histogram (Liu et al., 1999). In return, descriptive statistics for categorical data can be computed through using frequency

distributions for each category included in a study, and by using graphical methods, such as bar charts and box plots. The bar chart is useful for describing binary and nominal data, while the box plot is helpful with describing ordinal and normal data (Morgan et al., 1999).

In terms of bivariate analysis methods, there are two popular types of correlation coefficients: Pearson and Spearman correlations. The Pearson coefficient is a parametric correlation often used to measure the linear relationship between two variables. The Spearman coefficient is a non-parametric correlation commonly used to measure the strength of a non-linear relationship between two variables (Hauke & Kossowski, 2011). Moreover, the direction and magnitude of the linear and non-linear relationship between the bivariate data are mostly very similar and lead to the same conclusion. This indicates that the non-normality issue should not cause major problems when measuring correlations between two variables (Ntim, 2016).

The Pearson and Spearman correlations cannot be used to interpret a causal relationship between two variables, however they can be used to measure the strength of measures of a monotone association (Mukaka, 2012; Hinkle et al., 2003). There are some factors that might lead towards achieving unexpected low or high correlational results, such as the presence of outliers and sample characteristics (Goodwin & Leech, 2006). Arguably, at a significance level lower than 10%, the magnitude of the correlation coefficient is deemed to be very high if it exceeds the value of 0.90, and it deemed restively high if the size of the correlation ranges between 0.70 to 0.90. It seems to have medium correlation when the size of the correlation spans 0.50 to 0.70. It appears to have low correlation if the size of the correlation ranges between 0.30 to 0.50. It is deemed to have a negligible correlation if the correlation size is less than 0.30 (Hinkle et al., 2003). Therefore, multicollinearity problems arise when the bivariate correlation coefficients (Pearson and Spearman correlation tests) show correlation values above 0.80 at significance level of less than 10% (Farrar & Glauber, 1967).

II) Inferential Statistical Techniques

There are two types of parametric statistical tests that can be used to analyse metric data. Firstly, some parametric tests are designed to measure mean differences among groups, including t-test, one-way ANOVA, and MANOVA (Kent, 2015; Anderson, 2001). Secondly, other parametric tests are designed for estimating the relationship between a continuous outcome and predictor variables (Allua & Thompson, 2009; Genser et al., 2007). All parametric statistical tests require a metric dependent variable, but they might include categorical and continuous independent variables (Iacobucci, 2001).

Specifically, the t-test is commonly used when the independent variables are naturally dichotomous (Allua & Thompson, 2009). The one-way analysis of variance (ANOVA) test is commonly utilized when there is a single continuous outcome variable and nominal explanatory variables, whereas the multivariate analysis of variance (MANOVA) test is often used when there are multiple continuous

outcome variables and nominal explanatory variables (Bray & Maxwell, 1985; Weinfurt, 1995). Regarding the relationship estimation, a simple OLS is commonly utilized if there is a single metric outcome variable and one explanatory variable, whilst a multiple linear regression is used when there is a single metric dependent variable and multiple independent variables (Allua & Thompson, 2009).

Furthermore, applying a multiple linear regression requires the dependent variable of a study to be measured at an interval or ratio scales. Multiple regression assumes the following statistical assumptions, namely normality, linearity, homoscedasticity, multicollinearity, absence of autocorrelation and outliers. Hence, the violation of any statistical assumptions can lead to an incorrect inferential conclusion (Fidell & Tabachnick, 2003; Williams et al., 2013). Moreover, the parametric tests do not merely require checking if the statistical assumptions of parametric tests are met, they also require an interval or ratio type of data for a dependent variable, before running the linear regression analysis to predict the cause-effect relationship between the variables (Allua & Thompson, 2009).

In terms of inferential statistics for non-metric data, there are two basic inferential methods that can be applied to perform non-parametric tests, namely the mean difference for paired and unpaired samples and multivariate non-parametric statistical tests to estimate the relationship between variables (Singh, 2007). Regarding the mean differences among paired samples, some of the non-parametric tests are generally designed to compare the means of two related samples, such as the Wilcoxon signed rank test, Sign test and McNemar test. Whereas, other non-parametric tests are mainly designed for measuring mean differences among more than two dependent samples, such as the Friedman test and the Cochran's Q test (Mehta & Patel, 2011; Oja & Randles, 2004). With respect to the mean differences between unpaired samples, some of the non-parametric tests are applied to compare the means of two independent samples, such as the Mann-Whitney test and the Kolmogorov-Smirnov test. Other non-parametric tests are designed to compare the mean differences between more than two independent samples, such as the Kruskal-Wallis test and the Jonckheere-Terpstra test (Mehta & Patel, 1996). Moreover, the Chi-square ‘goodness of fit’ is a non-parametric test mainly designed to measure the distribution of a single categorical variable in one sample, however, it can also be used to compare the differences between two categorical independent or paired groups (McHugh, 2013).

Multivariate non-parametric methods are widely used to examine and predict the cause and effect relationship among variables by using various statistical techniques (Lincoln & Guba, 2005; Neuman, 2003). The multivariate analysis methods can be applied by the most commonly used software packages, such as SPSS and Stata (Singh, 2007). The non-parametric tests for multivariate analysis are generally applied when a dependent variable of a study is naturally categorical, rather than continuous. These multivariate analysis tests include binary logistic regression, binary probit regression, multinomial logistic regression, ordinal logit regression, ordered probit regression, and discriminant

analysis (Raghavendra & Antony, 2011). If there are outliers, the non-parametric tests are more robust than the multivariate parametric methods applied for metric data (Harrar & Bathke, 2008).

Specifically, the binary logistic regression is the more appropriate statistical method when the outcome variable has only two categorical levels (Ge & Whitmore, 2010), whereas, if the dependent variable is naturally categorical and has more than two categorical unordered choices, then the multinomial logistic regression is the most suitable statistical test (Kirkwood et al., 2010). However, the ordered logistic regression is mainly designed to investigate the relationship between the nominal response variable and explanatory variables, especially when the nature of the dependent variable is categorical and can be ranked into a specific order (Winship & Mare, 1984). Moreover, discriminant analysis is another non-parametric method, which is commonly used to analyse data for more than two separate samples, especially when the dependent variable is categorical in nature and the independent variables are naturally metric data (Fukunaga & Mantock, 1983). Additionally, the statistical results that can be achieved by running a binary logistic regression and discriminant analysis method are very similar. Nevertheless, the outcomes obtained by using a discriminant analysis are more efficient when the explanatory variables are normally distributed, while the logistic regression often provides better results despite the shape of distribution (Pohar et al., 2004).

III) Justification for the Quantitative Data Analysis Techniques Used in this Study

It is extremely important to choose the correct parametric and non-parametric statistical tests that can be used to analyse the data. The choice basically depends on the number of groups and the nature of datasets included in the study, to unsure valid and reliable results are obtained, thus drawing accurate conclusions (Ali & Bhaskar, 2016; Nayak & Hazra, 2011).

In terms of its descriptive analysis, this study uses univariate statistics, including central tendency and dispersion, for continuous variables and frequency distributions for the categorical variables included in this study, in addition to using certain graphical methods, such as bar charts to describe the categorical data and line graphs to describe the numerical data. Regarding the bivariate analysis methods, this study applies the Pearson parametric correlation and the Spearman non-parametric correlation with a view to measure the direction and magnitude between every two variables included in this thesis, since they mostly provide very similar outcomes.

In terms of inferential analysis, this thesis examines two basic elements, namely the antecedents and the consequences of adopting the international accounting innovations. Therefore, this study involves two different outcome variables. The first dependent variable is the adoption categories of the international accounting innovations, which is categorical in nature and contains five main categories. The classification of adoption categories is derived from the DOI theory, and includes five groups, namely experimenters, early adopters, early majority, late adopters and laggards. Therefore, this study

applies the multivariate non-metric tests to estimate the relationship between the categorical outcome variables (adoption categories), which have more than two categorical choices, and predictor variables (national antecedents). The non-parametric tests applied in this study involve ordered logit regressions, cumulative binary logistic regressions and ordered probit regressions.

The second outcome variable used in this study is the economic consequences of adopting the international accounting innovations, which is continuous in nature. Hence, this thesis uses a multivariate parametric test, namely the multiple linear regression, to estimate the relationship between the metric dependent variable (consequences) and explanatory variables (adoption groups). In addition, this study applies some robustness tests, namely 2SLS to control for endogeneity problems and mitigate the external validity problems, thus increasing the chance to generalize the results to the entire population. Moreover, the robustness checks can also provide additional analyses to test the sensitivity of the results, with a view to include or exclude instruments, such as an over-identifying restrictions test, under-identification test, omitted variables test, redundant variable test, and weak instruments test.

6.2.2 Criteria for Research Quality

The research rigour in quantitative studies can be observed by evaluating four major criteria for research quality: internal validity, generalisability, replicability and reliability. The research quality for qualitative studies involves different criteria, which are credibility, transferability, dependability and confirmability (Bryman et al., 2008; Leung, 2015). This study is purely quantitative because it relies on objective data, which collected from different secondary data sources. Therefore, this subsection discusses the quality criteria for judging quantitative research, because the fulfilment of these quality criteria can be utilized to assess the methodological rigour and the quality of this study.

6.2.2.1 Internal and External Validity

Regarding the validity of quantitative research, internal and external validity should not only be evaluated for experimental quantitative research designs but also for non-experimental quantitative research designs as well (Onwuegbuzie & McLean, 2003). There are four types of validity that can be used to assess the rigor of quantitative research: internal validity, external validity, construct validity, and reliability (Gibbert et al., 2008). Internal validity is commonly applied in causal studies that examine the cause-effect relationship among dependent and independent variables and provides good explanations for the causal link between these variables (Sousa et al., 2007). In other words, internal validity refers to the actual correlation between the obtained empirical findings and the theoretical underpinnings used by a researcher to examine a specific phenomenon (Bryman & Bell, 2007). Meanwhile, external validity refers to the ability to generalize the findings of a causal study to various times, situations, and individuals (Campbell & Stanley, 1966). More specifically, there are three main categories of validity used to assess the validity of a quantitative study, which includes design validity (internal & external), measurement validity (reliability & construct) and statistical validity (Venkatesh

et al., 2013). Statistical validity and design validity are interrelated, and thus they can be used to assess and evaluate the validity of a quantitative research study (Slack & Draugalis, 2001).

6.2.2.2 Statistical Validity

Statistical conclusion validity can be assessed either by testing the differences between groups or by using correlation coefficients and multiple linear regressions, when the dependent variable is naturally continuous (Zhang et al., 2015). As a result, the internal validity establishes if the findings of a study show a statistically significant association between the outcome variable and the independent variables. This means that there is a casual relationship between variables included in the study, as expected. Accordingly, a researcher can also generalize the results of a causal relationship between variables to the entire population and prove that external validity for a specified target population exists (Slack & Draugalis, 2001). Therefore, it is important to check the statistical validity of P-values especially if the sample applied is quite small, which requires testing several statistical assumptions related to parametric tests (Greenland et al., 2016; García-Pérez, 2012).

6.2.2.3 Construct Validity

Construct validity refers to the degree to which the explanatory variables included in a study represent (in practice) the theoretical constructs adequately (Steckler & McLeroy, 2008). "*In most cases, constructs are treated as causes of their measures"* (Edwards & Bagozzi, 2000, p. 155). The construct validity of archival data is relatively high because it requires secondary data, which is often prepared by more experienced providers. Hence, archival research is characterized by high construct validity, since the secondary data often has a valid measure for a theoretical construct (Seng, 2016). However, poor construct validity of secondary data leads to some common threats, such as measurement error bias. This can occur when there are errors in the dataset used, or if the archival data were weakly measured by the provider of the dataset. In addition, a researcher may be limited by the availability of the required data (Arnold, 2008).

Specifically, there are three main types of construct validity relevant to the assessment of secondary data: content validity, convergent validity, and discriminant validity (Houston, 2004; Carmines & Zeller, 1979). Content validity alludes to whether the measures of a chosen sample cover the subject being investigated, and whether they are consistent with a specified theoretical construct (Churchill, 1979). Convergent validity can be measured by using the correlation coefficient tests to confirm whether the same results can be obtained if we use two highly correlated measures related to the same theoretical construct (Srikesavan et al., 2015; Pickerill & Harter, 2011). The discriminant construct validity shows if two unrelated measures yield the same results if we assess the strength of their relationship with the same theoretical construct (Campbell & Fiske, 1959).

6.2.2.4 Reliability

Reliability refers to the degree to which the results of a study can be considered stable and consistent, especially if the same study has been repeated by another researcher (Heale & Twycross, 2015). In other words, reliability refers to the consistency of results, which includes three types of reliability: internal consistency, stability, and equivalence consistency of results (Heale & Twycross, 2015). Therefore, it is essential for a researcher to know and run the appropriate statistical techniques needed for conducting their research. This can lead to providing reliable results and drawing valid conclusions (Ali & Bhaskar, 2016). Furthermore, the assumption of normality needs to be checked, especially for parametric research, with a view to obtain reliable results and draw accurate conclusions about reality (Ghasemi & Zahediasl, 2012). Moreover, reliability refers to the degree to which a researcher can rely on reliable secondary data sources for collecting data to conduct a study (Pierce, 2008). Additionally, reliability also refers to the degree to which the sample size is adequate and reliable in describing the target population, with a view to acquire more reliable findings and generalize the results (Delice, 2010).

Accordingly, a researcher needs to check the reliability of the secondary data before using them for conducting research. This can be done by assessing if the secondary data needed are accurate, relevant, understandable and measurable (Mulhern, 2010). The reliability of continuous data can be checked by using the central tendency measures, such as the mean of numerical observations, which provides information about the reliability of the data, and if there are any outliers (Manikandan, 2011a; Hazra & Gogtay, 2016). Additionally, the reliability of continuous data can also be assessed by utilizing measures of dispersion, such as minimum and maximum values, which provide information about the spread of the data in the distribution (Hazra & Gogtay, 2016; Manikandan, 2011). Furthermore, the intra-class correlation coefficient (ICC) is one of the most popular statistical methods used to assess interrater, test-retest, and intra-rater reliability of continuous measurements. It has been widely used to measure the degree of correlation and agreement between numerical measurements (Koo & Li, 2016). However, assessing the internal consistency for a survey can be done by using the most commonly used tests: the Cronbach's alpha test and Kuder-Richardson KR-20 test (Houston, 2004; Tan, 2009).

6.2.2.5 The Quality Criteria for This Study

Regarding the internal validity checks, this study has provided a good internal validity of causal relationships between most of variables included in this thesis. Therefore, this study has applied a causal-comparative research design, which has been derived from the theoretical frameworks utilized by previous studies to investigate the relationship between national antecedents and the consequences of adopting the international accounting innovations. The internal validity of this study has also been established as a result of the significant association between most of the variables included. This can be observed through the findings of the bivariate and multivariate analyses techniques applied in this thesis, such as the Pearson correlation coefficient test and the multiple linear regression for the metric

data, as well as the Spearman correlation coefficient test and logistic regression models for the non-metric data. Nevertheless, this study has also excluded two variables from the worldwide governance indicators due to the high multicollinearity between these variables: government effectiveness and rule of law, because they appear to be measuring very similar indexes as the regulatory quality index.

In terms of external validity, the sample of countries chosen for this research has been divided into two convenience samples due to the availability of data needed to conduct the study. The first sample has been used to examine the antecedents of the ISAs and IFRS adoption, which includes 162 countries and represents about 83% of the world's total number of countries. The second sample has been used to examine the economic consequences of the ISAs and IFRS adoption, which includes 185 countries and represents about 94% of the world's countries. Arguably, the result that was obtained from the first and second samples can be generalised to the target population, as they represent a large sample of the entire population. Accordingly, this study provides a higher level of external validity in terms of generalization for both the first and second samples alike.

The construct validity of this study is observed through the consistency between the obtained results and the multiple theoretical frameworks that are applied in this thesis. This study has tested seven different theoretical underpinnings including LLSV legal theory, Hofstede–Gray cultural theory, diffusion of innovation (DOI) theory, institutional theory, resource-based view theory (RBV), network economic theory, and signalling theory. The first two theories have been tested previously by different scholars to investigate the influence of environmental factors on IFRS adoption at the macro-country level, namely the LLSV legal theory (Cardona et al., 2014; Schutte & Buys, 2011; Akman, 2011), and Hofstede–Gray cultural theory (Kossentini & Ben-Othman, 2014; Shima & Yang, 2012). Institutional theory was also tested by prior studies that were conducted to examine the antecedents of the ISAs and IFRS. The results were consistent with the prior IFRS adoption studies (Hope et al. 2006; Alon & Dwyer, 2014; Judge et al., 2010; Lasmin, 2011), and concluded that IFRS adoption decision has been significantly influenced by the characteristics and national antecedents of the adopting countries, such as their legal, social, political, and educational systems.

Moreover, the last three theories have also been tested previously to explain the consequences of adopting the IFRS, namely the resource-based view theory (e.g., Shima & Yang 2012; Yeow & Mahzan, 2013; Alon & Dwyer, 2014), the economic network theory (e.g., Adereti & Sanni, 2016; Ramanna & Sletten, 2014; Emeni & Urhoghide, 2014; Zaiyol et al., 2017), and the signalling theory (e.g., Masoud, 2017; Kolsi & Zehri, 2009; Akman, 2011; Smith, 2008; Phan et al., 2016; Guggiola, 2010; Balsam et al., 2016). Furthermore, the construct validity of this study is relatively high because it relies on secondary data prepared by international bodies (the World Bank and IMF). In addition, after running various analysis techniques in this study, the three types of construct validity (content, convergent, and discriminant validity) have also been supported.

With respect to reliability, this study has applied adequate statistical techniques that ensure reliable results and valid conclusions. The statistical assumptions have been checked and corrected before approving the final outcomes, especially in terms of the parametric research, which confirms that this study has obtained accurate and reliable results. The reliability of the secondary data used in this study has been also confirmed, since all the required data have been collected from different reliable secondary data sources (the World Bank and the IMF). The secondary data provided by these organizations are highly reliable, accurate, relevant, understandable and measurable. This study has also used the central tendency and dispersion measures to assess the reliability of the numerical data and no outliers have been found in the data. This implies that the reliability of secondary data used in this study has been established and can be achieved if the study were to be repeated.

6.2.3 Variables Definitions, Measures, and Data Sources

The definitions, measures and data sources of all variables included in the model of national antecedents of ISAs and IFRS adoption are outlined in Table 2, whilst, Table 3 shows the definitions, measures and the data sources of all variables included in the model of economic consequences of adopting the international accounting and auditing standards.

6.2.3.1 The Model of National Antecedents of the IAIs Adoption

This subsection discusses all the variables included in the model that examine the antecedents of adopting the IAIs. Therefore, this subsection reviews the definitions of all variables used in the model, including the dependent variable (adoption categories of ISAs & IFRS), independent variables (national antecedents) and control variables (social factors), in addition to the model specification.

6.2.3.1.1 Dependent Variable for the Antecedents Models of Adopting IAIs

Regarding the adoption status of the ISAs, one prior study (Boolaky & Soobaroyen, 2017) used a categorical coding scheme 0-4 for the ISAs adoption status as follows "0" is used if a country is a non-adopter of ISAs, "1" is used when there is no information about ISAs, "2" is used if a country adopted ISAs with modification, "3" is used when the country national standards are ISAs, "4" is used if the ISAs are required by law. Meanwhile, another previous study (Boolaky & Omoteso, 2016) utilized the coding provided by the IFAC dataset, which coded the ISAs adoption status into four groups from 1-4, where, "1" means ISAs status is not known, "2" means ISAs are adopted without modifications, "3" means ISAs are adopted voluntarily, and "4" means ISAs are adopted mandatory by law.

In the current study, the outcome variable of the model of national antecedents is the adoption categories of the international accounting innovations. This classification comprises of five main groups of adopters: experimenters (*EXPRA*), early adopters (*ERADA*), early majority (*ERMJA*), late majority (*LTMJA*), and laggards (*LGGRA*). The five adopter groups have been derived from the Diffusion of Innovation (DOI) theory that was developed by Rogers (1962). Regarding the adoption categories of

the ISAs, the current study has collected data from three sources, namely the IFAC website, Action Plan Template-IFAC, and the reports on the observance of standards and codes (ROSCs) provided by the World Bank. Nevertheless, this study has employed the classification system derived from the DOI theory, which is based on first-time adoption by country, divided into five groups of adopters based on the global Financial Crisis, including the Asian Financial Crisis of 1997, the Enron scandal of 2001, and the audit reforms released by certain international bodies, such as the Directive 2006/43/EC issued by the EC to encourage the EU members to adopt ISAs.

Accordingly, the dependent variable for the model of antecedents included in the current study were measured as follows. All countries that adopted the ISAs within five years after they were issued by the IAASB in 1991 up to 1995 are coded as "1" and are included in the experimenters' group. Only six countries adopted the ISAs until 1995 (Jordan, Malta, the Netherlands, Peru, Slovenia and Sri Lanka). Following the Asian financial collapse in 1997, many international bodies such the World Bank and IMF tried to take advantage of this matter and encourage many countries to adopt the ISAs (Kelly, 1998). Therefore, all countries that adopted the ISAs after the Asian Crisis of 1997 (more precisely between 1996 and 2000) are coded as "2" and are included in the early adopters' group. Only 21 countries adopted the ISAs during the period from 1996 - 2000.

Thereafter, many countries adopted the International Standards on Auditing (ISAs) after the Enron scandal of 2001 and WorldCom scandals of 2002, with a view to enhance the trust of their auditing reports (Collings, 2011). Hence, all countries that embraced the ISAs after the Enron scandal (specifically spanning between 2001 and 2006) are coded as "3" and are included in the early majority adopters of the ISAs. Approximately 45 countries adopted the ISAs during the interval from 2001-2006. Subsequently, in 2006, the European Parliament and Council issued the Directive 2006/43 to harmonize audit standards across the EU countries by adopting the ISAs. Thus, many EU countries have voluntarily embraced the ISAs (Bloomfield et al., 2017). Furthermore, a new debate has emerged from further reforms that issued after the recent Financial Crisis of 2007–2008 to encourage different countries to adopt the ISAs (Curtis et al., 2016). Therefore, all countries that adopted the ISAs within the period from 2007 to 2014 are coded "4" and are included in the late majority group of the ISAs. Nearly 57 countries adopted the ISAs over the period between 2007 and 2014. The remainder of the countries, which involve 33 nations are coded, as "5" and are included into the non-adopter group (laggards) of the ISAs. These are the countries that have not embraced the ISAs up to 2014.

In terms of the adoption status of the IFRS, most prior studies have relied extensively on collecting the data relevant to the status of IFRS adoption from the IAS Plus report, which appears on Deloitte's website (e.g., Hope et al., 2006; Judge et al., 2010; Kossentini & Othman, 2014; Stainbank, 2014; Ramanna & Sletten, 2014; Khurana & Michas, 2011; Alon & Dwyer, 2014; Lasmin, 2011). The IAS Plus website has classified the data into four major categories, where "1" means IFRS adoption is not

permitted, “2” means IFRS adoption is permitted, “3” means IFRS adoption is required for some firms, and “4” means IFRS adoption is required for all firms.

Therefore, consistent with most prior empirical studies, this study also relies on the Deloitte website IAS Plus to collect data regarding the status of IFRS adoption by country, in addition to utilizing two additional sources, namely IFRS adoption by country provided by PWC, and the use of IFRS standards by jurisdiction provided by the IFRS Foundation’s standard-setting body, with a view to include a large sample of countries. Nonetheless, in the current study, IFRS adoption categories are based on the first-time adoption of the IFRS by country, and the classification is very similar to the classification made for the ISAs adoption categories, except only one change is relevant to the third group, namely the early majority group. This is because the European Union Parliament has enforced the mandatory use of the IFRS for all companies listed in the EU since 2005 (Li, 2010).

6.2.3.1.2 Explanatory Variables for the Antecedents Models of Adopting IAIs

Consistent with the existing literature, this study relies entirely on secondary data, which are generally based on secondary data sources at the macro-country level available from a range of publicly reliable sources to explore the antecedents of the IFRS. More specifically, prior studies have relied on a database termed the Hofstede cultural dimension, with a view to examine the effect of cultural values on IFRS adoption (Borker, 2013a; Borker, 2012 Borker, 2013; Borker, 2014; Yurekli, 2016; Cardona et al., 2014; Finch, 2010; Combs et al., 2013). Similarly, prior studies have relied on the data provided by the Worldwide Governance Indicators (WGI) project available at the World Bank website to examine the influence of national political antecedents on IFRS adoption (e.g., Houqe et al., 2012; Rahman, 2016; Houqe & Monem, 2016; Alon & Dwyer, 2014). Likewise, previous research used the data provided by the Worldwide Development Indicators (WDI) database available at the World Bank website to examine the effects of national educational antecedents on ISAs adoption (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013), and on IFRS adoption (Judge et al., 2010; Lasmin, 2011a; Kossentini & Ben-Othman, 2014; Zehria & Chouaibi, 2013).

However, most previous studies relied on the data provided by La Porta et al., (2008) to investigate the impact of national legal antecedents, namely the legal origin of a country on IFRS adoption (e.g., Zehri & Chouaibi, 2013; Dimaa et al., 2013; Kossentini & Ben Othman, 2014; Kolsi & Zehri, 2009; Amiram, 2012). The Rafael La Porta website provides only five individual common legal origins, namely English common law, French legal origin, German legal origin, Scandinavian legal origin, and Socialist legal origin. Nevertheless, the World Factbook website provides more information about not only the most common individual legal regimes, it also shows the other classifications for mixed legal origins. Hence, due to the salient limitations in the La Porta website regarding the absence of a review of mixed legal origins, this study therefore, relies on the World Factbook website, which provides more comprehensive information on the legal origins by jurisdiction, instead of using only the five main legal

origins provided by the Rafael La Porta website. Table 2 presents a summary of measures and definitions for all legal origin groups collected from the World Factbook website.

6.2.3.1.3 Control Variable for the Antecedents Models of Adopting IAIs

In addition to having one single international accounting standard, there are other factors that can affect investors when making their investment decisions, such as geographical region, language and colonial history (Amiram, 2012). Following previous studies (Amiram, 2012; Ramanna & Sletten 2014; Lasmin, 2011; Murro et al., 2015; Dayanandan et al., 2016), this study therefore controls for three additional determinants of adopting the ISAs and IFRS, which include three administrative (social) proxies, namely geographical regions (*GERI*), official language (*OFLN*), and colonial history (*COHI*). These control variables were chosen due to the potential influence of these factors on the adoption of ISAs and IFRS, which is shown in the previous literature. The theoretical and empirical discussions relating to the selected control variables are summarized in the following subsections.

I) Geographical Regions (*GERI*)

Theoretically, based on the economic network theory, IFRS adoption can occur due to the network effects between the adopters of IFRS and their trade partners from different geographic regions. Hence, countries located in the same geographic region who trade with neighbouring countries are more likely to follow their partners who have already adopted the IFRS (Ramanna & Sletten 2014). Accordingly, countries that adopted the IFRS and share a common geographical region are expected to have higher economic benefits due to the consistency between these countries (Lasmin, 2011). Consequently, geographic distance is one of the main barriers that drives creating differences in global investments among countries, before the mandatory adoption of the IFRS. Nevertheless, IFRS adoption has only influenced the accounting standards in countries where investors are familiar with these international accounting standards (Yu & Wahid, 2014).

Drawing on the DOI theory, the diffusion of new innovations has not solely been influenced by institutional factors, including economic, political, and legal systems, it has also been influenced by the different geographical characteristics of adopters (Zanello et al., 2016). The adoption of innovations has been affected by the characteristics of three basic groups, namely innovation itself, the characteristics of the actors and the socio-economic context. The socio-economic factors involve three aspects of geographical position, societal culture, and political status (Wejnert, 2002). Therefore, multinational corporations are required to prepare their financial statements in accordance with the accounting standards for the host country. Hence, multinational corporations tend to invest in countries that use a single set of accounting standards, located in the same geographical region, with a view to achieve convergence and reduce the cost of preparing their financial reports (Kumar, 2014).

Empirically, several prior studies have suggested that IFRS adoption is positively linked with countries located in the same region, or when their trade partner has adopted the IFRS (Ramanna & Sletten, 2014; Murro et al., 2015; Ramanna & Sletten, 2009). For instance, by using a sample that consisted of 92 countries, Ramanna and Sletten (2014) revealed that countries are more likely to adopt the IFRS if their trading partners or their neighbouring countries are also IFRS adopters. Similarly, by examining a sample of 102 non-European countries, Ramanna and Sletten (2009) found that countries that adopted the IFRS and existed in the same regional position are more susceptible to adopting the IFRS due to the network effects of IFRS adoption between trade partners. Likewise, Murro et al., (2015) reported that accounting comparability has considerably increased after IFRS adoption by the Latin American countries, despite the differences between these countries located in the same geographical region. However, Dayanandan et al. (2016) investigated the role of IFRS adoption in enhancing the quality of financial reporting across different geographic regions. Their study pointed out that the quality of financial reporting has significantly increased after IFRS adoption, especially for English common law countries and German civil law countries, regardless of their geographical regions.

II) Official Language (*OFLN*)

According to accounting theory, the convergence of the IFRS makes adoption easier and less costly for English speaking countries than for the other target language countries, since the IFRS were initially issued in English. This can create obstacles for the target language countries in translating the IFRS, especially if they lack a history of economic language and there are no equivalent terms in the target language (Wolk et al., 2012). Similarly, the translation of the IFRS is one of the major obstacles that hinders the adoption of the international accounting standards. The reason for this is because achieving a fluent translation of the IFRS from the English language into a domestic language takes a substantial amount of time (Nobes, 2011; Kettunen, 2011). The convergence of IFRS has been considered one of the basic means for improving the comparability of financial reporting. Therefore, the consistency and uniformity of IFRS application across countries can be hindered if there are any major translation errors (Hellmann et al., 2010). The accounting comparability across countries can be significantly affected because of the quality of the translation process of IFRS into national languages (Ball, 2016). The translation process might lead to converting the meaning of the original version, due to the shortage of such words and phrases in the target language (Evans, 2004). Hence, the quality of IFRS translations depends on the experience of those who participate in the translation process of IFRS (Kettunen, 2011).

According to legitimacy theory, foreign investors prefer to receive financial reporting that is issued in accordance with the IFRS and in the English language, rather than local languages. This is because these kinds of reports are considered more credible and can eventually lead to reducing information asymmetry (Erkens, 2012). Therefore, countries where English language is not an official language are less likely to adopt the IFRS. This is because most of the local regulations in these countries are either

unfamiliar with the official translations of the IFRS material, or there is no equivalent interpretation in the local language that can be utilized to translate the IFRS standards (Abd-Elsalam & Weetman, 2003). Although the EU members have roughly 23 different official languages, they have adopted the IFRS by using a unified translation version with a view to help them to present their financial reporting in one single language (Bruggemann et al., 2013). Despite this, the EU has adopted the IFRS, and many firms operating in the European Union still use their domestic accounting standards. This is because the EU countries have cultural and language differences, which influence their IFRS application (Khdir, 2016).

Empirically, several studies have documented that countries that use the English language as an official language are more prone to adopting the IFRS (Stainbank & Tauringana, 2016; Elad, 2015; Hellmann et al., 2010). For example, by using a sample of 46 African countries, Stainbank and Tauringana (2016) reported that countries where the English language is the official language are more prone to adopting the IFRS, which makes the adoption process easier and less costly. Similarly, by covering a sample of African countries, Elad (2015) reported that the accounting standards in the Franc-Zone which includes 15 African countries are still based on French traditions, therefore, many African countries have not yet adopted the IFRS, because they are alien to Anglo-Saxon accounting. Likewise, by using Germany as a case study, Hellmann et al. (2010) found that the translation of the IFRS from English to German is not equivalent to the original English version of the IFRS. However, by analysing data from 30 OECD countries, Chen et al. (2014) reported that although countries sharing a common language are more likely to have higher levels of foreign direct investment (FDI), IFRS conformity can also lead to reducing language-related barriers to FDI.

III) Colonial History (*COHI)*

Based on economic network theory, network effects can happen as a result of colonial ties between nations and their former colonizers. Hence, some countries may follow their former colonizer in adopting the IFRS, owing to the network effects among those nations and their former colonizer (Ramanna & Sletten 2014). Accordingly, the likelihood of adopting the IFRS can be increased if a country has been colonized by the British Empire (Shima & Yang, 2012). For this reason, the accounting practices existing in developing countries are very similar to the practices and standards available in their former colonizers (Nobes, 2006). Furthermore, the legal origin of a country is commonly linked with its colonial history. Consequently, countries that were colonized by the British Empire are influenced by the Anglo-Saxon law system. Therefore, these countries have adopted the IFRS as a result to the colonial influences of their former colonizers (Ramanna & Sletten, 2009). The British Empire delivered its culture to its colonies, and thus confers to them almost identical institutional factors including legal, educational, economic, language and accounting practices. As a result, most countries with Anglo-Saxon law have adopted the IFRS without considering whether these international standards are beneficial to their economies (Tyrrall et al., 2007).

Empirically, most prior studies revealed that countries colonized by the British Empire are more prone to embracing the IFRS (Ramanna, 2013; Shima & Yang, 2012; Boolaky, 2012; Nnadi, 2012; Nurunnabi, 2016). For instance, by analysing data from 73 countries, Shima and Yang (2012) reported that the adoption of the IFRS is positively and significantly associated with countries that were formerly colonized by the British Empire. Similarly, by selecting Mauritius as an Anglo-Saxon country, Boolaky (2012) reported that countries that were colonized by the British Empire are more susceptible to adopting the IFRS due to colonial influences. Similarly, Nnadi (2012) pointed out that most former British colonies in Africa have adopted the IFRS because of colonial influences from the British Empire. In contrast, countries that were formerly colonized by the Franco-German Empires have a lower rate of IFRS adoption, due to the weak influence from their former colonizers. Likewise, by taking Bangladesh as a case study, Nurunnabi (2016) reported most developing countries that were colonized by the British Empire have adopted the IFRS, since there are no formal accounting standards in most these countries.

6.2.3.1.4 Specification of the Antecedents Models of Adopting IAIs

Most previous studies (Lasmin, 2011; Kossentini & Ben-Othman, 2014; Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017) have employed several parametric and non-parametric methods for the multivariate analysis of the same dependent variable. However, using metric and non-metric tests on the same variable on the pretext of obtaining more holistic results was not correct, since each test should be used for a specific type of variable either continuous or categorical. Therefore, this study has used non-parametric tests, known as the ordered logistic regression to examine the cause-effect relationship between the antecedents and the adoption of IAIs, since the dependent variable is naturally categorical. The ordered logistic regression can be defined with the following equation (1):

$$\boldsymbol{Log\left[\frac{P_{it}}{(1-P_{it})}\right]} = \boldsymbol{\alpha_0} + \sum_{i=1}^{5} \boldsymbol{\beta_1}\, \boldsymbol{LEGA_{it}} + \sum_{i=1}^{4} \boldsymbol{\beta_2}\, \boldsymbol{POLA_{it}} + \sum_{i=1}^{6} \boldsymbol{\beta_3}\, \boldsymbol{CULA_{it}} + \sum_{i=1}^{3} \boldsymbol{\beta_4}\, \boldsymbol{EDUA_{it}} + \sum_{i=1}^{3} \boldsymbol{\beta_i}\, \boldsymbol{CONTROLS_{it}} + \boldsymbol{\varepsilon_{it}} \qquad \textbf{(1)}$$

Where, *Log* is the natural logarithm of the odds ratio of the event, P_{it} is the probability of an ordinal response occurring in a country (i) in a year (t) to adopt the IAIs, $(1 - P_{it)}$ is the probability of not occurring, $[P_{it}\ /1 - P_{it}]$ is the proportional odds of ordinal responses, α_0 is the constant term, β_j are the coefficients on the independent variables, $LEGA_{it}$ refers to five legal proxies: legal origins (*LEOR*), shareholders rights (*SHPR*), judicial efficiency (*JUEF*), judicial independence (*JUIN*), and legal system integrity (*LSIN*). $POLA_{it}$ refers to four political proxies: voice and accountability (*VOAC*), political stability (*POST*), regulatory quality (*REQU*), and control of corruption (*COCU*). $CULA_{it}$ refers to six cultural dimensions: power distance (*PWDS*), uncertainty avoidance (*UNAV*), individualism level (*INDV*), masculinity (*MASC*), long-term orientation (*LTOR*), and indulgence level (*INDU*), $EDUA_{it}$ refers to three educational proxies: educational attainment (*EDAT*), literacy rates (*LITR*), and education quality (*QEDS*). $CONTROLS_{it}$ refers to three control variables: geographical region (*GERI*), official language (*OFLN*), and colonial history (*COHS*), ε_{it} refers to the error term for country (i) in a year (t).

Table 2: Summary of all variables used in the antecedents of the international accounting innovations models (*ISAs & IFRS*)

Variables	*Definitions and measures*	*Sources of data*
Dependent variables		
ISAAC	The ISAs adopter categories are based on the first-time adoption of the ISAs by a country and the classification is derived from the DOI theory and involves five main groups, namely:	Action Plan Template – IFAC, accessed on 12/01/2016, available online at https://www.ifac.org/system/files/compliance-assessment
EXPRA	"1" = Experiments refer to countries adopted the ISAs before 1995	Reports on the Observance of Standards and Codes Accounting & Auditing (ROSC AA) provided by the World Bank Group, accessed on 12/01/2016, available at http://www.worldbank.org/ifa/rosc_aa.html
ERADA	"2" = Early adopters refer to countries adopted the ISAs 1995-2000	
ERMJA	"3" = Early majority refer to countries adopted the ISAs 2001-2006	
LTMJA	"4" = Late majority refer to countries adopted the ISAs 2007-2014	Basis of ISA Adoption by Jurisdiction from IFAC website accessed on 12/01/2016, available at, http://www.ifac.org/system/files/uploads/MBD/Basis-of-ISA-Adoption-by-Jurisdiction-August-2012.pdf
LGGRA	"5" = Laggards refer to countries haven't adopted the ISAs up to 2014	
IFRSAC	The IFRS adopter categories are based on the first-time adoption of the IFRS by a country and the classification is derived from the DOI theory and involves five main groups, namely:	Use of IFRS by jurisdiction from Deloitte Touche Tohmatsu website, IASplus, 2015, accessed on 22/02/2016, available at https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs
EXPRF	"1" = Experiments refer to countries adopted the IFRS before 1995	IFRS adoption by country provided by PWC, accessed on 12/01/2016, available online at https://www.pwc.com/us/en/issues/ifrs-reporting/publications/assets/pwc-ifrs-by-country-2014.pdf
ERADF	"2" = Early adopters refer to countries adopted the IFRS 1995-2000	
ERMJF	"3" = Early majority refer to countries adopted the IFRS 2001-2004	
LTMJF	"4" = Late majority refer to countries adopted the IFRS 2005-2014	Use of IFRS Standards by jurisdiction - IFRS.org, accessed on 22/02/2016, available at http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/
LGGRF	"5" = Laggards refer to countries haven't adopted the IFRS up to 2014	
Independent variables		
SHPR	The strength of the legal rights index measures the degree to which a country laws protect the rights of shareholders. The index ranges from 0 to 12, where 0=weak legal rights score, while 12= strong legal rights score which means that the country's laws are better designed to expand the access to credit while the lower scores indicate otherwise.	The World Development Indicators WDI provided by the World Bank accessed on 25/02/2016, available at http://data.worldbank.org/indicator/IC.LGL.CRED.XQ

Continuation: Table 2		
Independent variables	***Definitions and measures***	***Sources of data***
JUEF	The judicial efficiency index measures the ranking of the impartial courts in a country to calculate the court performance in the country. The data are scaled from 0 to 10, where 0 denotes that a country has the lowest level of impartial courts while 10 indicates that a country has the highest levels of impartial courts.	Economic Freedom Dataset provided by the Fraser Institute in 2015, accessed on 20/12/2015, available at https://www.fraserinstitute.org/economic-freedom/dataset
JUIN	The judicial independence index refers to the degree to which the judiciary of a country is unbiased and independent from the government. The data are ranked from 0-10, where 10 indicates that a country has a higher level of judicial independence, while 0 indicates that a country has a weak level of judicial independence.	Economic Freedom Dataset provided by the Fraser Institute in 2015, accessed on 20/12/2015, available at https://www.fraserinstitute.org/economic-freedom/dataset
LSIN	The integrity of the legal system of a country refers to the degree to which the legal system in a country is equitable and fair. The data is ranked from 0-10, where 0 refers to the lowest level of integrity, while 10 denotes to the highest level of integrity in a country.	Economic Freedom Dataset provided by the Fraser Institute in 2015, accessed on 20/12/2015, available at https://www.fraserinstitute.org/economic-freedom/dataset
LEOR	The legal origin (*LEOR*) of a country provided by the World Factbook website extends the legal origins provided by the La Porta website	The World Factbook website established by the Central Intelligence Agency (*CIA*) of the United States federal government, accessed on 20/12/2015, available at https://www.cia.gov/library/publications/the-world-factbook/fields/2100.html Rafael La Porta website provides a dataset about Legal origins in the research & publications section entitled The Economic Consequences of Legal Origins" (with F. López-de-Silanes and A. Shleifer), Journal of Economic Literature, June 2008, accessed on 20/12/2015, available at http://faculty.tuck.dartmouth.edu/rafael-laporta/research-publications
ENCM	"0" = if a country has an English common law legal system	
FRCV	"1" = if a country has a French civil law legal system	
SPCV	"2" = if a country has a Spanish civil law legal system	
POCV	"3" = if a country has a Portuguese civil law legal system	
GECV	"4" = if a country has a German civil law legal system	
SOCV	"5" = if a country has a Socialist civil law legal system	
ENRE	"6" = if a country has a mixed English and Religious legal system	
ENDU	"7" = if a country has a mixed English and Dutch law legal system	
FRIS	"8" = if a country has a French civil and Islamic law legal system	
ENIS	"9" = if a country has an English and Islamic law legal system	
ENCV	"10" = if a country has a mixed English and Civil law legal system	

Continuation: Table 2		
Independent variables	***Definitions and measures***	***Sources of data***
VOAC	The voice & accountability index refers to the degree to which a country's citizens can participate in choosing their government and the ability to freely express their own opinions, along with free mass media. The data score ranges from -2.5 to 2.5, where countries with large values = 2.5 are subject to a higher level of voice and accountability, thus have a better level of governance, while countries with small values = -2.5 are subject to lower voice and accountability, thus experience a weak level of governance.	The Worldwide Governance Indicators (*WGI*) project provided by the World Bank Group available at http://info.worldbank.org/governance/wgi/#doc, accessed on 20/12/2015. Kaufmann, D., Kraay, A., & Mastruzzi, M. (2016). The worldwide governance indicators. Aggregated indicators of governance 1996–2014.
POST	The political stability index refers to the degree to which a country can maintain law and order and to what extent it suffers from political instability and violence. The data score ranges from -2.5 to 2.5, where countries with large values = 2.5 are subject to a higher level of political stability, thus a better level of governance, while countries with small values = -2.5 are subject to lower political instability, thus experience a weak level of governance.	The Worldwide Governance Indicators (WGI) project provided by the World Bank Group available at http://info.worldbank.org/governance/wgi/#doc, accessed on 20/12/2015. Kaufmann, D., Kraay, A., & Mastruzzi, M. (2016). The worldwide governance indicators. Aggregated indicators of governance 1996–2014.
REQU	The regulatory quality index refers to the degree to which a country has issued sound policies to improve the quality of their regulation. The data score ranges from -2.5 to 2.5, where countries with large values = 2.5 are subject to a higher level of regulatory quality, thus a better level of governance, while countries with small values = -2.5 are subject to a lower regulatory quality and a weak governance level.	The Worldwide Governance Indicators (WGI) project provided by the World Bank Group available at http://info.worldbank.org/governance/wgi/#doc, accessed on 20/12/2015. Kaufmann, D., Kraay, A., & Mastruzzi, M. (2016). The worldwide governance indicators. Aggregated indicators of governance 1996–2014.
COCU	The control of corruption index refers to the level of control exercised by the government in a given country to dominate different forms of corruptions such as bribes and deliberate wrongdoing. The data score ranges from -2.5 to 2.5, where countries with large values = 2.5 are subject to a higher level of control of corruption, thus a better level of governance, while countries with small values = -2.5 are subject to lower control of corruption, thus weak level of governance.	The Worldwide Governance Indicators (WGI) project provided by the World Bank Group available at http://info.worldbank.org/governance/wgi/#doc, accessed on 20/12/2015. Kaufmann, D., Kraay, A., & Mastruzzi, M. (2016). The worldwide governance indicators. Aggregated indicators of governance 1996–2014.

Continuation: Table 2		
Independent variables	***Definitions and measures***	***Sources of data***
PWDS	The power distance index refers to the degree to which the less powerful people within an organization in a country are more likely to accept unequal distribution of power and authority. Accordingly, countries with a low power distance tend to equally distribute the power between staff members. The data scale ranges from 0-10, where 10 indicates that a country has a higher level of power distance culture, while 0 denotes that a country has a low power distance culture.	Geert Hofstede website provides insights to the dimensions of cultural influences for a list of countries, accessed on 20/12/2015, available at http://geerthofstede.com/research-and-vsm/dimension-data-matrix/
INDV	The individualism index refers to the extent to which people within a country tend to make their own choices separately, whereas, collectivism views denote the idea that individuals within a country prefer to work more collectively. The data ranges from 0 - 10, where 0 refers to a lower level of individualism (higher collectivism), and 10 indicates to a higher level of individualism in a country.	Geert Hofstede website provides insights to the dimensions of cultural influences for a list of countries, accessed on 20/12/2015, available at http://geerthofstede.com/research-and-vsm/dimension-data-matrix/
UNAV	The uncertainty avoidance index denotes the degree to which people within a given country address uncertain incidents and avoid ambiguous events that are expected to occur in the future. The data have a scale, which ranges from 0- 10, where 0 score refers to low uncertainty avoidance cultures who are more tolerant of changes and risks, while 10 indicates a higher level of uncertainty avoidance and lower tolerance for ambiguity and risks.	Geert Hofstede website provides insights to the dimensions of cultural influences for a list of countries, accessed on 20/12/2015, available at http://geerthofstede.com/research-and-vsm/dimension-data-matrix/
MASC	The masculinity index indicates the extent to which societies offer powerful roles to males rather than females. The data have a scale that ranges from 0- 10, where 0 refers to a low score of masculine culture, while 10 score indicates a higher level of masculine culture and low score of feminine culture in a given country.	Geert Hofstede website provides insights to the dimensions of cultural influences for a list of countries, accessed on 20/12/2015, available at http://geerthofstede.com/research-and-vsm/dimension-data-matrix/
LTOR	The long-term orientation index indicates the degree to which societies maintain some connections between their previous events and expected future, for a long time. In contrast, the short-term orientation index refers to the degree to which societies maintain some connections between their own past events and the present incidents. The data ranges from 0- 10, where 0 refers to the lowest level of long term orientation, while 10 indicates a higher level of long term orientation in a country.	Geert Hofstede website provides insights to the dimensions of cultural influences for a list of countries, accessed on 20/12/2015, available at http://geerthofstede.com/research-and-vsm/dimension-data-matrix/

Continuation: Table 2		
Independent variables	***Definitions and measures***	***Sources of data***
INDU	The indulgence index refers to the degree to which people within a country tend to control their own desires. Therefore, societies with a higher level of indulgence are not be able to control their desires. In contrast, countries with a lower level of indulgence (restraint cultures) are more prone to controlling their desires. The data ranges from 0- 10, where 0 refers to a low indulgence culture, while 10 denotes a higher indulgence culture in a country.	Geert Hofstede website provides insights to the dimensions of cultural influences for a list of countries, accessed on 20/12/2015, available at http://geerthofstede.com/research-and-vsm/dimension-data-matrix/
EDAT	The educational attainment refers to the percentage of a population with a tertiary education attainment (total) per country for a population aged 25 years and over. The tertiary education attainment includes data about both sexes who both completed and not complete the highest level of education.	Barro-Lee Dataset presented at the World Bank EdStats (Education Statistics), accessed on 27/12/2015, available http://databank.worldbank.org/data/reports.aspx?source=Education-Statistics:-Education-Attainment
LITR	The youth literacy rates refer to the percentage of a population per country for people aged 15- 24 years for both sexes who can read and write a short simple statement.	United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics in Canada presented at the World Bank (Education Statistics), accessed on 27/12/2015, available at https://data.worldbank.org/indicator/SE.ADT.1524.LT.ZS
QEDS	The quality of the education system index refers to the degree to which a country has high or low level of quality in its educational system. The data ranges from 1-7, where 1 denotes that a country has a lower level of education system quality, whereas 7 indicates that a country has a higher level of education system quality.	The Global Competitiveness Index (GCI) Historical Dataset presented at World Economic Forum, accessed on 27/12/2015, available online at http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/
Control variables		
GERI	The geographical regions refer to the classification scheme suggested by the World Bank, which includes six continental regions of the world. The data are coded from 1- 6 as follows:	The classification of all countries by the continental regions presented at the World Bank website, accessed on 27/12/2015, available at http://www.worldbank.org/en/where-we-work
EURO	"1" = the country is in Europe	
NLSA	"2" = the country is in North, Latin and South America	
CSAS	"3" = the country is in Central & South Asia	
EASP	"4" = the country is in East Asia & Pacific	
MENA	"5" = the country is in Middle East & North Africa	
AFRC	"6" = the country is in Sub-Saharan Africa	

Continuation: Table 2		
Control variables	***Definitions and measures***	***Sources of data***
OFLN	The official language refers to the percentage of the population who speak a specific language in each country. The major languages spoken are coded from 1-7 as follows:	The World Factbook website established by the Central Intelligence Agency (CIA), accessed on 27/12/2015, available at https://www.cia.gov/library/publications/the-world-factbook/fields/2098.html
ENGL	"1" = English is an official language in the country	
FRNL	"2" = French is an official language in the country	
SPNL	"3" = Spanish is an official language in the country	
ARBL	"4" = Arabic is an official language in the country	
GRML	"5" = German is an official language in the country	
RUSL	"6" = Russian is an official language in the country	
OTLN	"7" = Other languages are official languages in the country	
COHI	The colonial history refers to the former colony and the involved colonial empires in a country's history from the 1990s. The data regarding the history of colonialism are coded from 0-8 as follows:	The World Factbook website established by the Central Intelligence Agency (CIA), accessed on 27/12/2015, available online at https://www.cia.gov/library/publications/the-world-factbook/fields/2088.html
NEVC	"0" = Never colonized countries	
BRTC	"1" = Countries colonized by the British Empire	
FRNC	"2" = Countries colonized by the French Empire	
SPNC	"3" = Countries colonized by the Spanish Empire	
PORC	"4" = Countries colonized by the Portuguese Empire	
DUTC	"5" = Countries colonized by the Dutch Empire	
GRMC	"6" = Countries colonized by the German Empire	
RUSC	"7" = Countries colonized by the Russian Empire	
OTCO	"8" = Countries colonized by other colonists	

Note: The Hofstede Centre Website provides data only for 102 countries ranging 0-100. However, there is no data in the Hofstede Centre website about the cultural dimensions for the remainder of the countries included in this thesis. Therefore, the data scores have been converted from 0-100 to 0-10 index scores with a view to estimate the cultural dimensions for countries with missing data. It is true to say that countries located in the same geographical region often have a very similar scores for their cultural dimensions. Hence, this study uses the same scores of cultural dimensions for countries with missing data as their neighbouring country, instead of excluding them from this study.

The study has limited the collection of data to 162 countries where there are full observations regarding their national antecedents for most, in addition to those countries where there are some missing values in certain years. However, countries where there is no information about any variable for all years spanning 1995- 2014 have been excluded from this study.

6.2.3.2 The Models of Economic Consequences of Adopting IAIs

Model specification does not merely refer to the empirical and methodological considerations, but it should also be based on theoretical statements about the causal relationship between the dependent variable and the independent variables included in a study (Allen, 1997). Therefore, this subsection reviews the definitions of all variables used in the model of economic consequences of ISAs and IFRS, including the dependent variable (economic consequences of ISAs and IFRS), independent variables (the adoption categories and the adoption status of ISAs and IFRS), and the control variables, which include three social factors, in addition to year dummies for the recent Financial Crisis of 2007-2008.

6.2.3.2.1 Dependent Variables for Economic Consequences Model of Adopting IAIs

Most prior empirical studies have examined the economic consequences of IFRS adoption at the micro-firm level in a single country, by using the cost of equity capital and market liquidity as proxies for the economic effects (e.g., Houqe et al., 2016; Utama et al., 2016; De Jong et al., 2006; Jang et al., 2016; Rehman & Shahzad, 2014; Castillo-Merino et al., 2014; Christensen et al., 2007), while only a very few studies examined the economic consequences of the IFRS at the micro-firm level and across a number of countries (e.g., Daske et al., 2013; Birau et al., 2014; Platikanova & Perramon, 2012). However, there have been no empirical studies conducted so far that examine the economic consequences of IFRS adoption at the macro-country level, by using a range set of economic indicators across countries. Therefore, this study uses macro-economic indicators provided by the World Bank website to examine the economic consequences of ISAs and IFRS adoption, including economic growth (*ECGR*), foreign direct investment (*FDI*), gross domestic product (*GDP*), exports (*EXPO*), imports (*IMPO*), inflation rates (*INFR*), official exchange rate (*EXCR*), and real interest rate (*INTR*).

6.2.3.2.2 Explanatory Variables for the Economic Consequences Models of adopting ISAs

Most prior empirical studies have examined the economic consequences of IFRS adoption at the micro-firm level in a single country by using the cost of equity capital and market liquidity as proxies for the economic effects (e.g., Houqe et al., 2016; Utama et al., 2016; De Jong et al., 2006; Jang et al., 2016; Rehman & Shahzad, 2014; Castillo-Merino et al., 2014; Christensen et al., 2007), while only a very few studies examined the economic consequences of the IFRS at the micro-firm level and across a number of countries (e.g., Daske et al., 2013; Birau et al., 2014; Platikanova & Perramon, 2012). However, there have been no empirical studies conducted so far that examine the economic consequences of ISAs and IFRS adoption at the macro-country level by using a wide range of key economic indicators across a considerable number of countries. Accordingly, the independent variables employed in the model of economic consequences of adopting the ISAs, which includes two main explanatory variables, namely the ISAs adoption categories (*ISAAC*) and the ISAs adoption status (*ISAAS*), in addition to a set of control variables.

Firstly, the adoption categories of the ISAs (*ISAAC*) involve the five adopter groups proposed by the DOI theory: experiments (*EXPRA*), early adopters (*ERADA*), early majority adopters (*ERMJA*), late majority adopters (*LTMJA*), and laggards (*LGGRA*). Secondly, the ISAs adoption status (*ISAAS*) comprises of another classification provided by various sources shown in Table 3. This classification includes non-adopters of ISAs (*NOAD*), ISAs are the local audit standards in the country with modifications (*WIAM*), ISAs are the local audit standards without amendments (*WOAM*), ISAs are the local audit standards with translation to the national language (*WITR*), ISAs are the local audit standards without translation to the national language (*WOTR*), ISAs are the national audit standards with modifications and translation to local language (*WAMT*), ISAs are mandatorily required to be adopted by the country law (*BLAW*), ISAs only apply in matters that not regulated by the local audit standards (*GMAT*), and financial statements issued under IFRS must be audited by the ISAs (*IFRSS*).

6.2.3.2.3 Explanatory Variables for the Economic Consequences Models of adopting IFRS

Following previous studies (e.g., Zaidi & Huerta, 2014; Chen et al., 2014; Lasmin, 2012; Houqe et al., 2012; Daske et al., 2013), this study uses IFRS adoption status as a main independent variable to examine the relationship between the economic consequences of adopting countries and IFRS adoption at the macro-country level. The independent variables used in the model of the economic consequences of adopting the IFRS include several explanatory variables, which represent different classifications of IFRS adoption status. These explanatory variables include IFRS adoption categories (*IFRSAC*), IFRS status for listed firms (*IFRSLF*), IFRS status for unlisted firms (*IFRSUF*), IFRS status for foreign firms (*IFRSFF*), IFRS adoption status for SMEs (*IFRSME*), in addition to a set of control variables, which include three social factors and the year dummies 08-09 (*D08-09*).

Firstly, IFRS adoption categories (*IFRSAC*) involves five groups: experiments (*EXPRF*), early adopters (*ERADF*), early majority (*ERMJF*), late majority (*LTMJF*), and laggards (*LGGRF*). Secondly, the IFRS status for listed firms (*IFRSLF*) comprises of the following groups: no local stock exchange (*NOSE*), IFRS is not required (*NREQ*), IFRS is not permitted (*NPER*), IFRS is required for all listed firms (*RFAL*), IFRS is permitted for all listed companies (*PFAL*), IFRS is required only for banks and insurance companies (*RFBI*), and IFRS is required for all firms except banks and insurance companies (*EXBI*). Thirdly, the IFRS status for unlisted firms (*IFRSUF*) includes the following divisions: IFRS is not required (*NORQ*), IFRS is not permitted (*NOTP*), IFRS is required for all unlisted domestic firms (*RADF*), IFRS is required for unlisted banks & insurance companies and permitted for others (*RBIP*), IFRS is permitted for all unlisted domestic firms (*PADF*), IFRS is required for unlisted financial institutions (*RFFI*), IFRS is required for publicly accountable firms (*RPAF*), and IFRS is permitted for all unlisted firms except banks and insurance companies (*PEBI*).

Fourthly, the IFRS status for foreign firms (*IFRSFF*) involves the following groups: IFRS is not applicable (*NOTA*), IFRS is not required for foreign firms (*NOTR*), IFRS is required for all foreign

companies (*RAFC*), IFRS is permitted for all foreign companies (*PAFC*), and IFRS is required for some foreign companies and permitted for others (*RSPO*). Finally, IFRS adoption status for SMEs (*IFRSME*) involves the two following groups: IFRS is not adopted by SMEs (*NSME*), and IFRS is adopted by SMEs (*ASME*).

6.2.3.2.4 Control Variable for the Economic Consequences Models of Adopting IAIs

Variables controlled in the model of economic consequences towards adopting the ISAs and IFRS are identical to those applied in the model of national antecedents of ISAs and IFRS (model 1). These variables include three administrative (social) proxies namely geographical regions (*GERI)*, official language (*OFLN*), and colonial history (*COHI*). Nevertheless, the model of economic consequences of ISAs and IFRS has also included the year dummies of 2008-09 (*D08-09*) to control for the effect of the most recent Financial Crisis of 2008-2009. Following prior studies (e.g., Kurt et al., 2012; Figlioli et al., 2017; Turki et al., 2016; Slaheddine, 2017), this study has used year dummies with a view to control for the impact of the global Financial Crisis of 2008-09 on the economic consequences of adopting countries during the global crisis period. Therefore, the year dummies (*D08-09*) represent the global Financial Crisis period which has been coded by giving the value of 1 for the crisis period namely 2008-2009, and the value of 0 for other periods from 1995-2007, and from 2010-2014.

6.2.3.2.5 Specification of the Economic Consequences Models of Adopting IAIs

All the dependent variables (macro-economic indicators) included in the models of economic consequences of ISAs and IFRS are naturally continuous and linearly dependent on a set of predictor variables. Therefore, this study assumes a linear relationship between the response variables (economic indicators) and the independent variables (the adoption categories and status of ISAs & IFRS), This can be achieved by using a multiple linear regression analysis based on a balanced panel of data for continuous response variables. Hence, this study uses a parametric test termed the multiple linear regression model, using the ordinary least squares estimator (OLS) to examine the cause-effect relationship between the economic consequences of adopting countries and the adoption of the ISAs and IFRS. However, this study employs two different models, because the explanatory variables included in the IFRS model are different from the ISAs model, which involves the ISAs adoption categories (*ISAAC*) proposed by the DOI theory, and the ISAs adoption status (*ISAAS*) in addition to a set of control variables. Therefore, equation (2) shows the multiple linear regression model applied for examining the effects of the ISAs adoption on the economic consequences, while equation (3) shows the linear regression model for studying the impact of IFRS adoption on the economic effects of the adopting countries, which are specified as the following equations:

$$\boldsymbol{ECISAs_{it} = \alpha_0 + \beta_1\, ISAAC_{it} + \beta_2\, ISAAS_{it} + \sum_{i=1}^{4} \beta_i\, CONTROLS_{it} + \varepsilon_{it}} \qquad (2)$$

Where, $ECISAs_{it}$ is the economic consequences of adopting the ISAs for a country (i) in a year (t), which involves a wide range of macro-economic indicators, including economic growth (*ECGR*), foreign direct investment (*FDI*), gross domestic product (*GDP*), exports (*EXPO*), imports (*IMPO*), inflation rates (*INFR*), official exchange rate (*EXCR*), and real interest rate (*INTR*). α_0 is the constant term, β_j are the coefficients on the independent variables, ISAs adoption categories ($ISAAC_{it}$) include the five adopter categories proposed by the DOI theory, which are experiments (*EXPRA*), early adopters (*ERADA*), early majority (*ERMJA*), late majority (*LTMJA*), and laggards (*LGGRA*). ISAs adoption status ($ISAAS_{it}$) comprises of the following classifications: non-adopters of ISAs (*NOAD*), ISAs are adopted with modifications (*WIAM*), ISAs are adopted without amendments (*WOAM*), ISAs are adopted with translation (*WITR*), ISAs are adopted without translation (*WOTR*), ISAs adopted with modifications and translation (*WAMT*), ISAs are required by the country law (*BLAW*), ISAs only apply in matters not regulated by the local standards (*GMAT*), and financial statements issued under IFRS must be audited by ISAs (*IFRSS*). $\sum_{i=1}^{4} \beta_i \, CONTROLS_{it}$ refers to three variables controlled in the model, which are identical to those used in Model (1), in addition to dummy year of crisis (*D08-09*), ε_{it} refers to the error term for country (i) in a year (t).

$$\boldsymbol{ECIFRS_{it} = \alpha_0 + \beta_1 \, IFRSAC_{it} + \beta_2 \, IFRSLF_{it} + \beta_3 \, IFRSUF_{it} + \beta_4 \, IFRSFF_{it} + \beta_8 \, IFRSME_{it} + \sum_{i=1}^{4} \beta_i \, CONTROLS_{it} + \varepsilon_{it}} \quad (3)$$

Where, $ECIFRS_{it}$ is the economic consequences of IFRS adoption for a country (i) in a year (t) which involves a wide range of macro-economic indicators, including economic growth (*ECGR*), foreign direct investment (*FDI*), gross domestic product (*GDP*), exports (*EXPO*), imports (*IMPO*), inflation rates (*INFR*), official exchange rate (*EXCR*), and real interest rate (*INTR*). α_0 is the constant term, β_j are the coefficients on the independent variables, the explanatory variables used in the model of economic consequences of adopting the IFRS includes IFRS adoption categories (*IFRSAC*), IFRS status for listed firms (*IFRSLF*), IFRS status for unlisted firms (*IFRSUF*), IFRS status for foreign firms (*IFRSFF*), IFRS adoption status for SMEs (*IFRSME*). $\sum_{i=1}^{4} \beta_i \, CONTROLS_{it}$ refer to three variables controlled by the model of economic consequences of IFRS, which are identical to those used in Model (1), in addition to the year dummies to control for the global Financial Crisis period (D08-09). ε_{it} refers to the error term for a country (i) in a year (t).

Table 3 shows the definitions, measures and data sources of all the dependent variables, independent and control variables used in the models of the economic consequences of the international accounting innovations as they were defined in the equation (2) and equation (3).

Table 3: Summary of all variables used in the economic consequences of the international accounting innovations models (*ISAs & IFRS*)

Variables	*Definitions and measures*	*Sources of data*
Dependent variables		
ECGR (%)	The annual percentage of growth rate change of real gross domestic product (GDP) at market prices and is based on constant local currency. Then, a country's constant local price of GDP is converted into constant 2010 U.S. Dollars to produce constant price GDP aggregates. Accordingly, the GDP growth data for all years included in this study 1995-2014 are based on constant 2010 prices.	The World Bank national accounts data, and OECD National Accounts, accessed on 10/03/2016, available at https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG
FDI (%)	The foreign direct investments are the net inflows of new investments from foreign investors. The net inflows of new foreign investments include the sum of equity capital, as well as the other long-term and short-term capital divided by the GDP.	The World Bank, International Debt Statistics, World Bank & OECD GDP estimates, and International Monetary Fund (IMF), accessed on 10/03/2016, available at https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS
GDP ($)	The gross domestic product (GDP) is the total market values of the final goods and services produced in a specific year by governments, companies, or foreigners operating in a country. Accordingly, a country's local currency converted from domestic currency into different current U.S prices using the official exchange rates for certain years such as 1990, 2000, 2010.	The World Bank national accounts data, and OECD National Accounts, accessed on 10/03/2016, available at https://data.worldbank.org/indicator/NY.GDP.MKTP.CD The IMF Website accessed on 10/03/2016 available at http://www.imf.org/external/pubs/ft/weo/2015/02/weodata/weoselgr.aspx
EXPO ($)	The export of goods and services represent the total market value of goods and services produced in a country and shipped to the rest of the world's countries measured in current U.S. dollars to facilitate international trade among countries.	The World Bank national accounts data, and OECD National Accounts, accessed on 10/03/2016, available at https://data.worldbank.org/indicator/NE.EXP.GNFS.CD
IMPO ($)	The imports of goods and services represent the volume of all goods and services received from the rest of the world's countries, including transport and shipping services measured in current U.S. dollars to facilitate international trade among countries.	The World Bank, and the International Monetary Fund (IMF) Website, accessed on 10/03/2016, available at https://data.worldbank.org/indicator/BM.GSR.GNFS.CD
INFR (%)	The inflation rate refers to overall increases in the general level of prices for goods and services, thus reducing the purchasing power of local currency of a country. Inflation is generally measured by a consumer price index (CPI) to determine the annual percentage change of the prices for core goods and services over time.	The World Bank, and the International Monetary Fund (IMF) Website, accessed on 10/03/2016, available at https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG

Continuation: Table 3		
Dependent variables	***Definitions and measures***	***Sources of data***
EXCR ($)	The official exchange rate refers to the annual average of local currency units based on monthly averages relative to the U.S. dollar. The official exchange rate is a fixed exchange rate system determined by national authorities where a national currency is tied to the value of the U.S.D. The floating exchange rate is a flexible exchange rate regime subject to market forces and dependent on supply and demand, thus it generally fluctuates constantly.	The World Bank, the International Monetary Fund (IMF), and the International Financial Statistics (IFS), accessed on 10/03/2016, available at https://data.worldbank.org/indicator/PA.NUS.FCRF The Organisation for Economic Co-operation & Development (OECD), accessed on 10/03/2016, available at https://data.oecd.org/conversion/exchange-rates.htm
INTR (%)	The real interest rate is the percentage of lending interest rate adjusted for inflation rate. The data of real interest rates are measured by deducting the expected annual inflation rate from the annual nominal (market) interest rate.	The World Bank data, International Monetary Fund (IMF), and the International Financial Statistics, accessed on 10/03/2016, available at https://data.worldbank.org/indicator/FR.INR.RINR
Independent variables (adopter categories and status of the ISAs)		
ISAAC *EXPRA* *ERADA* *ERMJA* *LTMJA* *LGGRA*	The adoption categories of ISAs (ISAAC) involve the five adopter groups proposed by the DOI theory, which are: "1" = Experiments refer to countries adopted the ISAs before 1995 "2" = Early adopters refer to countries adopted the ISAs 1995-2000 "3" = Early majority refer to countries adopted the ISAs 2001-2006 "4" = Late majority refer to countries adopted the ISAs 2007-2014 "5" = Laggards refer to countries haven't adopted the ISAs till 2014	Reports on the Observance of Standards and Codes (ROSCs) provided by the World Bank Group, accessed on 10/03/2016, available at http://www.worldbank.org/ifa/rosc_aa.html Basis of ISA Adoption by Jurisdiction from the IFAC website, accessed on 10/03/2016, available at, http://www.ifac.org/system/files/uploads/MBD/Basis-of-ISA-Adoption-by-Jurisdiction-August-2012.pdf
ISAAS *NOAD* *WIAM* *WOAM* *WITR* *WOTR* *WAMT* *BLAW* *GMAT* *IFRSS*	The adoption status of ISAs involves several classifications and the data were coded as follows: "0" = Non-adopters of ISAs (laggards) "1" = ISAs are the local audit standards with modifications "2" = ISAs are the local audit standards without amendments "3" = ISAs are the local audit standards with translation "4" = ISAs are the local audit standards without translation "5" = ISAs are national standards with modifications & translation "6" = ISAs are required to be adopted mandatory by the law "7" = ISAs only apply in matters not regulated by local audit standards "8" = Financial statements issued under IFRS must be audited by ISAs	Action Plan Template – IFAC, accessed on 10/03/2016, available at https://www.ifac.org/system/files/compliance-assessment Reports on the Observance of Standards and Codes (ROSCs) – World Bank Group, accessed on 10/03/2016, available at http://www.worldbank.org/ifa/rosc_aa.html Basis of ISA Adoption by Jurisdiction -IFAC website, accessed on 10/03/2016, available at, http://www.ifac.org/system/files/uploads/MBD/Basis-of-ISA-Adoption-by-Jurisdiction-August-2012.pdf Use of IFRS by jurisdiction from Deloitte Touche Tohmatsu website, IASplus, 2015, accessed on 10/03/2016, available at https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs

Continuation: Table 3		
Independent variables (adopter categories and status of the IFRS)		
Independent variables	***Definitions and measures***	***Sources of data***
IFRSAC	The IFRS adopter categories are based on the first-time adoption of the IFRS by a country, which is derived from the DOI theory:	Use of IFRS by jurisdiction from Deloitte Touche Tohmatsu website, IASplus, 2015. accessed on 10/03/2016, available at https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs IFRS adoption by country provided by the PWC website, accessed on 10/03/2016, available at https://www.pwc.com/us/en/issues/ifrs-reporting/publications/assets/pwc-ifrs-by-country-2014.pdf Use of IFRS Standards by jurisdiction provided by the IFRS Foundation (IFRS.org), accessed on 10/03/2016, available at http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/
EXPRF	"1" = Experiment refers to countries adopted the IFRS before 1995	
ERADF	"2" = Early adopter refers to countries adopted the IFRS 1995-2000	
ERMJF	"3" = Early majority refers to countries adopted the IFRS 2001-2004	
LTMJF	"4" = Late majority refers to countries adopted the IFRS 2005-2014	
LGGRF	"5" = Laggards refers to countries haven't adopted the IFRS till 2014	
IFRSLF	The IFRS adoption status for domestic listed firms	Use of IFRS by jurisdiction from Deloitte Touche Tohmatsu website, IASplus, 2015, accessed on 10/03/2016, available at https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs IFRS adoption by country provided by the PWC website, accessed on 10/03/2016, available at https://www.pwc.com/us/en/issues/ifrs-reporting/publications/assets/pwc-ifrs-by-country-2014.pdf Use of IFRS Standards by jurisdiction provided by the IFRS Foundation (IFRS.org), accessed on 10/03/2016, available at http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/
NOSE	"0" = there is no local stock exchange in the country	
NREQ	"1" = IFRS is not required for domestic listed companies	
NPER	"2" = IFRS is not permitted for domestic listed companies	
RFAL	"3" = IFRS is required for all domestic listed firms	
PFAL	"4" = IFRS is permitted for all domestic listed companies	
RFBI	"5" = IFRS is required only for domestic banks and insurance firms	
EXBI	"6" =IFRS is required for listed firms except banks & insurance firms	
IFRSUF	The IFRS status for domestic unlisted firms	Use of IFRS by jurisdiction from Deloitte Touche Tohmatsu website, IASplus, 2015, accessed on 10/03/2016, available at: https://www.iasplus.com/en/resources/ifrs-topics/use-of-ifrs Use of IFRS Standards by jurisdiction provided by the IFRS Foundation (IFRS.org), accessed on 10/03/2016, available at: http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/
NORQ	"0" = IFRS is not required for domestic unlisted firms	
NOTP	"1" = IFRS is not permitted for domestic unlisted firms	
RADF	"2" = IFRS is required for all domestic unlisted firms	
RBIP	"3" = IFRS is required for domestic unlisted banks & insurance firms	
PADF	"4" = IFRS is permitted for all domestic unlisted firms	
RFFI	"5" = IFRS is required for domestic unlisted financial institutions	
RPAF	"6" = IFRS is required for publicly accountable firms	
PEBI	"7" =IFRS is permitted for unlisted firms except banks& insurance	
IFRSFF	The IFRS adoption status for foreign firms	Use of IFRS Standards by jurisdiction provided by the IFRS Foundation (IFRS.org), accessed on 10/03/2016, available at: http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/
NOTA	"0" = IFRS is not applicable	
NOTR	"1" = IFRS is not required for foreign firms	
RAFC	"2" = IFRS is required for all foreign companies	
PAFC	"3" = IFRS is permitted for all foreign companies	
RSPO	"4" = IFRS is required for some foreign firms, permitted for others	

Continuation: Table 3		
Independent variables (adopter categories and status of the IFRS)		
Independent variables	***Definitions and measures***	***Sources of data***
IFRSME *NSME* *ASME*	The IFRS adoption status for SMEs "0" = IFRS is not adopted by SMEs "1" = IFRS is adopted by SMEs	Use of IFRS Standards by jurisdiction provided by the IFRS Foundation IFRS.org, accessed on 10/03/2016, available at: http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/
Control variables		
GERI *EURO* *NLSA* *CSAS* *EASP* *MENA* *AFRC*	The geographical regions "1" = The country is in Europe "2" = The country is in North, Latin and South America "3" = The country is in Central & South Asia "4" = The country is in East Asia & Pacific "5" = The country is in Middle East & North Africa "6" = The country is in Sub-Saharan Africa	The classification of all countries by the continental regions presented at the World Bank website, accessed on 10/03/2016, available at http://www.worldbank.org/en/where-we-work
OFLN *ENGL* *FRNL* *SPNL* *ARBL* *GRML* *RUSL* *OTLN*	The official language per group "1" = English is an official language in the country "2" = French is an official language in the country "3" = Spanish is an official language in the country "4" = Arabic is an official language in the country "5" = German is an official language in the country "6" = Russian is an official language in the country "7" = Other languages are official languages in the country	The World Factbook website established by the Central Intelligence Agency (CIA), accessed on 10/03/2016, available at https://www.cia.gov/library/publications/the-world-factbook/fields/2098.html
COHI *NEVC* *BRTC* *FRNC* *SPNC* *PORC* *DUTC* *GRMC* *RUSC* *OTCO*	The colonial history "0" = Never colonized countries "1" = Countries colonized by the British Empire "2" = Countries colonized by the French Empire "3" = Countries colonized by the Spanish Empire "4" = Countries colonized by the Portuguese Empire "5" = Countries colonized by the Dutch Empire "6" = Countries colonized by the German Empire "7" = Countries colonized by the Russian Empire "8" = Countries colonized by other colonists	The World Factbook website established by the Central Intelligence Agency (CIA), accessed on 10/03/2016, available at https://www.cia.gov/library/publications/the-world-factbook/fields/2088.html
D08-09	Year dummy for the crisis period, where 1= 2008-2009, 0 = otherwise	Year dummies for the research period spanning from 1995-2014

6.3 Chapter Summary

This chapter has covered four major factors and provided justifications for each element applied in this study, including the research philosophy, research methodology, research quality and research variables. This study has primarily relied on objective data. Therefore, this study has adopted the following philosophical underpinnings: positivism paradigm, deductive approach, value-free research, and quantitative research approach.

The quantitative research methodology applied in this study is the non-experimental research design known as causal-comparative research design. Accordingly, this study relied on archival secondary data that was prepared by several reliable international bodies, such as the World Bank and the IMF and covered different observations on the same throughout the period from 1995 - 2014. Hence, this study has used longitudinal data (panel study) because the data contains time series and cross-sectional data for all subjects combined. Moreover, the sampling method used in this study is the non-probability sampling technique known as the convenience (availability) sampling method. Therefore, due to the limited availability of the required data, the sample size in this study has been divided into two groups. The sample size for the antecedents group includes 162 countries, whilst the sample size for the economic consequences group covered 185 countries, and both samples are divided into five adopter groups based on their adoption time, as suggested by the DOI theory.

Regarding the criteria used for assessing the quality of this research, this study has provided good internal validity of the causal relationship between most of the salient variables included in this thesis. This study shows a higher level of generalizability (external validity) because the sizes of the chosen samples are still relatively large in comparison to the population size, which represent approximately 83%, and 94% of the target population. This study demonstrates an appropriate level of construct validity because of the consistency between the results obtained and the multiple theoretical framework applied. The reliability of the secondary data used in this study has been established and can be achieved if the same study were to be repeated.

As indicated earlier, this study investigates two key issues, namely the national antecedents of ISAs and IFRS adoption, in addition to the economic consequences of ISAs and IFRS adoption. Therefore, this study employed three different models, because the dependent and independent variables used in each model are different. Accordingly, Model (1) was employed to examine the national antecedents of ISAs and IFRS adoption. Model (2) was applied to investigate the economic consequences of adopting the ISAs. Model (3) was employed to examine the economic consequences of adopting the IFRS. The next chapter discusses the quantitative data analysis methods applied in this study, which involve descriptive and inferential statistical techniques. The descriptive analysis will include a summary of the univariate and bivariate analyses. The inferential statistics will involve non-parametric data analysis methods for the antecedents' model and a parametric data analysis for the consequence's models.

Chapter Seven : Descriptive Statistics

7. Aims of the Chapter

This chapter discusses the descriptive statistics of the data relevant to all dependent, independent and control variables included in the three statistical models employed in this study, including the models of antecedents of international accounting innovations and the models of economic consequences of adopting IAIs. The descriptive statistics included in this chapter comprise of two major descriptive statistical methods, including univariate and bivariate statistics. Firstly, Section 7.1 discusses the univariate statistics, which refers to a summary of descriptive statistics of all variables involved in the three models applied in this study, including the most common numerical and graphical measures of central tendency, dispersion, and frequency tables (tabulation). Secondly, Section 7.2 discusses the bivariate statistics, which refers to the summary of the Pearson and Spearman correlation matrices of all variables involved in the three models applied in this study. Finally, Section 7.3 outlines a brief summary of this chapter.

7.1 Univariate Descriptive Statistics

This study aims to explain if diversity in adopting the international accounting innovations among different countries can be expounded by investigating the classification of countries based on their first-time adoption, as suggested by the DOI theory. This can be conducted by individually examining the characteristics of the five adopter categories. The five groups of adopter categories are essentially defined according to how early or how late they adopt the international accounting innovations. Furthermore, this study examines the economic consequences of ISAs and IFRS adoption across the five groups of adopter categories, proposed by the DOI theory. Accordingly, the following subsections provide an explanation regarding the descriptive statistics of all variables included in each regression model and across the five adopter categories.

The following subsections report the descriptive statistics of dependent variables as well as the descriptive statistics of explanatory and control variables included in the models of national antecedents of the international accounting innovations. Afterwards, the next subsections describe the descriptive statistics of dependent variables in addition to independent and control variables included in the models of the economic consequences of ISAs and IFRS adoption.

7.1.1 Descriptive Statistics of All Variables Included in the Antecedents Model of ISAs Adoption

This subsection discusses a statistical summary of all variables, including the dependent, independent and control variables used in the model of national antecedents of ISAs adoption.

7.1.1.1 Descriptive Statistics of Dependent Variable Applied in the Antecedents Model of ISAs

The sample data used in the model of antecedents of ISAs adoption covers 162 countries over 20 years, thus, the resulting sample includes 3,240 observations, which is relatively large and adequate,

since it represents roughly 83% of the data distribution of the target population. Therefore, larger samples can provide more precise statistical parameters, such as the mean and standard deviation.

Figure 2 provides a summary of the number of countries that have adopted the ISAs based on their first-time adoption across the five adopter categories proposed by the DOI theory, which represents the dependent variable used in the model of antecedents of the ISAs. Four remarkable findings can be deduced from Figure 2. Firstly, more than 65% of the world's countries have adopted the ISAs up to 2014, with a total of 129 countries. Secondly, the late majority adopter category of the ISAs has the highest number of countries, that have adopted the ISAs with 57 countries since the global Financial Crisis of 2007-2008. Thirdly, only 6 countries have been classified as experimenters of ISAs adoption, including Jordan, Malta, the Netherlands, Peru, Slovenia and Sri Lanka, because they were the first 6 countries that adopted the ISAs since they were issued by the IFAC in 1991 up to 1995. Finally, consistent with the DOI theory, and in line with prior studies (Dayyala et al. 2016; Yoha & Jimoh, 2011), the number of adopters often increases over time, which confirms the theoretical framework suggested by the DOI theory. Similarly, Figure 2 shows that the number of countries that adopted the ISAs has increased over time from 6 countries from 1991-1995 to 27 countries from 1996-2000, then to 72 countries over the earlier years from 2001 to 2006, which, thereafter, reached 129 countries over the period of 2007-2014.

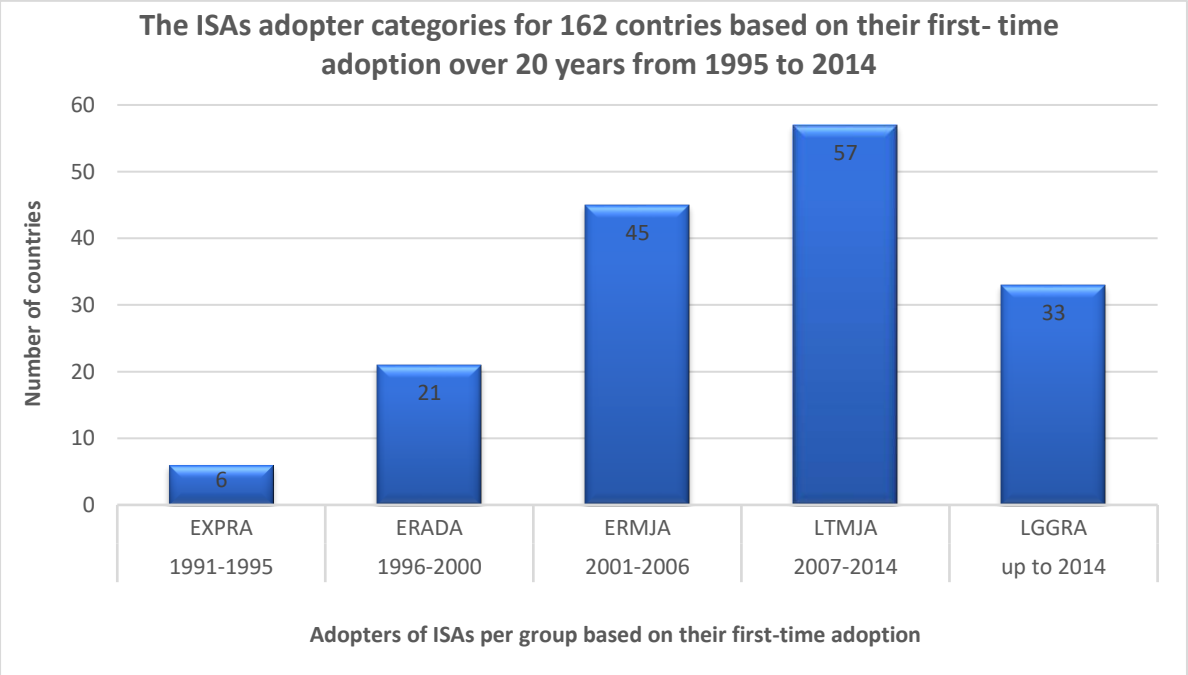


Figure 2: Summary of the ISAs adopter categories for 162 countries over 1995-2014

7.1.1.2 Descriptive Statistics of Continuous Independent Variables Included in the Antecedents Model of ISAs Adoption

This subsection reports on the descriptive statistical summary of all continuous independent variables included in the model of antecedents of ISAs adoption. For continuous data, the mean is the most used measure of the central tendency (location), whereas the standard deviation is the most common measure of statistical dispersion or the variability of a distribution (Manikandan, 2011). The distribution shapes are often described graphically by using either a histogram or frequency polygons. However, the categorical data are often displayed by using frequency tables and graphically by using a pie chart or a bar chart (Dewberry, 2004). Therefore, this study uses mean and standard deviation to describe the location and spread of the data values for continuous data, in addition to using graphs.

Table 4 presents a summary of the descriptive statistics of continuous independent variables included in the model of national antecedents of ISAs for 162 countries over the period of 1995-2014. With respect to the continuous explanatory variables, Panels A, B, C and D of Table 4 show that there is considerable variation in the continuous independent variables included in the model of national antecedents of ISAs adoption, especially for the late majority group. In terms of shareholder protection, panel A of Table 5 shows that the early majority and the late majority groups have greater dispersion scores for *SHPR*, with a mean of 6.04, 5.25 and higher standard deviation values of 2.55 and 2.25 respectively. This suggests that the early majority group is the most variable group amongst the other ISAs adopter categories, since it ranges from 0-12, while the late majority group has a lower mean and much less variation amongst the early majority group, since it ranges from 1-10. This was also emphasized by the variance values for each group, which report that the data points relevant to *ERMJA* and *LTMJA* tend to be far away from the mean, while data related to both the *LGGRA* group tend to be quite close to the mean. Consistent with existing ISAs studies (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016), there is a wide variability in the data relevant to *ERMJA* in the adoption levels of the ISAs, which is expected to result from the directive 2006/43/EC regulated by the European Union.

Regarding the judicial efficiency level, Panel A of Table 4 shows that the early majority and late majority groups have the highest variable values among the other adopter categories of the ISAs. The data relevant to *JUEF* ranges between 1.20 and 9.20 for the *ERMJA* group and from 0.50 to 9.40 *LTMJA* groups, with a mean of 4.56, 5.04 and standard deviation of 1.80, 1.75 respectively. This suggests that there is a substantial variation in the judicial efficiency among countries that are classified in the early and late majority groups, which provides equivalent results demonstrated by previous studies (Boolaky et al., 2013; Boolaky, 2011; Cai et al., 2014). This was also emphasized by the variance values for each group, which report that the data points relevant to *ERMJA* and *LTMJA* tend to be far away from the mean, while the data related to both the *LGGRA* group tend to be quite close to the mean.

Table 4: Summary of the descriptive statistics of continuous variables included in the model of national antecedents of the ISAs for 162 countries over the period of 1995-2014

Variables	*ISAAC*	N	%	Mean	Std. D	Variance	Min	Max
Panel A: Legal Factors (LEGF)								
	EXPRA	120	3.7%	3.78	1.66	2.74	0.00	8.00
	ERADA	420	13.0%	6.39	2.03	4.12	1.00	10.00
SHPR	*ERMJA*	720	22.2%	6.04	2.55	6.50	0.00	12.00
	LTMJA	1320	40.7%	5.25	2.25	5.06	0.00	11.00
	LGGRA	660	20.4%	3.78	1.88	3.52	0.00	12.00
	EXPRA	120	3.7%	5.39	1.65	2.73	2.30	9.50
	ERADA	420	13.0%	4.09	1.44	2.06	1.30	9.50
JUEF	*ERMJA*	720	22.2%	4.56	1.80	3.24	1.20	9.20
	LTMJA	1320	40.7%	5.04	1.75	3.05	0.50	9.40
	LGGRA	660	20.4%	3.71	1.68	2.82	0.00	9.20
	EXPRA	120	3.7%	1.59	0.60	0.36	0.00	2.00
	ERADA	420	13.0%	1.16	0.75	0.56	0.00	2.00
JUIN	*ERMJA*	720	22.2%	0.99	0.76	0.58	0.00	2.00
	LTMJA	1320	40.7%	1.09	0.80	0.65	0.00	2.00
	LGGRA	660	20.4%	0.61	0.70	0.49	0.00	2.00
	EXPRA	120	3.7%	7.20	1.82	3.30	4.20	10.00
	ERADA	420	13.0%	5.63	2.07	4.28	1.70	10.00
LSIN	*ERMJA*	720	22.2%	5.96	2.14	4.57	1.70	10.00
	LTMJA	1320	40.7%	6.34	2.35	5.53	0.00	10.00
	LGGRA	660	20.4%	4.48	2.24	5.02	0.00	10.00
Panel B: Political Factors (POLF)								
	EXPRA	120	3.7%	0.47	0.86	0.74	-0.82	1.72
	ERADA	420	13.0%	0.18	0.66	0.44	-1.06	1.83
VOAC	*ERMJA*	720	22.2%	-0.06	0.84	0.71	-2.04	1.76
	LTMJA	1320	40.7%	0.12	1.01	1.01	-2.22	1.81
	LGGRA	660	20.4%	-0.75	0.82	0.68	-2.04	1.47
	EXPRA	120	3.7%	0.17	1.08	1.16	-1.93	1.67
	ERADA	420	13.0%	-0.06	0.74	0.55	-1.84	1.44
POST	*ERMJA*	720	22.2%	-0.17	0.84	0.71	-3.18	1.50
	LTMJA	1320	40.7%	0.02	0.97	0.95	-2.81	1.66
	LGGRA	660	20.4%	-0.57	1.12	1.26	-2.99	1.32
	EXPRA	120	3.7%	0.73	0.64	0.41	-0.35	2.08
	ERADA	420	13.0%	0.17	0.67	0.45	-1.10	1.92
REQU	*ERMJA*	720	22.2%	0.13	0.91	0.83	-2.17	2.25
	LTMJA	1320	40.7%	0.22	0.97	0.94	-2.34	1.91
	LGGRA	660	20.4%	-0.64	0.82	0.67	-2.41	1.74
	EXPRA	120	3.7%	0.59	0.87	0.76	-0.59	2.32
	ERADA	420	13.0%	-0.12	0.88	0.77	-1.49	2.55
COCU	*ERMJA*	720	22.2%	-0.11	1.02	1.04	-1.58	2.46
	LTMJA	1320	40.7%	0.20	1.06	1.12	-1.82	2.59
	LGGRA	660	20.4%	-0.51	0.83	0.68	-2.06	2.16
Panel C: Cultural Factors (CULF)								
	EXPRA	120	3.7%	6.50	1.30	1.68	4.00	8.00
	ERADA	420	13.0%	6.69	1.66	2.76	2.00	9.00
PWDS	*ERMJA*	720	22.2%	6.83	2.02	4.08	2.50	9.50
	LTMJA	1320	40.7%	6.58	2.00	3.99	1.50	10.00
	LGGRA	660	20.4%	7.15	1.27	1.62	3.50	9.50

Continuation: Table 4								
Variables	***ISAAC***	**N**	**%**	**Mean**	**Std. D**	**Variance**	**Min**	**Max**
	EXPRA	120	3.7%	7.42	2.04	4.15	4.50	10.00
	ERADA	420	13.0%	6.93	2.25	5.07	2.50	10.00
UNAV	*ERMJA*	720	22.2%	6.22	2.64	6.95	1.00	10.00
	LTMJA	1320	40.7%	6.62	1.78	3.18	3.00	10.00
	LGGRA	660	20.4%	5.82	1.45	2.09	1.50	9.50
	EXPRA	120	3.7%	4.25	2.09	4.35	2.00	8.00
	ERADA	420	13.0%	3.76	1.97	3.88	1.50	7.50
INDV	*ERMJA*	720	22.2%	3.68	2.17	4.69	1.50	9.00
	LTMJA	1320	40.7%	3.96	2.06	4.26	1.50	9.00
	LGGRA	660	20.4%	2.91	1.65	2.71	1.50	9.50
	EXPRA	120	3.7%	3.08	1.62	2.64	1.00	5.00
	ERADA	420	13.0%	5.07	1.59	2.54	1.00	8.00
MASC	*ERMJA*	720	22.2%	4.90	1.36	1.85	2.50	7.00
	LTMJA	1320	40.7%	5.08	1.69	2.85	1.00	10.00
	LGGRA	660	20.4%	4.94	1.51	2.27	1.00	7.00
	EXPRA	120	3.7%	4.33	1.68	2.83	2.00	7.00
	ERADA	420	13.0%	4.55	2.28	5.18	1.50	10.00
LTOR	*ERMJA*	720	22.2%	4.18	2.04	4.15	1.50	9.00
	LTMJA	1320	40.7%	4.14	2.10	4.42	1.00	9.50
	LGGRA	660	20.4%	3.12	1.28	1.64	1.50	8.50
	EXPRA	120	3.7%	5.25	1.41	2.00	3.00	7.00
	ERADA	420	13.0%	4.57	2.23	4.97	1.50	9.00
INDU	*ERMJA*	720	22.2%	4.83	2.43	5.90	0.00	10.00
	LTMJA	1320	40.7%	5.20	2.53	6.39	0.00	10.00
	LGGRA	660	20.4%	4.73	2.12	4.48	2.00	10.00
Panel D: Educational Factors (EDUF)								
	EXPRA	120	3.7%	16.91	6.62	43.77	7.08	32.74
	ERADA	420	13.0%	12.93	8.26	68.27	0.97	39.80
EDAT	*ERMJA*	720	22.2%	16.18	13.55	183.48	0.19	62.02
	LTMJA	1320	40.7%	12.58	9.82	96.48	0.02	47.67
	LGGRA	660	20.4%	9.37	10.71	114.79	0.33	57.28
	EXPRA	120	3.7%	95.94	4.86	23.60	85.55	99.86
	ERADA	420	13.0%	92.03	10.58	112.01	63.62	100.00
LITR	*ERMJA*	720	22.2%	90.66	10.50	110.18	64.05	100.00
	LTMJA	1320	40.7%	86.24	15.54	241.50	42.36	99.95
	LGGRA	660	20.4%	73.67	23.90	571.11	19.41	99.96
	EXPRA	120	3.7%	4.17	0.91	0.83	2.09	5.31
	ERADA	420	13.0%	3.60	0.84	0.70	1.91	5.81
QEDS	*ERMJA*	720	22.2%	3.75	0.85	0.73	2.13	6.22
	LTMJA	1320	40.7%	3.78	0.96	0.92	1.97	6.24
	LGGRA	660	20.4%	2.89	0.96	0.92	1.72	5.82

Note: The abbreviations of variables are as follows: the ISAs adopter categories (*ISAAC*), which includes five main categories namely experimenters group (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*); laggards group (*LGGRA*); national antecedents of ISAs adoption involve four key factors namely, i) legal factors (*LEGF*); shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*), ii) political factors (*POLF*) voice and accountability (*VOAC*); political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*), iii) cultural factors (*CULF*), power distance (*PWDS*); individualism level (*INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC*); long-term orientation (*LTOR*); indulgence level (*INDU*), iv) educational factors (*EDUF*), educational attainment (*EDAT*); youth literacy rates (*LITR*); quality of the education system (*QEDS*).

In terms of judicial independence, Panel A of Table 4 summarizes that the judicial independence for the *ERMJA* and *LTMJA* groups have the highest averages and substantial variation scores among the other adopter categories. The score of *JUIN* for the *ERMJA* group ranges from 0-2 with an average of 0.99, and a standard deviation of 0.76. Whereas, the judicial independence score for the *LTMJA* group ranges from 0-2, with an average of 1.09, and standard deviation of 0.80. This was also emphasized by the variance values for each group, which report that the data points relevant to the *LTMJA* group tend to be far away from the mean, while data related to *ERMJA* and *ERADA* groups tend to be quite close to the mean. This indicates that there is considerable variation in the judicial independence scores among countries, which is in line with the previous studies (Avram et al., 2015; Houqe et al., 2012; Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014; Houqe et al., 2016).

With respect to the integrity of the legal system, Panel A of Table 4 shows that the *LTMJA* group and the *LGGRA* groups have the highest averages and substantial variation scores among the other adopter groups. The data relevant to the *LTMJA* group ranges from 0-10 with an average of 6.34, and a higher standard deviation of 2.35, whilst the data relevant to the *LGGRA* group ranges from 0-10 with an average of 4.48, and standard deviation of 2.24. This was also emphasized by the variance values for each group, which report that the data relevant to the *LTMJA* and *LGGRA* groups tend to be far away from the mean, while data related to the *ERADA* and *ERMJA* groups tend to be quite close to the mean. This denotes that there are substantial variation values relevant to the integrity of the legal system scores among countries and in line with prior studies (La Porta et al., 1998; Francis & Wang, 2008).

A summary of the descriptive statistics for the governance indicators are reported in Panel B of Table 4. In terms of voice and accountability index, Panel B of Table 4 shows that the early majority and late majority groups of *VOAC* have greater dispersion values among the other adopter categories of the ISAs. The data relevant to the *ERMJA* group ranges from -2.04 to 1.76, with an average of -0.06 and standard deviation of 0.84, whereas, the data regarding the *LTMJA* group ranges from -2.22 to 1.81, with a mean of 0.12 and a standard deviation of 1.01. This implies that there is considerable variation in the importance of voice and accountability among countries in the adoption of the ISAs, which are supported by previous research (Houqe et al., 2012; Houqe & Monem, 2013; Othman & Zeghal, 2008; Gresilova, 2013; Avram et al., 2015; Alon & Dwyer, 2014). This is confirmed by the variance values for each group, which report that the data relevant to *ERMJA & LTMJA* groups tend to be far away from the mean, while the data related to the *ERADA* and *LGGRA* groups tend to be quite close to the mean.

Regarding the political stability index, Panel B of Table 4 shows that the late majority and laggard's groups of *POST* have the highest variable values among the other adopter categories of the ISAs. The data relevant to the *LTMJA* group ranges from -2.81 to 1.66, with an average of 0.02 and a standard deviation of 0.97, whereas, the data regarding the LGGRA group ranges from -2.99 to 1.32, with a mean of -0.57 and a standard deviation of 1.12. This implies that there is a considerable variation in the

importance of political stability among countries in the adoption of the ISAs, which is consistent with prior IFRS studies (Ozcan, 2016; Gresilova, 2013; Riahi & Khoufi, 2017a; Pricope, 2014; Fajri et al., 2012; Rios-Figueroa, 2016). This is emphasized by the variance values for each group, which report that the data relevant to the *LTMJA* and *LGGRA* groups tend to be far away from the mean, while the data relating to the *ERADA* and *ERMJA* groups tend to be quite close to the mean.

With respect to the regulatory quality index, Panel B of Table 4 reports that the early majority and late majority groups of *REQU* have the highest variable values among the other adopter categories of the ISAs. The data relevant to the *ERMJA* group ranges from -2.17 to 2.25, with an average of 0.13 and standard deviation of 0.91, whilst the data relating to the *LTMJA* group ranges from -2.34 to 1.91, with a mean of 0.22 and standard deviation of 0.97. This denotes that there is a substantial dispersion in the score of regularity quality among countries in the adoption of the ISAs, which is consistent with prior IFRS studies (Wieczynska, 2016; Gresilova, 2013; Louis & Urcan, 2012; Avram et al., 2015; Christensen et al., 2013). This is confirmed by the variance values for each group, which report that the data relevant to *ERMJA* and *LTMJA* groups tend to be far away from the mean, while the data relating to the *ERADA* and *LGGRA* groups tend to be quite close to the mean.

With respect to the control of corruption score, Panel B of Table 4 reports that the early majority and late majority groups of *COCU* have greater dispersion values among the other adopter categories of ISAs. The data relevant to *ERMJA* group ranges from -1.58 to 2.46, with an average of -0.11 and a standard deviation of 1.02, whilst the data regarding the *LTMJA* group ranges from -1.82 to 2.59, with an average of 0.20 and a standard deviation of 1.06. This indicates that there is considerable variation in the control of corruption score among countries in the adoption of the ISAs, which is in line with prior studies (Amiram, 2012; Rahman, 2016; Nurunnabi, 2015a; Riahi & Khoufi, 2017; Uchenna, 2016; Borker, 2016). This is confirmed by the variance values for each group, which report that the data relevant to the *ERMJA* and *LTMJA* groups tends to be far away from the mean, while the data relating to the *ERADA* and *LGGRA* groups tend to be quite close to the mean.

A summary of the descriptive statistics for the cultural dimensions are reported in Panel C of Table 4. In terms of the power distance index, Panel C of Table 4 shows that the *LGGRA* group exhibits the lowest dispersed data regarding the *PWDS* cultural dimension, with a higher average of 7.15, and a smaller standard deviation value of 1.27, revealing that the data of the *LGGRA* group are tightly clustered around the mean. However, consistent with the variability in the power distance levels among countries reported by the prior IFRS literature (Akman, 2011; Neidermeyer et al., 2012; Clements et al., 2010; Borker, 2014; Cardona et al., 2014; Borker, 2012), the *ERMJA* and *LTMJA* groups exhibit the highest variability score and the greater dispersion values among the other adopter categories of the ISAs. The data relevant to the *ERMJA* group ranges from 2.50 to 9.50, with an average of 6.83 and a standard deviation of 2.02, whereas the data regarding the *LTMJA* group ranges from 1.50 to 10.00,

with a mean of 6.58 and standard deviation of 2.00, suggesting that there is significant variation in the power distance index among countries included in the *ERMJA* and *LTMJA* adopter categories of the ISAs. This was also supported by the variance values, which report that the data relevant to the *ERMJA* and *LTMJA* groups tend to be far away from the mean.

With respect to the uncertainty avoidance level, Panel C of Table 4 reports that the data of the *EXPRA* group exhibits the highest variable scores of *UNAV* among the other four adopter categories of the ISAs, with an average of 7.42 and standard deviation of 2.04, suggesting that there is a medium variation in the data relevant to cultural attributes, namely *UNAV* among countries included in the *EXPRA* group. Nevertheless, the *ERMJA* and *ERADA* groups have respectively the highest and second highest dispersed data regarding the *PWDS* index. The data relevant to the *ERMJA* group ranges from 1 to 10, with an average of 6.22, and a standard deviation value of 2.64, whereas the data relevant to the *ERADA* group ranges from 2.5 to 10, with a mean of 6.93, and a standard deviation value of 2.25, revealing that there is a significant variation in data relating to the *UNAV* among countries included in the *ERMJA* and *ERADA* groups, and in line with the results reported by previous studies (Boolaky & Soobaroyen, 2017; Cardona et al., 2014; Clements et al., 2010). This was also confirmed by the variance values for each group, which report that the data relevant to the *ERADA* and *ERMJA* groups tend to be far away from the mean, while the data relating to the *LGGRA* and *LTMJA* groups are quite close to the mean.

In terms of the individualism level, Panel C of Table 4 reports that the data of the *EXPRA* group exhibits the highest variable scores of *INDV* among the other four adopter categories of the ISAs, with an average of 4.25 and a standard deviation of 2.09, suggesting that there is a medium variation in the data relevant to *INDV* level among the countries included in the *EXPRA* group. Whilst, the *ERMJA* and *LTMJA* groups have respectively exhibited the highest and second highest dispersed data relating to the *INDV* cultural dimension. The data relevant to the *ERMJA* group ranges from 1.5 to 9.0, with an average of 3.68, and standard deviation value of 2.17, whereas the data relevant to the *LTMJA* group ranges from 1.5 to 9.0, with a mean of 3.96, and a standard deviation value of 2.06, suggesting that there is a considerable variation in data relating to *INDV* culture among countries included in the *ERMJA* and *LTMJA* groups, consistent with the results reported by previous studies (Lasmin, 2012; Clements et al., 2010; Archambault & Archambault, 2003). This was also emphasized by the variance values for each group, which report that the data relevant to the *ERADA* and *ERMJA* groups tend to be far away from the mean, while the data relating to the *LGGRA* and *LTMJA* groups tend to be quite close to the mean.

Regarding the masculinity score, Panel C of Table 4 reports that the data relevant to the *LTMJA* and *ERADA* groups exhibit the highest and second highest variable scores of *MASC* score among the other adopter categories of the ISAs. The data relevant to the *LTMJA* group ranges from 1 to 10 with a mean of 5.08, and a standard deviation of 1.69, whereas the data relevant to the *ERADA* group ranges from 1 to 8 with a mean of 5.07, and a standard deviation of 1.59, indicating that there is considerable variation

in the data relevant to the *MASC* scores among countries included in the *LTMJA* and *ERADA* groups, consistent with existing studies (Combs et al., 2013; Fearnley and Gray, 2015; Akman, 2011; Houqe et al., 2016). This was also supported by the variance values for each group, which report that the data relevant to the *ERADA* and *LTMJA* groups tend to be far away from the mean, while the data relating to the *ERMJA* and *LGGRA* groups tend to be quite close to the mean.

In terms of long-term orientation, Panel C of Table 4 reports that the data relevant to the *ERADA* and *LTMJA* groups show considerable variations in the *LTOR* scores among the other adopter categories of the ISAs. The data relevant to the *ERADA* group ranges from 1.5 to 10 with an average of 4.55, and a standard deviation of 2.28, whereas the data relevant to the *LTMJA* group ranges from 1 to 9.5 with an average of 4.14, and a standard deviation of 2.10, suggesting that there is a substantial variation in the data relevant to the *LTOR* scores among countries included in the *ERADA* and *LTMJA* groups. This result is in line with the findings reported by prior studies (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008). This was also confirmed by the variance values, which report that the data relevant to the *ERADA*, *ERMJA* and *LTMJA* groups tend to be far away from the mean.

Regarding the indulgence level, Panel C of Table 4 reports that the data relevant to the *LTMJA* and *ERMJA* groups exhibit the highest and second highest variable scores of the *INDU* levels among the other adopter categories of the ISAs. The data relevant to the *LTMJA* group ranges from 0 to 10 with an average of 5.20, and a standard deviation of 2.53, whereas the data relevant to the *ERMJA* group ranges from 0 to 10, with an average of 4.83, and a standard deviation of 2.43, revealing that there is a substantial variation in the data relevant to the *INDU* scores among countries included in the *LTMJA* and *ERMJA* groups. This result is also consistent with the findings reported by previous studies (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014). This was also confirmed by the variance values for each group, which report that the data relevant to the *ERMJA* and *LTMJA* groups tend to be far away from the mean.

A summary of the descriptive statistics for educational antecedents are reported in Panel D of Table 4. In terms of the level of educational attainment, Panel D of Table 4 reports that the *EXPRA* group exhibits the highest variable scores of *EDAT*, it has the lowest dispersed data, with a higher average of 16.91, and small standard deviation value of 6.62, suggesting that the data of the *EXPRA* group are tightly clustered around the mean and the *EDAT* level, which are very similar across all countries included in the *EXPRA* group. However, in line with variability in the educational attainment levels among countries reported by the prior empirical studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013), the data relevant to the *ERMJA* group exhibits the second highest variable values among the other adopter categories of the ISAs, which ranges from 0.19 to 62.02, with an average of 16.18 and a standard deviation of 13.55, suggesting that there is significant variation in the educational attainment among countries included in the *ERMJA* group. This was also

supported by the variance values for each group, which report that the data relevant to the *ERMJA* and *LGGRA* groups tend to be far away from the mean, while data relating to the other groups are close.

In terms of the level of literacy rates, Panel D of Table 4 shows that the data relevant to the *EXPRA* groups exhibit the first highest variable scores of the *LITR* rates among the other four adopter categories of the ISAs. The data relevant to the *EXPRA* group ranges from 85.55 to 99.86 with an average of 95.94, and lower standard deviation of 4.86, revealing that the data of the *EXPRA* group are tightly clustered around the mean and the literacy rates are relatively similar across all countries included in the *EXPRA* group. However, the data relevant to the *LGGRA* group ranges from 19.41-99.96 with an average of 73.67, and a standard deviation of 23.90, indicating that there is considerable variation in the data relevant to the *LITR* scores among countries included in the *LGGRA* group. This finding is in line with the results reported by prior studies (Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014). This was also confirmed by the variance values for each group, which report that the data relevant to the *LTMJA* and *LGGRA* groups tend to be far away from the mean, while the data relating to the *ERADA* & *ERMJA* groups tend to be quite close to the mean.

With respect to the quality of education system, Panel D of Table 4 shows that the data relevant to the *EXPRA* groups exhibits the first highest variable scores of the *QEDS* among the other four adopter categories of ISAs. The data relevant to the *EXPRA* group ranges from 2.09 to 5.31 with a higher average of 4.17, and lower standard deviation of 0.91, indicating that the data of the *EXPRA* group are tightly clustered around the mean and the quality of education system are relatively similar across the six countries included in the *EXPRA* group, whereas, the data relevant to the *LTMJA* group ranges from 1.97-6.24, with an average of 3.78, and a standard deviation of 0.96, whereas, the data relevant to the *LGGRA* group ranges from 1.72-5.82, with an average of 2.89, and a standard deviation of 0.96, revealing that there is a considerable variation in the data relevant to the *LTMJA* and *LGGRA* groups among countries included in the *LTMJA* and *LGGRA* groups and this is also in line with the results reported by prior studies (Bova & Pereira, 2012; Ayuba, 2012).

7.1.1.3 Descriptive Statistics of Categorical Independent and Control Variables Applied in the Antecedents Model of ISAs Adoption

This subsection highlights the descriptive statistical summary of all categorical independent and control variables included in the model of antecedents of ISAs adoption. Frequency distribution tables and graphs are the best method that can be used to summarize the categorical data by counting the occurrences of each category in a distribution individually (Privitera, 2014). Therefore, this study utilizes frequency tables to describe the features of all categorical data included in the model of the antecedents of ISAs adoption among the five adopter groups suggested by the DOI theory. The frequency of distribution Table 5 reports a summary of all categorical data included in the model of antecedents of ISAs adoption, with counts of how often each category of adopters occurs individually.

Owing to the limited availability of the data, 162 countries have been included in the model of the antecedents of the ISAs adoption. Frequency Table 5 reports the classification of those countries included across the five adopter categories proposed by the DOI theory. In terms of the legal origins (*LEOR*), English common law (*ENCM*) covered 24 countries, wherein 13 out of the 24 nations adopted the ISAs during the initial stages, 3 countries were involved in the *ERADA* group, whereas 10 countries were included in the *ERMJA* group, while 9 countries were involved in the *LAMJA* group. French civil law (*FRCV*) covered 25 countries, wherein 10 out of the 25 nations adopted the ISAs at late stages, whereas, 12 nations had not adopted the ISAs by 2014. Spanish civil law (*SPCV*) covered 17 countries, wherein 5 out of the 17 nations adopted the ISAs during the early times, whilst 7 out of the 17 nations were late adopters of the ISAs. Portuguese civil law (*POCV*) group covered 6 countries, where 4 out of the 6 are laggards. German civil law (*GECV*) covered 14 nations, wherein 11 out of the 14 countries had adopted the ISAs recently. Socialist civil law (*SOCV*) involves 27 countries, wherein 20 out of the 27 nations adopted the ISAs during the initial stages.

Moreover, mixed English and religious laws (*ENRE*) covered 3 countries, wherein 2 out of the 3 nations are late adopters. Mixed English and Dutch laws (*ENDU*) covered 8 countries, wherein 4 out of the 8 nations are early adopters and the remainder are late adopters. Mixed French civil and Islamic laws (*FRIS*) covered 17 countries, where 7 out of the 17 nations are late majority adopters and another 7 nations are non-adopters of the ISAs. Mixed English and Islamic laws (*ENIS*) covered 12 nations, wherein 4 out of the 12 nations are late majority adopters and 5 out of the 12 nations are laggards. Mixed English and civil laws (*ENCV*) covered 9 countries, where 6 out of the 9 nations adopted the ISAs during the early times, while 3 countries were late adopters of the ISAs.

Regarding the geographical regions, Europe (*EURO*) includes 38 nations, where 18 out of the 38 of European countries adopted the ISAs during the initial stages, while, 19 out of the 38 the European countries had adopted the ISAs during the late stages. North, Latin and South America (*NLSA*) includes 29 countries, wherein 13 out of the 29 countries in America adopted the ISAs during the early times, while, 12 out of the 29 countries in America have adopted the ISAs recently. Central and South Asia (*CSAS*) includes 15 Asian countries, where 8 out of the 15 Asian nations adopted the ISAs during the initial stages, whereas 5 out of the 15 Asian countries have adopted the ISAs recently. East Asia and Pacific (*EASP*) includes 21 countries, where 11 out of the 21 Asian countries adopted the ISAs during the initial stages, while 8 out of the 21 countries have adopted ISAs recently. Middle East and North Africa (*MENA*) includes 19 countries, where 4 out of the19 countries adopted ISAs during the initial stages, whereas 8 out of the 19 countries have adopted ISAs recently, whilst a further 7 countries are still laggards up to 2014. Africa (*AFRC*) includes 40 sub-Saharan African countries, wherein 9 out of the 40 African countries adopted the ISAs during the early times, while 14 out of 40 countries have adopted ISAs recently, whereas 17 countries are still laggards until 2014.

Table 5: A summary of the frequency table of categorical variables included in the model of antecedents of ISAs adoption across 162 countries over the period from 1995 to 2014

Independent Variables	EXPRA	ERADA	ERMJA	LAMJA	LGGRA	Frequency	Countries
Legal origin (*LEOR*)							
ENCM	0	60	200	180	40	480	24
FRCV	20	40	0	200	240	500	25
SPCV	20	40	100	140	40	340	17
POCV	0	0	0	40	80	120	6
GECV	0	40	0	220	20	280	14
SOCV	20	160	220	140	0	540	27
ENRE	0	0	20	40	0	60	3
ENDU	20	20	40	80	0	160	8
FRIS	20	0	40	140	140	340	17
ENIS	0	40	20	80	100	240	12
ENCV	20	20	80	60	0	180	9
Total	**120**	**420**	**720**	**1320**	**660**	**3240**	**162**
Control variables							
Geographical region (*GERI*)							
EURO	60	140	160	380	20	760	38
NLSA	20	100	140	240	80	580	29
CSAS	20	60	80	100	40	300	15
EASP	0	60	160	160	40	420	21
MENA	20	0	60	160	140	380	19
AFRC	0	60	120	280	340	800	40
Total	**120**	**420**	**720**	**1320**	**660**	**3240**	**162**
Official language (*OFLN*)							
ENGL	20	100	260	320	60	760	38
FRNL	0	20	20	140	200	380	19
SPNL	20	80	100	140	40	380	19
ARBL	20	0	60	120	160	360	18
GRML	0	20	0	100	20	140	7
RUSL	0	0	40	40	0	80	4
OTLN	60	200	240	460	180	1140	57
Total	**120**	**420**	**720**	**1320**	**660**	**3240**	**162**
Colonial history (*COHI*)							
NEVC	20	40	80	200	0	340	17
BRTC	60	120	240	400	160	980	49
FRNC	0	0	80	160	240	480	24
SPNC	20	60	100	120	40	340	17
PORC	0	0	0	20	100	120	6
DUTC	0	0	0	60	20	80	4
GRMC	0	0	20	40	20	80	4
RUSC	0	80	80	100	0	260	13
OTCO	20	120	120	220	80	560	28
Total	**120**	**420**	**720**	**1320**	**660**	**3240**	**162**

Note: The abbreviations of factor variables included in the model of the antecedents of the ISAs are as follows: adopter categories of the ISAs include experimenters (*EXPRA*); early adopters (*ERADA*); early majority adopters (*ERMJA*); late majority adopters (*LAMJA*); laggards (*LGGRA*); independent variables namely the legal origins (*LEOR*) include several origins, English common law (*ENCM*); French civil law (*FRCV*); Spanish civil law (*SPCV*); Portuguese civil law (*POCV*); German civil law (*GECV*); Socialist civil law (*SOCV*); mixed English and religious laws (*ENRE*); mixed English and Dutch laws (*ENDU*); mixed French civil and Islamic laws (*FRIS*); mixed English and Islamic laws (*ENIS*); mixed English and civil laws (*ENCV*). Control variables namely geographical regions including Europe (*EURO*); North, Latin and South America (*NLSA*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); and Africa (*AFRC*); Official languages involve seven languages English language (*ENGL*); French language (*FRNL*); Spanish language (*SPNL*); Arabic language (*ARBL*); German language (*GRML*); Russian language (*RUSL*); other languages (*OTLN*). Colonial history includes nine groups never colonized countries (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire (*SPNC*); Portuguese Empire (*PORC*); Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); other colonists (*OTCO*).

In terms of official languages, this study uses the seven most common spoken languages in the world. Specifically, the sample included 38 English language (*ENGL*) countries, where 19 out of the 38 English speaking countries adopted the ISAs during the initial stages, while 16 out of the 38 English speaking countries have adopted the ISAs lately. The sample covered 19 French (*FRNL*) speaking countries, where 2 out of the 19 French speaking countries adopted the ISAs during the early times, while 7 out of the 38 French speaking countries have adopted ISAs recently, whilst, 5 further French speaking countries had not yet adopted ISAs. The sample included 19 Spanish (*SPNL*) speaking countries, where 10 out of the19 Spanish speaking countries adopted ISAs during the initial times, while 7 out of the 19 Spanish speaking countries have adopted ISAs lately.

Furthermore, the sample included 18 Arabic (*ARBL*) spoken countries, wherein 4 out of the 18 Arabic speaking countries adopted the ISAs during the early times, while 6 out of the 18 Arabic speaking countries have adopted ISAs recently, whereas 8 Arabic speaking countries are still non-adopters of the ISAs in 2014. The sample involved 7 German (*GRML*) speaking countries, where 5 out of the 7 German speaking countries adopted ISAs during the late times. The sample included 4 Russian (*RUSL*) speaking countries, where 2 out of the 4 Russian nations adopted the ISAs during the early times, while 2 further countries have adopted the ISAs recently. The sample involved 57 countries with other languages, where 25 out of the 57 countries adopted the ISAs during the initial times, whereas 23 out of the 57 nations have adopted ISAs recently, and the rest are still laggards.

With respect to colonial history, the sample has involved 9 distinct groups. The sample covered 17 never colonized countries (*NEVC*), where all of whom had adopted the ISAs, but at various times, where 7 out of the 17 countries that were never colonized adopted the ISAs during the initial stages, whereas 10 out of the 17 never colonized countries adopted the ISAs recently. The sample involved 49 countries colonized by the British Empire (*BRTC*), wherein 21 out of the 49 countries adopted the ISAs during the initial stages, whilst 20 out of the 49 countries adopted ISAs lately. The sample included 24 countries colonized by the French Empire (*FRNC*), where 4 out of the 24 countries adopted ISAs during the early times, while 8 out of the 24 countries adopted the ISAs recently, and a further 12 nations are still laggards.

Furthermore, the sample involved 17 countries colonized by the Spanish Empire (*SPNC*), where 9 out of the 17 countries adopted the ISAs during the initial times, while 6 out of the 17 countries adopted the ISAs during the late stages. The sample included 6 countries colonized by the Portuguese Empire (*PORC*), wherein 5 out of the 6 countries colonized by Portuguese Empire are non-adopters of ISAs. The sample covered 4 countries colonized by the Dutch Empire (*DUTC*), where 3 out of the 4 countries adopted the ISAs recently. The sample involved 4 countries colonized by the German Empire (*GRMC*), where 1 out of the 4 countries adopted the ISAs during the early times, whilst, 2 out of the 4 countries adopted the ISAs lately. The sample covered 13 countries colonized by the

Russian Empire (*RUSC*), where 9 out of the 13 countries adopted the ISAs during the early times, whereas, 5 out of the 13 countreis adopted the ISAs during the late times. The sample included 28 countries colonized by other colonists (*OTCO*), wherein 13 out of the 28 countries adopted the ISAs during the initial stages, whilst 11 out of the 28 countries adopted the ISAs recently.

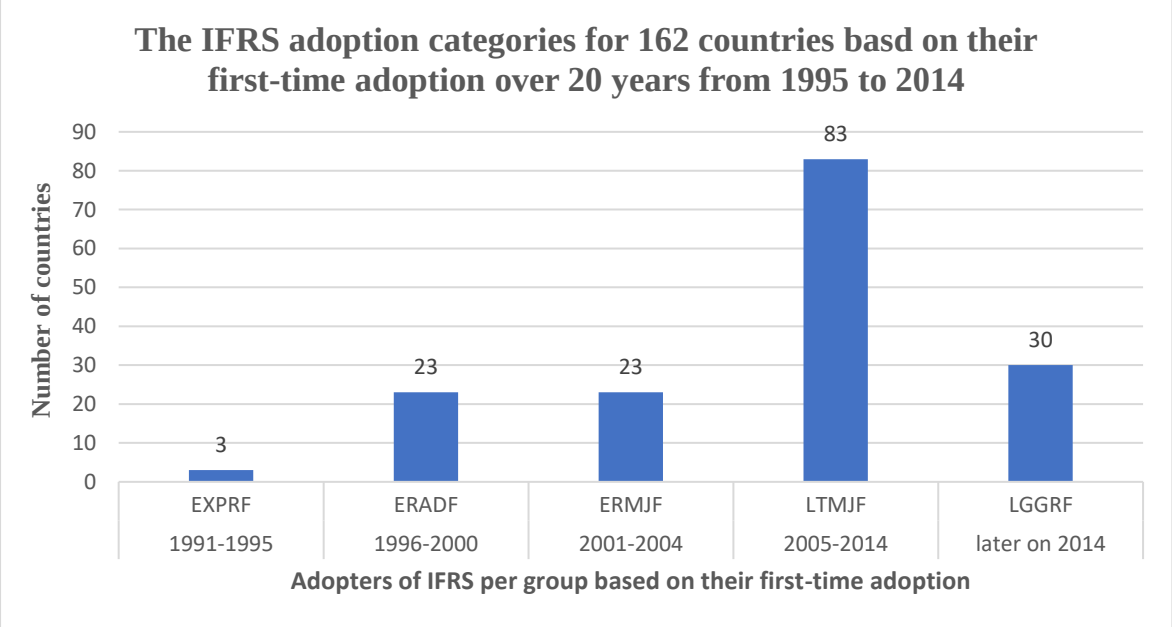
7.1.2 Descriptive Statistics of All Variables Included in the Antecedents Model of IFRS

The following subsection describes the statistical summary of all variables, including dependent, independent and control variables applied in the antecedents' model of IFRS adoption.

7.1.2.1 Descriptive Statistics of Dependent Variable Used in the Antecedents Model of IFRS

The sample used for the model of antecedents of the IFRS is identical to the antecedents of the ISAs, which also covers 3,240 observations for 162 countries between 1995-2014. However, the countries included in each adopter category in the model of antecedents of the ISAs vary in terms of countries involved in the same adopter categories used in the model of antecedents of the IFRS. This is because ISAs adoption times, for most countries, differs from their IFRS adoption times. Accordingly, Figure 3 shows a summary of the number of countries that have adopted the IFRS based on their first-time adoption across the five adopter categories, which represents the outcome variable used in the model of antecedents of the IFRS.

Figure 3: Summary of the IFRS adopter categories for 162 countries over 1995-2014



Many findings can be concluded from Figure 3. Firstly, roughly 67% of the world's countries adopted the IFRS by 2014, representing 132 countries. Secondly, the late majority adopter category of IFRS has the highest number of countries who have adopted the ISAs, with 83 countries, because of the mandatory IFRS adoption enforced by the European Union. Thirdly, there are only 3 countries that have been classified as experimenters of the IFRS: Bangladesh, Barbados, and Gambia. These

three countries were the first nations that adopted the international accounting standards (IAS) since they were issued by the IASC in 1973 up to 1995. Finally, in line with the theoretical framework suggested by the DOI theory, the number of countries that adopted the IFRS has gradually increased over time from 3 countries from 1991-1995 to 26 countries from 1996-2000, then to 49 countries between 2001-2004. Thereafter, the number of IFRS adopters reached 132 countries by 2014.

7.1.2.2 Descriptive Statistics of Continuous Independent Variables Included in the Antecedents Model of IFRS Adoption

The statistical t-test is used to examine the difference between the means of two groups only. However, the within variance of the group means can be utilized to measure variability among groups when there are more than two groups (Weinberg & Abramowitz, 2016). A large variance value indicates that the data relevant to a specific group are far from each other and from the mean, while a small variance value indicates the opposite.

Table 6 presents a summary of the descriptive statistics of continuous independent variables included in the model of national antecedents of the IFRS for 162 countries from 1995-2014. With respect to shareholder protection, panel A of Table 6 shows that the late majority and the early adopter groups of the IFRS have the highest and second highest dispersion scores for *SHPR* with a mean of 5.69, 4.84 and higher standard deviation values of 2.48 and 2.42 respectively. This suggests that the late majority group is the most variable group among the IFRS adopter categories, since it ranges from 0 to 12, while the early adopter group has a lower mean and less variation than the late majority group, as it ranges from 0 to 10. Similarly, the data relevant to the early majority group of the IFRS has the third highest variable values, as it ranges from 1 to 10 and has a higher mean of 5.20, with a lower standard deviation of 2.29. The was confirmed by the variance values, which reported that the data relevant to the *ERADF* and *LTMJF* groups are expected to be far away from the mean. As reported by the previous IFRS studies (Renders & Gaeremynck, 2007; Ball, 2016; Houqe et al., 2012; Houqe et al., 2014), countries with strong legal shareholder protection tend to adopt the IFRS early due to the lower costs of adopting the IFRS. In addition, the wide variability in the data relevant to the *ERMJF* in the adoption levels of IFRS is expected to result from the mandatory adoption of the IFRS in the European Union.

In terms of the judicial efficiency level, Panel A of Table 6 shows that the experimenter and the late majority groups have the highest variable values among the other adopter categories of the IFRS. The data relevant to the *EXPRF* group ranges between 2.5 and 7.7, with an average of 5.31 and a standard deviation of 1.61, whilst the data relevant to the *LTMJF* group ranges between 0.5 and 9.5 with a mean of 4.91 and a higher standard deviation of 2.03. This suggests that there is a substantial variation in the judicial efficiency among countries, especially when the experimenters and the late majority groups, which provides equivalent results to those reported by previous IFRS studies

(Beuselinck et al., 2009; Lantto & Sahlstrom, 2009; Preiato et al., 2013; Cai et al., 2014). This is also confirmed by the variance values, which indicate that the data relevant to the *LTMJF* group are expected to be far away from the mean.

Regarding the level of judicial independence, Panel A of Table 6 shows that the judicial independence for the *EXPRF* group has the highest averages and substantial variation scores among the other adopter categories, whereas the data relating to the *ERMJF* and *LTMJF* groups have the second and third highest variable values among the other *JUIN* groups. The data relevant to the three groups ranges from 0 to 2 with averages of 1.0, 0.85, 1.22, and standard deviations of 0.82, 0.80, 0.78 for the *EXPRF, ERMJF,* and *LTMJF* groups respectively. This is also confirmed by the variance values, which report that the data relevant to the *ERMJF* and *LTMJF* groups are far away from the mean. This indicates that there is considerable variation in the judicial independence scores among countries, which is in line with previous studies (Avram et al., 2015; Efobi, 2015; Houqe et al., 2012; Zaidi & Huerta, 2014; Halabi & Zakaria, 2015; Ozcan, 2016; Cai et al., 2014).

With respect to the integrity of the legal system, Panel A of Table 6 shows that the *ERMJF* and *LTMJF* groups have the highest averages and show substantial variation scores among the other adopter groups of the IFRS. The data relevant to the *ERMJF* group ranges from 1.70 to 10 with an average of 5.07, and a standard deviation of 1.96, whilst the data relevant to the *LTMJF* group ranges from 0 to 10 with an average of 6.59, and a standard deviation of 2.50. This is also emphasized by the variance values which report that the data relevant to the *LTMJF* groups are far away from the mean, while the data relating to *EXPRF, ERMJF* and *LGGRF* groups are spread tightly around the mean. This denotes that there are substantial variation values relevant to the integrity of the legal system scores among countries included in the *LTMJF* group, which is in line with those results reported by prior studies (Dunstan et al., 2011; Houqe et al., 2010; Cai et al., 2012).

A summary of the descriptive statistics for the worldwide governance indicators are reported in Panel B of Table 7. In terms of the voice and accountability index, Panel B of Table 6 reports that the experimenters and late majority groups of *VOAC* have greater dispersion values among the other adopter categories of the IFRS. The data relevant to the *EXPRF* group ranges from -1.32 to 1.47, with an average of -0.04 and a standard deviation of 0.98, whereas the data regarding the *LTMJF* group ranges from -2.04 to 1.83, with an average of 0.31 and a standard deviation of 0.97. This implies that there is considerable variation in the importance of voice and accountability among countries in the adoption of the IFRS, which is supported by previous research (Houqe et al., 2012; Houqe & Monem, 2013; Ben-Othman & Zeghal, 2008; Houqe & Monem, 2016; Gresilova, 2013). This is confirmed by the variance values, which report that the data relevant to both the *EXPRF* and *LTMJF* groups respectively are far away from the mean.

With respect to the political stability index, Panel B of Table 6 shows that the experimenters and the laggards' groups of *POST* have the highest and second highest variable values among the other adopter categories of the IFRS. The data relevant to the *EXPRF* group ranges from -1.84 to 1.35, with an average of 0.07 and a standard deviation of 0.97, whereas the data regarding the *LGGRF* group ranges from -2.50 to 1.12, with a mean of -0.70 and a standard deviation of 0.98. The data relevant to the *LTMJF* group have the third highest variable values, which ranges from -2.81 to 1.67, with an average of 0.15 and a standard deviation of 0.96. This implies that there is considerable variation in the importance of political stability among countries in the adoption of the IFRS, which is consistent with the findings reported by prior IFRS studies (Hoque et al., 2011; Pricope, 2015; Zaidi & Huerta, 2014; Avram et al., 2015; Fajri et al., 2012; Rios-Figueroa, 2016). This was also confirmed by the variance scores, which report that the data relevant to the *EXPRF, LTMJF* and *LGGRF* groups are expected to spread far away from the mean, while the data relevant to the *ERADF* and *ERMJF* are expected to lie very close to the mean.

Regarding the regulatory quality index, Panel B of Table 6 reports that the late majority and the experimenters' groups of *REQU* have the highest and second highest variable values among the other IFRS adopter categories. The data relevant to the *EXPRF* group ranges from -1.11 to 1.29, with an average of -0.16 and a standard deviation of 0.83, whilst the data relating to the *LTMJF* group ranges from -2.19 to 2.08, with a mean of 0.38 and a standard deviation of 1.00. This denotes that there is a substantial dispersion in the score of regularity quality among countries in the adoption of the IFRS, which is consistent with the results reported by prior IFRS empirical studies (Houqe et al., 2012; Louis & Urcan, 2012; Gresilova, 2013; Avram et al., 2015; Christensen et al., 2013; Wieczynska, 2016). This was also emphasized by the variance values, which report that the data relevant to the *LTMJF* group are quite far away from the mean.

With respect to the control of corruption score, Panel B of Table 6 reports that the experimenters and the late majority groups of *COCU* have the greatest dispersion values among the other adopter categories of the IFRS. The data relevant to the *EXPRF* group ranges from -1.49 to 1.76, with an average of -0.06 and a standard deviation of 1.06, whilst the data relating to the *LTMJF* group ranges from -1.91 to 2.59, with a mean of 0.32 and a standard deviation of 1.11. This indicates that there is considerable variation in the control of corruption score among countries in the adoption of the IFRS. This result is in line with the findings reported by prior studies (Houqe & Monem, 2013; Borker, 2016; Houqe & Monem, 2016; Cai et al., 2014; Avram et al., 2015; Gresilova, 2013). This was also confirmed by the variance values, which report that the data relevant to the *EXPRF* and *LTMJF* groups are expected to fall far away from the mean.

A summary of the descriptive statistics for cultural dimensions are reported in Panel C of Table 6. In terms of power distance index. This result is consistent with the variability in the power distance

levels among countries reported by the prior IFRS literature (Akman, 2011; Neidermeyer et al. 2012; Lasmin, 2012; Borker, 2014; Cardona et al., 2014; Borker, 2012; Clements et al., 2010). The *LTMJF* group exhibits the highest variability score and the greater dispersion values among the adopter categories of the IFRS. The data relevant to the *LTMJF* group ranges from 1.50 to 10.0, with an average of 6.37 and a standard deviation of 2.14, whereas the data relevant to the *ERADF* group have the second highest dispersion level among the IFRS adopter categories, which ranges from 4.0 to 9.5 with a mean of 7.39 and a standard deviation of 1.54, suggesting that there is significant variation in the power distance index among countries included in the *LTMJF* and *ERADF* adopter categories of the IFRS. This was also supported by the variance values, which report that the data relevant to the *LTMJF* group are expected to fall far away from the mean.

With respect to the uncertainty avoidance index, Panel C of Table 6 reports that the data relevant to the *LTMJF*, *ERADF* and *ERMJF* groups exhibit the highest variable scores of *UNAV* among the four adopter categories of IFRS. The data relevant to the *LTMJF* group ranges from 2.5 to 10.0, with an average of 6.84 and a standard deviation of 2.16, whereas the data relevant to the *ERADF* group ranges from 1.5 to 9.5, with an average of 5.65 and a standard deviation of 2.13, whilst the data relevant to the *ERMJF* group ranges from 1.0 to 10.0, with an average of 6.28 and a standard deviation of 2.11, suggesting that there is a substantial variation in the data relevant to the *UNAV* among the countries included in the *LTMJF*, *ERADF* and *ERMJF* groups. This result is in line with the findings reported by prior literature (Neidermeyer et al., 2012; Machado & Nakao, 2014; Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012).

In terms of the individualism index, Panel C of Table 6 reports that the data of the *LTMJF* group exhibits the highest dispersion scores of *INDV* among the four adopter categories of the IFRS. The data relevant to the *LTMJF* group ranges from 1.50 to 9.0, with an average of 4.48 and a standard deviation of 2.17. However, the data relevant to the *ERADF* and *LGGRF* groups exhibit medium dispersion scores of *INDV*, while the data relevant to the *ERADF* ranges from 1.50 to 9.0 with an average of 2.96 and a standard deviation of 1.58, whereas the data relevant to the *LGGRF* ranges from 1.50 to 9.5 with an average of 2.63 and a standard deviation of 1.55, suggesting that there is a substantial variation in the data relevant to *INDV* level among countries included in the *LTMJF*, *ERADF* and *LGGRF* groups of the IFRS. This result is consistent with the findings reported by some previous empirical studies (Cardona et al., 2014; Hope, 2003).

Table 6: Summary of the descriptive statistics of continuous variables included in the model of national antecedents of IFRS for 162 countries over the period 1995-2014

Variables	*IFRSAC*	N	%	Mean	Std. D	Variance	Min	Max
Panel A: Legal Factors (LEGF)								
SHPR	*EXPRF*	60	1.9%	6.60	1.34	1.80	4.00	9.00
	ERADF	460	14.2%	4.84	2.42	5.88	0.00	10.00
	ERMJF	460	14.2%	5.20	2.29	5.24	1.00	10.00
	LTMJF	1660	51.2%	5.69	2.48	6.16	0.00	12.00
	LGGRF	600	18.5%	4.08	1.66	2.76	1.00	12.00
JUEF	*EXPRF*	60	1.9%	5.31	1.61	2.60	2.50	7.70
	ERADF	460	14.2%	4.34	1.44	2.09	1.70	7.50
	ERMJF	460	14.2%	4.27	1.50	2.25	0.90	8.70
	LTMJF	1660	51.2%	4.91	2.03	4.10	0.50	9.50
	LGGRF	600	18.5%	3.87	1.17	1.37	0.00	9.00
JUIN	*EXPRF*	60	1.9%	1.00	0.82	0.68	0.00	2.00
	ERADF	460	14.2%	0.96	0.65	0.42	0.00	2.00
	ERMJF	460	14.2%	0.85	0.80	0.64	0.00	2.00
	LTMJF	1660	51.2%	1.22	0.78	0.61	0.00	2.00
	LGGRF	600	18.5%	0.52	0.65	0.42	0.00	2.00
LSIN	*EXPRF*	60	1.9%	5.07	1.24	1.53	1.70	7.00
	ERADF	460	14.2%	5.39	1.78	3.15	0.80	8.30
	ERMJF	460	14.2%	5.07	1.96	3.85	1.70	10.00
	LTMJF	1660	51.2%	6.59	2.50	6.26	0.00	10.00
	LGGRF	600	18.5%	4.63	1.81	3.29	0.00	10.00
Panel B: Political Factors (POLF)								
VOAC	*EXPRF*	60	1.9%	-0.04	0.98	0.96	-1.32	1.47
	ERADF	460	14.2%	-0.32	0.57	0.32	-1.66	0.83
	ERMJF	460	14.2%	-0.37	0.81	0.65	-2.22	1.17
	LTMJF	1660	51.2%	0.31	0.97	0.95	-2.04	1.83
	LGGRF	600	18.5%	-0.73	0.75	0.56	-1.88	1.37
POST	*EXPRF*	60	1.9%	0.07	0.97	0.94	-1.84	1.35
	ERADF	460	14.2%	-0.38	0.79	0.62	-2.24	1.21
	ERMJF	460	14.2%	-0.30	0.85	0.72	-3.18	1.34
	LTMJF	1660	51.2%	0.15	0.96	0.91	-2.81	1.67
	LGGRF	600	18.5%	-0.70	0.98	0.96	-2.99	1.12
REQU	*EXPRF*	60	1.9%	-0.16	0.83	0.68	-1.11	1.29
	ERADF	460	14.2%	-0.06	0.63	0.39	-2.21	1.12
	ERMJF	460	14.2%	-0.17	0.81	0.65	-2.34	2.25
	LTMJF	1660	51.2%	0.38	1.00	0.99	-2.19	2.08
	LGGRF	600	18.5%	-0.65	0.67	0.45	-2.41	1.74
COCU	*EXPRF*	60	1.9%	-0.06	1.06	1.12	-1.49	1.76
	ERADF	460	14.2%	-0.31	0.64	0.40	-1.39	1.72
	ERMJF	460	14.2%	-0.35	0.85	0.73	-1.82	2.42
	LTMJF	1660	51.2%	0.32	1.11	1.24	-1.91	2.59
	LGGRF	600	18.5%	-0.59	0.63	0.40	-2.06	2.01
Panel C: Cultural Factors (CULF)								
PWDS	*EXPRF*	60	1.9%	7.17	0.63	0.40	6.50	8.00
	ERADF	460	14.2%	7.39	1.54	2.37	4.00	9.50
	ERMJF	460	14.2%	7.13	1.46	2.14	3.50	9.50
	LTMJF	1660	51.2%	6.37	2.14	4.60	1.50	10.00
	LGGRF	600	18.5%	7.03	0.91	0.83	4.00	8.50
UNAV	*EXPRF*	60	1.9%	5.33	0.63	0.40	4.50	6.00
	ERADF	460	14.2%	6.65	2.13	4.54	1.50	9.50
	ERMJF	460	14.2%	6.28	2.11	4.44	1.00	10.00
	LTMJF	1660	51.2%	6.84	2.16	4.68	2.50	10.00
	LGGRF	600	18.5%	5.40	1.17	1.36	1.50	8.00

Continuation: Table 6								
Variables	***IFRSAC***	**N**	**%**	**Mean**	**Std. D**	**Variance**	**Min**	**Max**
INDV	*EXPRF*	60	1.9%	2.50	0.41	0.17	2.00	3.00
	ERADF	460	14.2%	2.96	1.58	2.50	1.50	9.00
	ERMJF	460	14.2%	2.98	1.29	1.67	1.50	6.50
	LTMJF	1660	51.2%	4.48	2.17	4.72	1.50	9.00
	LGGRF	600	18.5%	2.63	1.55	2.40	1.50	9.50
MASC	*EXPRF*	60	1.9%	5.50	0.82	0.68	4.50	6.50
	ERADF	460	14.2%	5.26	1.12	1.26	4.00	8.00
	ERMJF	460	14.2%	4.80	1.54	2.37	1.00	8.00
	LTMJF	1660	51.2%	4.87	1.82	3.31	1.00	10.00
	LGGRF	600	18.5%	4.92	1.37	1.89	1.50	7.00
LTOR	*EXPRF*	60	1.9%	3.00	1.48	2.20	1.50	5.00
	ERADF	460	14.2%	3.43	1.84	3.38	1.50	9.00
	ERMJF	460	14.2%	3.72	1.69	2.87	1.50	7.50
	LTMJF	1660	51.2%	4.60	2.18	4.75	1.00	10.00
	LGGRF	600	18.5%	3.08	1.20	1.44	1.50	6.50
INDU	*EXPRF*	60	1.9%	3.83	1.45	2.09	2.00	5.50
	ERADF	460	14.2%	5.11	2.55	6.51	0.00	10.0
	ERMJF	460	14.2%	4.98	2.60	6.79	0.00	10.0
	LTMJF	1660	51.2%	4.95	2.39	5.73	0.00	10.0
	LGGRF	600	18.5%	4.90	1.97	3.86	2.00	8.50
Panel D: Educational Factors (EDUF)								
EDAT	*EXPRF*	60	1.9%	2.65	1.17	1.37	1.06	4.58
	ERADF	460	14.2%	13.36	9.84	96.82	0.19	35.99
	ERMJF	460	14.2%	12.14	10.82	117.14	0.02	36.97
	LTMJF	1660	51.2%	15.28	10.98	120.58	0.03	62.02
	LGGRF	600	18.5%	7.76	9.71	94.21	0.56	57.28
LITR	*EXPRF*	60	1.9%	61.76	6.87	47.15	52.55	81.08
	ERADF	460	14.2%	93.39	8.52	72.57	66.68	99.87
	ERMJF	460	14.2%	91.09	11.66	136.02	50.55	100.00
	LTMJF	1660	51.2%	87.76	13.96	194.76	46.97	100.00
	LGGRF	600	18.5%	72.77	24.62	606.09	19.41	99.96
QEDS	*EXPRF*	60	1.9%	4.18	0.87	0.76	2.62	5.38
	ERADF	460	14.2%	3.69	0.80	0.63	2.09	5.82
	ERMJF	460	14.2%	3.34	0.89	0.79	1.97	6.22
	LTMJF	1660	51.2%	3.82	1.02	1.04	1.72	6.24
	LGGRF	600	18.5%	2.97	0.79	0.62	1.72	5.25

Note: The abbreviations of the variables are as follows: The IFRS adopter categories (*IFRSAC*), which includes five main categories, namely experimenters group (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*); laggards group (*LGGRF*); national antecedents of IFRS adoption involve four key factors namely, i) legal factors (*LEGF*); shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*), ii) political factors (*POLF*) voice and accountability (*VOAC*); political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*), iii) cultural factors (*CULF*), power distance (*PWDS*); individualism level (*INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC*); long-term orientation (*LTOR*); indulgence level (*INDU*), iv) educational factors (*EDUF*), educational attainment (*EDAT*); youth literacy rates (*LITR*); quality of the education system (*QEDS*).

Regarding the masculinity index, Panel C of Table 6 reports that the data relevant to the *LTMJF* and *ERMJF* groups exhibit the highest and second highest variable scores of *MASC* index among the four adopter categories of the IFRS. The data relevant to the *LTMJF* group ranges from 1 to 10, with an average of 4.87, and a standard deviation of 1.82, whereas the data relevant to the *ERMJF* group ranges from 1 to 8, with an average of 4.80, and a standard deviation of 1.54, indicating that there is considerable variation in the data relevant to *MASC* among countries included in the *LTMJF* and *ERMJF* groups, which is consistent with the findings reported by previous studies (Combs et al., 2013; Fearnley and Gray, 2015; Yurekli, 2016; Cardona et al., 2014; Clements et al., 2010; Lasmin, 2012). This was also supported by the variance values, which report that the data relevant to the *LTMJF* and *ERMJF* groups are far from the mean.

With respect to the long-term orientation index, Panel C of Table 6 reports that the data relevant to the *LTMJF* and *ERADF* groups respectively exhibit the highest and second highest variation in the *LTOR* scores among the four adopter categories of the IFRS. The data relevant to the *LTMJF* group ranges from 1.0 to 10.0, with an average of 4.60, and a standard deviation of 2.18, whereas the data relevant to the *ERADF* group ranges from 1.5 to 9.0, with an average of 3.43, and a standard deviation of 1.84, suggesting that there is a substantial variation in the data relevant to *LTOR* scores among countries included in the *LTMJF* and *ERADF* groups, which is in line with prior empirical studies that reported considerable cultural variation among countries (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008; Erkan & Agsakal, 2013). This was also confirmed by the variance values, which report that the data relevant to the *LTMJF* and *ERADF* groups are spread far away from the mean.

Regarding the indulgence index, Panel C of Table 6 reports that the data relevant to the *ERMJF*, *ERADF* and *LTMJF* groups exhibit the highest, the second highest and the third highest variable scores of the *INDU* levels among the other adopter categories of the IFRS. The data relevant to the *ERMJF* group ranges from 0 to 10, with an average of 4.98, and a standard deviation of 2.60, whereas the data relevant to the *ERADF* group ranges from 0 to 10, with an average of 5.11, and a standard deviation of 2.55, whilst the data relevant to the *LTMJF* group ranges from 0 to 10, with an average of 4.95, and a standard deviation of 2.39, revealing that there is a substantial variation in the data relevant to *INDU* scores among countries included in the *ERMJF*, *ERADF* and *LTMJF* groups, which is consistent with the results reported by prior studies (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014; Rotberg, 2016). This was also confirmed by the variance values, which report that the data relevant to the *ERMJF*, *ERADF* and *LTMJF* groups are spread far from the mean.

A summary of the descriptive statistics for educational antecedents are reported in Panel D of Table 6. In terms of the level of educational attainment, Panel D of Table 7 reports that the *LTMJF* and *ERMJF* groups exhibit the highest and the second highest variable values of *EDAT* among the

four adopter categories of the IFRS. The data relevant to the *LTMJF* group ranges from 0.03 to 62.02, with an average of 15.28 and a standard deviation of 10.98, whereas the data relevant to the *ERMJF* group ranges from 0.02 to 36.97, with an average of 12.14 and a standard deviation of 10.82, suggesting that there is considerable variation in the educational attainment level among countries included in the *LTMJF* and *ERMJF* groups, which is in line with the findings reported by existing studies (Judge et al., 2010; Lasmin, 2011a; Kossentini & Ben-Othman, 2014; Zehria & Chouaibi, 2013). This was also supported by the variance values, which report that the data relevant to the *LTMJF* and *ERMJF* groups are spread out far away from the mean.

In terms of the level of literacy rates, Panel D of Table 6 shows that the data relevant to the *LGGRF* and *LTMJF* groups exhibit the highest and the second highest variable scores of the *LITR* among the four adopter categories of the IFRS. The data relevant to the *LGGRF* group ranges from 19.41 to 99.96, with an average of 72.77, and a higher standard deviation of 24.62, whereas data relevant to the *LTMJF* group ranges from 46.97 to 100.0, with an average of 87.76, and a standard deviation of 13.96, revealing that there is considerable variation in the data relevant to the *LGGRF* and *LTMJF* groups, which is consistent with the results reported by prior studies (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009). This was also confirmed by the variance values, which report that the data relevant to the *LGGRF* and *LTMJF* groups are spread out far away from the mean.

With respect to the quality of education system, Panel D of Table 6 shows that the data relevant to the *LTMJF* and *ERMJF* groups exhibit the highest and second highest variable values of the *QEDS* among the four adopter categories of the IFRS. The data relevant to the *LTMJF* group ranges from 1.72 to 6.24, with an average of 3.82, and a standard deviation of 1.02, whereas the data relevant to *ERMJF* group ranges from 1.97 to 6.22, with an average of 3.34, and a standard deviation of 0.89, revealing that there is a considerable variation in the data relevant to *QEDS* among countries included in the *LTMJF* and *ERMJF* groups, which is in line with the findings reported by prior studies (Bova & Pereira, 2012; Ayuba, 2012). This was also emphasized by the variance values, which report that the data relevant to both the *LTMJF* and *ERMJF* groups are spread out far away from the mean.

7.1.2.3 Descriptive Statistics of Categorical Independent and Control Variables Included in the Antecedents Model of IFRS Adoption

This subsection illustrates the descriptive statistical summary of all categorical independent and control variables included in the model of the antecedents of IFRS adoption. The frequency distribution Table 7 shows a summary of all categorical variables included in the model of the antecedents of IFRS adoption, with counts of how often each category occurs among the five adopter groups of the IFRS. Frequency Table 7 reports the classification of 162 countries included in the antecedents of IFRS adoption across the five adopter categories proposed by the DOI theory.

In terms of the legal origins (*LEOR*), Panel A of Table 7 shows that English common law (*ENCM*) included 24 countries, where 10 out of the 24 nations adopted the IFRS during the initial stages, while 12 out of the 24 countries are involved in the *LAMJA* group. French civil law (*FRCV*) covered 25 countries, wherein 2 out of the 25 nations adopted the IFRS during the initial stages, whereas 9 out of the 25 nations adopted IFRS recently, while the remainder of French civil countries have not yet adopted the IFRS by 2014. Spanish civil law (*SPCV*) includes 17 countries, where 6 out of the 17 nations adopted IFRS during the early times, whilst 9 out of the 17 nations have adopted IFRS recently, whilst only 2 Spanish civil law nations are still non-adopters of the IFRS. Portuguese civil law (*POCV*) includes 6 countries, where 4 out of the 6 nations adopted the IFRS recently. German civil law (*GECV*) contains 14 nations, wherein 13 out of the 14 countries adopted the IFRS recently. Socialist civil law (*SOCV*) involves 27 countries, where 10 out of the 27 nations adopted the IFRS during the initial stages, while 16 out of the 27 nations adopted the IFRS recently.

Furthermore, mixed English and religious laws (*ENRE*) include 3 countries, where 2 out of the 3 nations are late adopters of the IFRS. Mixed English and Dutch laws (*ENDU*) involve 8 countries, where 4 out of the 8 countries are early IFRS adopters, whereas 2 out of the 8 countries adopted the IFRS late. Mixed French civil and Islamic laws (*FRIS*) includes 17 countries, where 7 out of 17 nations adopted the IFRS early, whilst 5 out of the 17 nations adopted of IFRS recently, while the remainder are still laggards of the IFRS. Mixed English and Islamic laws (*ENIS*) involve 12 nations, where 5 out of 12 nations are early IFRS adopters, while 6 out of the 12 nations are late IFRS adopters. Mixed English and civil laws (*ENCV*) include 9 countries, where 2 out of the 9 nations are early adopters of the IFRS, while 5 out of the 9 nations adopted IFRS late.

Regarding the geographical regions, this study uses the regional classification provided by the the World Bank, which includes six main regions. Specifically, Panel B of Table 7 shows that Europe (*EURO*) involves 38 nations, where 35 out of the 38 European countries adopted the IFRS during the late stages since 2005, while only 3 out of the 38 European countries adopted the IFRS during the initial stages. North, Latin and South America (*NLSA*) contains 29 countries, where 14 out of the 29 countries in America adopted the IFRS during the early times, while 12 out of the 29 countries in America adopted the IFRS recently. Central and South Asia (*CSAS*) involves 15 Asian countries, wherein 10 out of the 15 Asian nations adopted the IFRS early, whereas, 5 out of the 15 Asian nations adopted the IFRS late.

Moreover, East Asia and the Pacific (*EASP*) includes 21 countries, where 4 out of the 21 countries adopted the IFRS during the initial stages, while 13 out of the 21 countries adopted the IFRS during the recent times. The Middle East and North Africa (*MENA*) region includes 19 countries, where 9 out of the 19 countries adopted the IFRS early, whereas 6 out of the 19 countries adopted the IFRS recently, whilst 4 out of the 19 countries are still laggards in 2014. Africa (*AFRC*) includes 40 sub-

Saharan African countries, where 9 out of the 40 African countries adopted the IFRS during the early times, while 12 out of the 40 sub-Saharan countries adopted IFRS recently, whereas 19 out of the 40 African countries had not yet adopted IFRS by 2014.

In terms of official languages, this study uses the seven most common spoken languages in the world. Specifically, Panel B of Table 8 shows that the sample included 38 English language (*ENGL*) countries, where 15 out of the 38 English speaking countries adopted the IFRS early, while 21 out of the 38 English speaking countries adopted the IFRS recently. The sample covered 19 French (*FRNL*) speaking countries, where 3 out of the 19 French speaking countries adopted the IFRS during the late times, whilst 15 out of the 19 French speaking countries had not adopted the IFRS by 2014. The sample involved 19 Spanish (*SPNL*) speaking countries, where 8 out of the 19 Spanish speaking countries adopted the IFRS during the initial times, whereas 9 out of the 19 Spanish speaking countries adopted IFRS recently.

Furthermore, the sample included 18 Arabic (*ARBL*) speaking countries, where 9 out of the 18 Arabic speaking countries adopted the IFRS during the early times, while 5 out of the 18 Arabic speaking countries adopted the IFRS late, whereas 4 out of the 18 Arabic speaking countries are still non-adopters of the IFRS in 2014. The sample involved 7 German (*GRML*) speaking countries, wherein all of them had adopted IFRS late. The sample included 4 Russian (*RUSL*) speaking countries, where 3 out of the 4 nations adopted the IFRS early, while only 1 country adopted the IFRS recently. The sample involved 57 countries with other languages, where 13 out of the 57 countries adopted the IFRS during the initial times, whereas 37 out of the 57 countries adopted the IFRS recently, while 7 out of the 57 nations are still laggards of IFRS by 2014.

With respect to colonial history, Panel B of Table 7 shows that the sample has involved 9 groups regarding colonialism. The sample covered 17 countries that were never colonized (*NEVC*), where only 2 out of the 17 countries adopted IFRS early, whereas 14 out of the 17 countries adopted the IFRS recently. The sample involved 49 countries colonized by the British Empire (*BRTC*), wherein 24 out of the 49 countries colonized by the British Empire adopted the IFRS early, whilst 22 out of the 49 countries colonized by the British Empire adopted IFRS late. The sample included 24 countries colonized by the French colonial (*FRNC*), where 2 out of the 24 countries colonized by the French Empire adopted the IFRS during the early times, while 5 out of the 24 countries colonized by the French Empire adopted the IFRS recently, whereas 17 out of the 24 countries colonized by the French Empire are still laggards of the IFRS in 2014.

Table 7: A summary of the frequency table of categorical variables included in the model of antecedents of IFRS adoption across 162 countries over the period from 1995 to 2014

Independent Variables	EXPRF	ERADF	ERMJF	LAMJF	LGGRF	Frequency	Countries
Panel A: Legal origin (*LEOR*)							
ENCM	20	80	100	240	40	480	24
FRCV	0	0	40	180	280	500	25
SPCV	0	60	60	180	40	340	17
POCV	0	0	0	80	40	120	6
GECV	0	0	20	260	0	280	14
SOCV	0	80	120	320	20	540	27
ENRE	0	20	0	40	0	60	3
ENDU	0	40	60	40	20	160	08
FRIS	0	100	40	100	100	340	17
ENIS	40	60	0	120	20	240	12
ENCV	0	20	20	100	40	180	9
Total	**60**	**460**	**460**	**1660**	**600**	**3240**	**162**
Panel B: Control variables							
Geographical region (*GERI*)							
EURO	0	20	40	700	0	760	38
NLSA	20	140	120	240	60	580	29
CSAS	20	60	120	100	0	300	15
EASP	0	40	40	260	80	420	21
MENA	0	140	40	120	80	380	19
AFRC	20	60	100	240	380	800	40
Total	**60**	**460**	**460**	**1660**	**600**	**3240**	**162**
Official language (*OFLN*)							
ENGL	40	140	120	420	40	760	38
FRNL	0	0	20	60	300	380	19
SPNL	0	80	80	180	40	380	19
ARBL	0	140	40	100	80	360	18
GRML	0	0	0	140	0	140	7
RUSL	0	20	40	20	0	80	4
OTLN	20	80	160	740	140	1140	57
Total	**60**	**460**	**460**	**1660**	**600**	**3240**	**162**
Colonial history (*COHI*)							
NEVC	0	0	40	280	20	340	17
BRTC	60	220	200	440	60	980	49
FRNC	0	20	20	100	340	480	24
SPNC	0	80	60	160	40	340	17
PORC	0	20	0	60	40	120	6
DUTC	0	0	0	60	20	80	4
GRMC	0	20	0	40	20	80	4
RUSC	0	40	100	120	0	260	13
OTCO	0	60	40	400	60	560	28
Total	**60**	**460**	**460**	**1660**	**600**	**3240**	**162**

Note: The abbreviations of factor variables included in the model of the antecedents of the IFRS are as follows: adopter categories of IFRS include experimenters (*EXPRF*); early adopters (*ERADF*); early majority adopters (*ERMJF*); late majority adopters *(LAMJF*); laggards (*LGGRF*); independent variables namely the legal origins (*LEOR*) include several origins, English common law (*ENCM*); French civil law (*FRCV*); Spanish civil law (*SPCV*); Portuguese civil law (POCV); German civil law (GECV); Socialist civil law (SOCV); mixed English and religious laws (*ENRE*); mixed English and Dutch laws (*ENDU*); mixed French civil and Islamic laws (*FRIS*); mixed English and Islamic laws (*ENIS*); mixed English and civil laws (*ENCV*). Control variables, namely geographical regions including Europe (*EURO*); North, Latin and South America (*NLSA*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); and Africa (*AFRC*); Official languages involve seven languages English (ENGL); French (FRNL); Spanish (SPNL); Arabic (ARBL); German (GRML); Russian (RUSL); other languages (*OTLN*). Colonial history includes nine groups never colonized countries (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire (*SPNC*); Portuguese Empire (*PORC)*; Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); other colonists (*OTCO*).

Panel B of Table 7 reports that the sample involved 17 countries colonized by the Spanish Empire (*SPNC*), 7 out of the 17 countries colonized by the Spanish Empire adopted the IFRS during the initial times, wherein 8 out of the 17 countries colonized by the Spanish Empire adopted the IFRS late. The sample included 6 countries that colonized by the Portuguese Empire (*PORC*), where 3 out of the 6 countries colonized by Portuguese Empire adopted the IFRS recently, whereas 2 out of the 6 nations are still non-adopters of IFRS in 2014. The sample covered 4 countries colonized by the Dutch Empire (*DUTC*), where 3 out of the 4 countries colonized by the Dutch Empire adopted the IFRS recently. The sample involved 4 countries colonized by the German Empire (*GRMC*), where only 1 out of the 4 countries colonized by the German Empire adopted the IFRS during the early times, whilst 2 out of the 4 countries colonized by the German Empire adopted the IFRS late. The sample covered 13 countries colonized by the Russian Empire (*RUSC*), where 7 out of the 13 countries colonized by the Russian Empire adopted the IFRS early, whereas 6 out of the 13 nations colonized by the Russian Empire adopted the IFRS late. The sample included 28 countries colonized by other colonists (*OTCO*), wherein 5 out of the 28 nations colonized by other colonists adopted the IFRS during the initial stages, whilst 20 out of the 28 nations adopted the IFRS recently.

7.1.3 Descriptive Statistics of All Variables Used in the Consequenses Model of Adopting ISAs

This subsection discusses the statistical summary of all variables, including the dependent, independent and control variables included in the economic consequences model of ISAs adoption.

7.1.3.1 Descriptive Statistics of the Dependent variables Included in the Economic Consequences Model of ISAs adoption

The sample of data used in the model of economic consequences of ISAs adoption covers 185 countries for 20 years over the period from 1995-2014. Thus, the resulting sample includes 3,700 observations which is a relatively large sample and adequate for the present study, since it represents roughly 94% of the data distribution of the target population. Table 8 reports the summary of the economic consequences of the ISAs based on their first-time adoption across the five adopter categories proposed by the DOI theory. Regarding the percentage of economic growth, Table 8 shows that the data relevant to the *LGGRA* groups exhibit the highest variable values of the *ECGR* among the four adopter categories of the ISAs. The data relevant to the *LGGRA* group ranges from -62.08 to 149.97, with higher average of 4.59, and a standard deviation of 8.80, whereas the data relevant to the *ERMJA* and *LTMJA* groups exhibit medium variability and the data ranges from -33.10 to 88.96 and from -30.15 to 106.28, with averages of 4.32, 3.60 and standard deviations of 5.58 & 5.39 respectively, revealing that there is considerable variation in the data relevant to the *ECGR* among countries included in the *LGGRA*, which is in line with the findings reported by prior studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). This was also emphasized by the variance values for each group, which report that the data points relevant to *ECGR* tend to be far

away from the mean for countries included in the *LGGRA* group, while data related to both the *ERMJA* and *LTMJA* groups tend to be quite close to the mean.

With respect to the foreign direct investment, Table 8 reports that the data relevant to the *EXPRA* groups exhibit the highest variable scores of *FDI* among the four adopter categories of the ISAs. The data relevant to the *EXPRA* group ranges from -11.59 to 173.45, with a higher average of 11.70, and a higher standard deviation of 25.08, indicating that the data relevant to the *EXPRA* group are dispersed far away from the mean, whereas the data relevant to the *ERMJA* and *LGGRA* exhibit medium variable values and their data ranges from -58.98 to 255.42 and from -56.46 to 217.92, with an average of 6.26, 4.49, and standard deviation of 11.59, and 13.06 respectively. revealing that there is considerable variation in the data relating to the *EXPRA, ERMJA* and *LGGRA* groups, which is consistent with the results reported by prior studies (Gordon et al., 2012; Akpomi & Nnadi, 2017; Boachie, 2016; Okpala, 2012). This was also emphasized by the variance within groups, which report that the data points of *FDI* relevant to the *EXPRA, ERMJA* and *LGGRA* groups are expected to spread out far away from the average.

In terms of gross domestic product, Table 8 reports that the data relevant to the *LGGRA* group exhibit the highest dispersion scores of *GDP* among the four adopter categories of the ISAs. The data relevant to the *LGGRA* group ranges from 0.06 to 17,419.0, with an average of 349.08 and a standard deviation of 1,914.88, suggesting that there is a substantial variation in the data of *GDP* relating to the *LGGRA* group, which is consistent with the findings suggested by previous studies (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014). This was also emphasized by the variance values, which report that the data scores of *GDP* that are relevant to the *LGGRA* group tend to spread out far away from the mean. However, the data of *GDP* relevant to the four adopter groups are tightly clustered around the mean and exhibit a lower dispersion of *GDP*.

With respect to the exports level, Table 8 shows that the data of *EXPO* relevant to the *LGGRA* group exhibits the highest dispersed data among the four adopter groups of the ISAs. The data relevant to the *LGGRA* group ranges from 0.01 to 2,262.22, with an average of 60.17 and a standard deviation of 275.3, whereas the data of *EXPO* relating to the *ERMJA* group exhibits medium dispersion values, and the data ranges from 0.19 to 2342.54, with a mean of 87.62 and a standard deviation of 214.53, suggesting that there is significant variation in the data of *EXPO* among countries included in the *LGGRA* and *ERMJA* groups, which is in line with the results reported by existing studies (Boolaky & Cooper, 2015; Boolaky & O'Leary, 2011). This was also supported by the variance values, which report that the data of *EXPO* that are relevant to the *LGGRA* and *ERMJA* groups respectively are spread out far away from the mean.

In terms of imports levels, Table 8 shows that the data of *IMPO* relevant to the *LGGRA* group exhibits the greatest variable values among the four adopter categories of the ISAs. The data of *IMPO* relevant to the *LGGRA* group ranges from 0.03 to 2,770.41, with an average of 66.25, and a higher standard deviation of 322.74, indicating that there is considerable variation in the data relevant to countries included in the *LGGRA* group, which is in line with previous studies (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012). However, the data of *IMPO* relating to the four groups of ISAs adopters exhibit similar patterns at small scales, revealing that the data of *IMPO* relevant to the four adopter groups of the ISAs are tightly clustered around the mean. The imports levels are relatively very similar across all countries included in the four groups. This was also confirmed by the variance values, indicating that the data of *IMPO* relating to the *LGGRA* group are spread far from the mean.

Regarding the inflation rates, Table 8 shows that the data of *INFR* relevant to the *LGGRA* group exhibits the biggest variable values among the four adopter categories of the ISAs. The data of *INFR* relevant to the *LGGRA* group ranges from -18.10 to 4,145.10, with a mean of 18.82, and a higher standard deviation value of 166.7, suggesting that there is substantial variation in the data relevant to countries included in the *LGGRA* group. This result is consistent with the findings suggested by previous studies (Agustini, 2016; Archambault & Archambault, 2009; Arsoy & Gucenme, 2009). However, the data of *INFR* relevant to the four adopter groups of the ISAs exhibit similar patterns at small scales, indicating that the data of *INFR* relevant to the four adopter groups of the ISAs are tightly clustered around the mean. This was also emphasized by the variance values, which indicate that the data of *INFR* relevant to the *LGGRA* group tend to spread out far away from the mean.

With reference to the exchange rates, Table 8 presents that the data of *EXCR* relevant to the *ERMJA* group exhibits medium variable values among the four adopter categories of the ISAs. The data of *EXCR* relevant to the *ERMJA* group ranges from 0.05 to 25,000.00, with an average of 1,002.52, and a standard deviation of 3,952.77, suggesting that there is considerable variation in the data relevant to countries included in the *ERMJA* group, which is consistent with previous studies (Ashbaugh & Pincus, 2001; Goodwin et al., 2008; Heidrich, 2005). However, surprisingly, the data of *EXCR* relevant to the other three groups exhibit similar patterns at small scales, revealing that the data of *EXCR* relevant to the other three adopter groups of the ISAs are tightly clustered around the mean. This was also emphasized by the variance values, which report that the data of *EXCR* relevant to the *ERMJA* group tend to spread out far away from the mean.

Table 8: Summary of the descriptive statistics of all continuous dependent variables included in the model of economic consequences of ISAs for 185 countries over the period from 1995-2014

Dep Var	*ISAAC*	N	%	Mean	Std. D	Variance	Min	Max
ECGR (%)	*EXPRA*	120	3.2%	3.77	2.89	8.34	-7.80	9.14
	ERADA	460	12.4%	4.20	4.23	17.89	-14.19	17.29
	ERMJA	920	24.9%	4.32	5.58	31.09	-33.10	88.96
	LTMJA	1280	34.6%	3.60	5.39	29.00	-30.15	106.28
	LGGRA	920	24.9%	4.59	8.80	77.51	-62.08	149.97
FDI (%)	*EXPRA*	120	3.2%	11.70	25.08	62.89	-11.59	173.45
	ERADA	460	12.4%	4.31	5.14	2.65	-3.68	45.27
	ERMJA	920	24.9%	6.26	11.59	13.44	-58.98	255.42
	LTMJA	1280	34.6%	4.34	8.55	7.31	-82.89	142.42
	LGGRA	920	24.9%	4.49	13.06	17.06	-56.46	217.92
GDP ($)	*EXPRA*	120	3.2%	139.67	245.27	0.60	3.60	931.29
	ERADA	460	12.4%	173.31	476.31	2.27	0.66	2,923.47
	ERMJA	920	24.9%	234.35	785.45	6.17	0.49	10,360.11
	LTMJA	1280	34.6%	265.61	679.14	4.61	0.13	5,954.48
	LGGRA	920	24.9%	349.08	1,914.88	36.67	0.06	17,419.00
EXPO ($)	*EXPRA*	120	3.2%	86.67	180.14	32.45	2.77	722.93
	ERADA	460	12.4%	57.37	145.99	21.31	0.19	811.71
	ERMJA	920	24.9%	87.62	214.53	46.03	0.19	2,342.54
	LTMJA	1280	34.6%	71.25	128.45	16.50	0.03	893.38
	LGGRA	920	24.9%	60.17	275.30	75.79	0.01	2,262.22
IMPO ($)	*EXPRA*	120	3.2%	79.13	158.25	25.04	3.06	628.59
	ERADA	460	12.4%	57.63	146.35	21.42	0.56	869.21
	ERMJA	920	24.9%	81.53	195.05	38.04	0.25	1,960.20
	LTMJA	1280	34.6%	68.24	126.06	15.89	0.13	992.05
	LGGRA	920	24.9%	66.25	322.74	104.16	0.03	2,770.41
INFR (%)	*EXPRA*	120	3.2%	4.47	3.86	0.15	-0.70	22.60
	ERADA	460	12.4%	16.19	76.10	57.91	-2.67	1,005.26
	ERMJA	920	24.9%	11.40	43.84	19.22	-16.10	1,058.40
	LTMJA	1280	34.6%	7.59	24.76	6.13	-72.73	612.50
	LGGRA	920	24.9%	18.82	166.70	277.88	-18.10	4,145.10
EXCR ($)	*EXPRA*	120	3.2%	47.34	71.61	0.01	0.28	242.75
	ERADA	460	12.4%	849.27	2,091.77	4.38	0.20	12,580.00
	ERMJA	920	24.9%	1,002.52	3,952.77	15.62	0.05	25,000.00
	LTMJA	1280	34.6%	492.09	1,849.11	3.42	0.01	25,941.66
	LGGRA	920	24.9%	696.22	2,225.01	4.95	0.00	19,068.42
INTR (%)	*EXPRA*	120	3.2%	6.58	7.02	4.92	-10.25	31.15
	ERADA	460	12.4%	9.49	12.67	16.05	-63.89	93.92
	ERMJA	920	24.9%	8.23	13.96	19.49	-70.43	150.10
	LTMJA	1280	34.6%	9.51	28.62	81.89	-43.57	572.28
	LGGRA	920	24.9%	8.28	11.86	14.06	-94.22	78.27

Note: The abbreviations of variables are as follows: adopter categories of the *ISAs* include experimenters (*EXPRA*); early adopters (*ERADA)*; early majority adopters (*ERMJA*); late majority adopters (*LAMJA*); laggards (*LGGRA*); the dependent variables which include the key economic consequences, namely economic growth (*ECGR*); foreign direct investment (*FDI)*; gross domestic product (*GDP*); exports of goods and services (*EXPO*); imports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); official exchange rate (*EXCR*); real interest rate (*INTR*).

With respect to the interest rates, Table 8 reports that the data of *INTR* relevant to the *LTMJA* group exhibits the highest variable values among the four adopter categories of the ISAs. The data of *INTR* relevant to the *LTMJA* group ranges from -43.57 to 572.28, with an average of 9.51, and a standard deviation of 28.62, suggesting that there is considerable variation in the data of *INTR* relevant to countries included in the *LTMJA* group, which is in line with the findings reported by prior studies (Chen et al., 2015; Zhang, 2008; Bischof, 2009). However, surprisingly, the data of *INTR* relevant to the other three groups exhibit similar patterns at small scales, indicating that the data of *INTR* relevant to the other three adopter groups of ISAs are tightly clustered around the mean. This was also confirmed by the variance values, which report that the data of *INTR* relevant to the *LTMJA* group tend to spread out far away from the mean.

Further, appendix 5 provides a summary of the descriptive statistics of average annual values for all continuous dependent variables that are included in the model of economic consequences of ISAs adoption for 185 countries, over the period from 1995 to 2014. The graphical presentation of average annual values of economic consequences simply provides a visual, rather than a numerical perspective, the trends of annual averages of economic consequences are analysed graphically. Figure 4 shows that the trends of economic growth averages for the five ISAs adopter categories have higher volatility and rapid fluctuation between 1995-2014. Figure 5 shows that the trends of foreign direct investments (*FDI*) for the five adopter groups of the ISAs are very similar, except for the laggards' group, where the averages relevant to that group have a clear fluctuation over 1995-2014. Figure 6 shows that the trends of *GDP* averages in US Dollars for the five adopter groups of ISAs increased consistently during the 20-year period from 1995-2014, except there was a sharp decrease in the annual average of *GDP* during the Financial Crisis in 2008-2009. The annual averages of *GDP* relevant to the ISAs adopter groups (including *LGGRA, LTMJA* and *ERMJA)* are presented with descending higher values in comparison with the *ERADA* and *EXPRA* groups.

Similar trends have been shown for the annual averages of exports and imports growth, which is represented in Figure 7 and Figure 8 respectively. The trends of annual average of exports values for the five adopter groups of the ISAs increased consistently over the period from 1995-2014, except for a huge drop in exports for all the ISAs groups during the most recent global Financial Crisis of 2008-2009. The annual averages of exports and imports values relevant to the ISAs adopter groups (including *ERMJA, EXPRA* and *LTMJA)* are presented with descending higher values in comparison to the other two groups of the ISAs, namely *ERADA* and *LGGRA.*

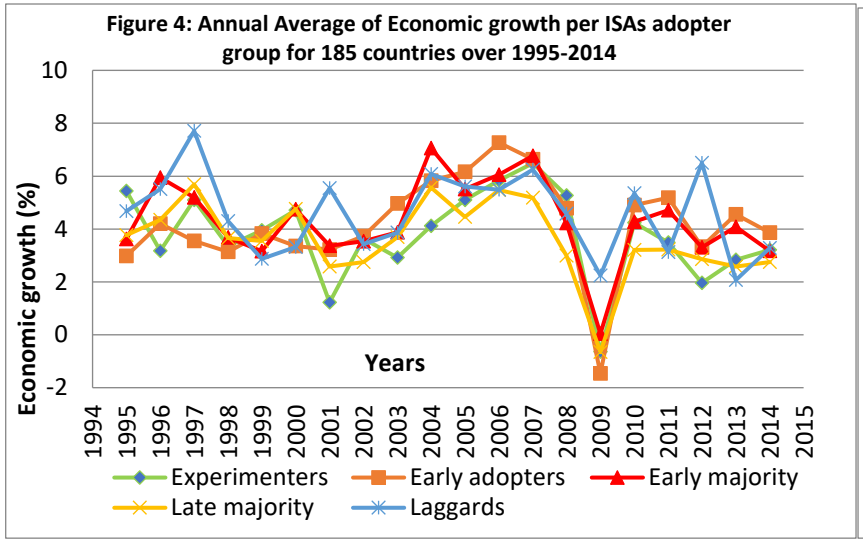


Figure 4: Annual Average of Economic growth per ISAs adopter group for 185 countries over 1995-2014
Economic growth (%)
10
8
6
4
2
0
-2
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority
Laggards

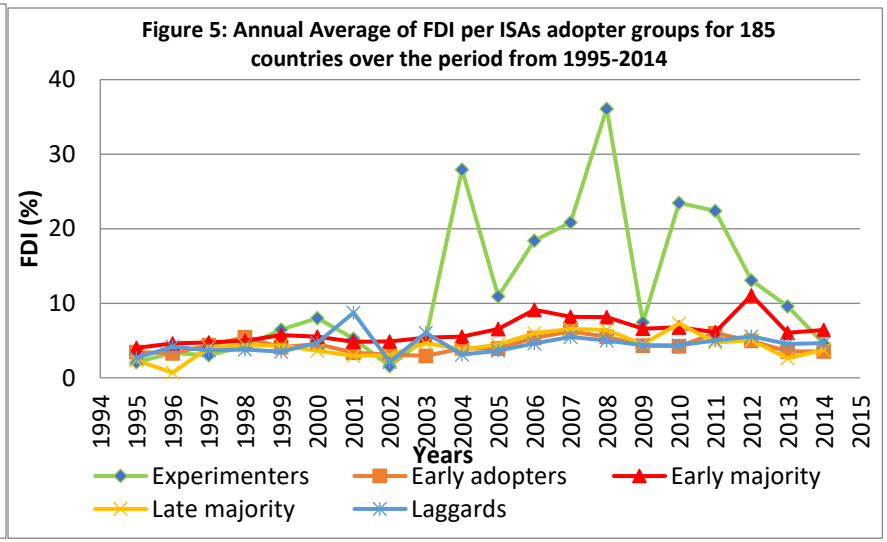


Figure 5: Annual Average of FDI per ISAs adopter groups for 185 countries over the period from 1995-2014
FDI (%)
40
30
20
10
0
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority
Laggards

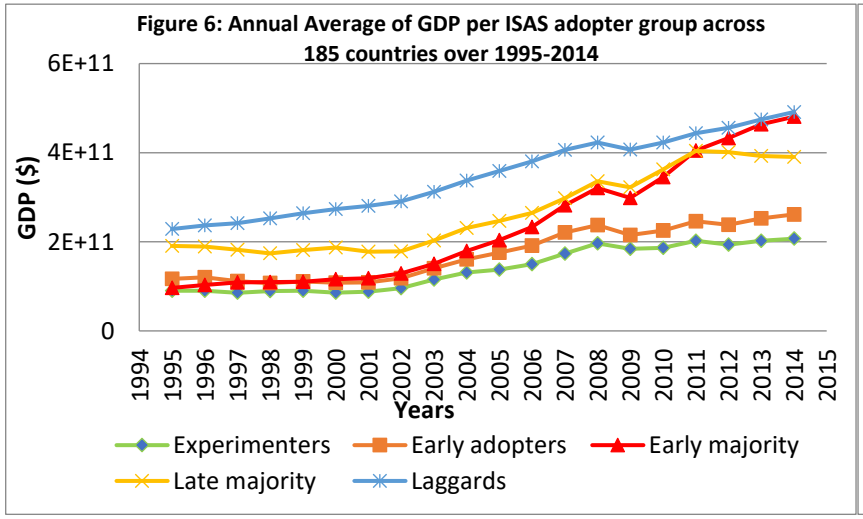


Figure 6: Annual Average of GDP per ISAS adopter group across 185 countries over 1995-2014
GDP ($)
6E+11
4E+11
2E+11
0
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority
Laggards

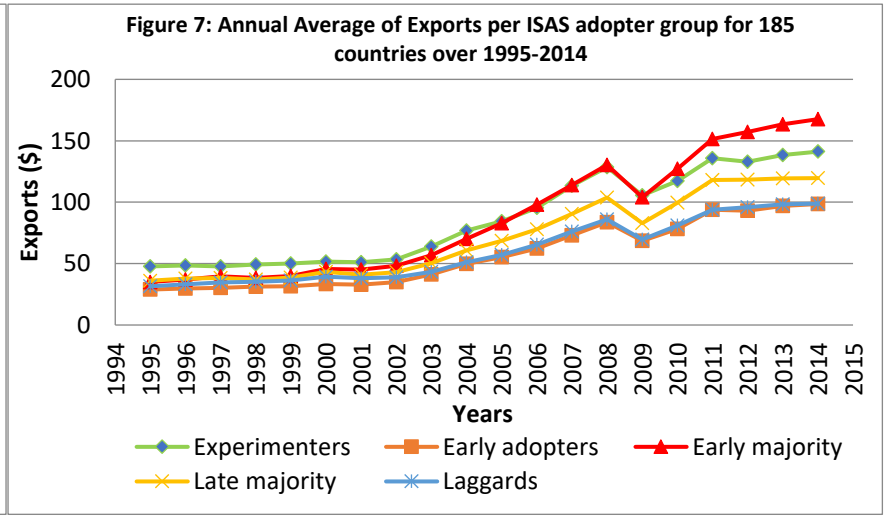


Figure 7: Annual Average of Exports per ISAS adopter group for 185 countries over 1995-2014
Exports ($)
200
150
100
50
0
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority
Laggards

Figure 8: Annual Average of Imports per ISAs adopter groups for 185 countries over 1995-2014

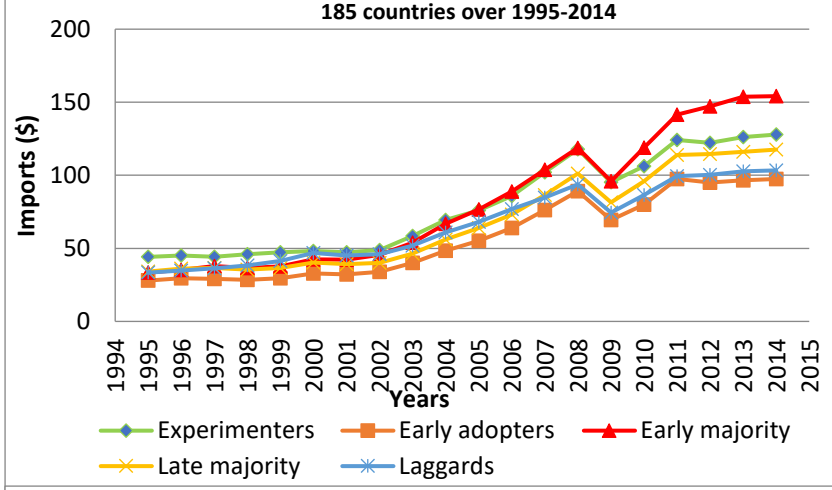


Figure 9: Annual Average of Inflation per ISAs adopter groups for 185 countries over 1995-2014

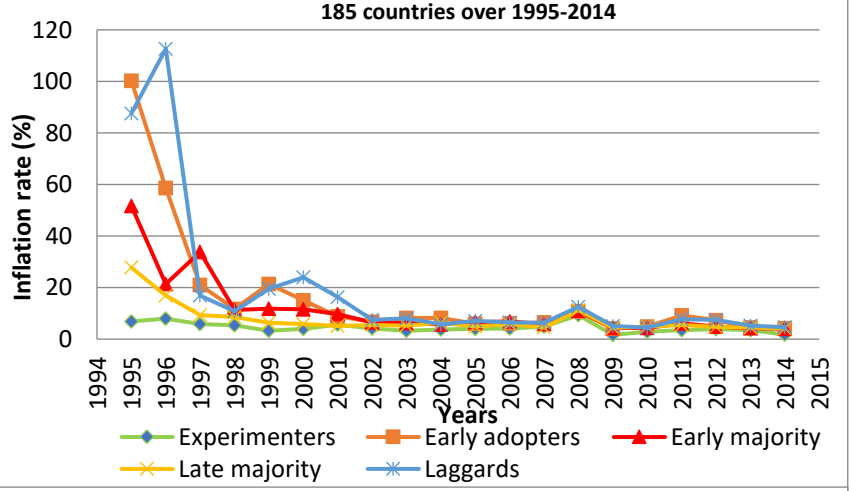


Figure 10: Annual Average of exchange rate per ISAs adopter groups for 185 countries over 1995-2014

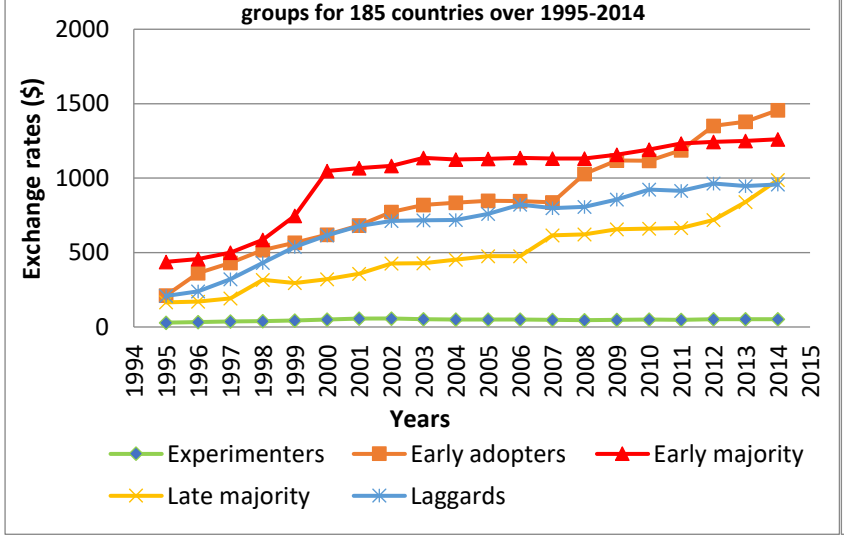


Figure 11: Annual Average of Real interest rate per ISAs adopter groups for 185 countries over 1995-2014

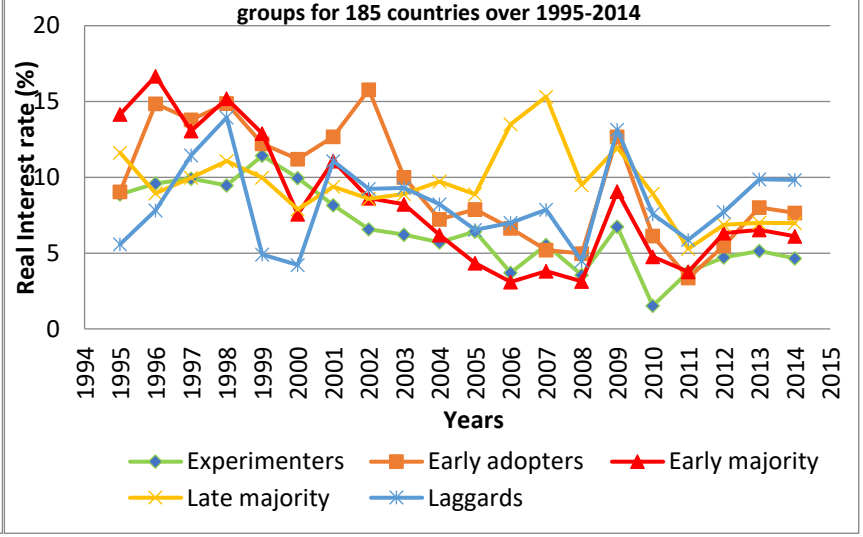


Figure 9 shows that the trends of average annual inflation rates have decreased significantly for the five adopter groups of the ISAs over the period from 1995-1997. Thereafter, the trends of average annual inflation rates remained stable for most adopter groups from 1998-2014, except for a slight rise in inflation rates for all adopter groups during the Financial Crisis in 2008-2009. Figure 10 shows that the annual average of exchange rates increased gradually for the five adopter groups of the ISAs from 1995-2014. The annual average of the *ERADA* and *ERMJA* groups presented higher values in comparison to the other two groups of the ISAs, namely the *LGGRA* and *LTMJA* groups, whereas the average of exchange rates for the *EXPRA* group remained stable over the whole period of 1995-2014. Figure 11 shows that the annual average of real interest rate exhibits large fluctuations for the five adopter groups of the ISAs from 1995-2014.

7.1.3.2 Descriptive Statistics of the Categorical Independent and Control Variables Included in the Economic Consequences Model of ISAs Adoption

This subsection illustrates the descriptive statistical summary of all categorical independent and control variables included in the model of economic consequences of ISAs adoption. Table 9 presents the frequency of all categorical data included in the economic consequences of ISAs adoption, with counts of how often each category occurs among the five adopter groups of the ISAs for 185 countries between 1995 to 2014. Frequency Table 9 reports the classification of the ISAs adoption categories (*ISAAC*) proposed by the DOI theory, along with further classification, which represents ISAs adoption status (*ISAST*), in addition to the control variables (social factors).

In terms of the ISAs adoption categories (*ISAAC*), Panel A of Table 9 shows that the experimenters' group of the ISAs (*EXPRA*) included only 6 countries who adopted the ISAs since they were issued by the IFAC in 1991 up to 1995, including Jordan, Malta, the Netherlands, Peru, Slovenia and Sri Lanka. The early adopters' group of the ISAs (*ERADA*) includes 23 out of 185 nations who adopted the ISAs early from 1996-2000. The early majority adopters' group of the ISAs (*ERMJA*) involved 46 out of 185 countries who adopted the ISAs at the earlier times from 2001-2006. The late majority adopters' group of the ISAs (*LTMJA*) involved 64 out of 185 countries who have adopted the ISAs recently from 2007-2014. The laggards' group of the ISAs (*LGGRA*) included 46 out of 185 nations, who have not yet adopted the ISAs by 2014.

Regarding the ISAs adoption status (*ISAST*), Panel B of Table 9 reports that the non-adopter's group of the ISAs (*NOAD*) includes 46 out of 185 countries that have not yet adopted the ISAs by 2014. The adopters' group of the ISAs with some amendments (*WIAM*) involved 36 out of 185 nations. The adoption group of ISAs without any amendments (*WOAM*) included 12 out of 185 countries. The adopters' group of the ISAs with translation to local languages (*WITR*) involved 46 out of 185 countries. The adopters' group of the ISAs without any translation to local languages (*WOTR*) included only 3 countries, namely Armenia, Brunei Darussalam, and Myanmar.

Table 9: A summary of all categorical independent and control variables included in the model of economic consequences of ISAs adoption for 185 countries over 1995-2014

Variables	Observations	Countries	Percent	Cumulative %	Tolerance	VIF
Independent Variables						
Panel A: The ISAs adoption categories (*ISAAC*)						
EXPRA	120	6	3.2%	3.2%	0.61	1.63
ERADA	460	23	12.4%	15.7%	0.44	2.29
ERMJA	920	46	24.9%	40.5%	0.40	2.48
LTMJA	1280	64	34.6%	75.1%	0.44	2.28
LGGRA	920	46	24.9%	100%	0.53	1.88
Total	3700	185	100%			
Panel B: The ISAs adoption status (*ISAST*)						
NOAD	2307	46	62.4%	62.4%	0.26	3.78
WIAM	373	36	10.1%	72.4%	0.69	1.46
WOAM	113	12	3.1%	75.5%	0.88	1.13
WITR	456	46	12.3%	87.8%	0.71	1.41
WOTR	27	3	0.7%	88.5%	0.92	1.09
WAMT	180	18	4.9%	93.4%	0.77	1.29
BLAW	220	20	5.9%	99.4%	0.73	1.36
GMAT	16	2	0.4%	99.8%	0.94	1.06
IFRSS	8	2	0.2%	100%	0.94	1.06
Total	3700	185	100%			
Control Variables						
Panel C: Geographical region (*GERE*)						
EURO	780	39	21.1%	21.1%	0.3	3.31
LNAM	700	35	18.9%	40.0%	0.38	2.61
CSAS	360	18	9.7%	49.7%	0.42	2.36
EASP	560	28	15.1%	64.9%	0.5	1.98
MENA	400	20	10.8%	75.7%	0.23	4.28
AFRC	900	45	24.3%	100%	0.27	3.66
Total	3700	185	100%			
Panel D: Official language (*OFLN*)						
ENGL	1020	51	27.6%	27.6%	0.31	3.18
FRNL	420	21	11.4%	38.9%	0.33	3.04
SPNL	400	20	10.8%	49.7%	0.1	10.27
ARBL	380	19	10.3%	60.0%	0.22	4.64
GRML	140	7	3.8%	63.8%	0.75	1.33
RUSL	100	5	2.7%	66.5%	0.70	1.42
OTHL	1240	62	33.5%	100%	0.28	3.54
Total	3700	185	100%			
Panel E: Colonial history (*COHS*)						
NEVC	340	17	9.2%	9.2%	0.61	1.63
BRTC	1200	60	32.4%	41.6%	0.26	3.89
FRNC	520	26	14.1%	55.7%	0.30	3.37
SPNC	360	18	9.7%	65.4%	0.10	10.26
PORC	160	8	4.3%	69.7%	0.61	1.64
DUTC	80	4	2.2%	71.9%	0.82	1.23
GRMC	140	7	3.8%	75.7%	0.65	1.53
RUSC	320	16	8.6%	84.3%	0.51	1.97
OTHC	580	29	15.7%	100%	0.43	2.34
Total	3700	185	100%			

Note: The panel (A) represents the abbreviations of the independent variables. These variables include the ISAs adoption categories (*ISAAC*), which involve five main categories, namely the experimenters group (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*); and laggards group (*LGGRA*). The second independent variable group is the ISAs adoption status (*ISAAS*) which includes the following classification; non-adopters (*NOAD*); adoption with amendments (*WIAM*) adoption without amendments (*WOAM*) adoption with translation (*WITR*); adoption without translation (*WOTR*); adoption with amendments and translation (*WAMT*); adoption by the country law (*BLAW*); adoption in gap matters only (*GMAT*); adoption for financial statements that prepared in accordance with the IFRS (*IFRS*). The panel (B) represents the abbreviations of the control variables which involve three administrative Factors. Firstly, geographical regions (*GERE*) comprise of the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire (*SPNC*); Portuguese Empire (*PORC*); Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); and other colonialisms (*OTHC*).

The adopters' group of ISAs with amendments and translation alike (*WAMT*) involved 18 out of 185 countries. The adopters' group of the ISAs, which were enforced by the country's law (*BLAW*) included 20 out of 185 nations. The adopters' group of the ISAs, which used ISAs in gap matters only (*GMAT*) involved only 2 countries namely Austria and Japan. The adopters' group of the ISAs is subject to apply the ISAs only for financial statements prepared under the IFRS (*IFRSS*).

Table 9 presents three control variables. Firstly, the geographical regions (*GERE*) comprise of 6 main regions for the 185 countries, regardless of whether those countries have adopted the ISAs or retained their own national auditing standards. Panel C of Table 9 shows that the European (*EURO*) region involves 39 European countries, the Latin, North, and South America (*LNAM*) region contains 35 countries from the Americas, Central and south Asia (*CSAS*) region involves 18 countries from Asia, the East Asia and Pacific (*EASP*) region covered 28 Asian countries, the Middle East and North African (*MENA*) region includes 20 countries, while the African (*AFRC*) region includes 45 nations.

Secondly, Panel D of Table 9 represents the official languages (*OFLN*), which included seven common spoken languages around the world. Specifically, Panel D of Table 9 shows that the sample has included the following countries, 51 English language (*ENGL*) countries where English is an official language, 21 French (*FRNL*) speaking countries, 20 Spanish (*SPNL*) speaking countries where French is an official language, 19 Arabic (*ARBL*) speaking countries, where Arabic is an official language, 7 German (*GRML*) speaking countries, where German is an official language including Austria, Denmark, Germany, Iceland, Luxembourg, Namibia, and Switzerland, 5 Russian (*RUSL*) speaking countries, where the Russian language is an official language, including Belarus, Kazakhstan, Kyrgyzstan, Russian Federation, and Tajikistan, whilst the sample involved 62 countries where other languages are widely speaking in those countries.

Thirdly, Panel E of Table 9 represents the colonial history (*COHS*). The sample involves 9 groups of the most famous colonial empires. Panel E of Table 9 shows that the sample covered 17 never colonized countries (*NEVC*), and all of whom adopted the ISAs at various times. The sample involved 60 countries which were colonized by the British Empire (*BRTC*), 26 countries which were colonized by the French Empire (*FRNC*), 18 countries which were colonized by the Spanish Empire (*SPNC),* whereas only 8 countries which were colonized by the Portuguese Empire (*PORC*) including Angola, Brazil, Cape Verde, Guinea-Bissau, Mozambique, Oman, Sao Tome & Principe, and East Timor, only 4 countries were colonized by the Dutch Empire (*DUTC*) including Belgium, Indonesia, Luxembourg, and Suriname, and only 7 countries were colonized by the German Empire (*GRMC*), including Burundi, Micronesia, Namibia, Palau, Papua New Guinea, Rwanda, and Samoa. A further 16 countries which were colonized by the Russian Empire (*RUSC*), and 29 countries which were colonized by other colonists (*OTCO*).

7.1.4 Descriptive Statistics of All Variables Used in the Consequenses Model of Adopting IFRS

This subsection discusses the statistical summary of all variables used in the model of economic consequences of the IFRS, which covers 185 countries over a period from 1995-2014, thus the resulting sample includes 3,700 observations, which represent roughly 94% of the target population.

7.1.4.1 Descriptive Statistics of Continuous Dependent Variables Included in the Economic Consequences Model of IFRS Adoption

Table 10 reports the summary of the economic consequences of the IFRS, based on their first-time adoption across the five adopter categories proposed by the DOI theory. Regarding the percentage of economic growth, Table 10 shows that the data relevant to the *LGGRF* group exhibit the highest variable values of the *ECGR* among the other adopter categories of the IFRS. The data relevant to the *LGGRF* group ranges from -36.05 to 149.97, with a higher average of 4.39, and a standard deviation of 7.84, whereas the data relevant to the *ERMJF* and *LTMJF* groups exhibit medium variability and the data ranges from -33.10 to 88.96 and from -62.08 to 106.28, with an average of 4.88, 3.70 and standard deviations of 6.69, 5.85 respectively, which reveal that there is considerable variation in the data relevant to *ECGR* among countries included in the *LGGRF*. This result is in line with the findings reported by prior studies (Woolley, 1998; Zaidi & Huerta, 2014; Delcoure & Huff, 2015; Zeghal & Mhedhbi, 2006; Ozcan, 2016; Paknezhad, 2017; Pricope, 2016; Judge et al., 2010). This was also emphasized by the variance values for each group, which report that the data of *ECGR* relevant to the *LGGRF* group tend to spread far away from the mean.

With respect to foreign direct investment, Table 10 reports that the data relevant to the *LGGRF* and *LTMJF* groups exhibit the highest and second highest variable values of *FDI* among the four adopter categories of the IFRS. The data relevant to the *LGGRF* group ranges from -56.46 to 217.92, with a mean of 4.54, and a higher standard deviation of 13.56, whereas the data relevant to the *LTMJF* group ranges from -82.89 to 255.42, with an average of 5.20, and a standard deviation of 12.55, revealing that there is a considerable variation in the data of FDI relevant to the *LGGRF* and *LTMJF* groups, which is consistent with prior studies (Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016; Rakesh & Shilpa, 2013; Pricope, 2017). The variance values relating to *FDI* show that the data of the *LGGRF* and *LTMJF* groups are expected to spread out far away from the mean.

In terms of the gross domestic product, Table 10 reports that the data relevant to the *LGGRF* group exhibit the highest dispersion scores of *GDP* among the four adopter categories of the IFRS. The data relevant to the *LGGRF* group ranges from 0.06 to 17,419.00, with an average of 351.70, and a standard deviation of 2,006.13, whereas the data relevant to the *LTMJF* group exhibit medium dispersion scores of *GDP*, which ranges from 0.13 to 10,360.11, with an average of 362.61, and a standard deviation of 869.76, suggesting that there is substantial variation in the data of *GDP* relating to the *LGGRF* and *LTMJF* groups.

Table 10: Summary of descriptive statistics of all continuous dependent variables included in the model of economic consequences of IFRS for 185 countries over the period from 1995-2014

Dep Var	*IFRSAC*	N	%	Mean	Std. D	Variance	Min	Max
ECGR (%)	*EXPRF*	80	2.2%	2.88	3.58	12.80	-15.26	7.14
	ERADF	480	13.0%	4.45	4.53	20.56	-17.67	30.01
	ERMJF	560	15.1%	4.88	6.69	44.72	-33.10	88.96
	LTMJF	1780	48.1%	3.70	5.85	34.24	-62.08	106.28
	LGGRF	800	21.6%	4.39	7.84	61.40	-36.05	149.97
FDI (%)	*EXPRF*	80	2.2%	4.00	3.82	14.61	-0.34	15.05
	ERADF	480	13.0%	4.37	4.85	23.55	-2.50	45.27
	ERMJF	560	15.1%	6.31	7.04	49.52	-5.01	55.08
	LTMJF	1780	48.1%	5.20	12.55	157.51	-82.89	255.42
	LGGRF	800	21.6%	4.54	13.56	183.84	-56.46	217.92
GDP ($)	*EXPRF*	80	2.2%	23.30	39.15	0.15	0.49	173.82
	ERADF	480	13.0%	31.02	54.66	0.30	0.62	402.34
	ERMJF	560	15.1%	52.95	126.84	1.61	0.22	823.24
	LTMJF	1780	48.1%	362.61	869.76	75.65	0.13	10,360.11
	LGGRF	800	21.6%	351.70	2,006.13	402.46	0.06	17,419.00
EXPO ($)	*EXPRF*	80	2.2%	4.49	6.89	0.05	0.10	34.34
	ERADF	480	13.0%	17.11	43.83	1.92	0.41	399.53
	ERMJF	560	15.1%	27.85	79.46	6.31	0.11	578.96
	LTMJF	1780	48.1%	111.84	227.35	51.69	0.03	2,342.54
	LGGRF	800	21.6%	50.89	236.48	55.92	0.01	2,262.22
IMPO ($)	*EXPRF*	80	2.2%	5.93	9.38	0.09	0.17	43.85
	ERADF	480	13.0%	14.10	33.87	1.15	0.56	345.92
	ERMJF	560	15.1%	24.43	67.04	4.49	0.14	508.78
	LTMJF	1780	48.1%	106.42	210.46	44.29	0.07	1,960.20
	LGGRF	800	21.6%	61.19	309.95	96.07	0.03	2,770.41
INFR (%)	*EXPRF*	80	2.2%	4.36	3.28	0.01	-1.30	17.00
	ERADF	480	13.0%	10.20	39.01	1.52	-72.73	612.50
	ERMJF	560	15.1%	10.60	27.96	0.78	-16.10	411.80
	LTMJF	1780	48.1%	10.56	48.41	2.34	-18.10	1,058.40
	LGGRF	800	21.6%	19.41	178.43	31.84	-9.00	4,145.10
EXCR ($)	*EXPRF*	80	2.2%	21.78	25.81	0.01	1.00	81.86
	ERADF	480	13.0%	409.09	1,327.70	17.63	0.01	9,686.77
	ERMJF	560	15.1%	126.42	302.71	0.92	0.05	2,133.78
	LTMJF	1780	48.1%	641.41	2,702.65	73.04	0.07	25,000.00
	LGGRF	800	21.6%	1,473.07	3,685.99	135.86	0.00	25,941.66
INTR (%)	*EXPRF*	80	2.2%	9.96	8.52	7.25	-20.74	33.47
	ERADF	480	13.0%	15.14	44.95	202.04	-32.00	572.28
	ERMJF	560	15.1%	10.47	14.29	20.43	-18.88	150.10
	LTMJF	1780	48.1%	6.32	11.20	12.55	-70.43	93.94
	LGGRF	800	21.6%	9.18	10.86	11.80	-94.22	78.27

Note: The abbreviations of the variables are as follows: The adopter categories of the *IFRS (IFRSAC)* include five groups, namely experimenters of IFRS (*EXPRF*); early adopters of IFRS (*ERADF)*; early majority adopters of IFRS (*ERMJF*); late majority adopters of IFRS (*LAMJF*); laggards of IFRS (*LGGRF*); the dependent variables which include the key economic consequences for 185 countries over the period 1995-2014 namely the economic growth (*ECGR*); foreign direct investment (*FDI)*; gross domestic product (*GDP*); exports of goods and services (*EXPO*); imports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); official exchange rate (*EXCR*); real interest rate (*INTR*).

Table 10 reports that the findings relevant to GDP are consistent with the results reported by previous studies (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015; Bohusova & Blaskova, 2013). This was emphasized by the variance values, which show that the data of *GDP* relevant to the *LGGRF* and *LTMJF* groups are far from the mean.

With respect to the exports level, Table 10 shows that the data of *EXPO* relevant to the *LGGRF* and *LTMJF* groups exhibits the highest and second highest variable values of *EXPO* among the four adopter groups of the IFRS. The data relevant to the *LGGRF* group ranges from 0.01 to 2,262.22, with an average of 50.89, and a standard deviation of 236.48, whereas the data of *EXPO* relating to the *LTMJF* group ranges from 0.03 to 2,342.54, with a mean of 111.84, and a standard deviation of 227.35, suggesting that there is significant variation in the data of *EXPO* among countries included in the *LGGRF* and *LTMJF* groups, which is in line with the existing studies (Marquez-Ramos, 2008; Marquez-Ramos, 2011; Ramanna & Sletten, 2009; Neel, 2017; Lasmin, 2012; Pricope, 2017). This was also supported by the variance values, which report that the data of *EXPO* relevant to the *LGGRF* and *LTMJF* groups are expected to spread out far away from the mean.

In terms of the imports level, Table 10 shows that the data of *IMPO* relevant to the *LGGRF* and *LTMJF* groups exhibits the highest and second highest variable values among the four adopter categories of IFRS. The data of *IMPO* relevant to the *LGGRF* group ranges from 0.03 to 2,770.41, with an average of 61.19, and a higher standard deviation of 309.95, whereas the data of *IMPO* relevant to the *LTMJF* group ranges from 0.07 to 1,960.20, with a higher average of 106.42, and a standard deviation of 210.46, indicating that there is considerable variation in the data relevant to countries included in the *LGGRF* and *LTMJF* groups. This result is in line with the findings reported by prior studies (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009). The variance values also report that the data of *IMPO* relating to the *LGGRF* and *LTMJF* groups tend to spread out far away from the mean.

Regarding the inflation rates, Table 10 shows that the data of *INFR* relevant to the *LGGRF* group exhibits the biggest variable values among the four adopter categories of the IFRS. The data of *INFR* relevant to the *LGGRF* group ranges from -9.00 to 4,145.10, with a mean of 19.41, and a large standard deviation value of 178.43, suggesting that there is substantial variation in the data relevant to countries included in the *LGGRF* group of the IFRS. This result is consistent with the findings reported by previous studies (Archambault & Archambault, 1999; Arsoy & Gucenme, 2009; Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008; Gucenme & Arsoy, 2006). However, the data of *INFR* relevant to the other three groups of the IFRS adopters exhibit similar patterns at smaller scales, indicating that the data of *INFR* relevant to the other three adopter groups are tightly clustered around the mean. This was also emphasized by the variance values, which report that the data of *INFR* relating to the *LGGRF* group spread far from the mean.

With reference to the exchange rates, Table 10 presents that the data of *EXCR* relevant to the *LGGRF* group exhibits the biggest variable scores of *EXCR*, whilst the data relating to the *LTMJF* group exhibit medium variable values of *EXCR* among the four adopter categories of the IFRS. The data of *EXCR* relevant to the *LGGRF* group ranges from 0.00 to 25,941.66, with an average of 1,473.07, and a standard deviation of 3,685.99, whereas the data of *EXCR* relevant to the *LTMJF* group ranges from 0.07 to 25,000.00, with an average of 641.41, and a standard deviation of 2,702.65, suggesting that there is considerable variation in the data relevant to the *LGGRF* and *LTMJF* groups. This result is consistent with the findings reported by previous studies (Ashbaugh & Pincus, 2001; Goodwin et al., 2008; Heidrich, 2005; Sarea & Al Nesuf, 2013; Pinto, 2005). This was also emphasized by the variance values, which report that the data of *EXCR* relevant to the *LGGRF* and *LTMJF* groups tend to spread out far away from the mean.

With respect to the interest rates, Table 10 reports that the data of *INTR* relevant to the *ERADF* group exhibits the highest variable values among the four adopter categories of the IFRS. The data of *INTR* relevant to the *ERADF* group ranges from -32.00 to 572.28, with a mean of 15.14, and a standard deviation of 44.95, suggesting that there is a significant variation in the data of *INTR* relevant to countries included in the *ERADF* group, which is in line with prior studies (Chen et al., 2015; Zhang, 2008; Bischof, 2009; Kim et al., 2011; Palea, 2007; Gordon et al., 2012; Choi & Lee, 2015). However, surprisingly the data of *INTR* relevant to the other three groups of the IFRS exhibit similar patterns at small scales and the data are tightly clustered around the mean. This was also confirmed by the variance values, which report that the data of *INTR* relevant to the *ERADF* group tends to spread far from the mean.

Appendix 6 provides a summary of the descriptive statistics of the average annual values for all continuous dependent variables, which are included in the model of economic consequences of IFRS adoption for 185 countries between 1995 and 2014. Additionally, the average of economic consequences of IFRS adoption for 185 over the period from 1995-2014 have also been presented in graphical form in addition to tabular form. The values shown in the tables and graphs are group averages on the outcome variable of interest, which represents the economic consequences of IFRS adoption, including economic growth, FDI, GDP, export levels, import levels, inflation rates, foreign exchanges rates and real interest rates.

The line graphs from Figure 12 to Figure 19 shows the overall changes in the economic consequences of IFRS adoption for the five adopter groups of the IFRS across 185 countries in a twenty-year period from 1995-2014. Figure 12 shows that the trends of economic growth averages for the five IFRS adopter categories experience several fluctuations until late 2014. Similarly, Figure 13 shows that the trends of foreign direct investments (*FDI*) for the five adopter groups of the IFRS experience a rapid fluctuation over the period of 1995-2014.

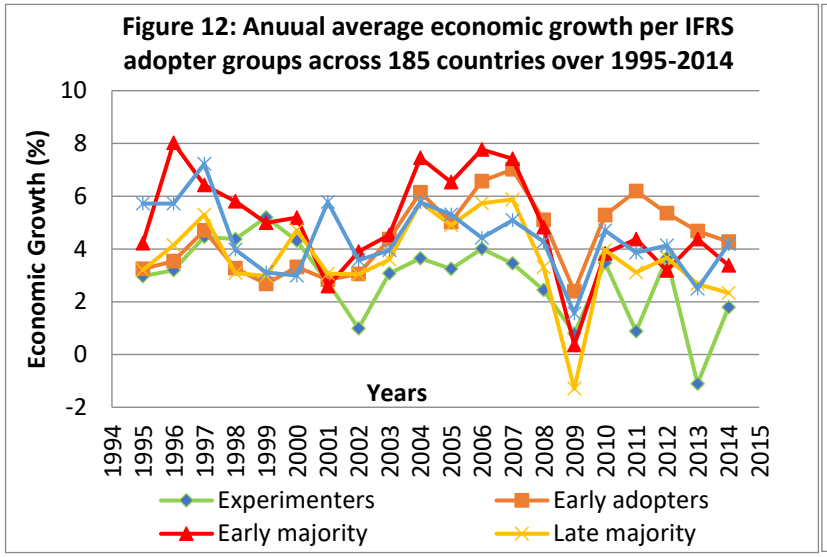


Figure 12: Anuual average economic growth per IFRS adopter groups across 185 countries over 1995-2014
Economic Growth (%)
10
8
6
4
2
0
-2
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority

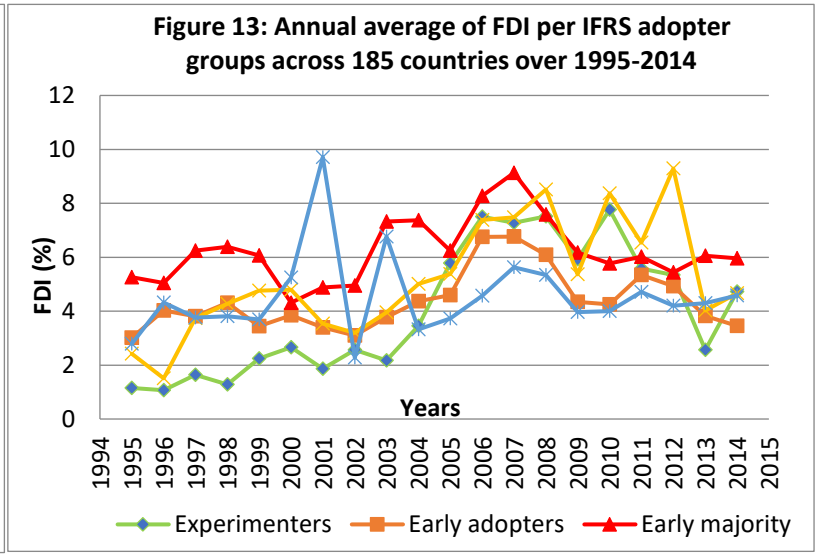


Figure 13: Annual average of FDI per IFRS adopter groups across 185 countries over 1995-2014
FDI (%)
12
10
8
6
4
2
0
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority

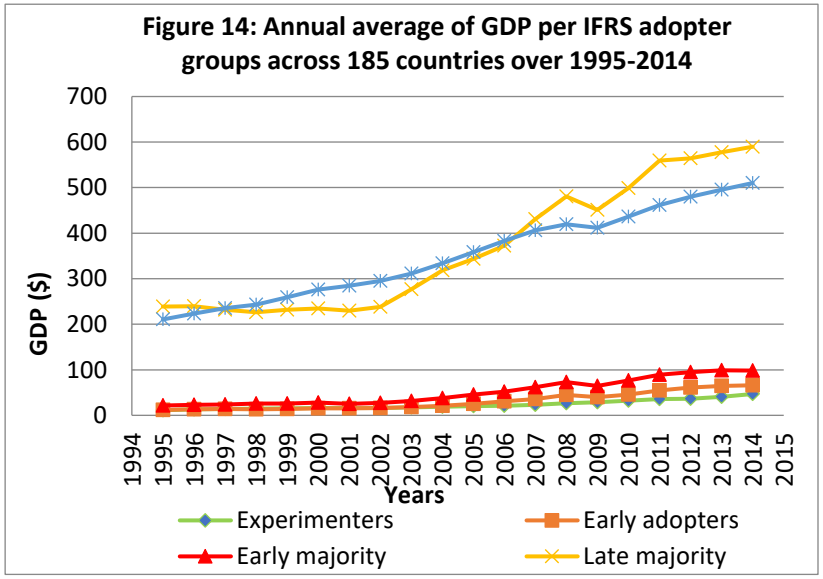


Figure 14: Annual average of GDP per IFRS adopter groups across 185 countries over 1995-2014
GDP ($)
700
600
500
400
300
200
100
0
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority

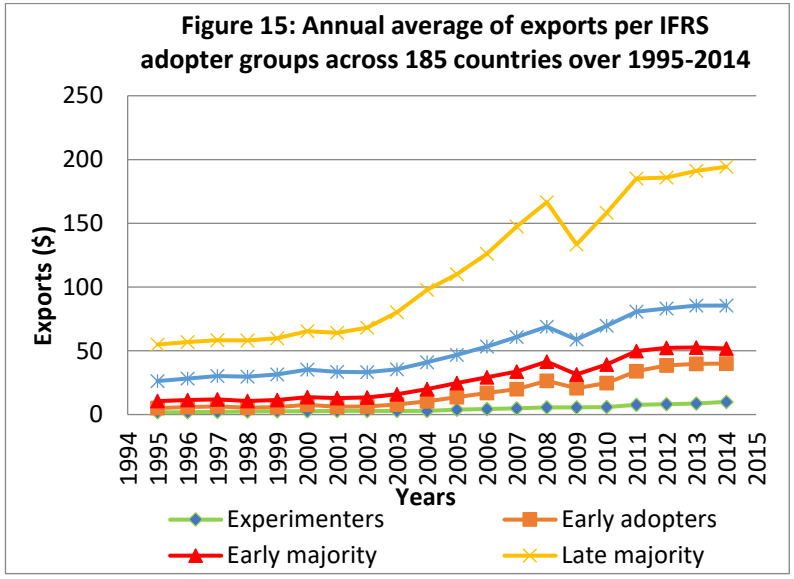


Figure 15: Annual average of exports per IFRS adopter groups across 185 countries over 1995-2014
Exports ($)
250
200
150
100
50
0
Years
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Experimenters
Early adopters
Early majority
Late majority

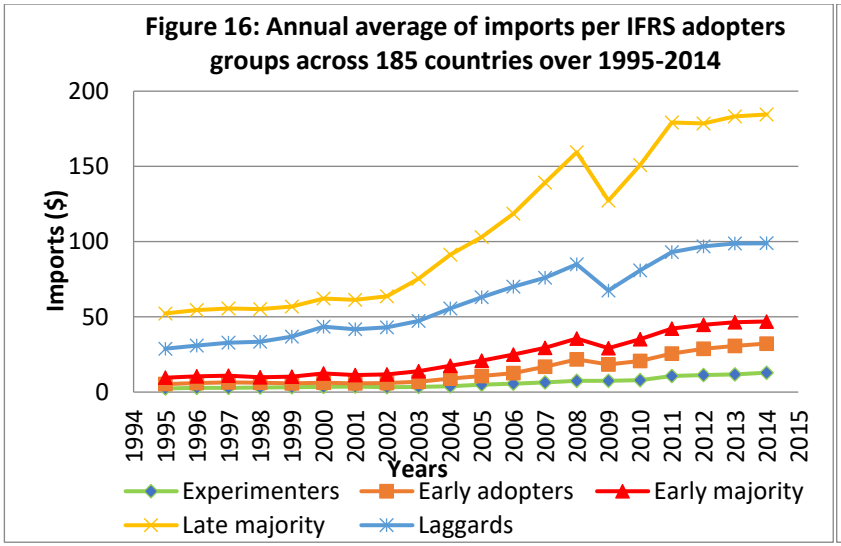


Figure 16: Annual average of imports per IFRS adopters groups across 185 countries over 1995-2014
Imports ($)
200
150
100
50
0
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Years
Experimenters
Early adopters
Early majority
Late majority
Laggards

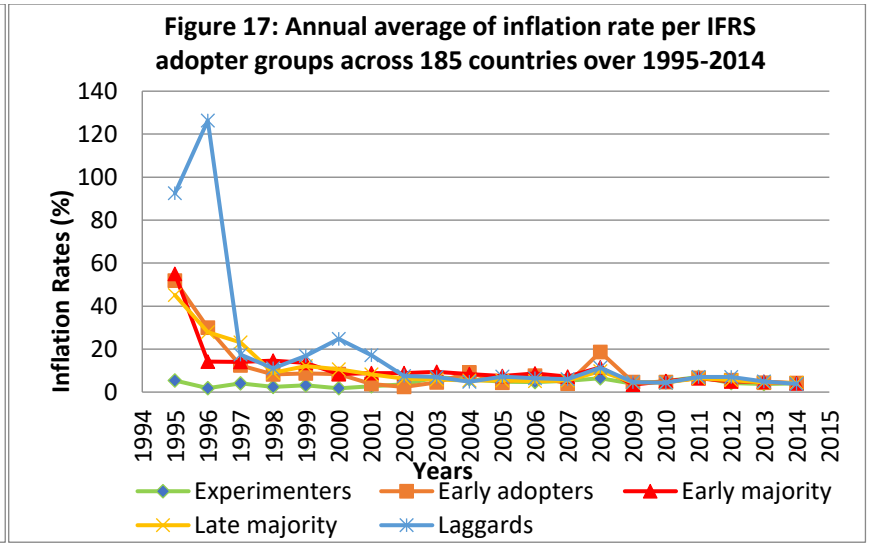


Figure 17: Annual average of inflation rate per IFRS adopter groups across 185 countries over 1995-2014
Inflation Rates (%)
140
120
100
80
60
40
20
0
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Years
Experimenters
Early adopters
Early majority
Late majority
Laggards

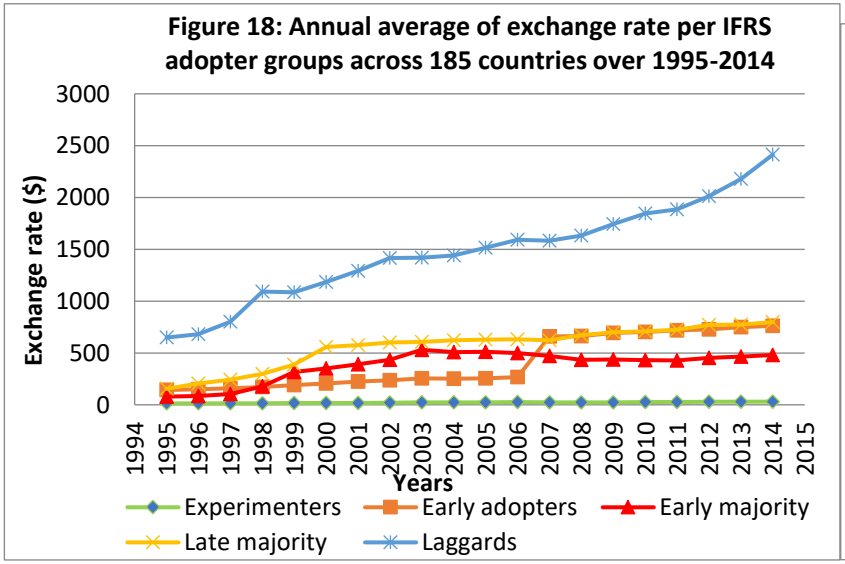


Figure 18: Annual average of exchange rate per IFRS adopter groups across 185 countries over 1995-2014
Exchange rate ($)
3000
2500
2000
1500
1000
500
0
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Years
Experimenters
Early adopters
Early majority
Late majority
Laggards

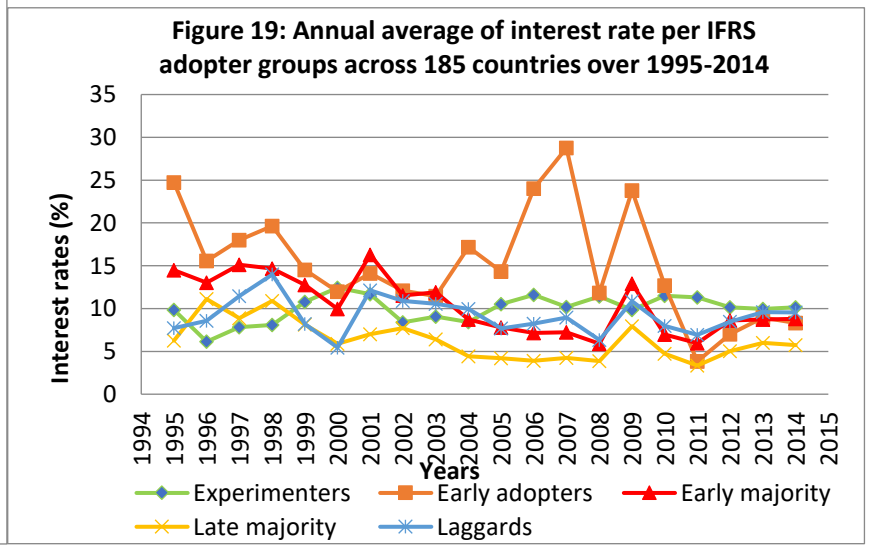


Figure 19: Annual average of interest rate per IFRS adopter groups across 185 countries over 1995-2014
Interest rates (%)
35
30
25
20
15
10
5
0
1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Years
Experimenters
Early adopters
Early majority
Late majority
Laggards

Figure 14 shows that the trends of *GDP* averages in US. Dollars for the *LTMJF* and *LGGRF* adopter groups of the IFRS increased strongly during the 20-year period from 1995-2014, while the trends of *GDP* for the other three adopter groups of the IFRS, which rise slightly, except for a sharp decrease in the annual average of *GDP* during the Financial Crisis in 2008-2009. Figure 15 and Figure 16 report that the trends of annual averages of exports and imports values for the *LTMJF* and *LGGRF* groups of the IFRS increased significantly over the period from 1995-2014 and reached a peak of over 180 Billion and 80 Billion respectively in 2014, except for a sudden drop in exports and imports during the global Financial Crisis in 2008-2009, while the trends of imports and exports for the other three adopter groups of IFRS are increasing constantly up to 2014. The annual averages of export and import values relevant to the IFRS adopter groups (including *ERMJA, ERADA* and *EXPRA)* exhibit the third, fourth and fifth highest values of imports and exports over the period from 1995-2014.

Surprisingly, Figure 17 shows that the trends of the average annual inflation rates have decreased significantly for the five adopter groups of the IFRS over the twenty-year period between 1995-1997. Thereafter, the trends of average annual inflation rates remained stable for most adopter groups of the IFRS over the period from 1998-2014, except for a slight rise in inflation rates for all adopter groups during the Financial Crisis in 2008-2009. Figure 18 shows that although the annual average of exchange rates increased gradually for the five adopter groups of the IFRS between 1995-2014, the *LGGRF* group of the IFRS has the highest values of exchange rates among the adopter groups of the IFRS, whilst the *LTMJF* and *ERADF* groups have very similar trends of exchange rates, especially between 2007 to 2014. The annual average of exchange rates for the *ERADA* and *LTMJA* groups of the IFRS presented the second and third highest values in comparison with the other two groups of the IFRS adopter groups (*ERMJF* and *EXPRF*). Figure 19 shows that the annual average of real interest rates exhibits several fluctuations for the five adopter groups of the IFRS over the period from 1995-2014, yet the *ERMJF* group of the IFRS has reached the highest level of fluctuations of 30% in 2007-2008.

7.1.4.2 Descriptive Statistics of Categorical Independent and Control Variables Included in the Economic Consequences Model of IFRS Adoption

This subsection illustrates the descriptive statistical summary of all categorical independent and control variables included in the model of economic consequences of IFRS adoption. Table 11 presents the frequency of all categorical data included in the economic consequences of IFRS adoption with counts of how frequently each category occurs for 185 countries over the period from 1995 to 2014. More specifically, Table 11 reports the frequency of IFRS adoption categories (*IFRSAC*) that were proposed by the DOI theory in addition to other classifications, including IFRS adoption status for domestic listed firms (*IFRSLF*), IFRS adoption status for unlisted domestic firms (*IFRSUF*), IFRS adoption status for foreign companies (*IFRSFF*) and IFRS adoption status for SMEs (*IFRSME*), in addition to the control variables.

In terms of IFRS adoption categories (*IFRSAC*), Panel (A) of Table 11 shows that the experimenters' group of the IFRS (*EXPRF*) involves only 4 countries that adopted the IFRS, namely Bahamas, Bangladesh, Barbados, and Gambia. These four countries were the first nations that adopted the international accounting standards, since they were issued by the IASC in 1973 up to 1995. The early adopters' group of the IFRS (*ERADF*) involves 24 out of 185 nations that adopted the IFRS at the earliest stages over the period of 1996-2000. The early majority adopters' group of the IFRS (*ERMJF*) involves 28 out of 185 nations that adopted the IFRS during the earlier times over 2001-2004. The late majority adopters' group of the IFRS (*LTMJF*) experiences the greatest increase, where the number of countries that adopted the IFRS had significantly increased between 2005-2014, which involves 89 out of 185 countries. There are 40 countries that have not yet adopted the IFRS by 2014 (*LGGRF*).

Regarding IFRS adoption status for listed firms (*IFRSLF*), Panel (B) of Table 11 reports that the sample includes 35 nations (*NOSE*) that have not yet established a local stock exchange by 2014. The sample includes 99 nations, where IFRS adoption was not required for domestic listed firms (*NREQ*). The sample involved 40 countries, where IFRS adoption was not permitted for domestic listed companies (*NPER*). The sample includes 105 nations that have required all domestic listed firms (*RFAL*) to adopt the IFRS by 2014. The sample involves 28 nations, where IFRS adoption is permitted for all domestic listed companies (*PFAL*). The sample included only 8 nations where IFRS adoption is required only for domestic banks and insurance firms (*RFBI*). However, the sample included only 3 countries where IFRS adoption is required for all listed firms, except banks and insurance firms (*EXBI*).

With reference to the IFRS adoption status of unlisted firms (*IFRSUF*), Panel (C) of Table 11 reports that the sample includes 132 nations, where IFRS adoption is not required for domestic unlisted firms (*NORQ*). The sample comprises of 43 nations, where IFRS adoption is not permitted for unlisted firms (*NOTP*). The sample involved 33 nations, where IFRS adoption is required for all unlisted firms (*RADF*). The sample includes 29 nations, where IFRS adoption is required for unlisted banks and insurance firms (*RBIP*). The sample involves 44 countries, where IFRS adoption is permitted for all unlisted firms (*PADF*). The sample includes 18 nations, where IFRS adoption is required for unlisted financial institutions (*RFFI*). The sample comprises of 13 nations, where IFRS adoption is required for publicly accountable firms (*RPAF*). However, the sample included only 5 countries, where IFRS adoption is permitted for all unlisted firms, except for banks and insurance companies (*PEBI*).

With respect to IFRS adoption status for foreign firms (*IFRSFF*), Panel (D) of Table 11 shows that the sample includes 61 nations, where IFRS adoption is not applicable for foreign firms (*NOTA*). There are 118 nations, where IFRS adoption was not required for foreign firms (*NOTR*) for a specific period. There are 66 countries, where IFRS adoption is required for all foreign companies (*RAFC*). There are 28 countries, where IFRS adoption is permitted for all foreign companies (*PAFC*), and 30 countries, where IFRS adoption is required for some foreign firms, and permitted for others (*RSPO*).

Table 11: A summary of all categorical independent and control variables included in the model of economic consequences of IFRS adoption for 185 countries between 1995-2014

Variables	Observations	Countries	Percent	Cumulative	Tolerance	VIF
Independent Variables						
Panel A: (IFRSAC)						
EXPRF	80	4	2.2%	2.2%	0.64	1.56
ERADF	480	24	13.0%	15.2%	0.54	1.87
ERMJF	560	28	15.1%	30.3%	0.55	1.81
LTMJF	1780	89	48.1%	78.4%	0.29	3.45
LGGRF	800	40	21.6%	100%	0.41	2.45
Total	3700	185	100%			
Panel B: (IFRSLF)						
NOSE	779	35	21.1%	21.1%	0.27	3.77
NREQ	870	99	23.5%	44.6%	0.24	4.24
NPER	632	40	17.1%	61.6%	0.32	3.08
RFAL	1135	105	30.7%	92.3%	0.10	10.52
PFAL	204	28	5.5%	97.8%	0.17	5.90
RFBI	66	8	1.8%	99.6%	0.41	2.43
EXBI	14	3	0.4%	100%	0.64	1.55
Total	3700		100%			
Panel C: (IFRSUF)						
NORQ	1490	132	40.3%	40.3%	0.25	3.95
NOTP	767	43	20.7%	61.0%	0.39	2.59
RADF	444	33	12.0%	73.0%	0.24	4.21
RBIP	275	29	7.4%	80.4%	0.33	3.04
PADF	420	44	11.4%	91.8%	0.31	3.23
RFFI	142	18	3.8%	95.6%	0.53	1.89
RPAF	101	13	2.7%	98.4%	0.54	1.87
PEBI	61	5	1.6%	100%	0.69	1.45
Total	3700		100%			
Panel D: (IFRSFF)						
NOTA	1178	61	31.8%	31.8%	0.29	3.46
NOTR	1217	118	32.9%	64.7%	0.29	3.40
RAFC	762	66	20.6%	85.3%	0.13	7.92
PAFC	251	28	6.8%	92.1%	0.27	3.70
RSPO	292	30	7.9%	100.0%	0.21	4.81
Total	3700		100.0%			
Panel E: (IFRSME)						
NSME	3369	185	91.1%	91.1%	0.71	1.41
ASME	331	72	8.9%	100%	0.70	1.43
Total	3700		100%			

Table 11	Observations	Countries	Percent	Cumulative	Tolerance	VIF
Control Variables						
Panel F: (GERE)						
EURO	780	39	21.10%	21.10%	0.23	4.43
LNAM	700	35	18.90%	40.00%	0.34	2.94
CSAS	360	18	9.70%	49.70%	0.41	2.47
EASP	560	28	15.10%	64.90%	0.47	2.15
MENA	400	20	10.80%	75.70%	0.22	4.45
AFRC	900	45	24.30%	100%	0.20	4.90
Total	3700	185	100%			
Panel G: (OFLN)						
ENGL	1020	51	27.60%	27.60%	0.31	3.20
FRNL	420	21	11.40%	38.90%	0.30	3.30
SPNL	400	20	10.80%	49.70%	0.10	10.43
ARBL	380	19	10.30%	60.00%	0.20	4.92
GRML	140	7	3.80%	63.80%	0.76	1.31
RUSL	100	5	2.70%	66.50%	0.71	1.40
OTHL	1240	62	33.50%	100%	0.26	3.86
Total	3700	185	100%			
Panel H: (COHS)						
NEVC	340	17	9.20%	9.20%	0.61	1.64
BRTC	1200	60	32.40%	41.60%	0.26	3.92
FRNC	520	26	14.10%	55.70%	0.29	3.50
SPNC	360	18	9.70%	65.40%	0.09	10.63
PORC	160	8	4.30%	69.70%	0.61	1.64
DUTC	80	4	2.20%	71.90%	0.81	1.23
GRMC	140	7	3.80%	75.70%	0.65	1.54
RUSC	320	16	8.60%	84.30%	0.49	2.02
OTHC	580	29	15.70%	100%	0.38	2.61
Total	3700	185	100%			

Note: The abbreviations of the independent variables are as follows, Panel (A) represents the IFRS adoption categories (*IFRSAC*), including five main categories. namely experimenters group (*EXPRF);* early adopters group (*ERADF);* early majority group (*ERMJF);* late majority group (*LTMJF);* and laggards group (*LGGRF*). Panel (B) represents the IFRS adoption status for domestic listed firms (*IFRSLF*), including the following classification; there is no local stock exchange in the country (*NOSE*); IFRS is not required for listed companies (*NREQ*); IFRS is not permitted for listed companies (*NPER)*; IFRS is required for all listed firms *(RFAL*); IFRS is permitted for all listed companies (*PFAL*); IFRS is required only for banks and insurance firms (*RFBI*); IFRS is required for all firms except banks and insurance firms (*EXBI*). Panel (C) represents the IFRS status for domestic unlisted firms (*IFRSUF*), including the next groups IFRS is not required for domestic unlisted firms (*NORQ*); IFRS is not permitted for unlisted firms (*NOTP*); IFRS is required for all unlisted firms (*RADF*); IFRS is required for unlisted banks and insurance firms (*RBIP*); IFRS is permitted for all unlisted firms (*PADF*); IFRS is required for unlisted financial institutions (*RFFI*); IFRS is required for publicly accountable firms (*RPAF*); IFRS is permitted for all unlisted firms except banks and insurance companies (*PEBI*). Panel (D) represents the IFRS adoption status for foreign firms (*IFRSFF*), including the following classifications IFRS is not applicable (*NOTA*); IFRS is not required for foreign firms (*NOTR*); IFRS is required for all foreign companies (*RAFC*); IFRS is permitted for all foreign companies (*PAFC*); IFRS is required for some foreign firms, permitted for others (*RSPO*). Panel (E) represents the IFRS adoption status for SMEs (*IFRSME*), which involves two groups namely, IFRS is not adopted by SMEs (*NSME*); IFRS is adopted by SMEs (*ASME*). The abbreviations of the control variables involve three social factors. Panel (F) represents six geographical regions (*GERE*), including Europe (*EURO);* Latin and North America *(LNAM);* Central and South Asia *(CSAS);* East Asia and Pacific *(EASP);* Middle East and North Africa *(MENA);* Africa *(AFRC).* Panel (G) represents seven common official language (*OFLN*), including English (*ENGL);* French *(FRNL);* Spanish *(SPNL);* Arabic *(ARBL);* German *(GRML);* Russian *(RUSL);* and other languages *(OTHL).* Panel (H) represents the colonial history *(COHS,)* which involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC).*

Regarding IFRS adoption status for SMEs (*IFRSME*), Panel (E) of Table 11 shows that the sample includes 185 countries, where IFRS adoption was not adopted by SMEs (*NSME*), whereas the sample also includes 72 nations, where IFRS adoption has been adopted by small and medium companies SMEs (*ASME*) recently.

In terms of the control variables, as explained in Table 9 and subsection 7.1.3.2, Table 11 also provides a similar detailed description of the control variables included in the model of economic consequences of ISAs and IFRS adoption alike. Panel (F) of Table 11 represents 6 geographical regions (*GERE*) across 185 countries over 1995-2014. Panel (G) of Table 11 represents the official languages (*OFLN*), which represents 7 common spoken languages around the world. Panel (H) of Table 11 represents the colonial history (*COHS*), which represents 9 groups of the most famous colonial empires.

7.2 Bivariate Descriptive Statistics

This subsection presents the results of the bivariate correlation analyses of all variables included in the six models applied in this study, by using two main correlation coefficients, namely Pearson's and Spearman's correlation coefficients. These correlation matrices have been employed in this study to estimate the relationship between all salient variables and to test for multicollinearity problems among the variables in addition to other statistical techniques, including Variance Inflation Factor (VIF) and Tolerance statistic tests (Tolerance), which have been also employed alongside the descriptive statistics in the previous subsection, 7.1. The multicollinearity problem is a concern of independent variables and it is not relevant to the dependent variable. Furthermore, multicollinearity does not lead to obtaining biased results, it merely generates more standard errors in the higher correlating independent variables (Midi et al., 2010). When the tolerance value is close to 1, this means that there is no problem concerning multicollinearity, whereas if the tolerance value is close to 0, this implies that there is severe multicollinearity, due to the higher correlation between two explanatory variables (Schroeder et al., 1990; Gujarati, 2004).

7.2.1 Correlation Matrices of Variables Included in the Antecedents Models of Adopting IAIs

Table 12 shows the results of the Pearson and Spearman correlation matrices of dependent, explanatory, and control variables included in the model of antecedents of ISAs adoption for 162 countries between 1995-2014, where the two matrices provide noticeably similar results. Table 12 shows that there are positive and significant correlations between the ISAs adopter categories (*ISAAC*) and the following national antecedents, including *PWDS* and *MASC* at 1% level. This indicates that countries with higher levels of cultural dimensions, namely PWDS and *MASC* are more prone to be included in the higher categories of ISAs, which refer either to laggards or late majority groups. However, Table 12 reports that the ISAs adopter categories are negatively and significantly correlated with the remainder of the variables of the national antecedents of the ISAs adoption.

Table 12: Correlation matrices of dependent, explanatory, and control variables included in the model of antecedents of ISAs adoption for 162 countries over 1995-2014

Variables	ISAAC	LEOR	SHPR	JUEF	JUIN	LSIN	VOAC	POST	REQU	COCU	PWDS	INDV	UNAV	MASC	LTOR	INDU	EDAT	LITR	QEDS	GERI	OFLN	COHS
ISAAC		-.053***	-.289***	-.081***	-.212***	-.160***	-.281***	-.100***	-.289***	-.139***	.059***	-.133***	-.123***	.064***	-.197***	.009	-.224***	-.310***	-.273***	.333***	-.027	.010
LEOR	-.056***		-.123***	-.057***	-.199***	-.056***	-.265***	-.142***	-.070***	-.098***	.279***	-.031	.137***	-.017	.158***	-.276***	-.050***	.257***	.016	.067***	.303***	.020
SHPR	-.245***	-.113***		.334***	.349***	.275***	.438***	.306***	.433***	.331***	-.169***	.210***	-.176***	.060***	.310***	.011	.224***	.034*	.421***	-.271***	-.064***	-.068***
JUEF	-.077***	-.044**	.376***		.541***	.661***	.523***	.602***	.686***	.721***	-.318***	.309***	-.145***	-.009	.192***	.223***	.267***	-.017	.667***	-.127***	-.134***	-.308***
JUIN	-.219***	-.184***	.334***	.551***		.474***	.753***	.610***	.650***	.682***	-.419***	.476***	.047***	-.002	.136***	.277***	.322***	.114***	.482***	-.397***	-.080***	-.120***
LSIN	-.165***	-.047***	.302***	.703***	.486***		.535***	.616***	.683***	.663***	-.278***	.388***	.088***	-.043**	.362***	.039**	.477***	.147***	.599***	-.343***	.148***	-.124***
VOAC	-.264***	-.264***	.432***	.581***	.759***	.577***		.705***	.780***	.765***	-.415***	.502***	.120***	.016	.216***	.308***	.460***	.156***	.504***	-.603***	-.001	.005
POST	-.133***	-.135***	.304***	.601***	.601***	.610***	.705***		.736***	.796***	-.298***	.364***	-.026	-.034*	.230***	.279***	.362***	.170***	.529***	-.408***	.060***	-.035**
REQU	-.266***	-.098***	.455***	.736***	.661***	.714***	.725***	.738***		.765***	-.346***	.448***	.103***	.046***	.361***	.209***	.545***	.268***	.636***	-.539***	.072***	-.118***
COCU	-.119***	-.146***	.369***	.799***	.676***	.712***	.784***	.763***	.780***		-.360***	.462***	.024	.022	.239***	.268***	.474***	.187***	.619***	-.425***	.025	-.147***
PWDS	.058***	.266***	-.215***	-.414***	-.447***	-.354***	-.478***	-.311***	-.435***	-.512***		-.406***	.103***	-.045**	-.067***	-.069***	-.206***	.041**	-.227***	.257***	.070***	.018
INDV	-.114***	-.134***	.258***	.421***	.525***	.450***	.581***	.400***	.527***	.563***	-.554***		.112***	.178***	.173***	.101***	.358***	.168***	.307***	-.457***	.044**	-.056***
UNAV	-.144***	.102***	-.187***	-.166***	.067***	.064***	.127***	-.016	.064***	-.048***	.163***	.053***		-.072***	.147***	-.025	.295***	.343***	-.065***	-.398***	.280***	.197***
MASC	.105***	-.027	.081***	-.052***	-.022	-.072***	-.012	-.055***	.008	-.025	.015	.148***	-.054***		.011	-.026	.062***	-.042**	-.001	-.050***	-.208***	-.085***
LTOR	-.187***	.084***	.285***	.213***	.160***	.362***	.260***	.251***	.386***	.271***	-.087***	.190***	.100***	.069***		-.399***	.296***	.302***	.314***	-.387***	.443***	.104***
INDU	.017	-.261***	.005	.186***	.254***	.025	.293***	.255***	.185***	.242***	-.066***	.176***	.027	-.049***	-.392***		-.003	-.118***	.145***	-.034**	-.345***	-.160***
EDAT	-.163***	-.091***	.277***	.313***	.304***	.452***	.428***	.303***	.499***	.466***	-.269***	.399***	.224***	.001	.305***	-.026		.450***	.383***	-.540***	.239***	.120***
LITR	-.344***	.235***	.076***	.097***	.191***	.213***	.202***	.241***	.292***	.209***	-.011	.200***	.273***	-.064***	.242***	.057***	.320***		.134***	-.501***	.398***	.153***
QEDS	-.237***	.004	.431***	.717***	.483***	.632***	.541***	.547***	.674***	.705***	-.328***	.399***	-.095***	-.038**	.310***	.142***	.401***	.215***		-.295***	-.024	-.176***
GERI	.331***	.139***	-.257***	-.146***	-.387***	-.317***	-.594***	-.387***	-.517***	-.418***	.279***	-.450***	-.378***	-.015	-.355***	-.069***	-.436***	-.481***	-.281***		-.343***	-.217***
OFLN	-.062***	.238***	-0.025	-.104***	-.057***	.157***	.019	.078***	.063***	.003	.045**	-.012	.245***	-.204***	.463***	-.340***	.183***	.334***	-.011	-.330***		.370***
COHS	-.064***	.001	.050***	-.186***	-.024	-.002	.090***	.037**	-.020	-.062***	-.026	.006	.192***	-.044**	.281***	-.233***	.135***	.145***	-.051***	-.298***	.445***	

Note: The bottom left part of the table represents Pearson correlation matrix, while the upper right part represents the Spearman correlation matrix. The variables are defined as the follows:- the dependent variable involves the ISAs adopter categories (*ISAAC*); the explanatory variables, namely national antecedents of ISAs adoption, including shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*); legal origins (*LEOR*); voice and accountability (*VOAC)*; political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*); power distance (*PWDS*); individualism level *(INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC)*; long-term orientation (*LTOR*); indulgence level (*INDU*); educational attainment (*EDAT)*; youth literacy rates (*LITR*); quality of the education system (*QEDS*); Control variables include geographical regions (*GERE*), official languages (*OFLN*), and colonial history (*COHS*). The stars refer to the significant level of the correlation coefficient which denotes *** p< 0.01 level (2-tailed), ** p< 0.05 level (2-tailed), * p< 0.1 level (2-tailed).

Most of these negative correlations are significant at 1% level. This suggests that countries with a lower level of national antecedents are more likely to adopt the ISAs during the initial stages and be included in the lower groups of the ISAs, which refer to either early adopters or early majority groups of the ISAs. Moreover, Table 12 shows that there is a positive, but statistically insignificant, correlation among the ISAs adoption and the *INDU* cultural value.

Owing to the weakness of using correlation matrices in providing diagnostic information, it is useful to use correlation matrices towards measuring and diagnosing collinearity among independent variables (Belsley, et al., 2005). Multicollinearity problems can arise when the bivariate correlation tests show correlation coefficients greater than 0.80, at a significance level of less than 10% (Farrar & Glauber, 1967). In this regard, the Pearson and Spearman matrices have been employed to test the presence of collinearity between the independent variables included in the model of the antecedents of the ISAs.

Table 12 shows that both the Pearson and Spearman matrices suggest that correlations among all independent variables are generally low, indicating that there are no serious multicollinearity problems among the independent variables included in the model of the antecedents of ISAs. Similarly, the results that are illustrated by the two collinearity statistics tests, namely the Tolerance and VIF test (see Table 6) indicate that there is no multicollinearity between all variables, as there is no Tolerance value lower than 0.1 or VIF value greater than 10. Arguably, it could be said that there is high correlation between two control variables. However, Wangia (2012) argued that having severe collinearity among control variables may not be problematic, since these variables are not used to draw a conclusion about the theoretical constructs. Hence, having higher values of VIF among the control variables will not have any negative implications on the research findings.

Similarly, Table 13 reports the results of the Pearson and Spearman correlation matrices of dependent, explanatory, and control variables included in the model of antecedents of IFRS adoption. Table 13 shows that there are positive and significant correlations between the IFRS adopter categories (*IFRSAC*) and the following national antecedents, including *INDV* and *LTOR* at the 1% and 5% significance levels, respectively. This indicates that countries with higher levels of cultural dimensions, namely *INDV* and *LTOR* are more prone to be included in the higher categories of IFRS, which refer either to laggards or late majority groups of IFRS. In contrast, Table 13 shows that there is a negative and significant correlation between the IFRS adopter categories and the remainder of the explanatory variables, which represent the national antecedents of IFRS. Most of these negative correlations are significant at 1% level. This implies that countries with a lower level of national antecedents are more likely to adopt the IFRS during the initial stages and be included in the lower groups of the ISAs, which refer to either early adopters or early majority groups of the IFRS. Additionally, Table 13 reports that there is an insignificant positive correlation between IFRS adoption and *LSIN*, *COCU*, and *INDU*, whereas, it is insignificantly negative with the *VOAC* index.

Table 13: Correlation matrices of dependent, explanatory, and control variables included in the model of antecedents of IFRS adoption for 162 countries over 1995-2014

Variables	*IFRSAC*	*LEOR*	*SHPR*	*JUEF*	*JUIN*	*LSIN*	*VOAC*	*POST*	*REQU*	*COCU*	*PWDS*	*INDV*	*UNAV*	*MASC*	*LTOR*	*INDU*	*EDAT*	*LITR*	*QEDS*	*GERI*	*OFLN*	*COHS*
IFRSAC		-.140***	-.109***	-.050***	-.104***	-.004	-.060***	-.029	-.145***	-.040**	-.083***	-.005	-.096***	-.054***	.001	-.022	-.105***	-.223***	-.169***	.168***	.026	.081***
LEOR	-.162***		-.123***	-.057***	-.199***	-.056***	-.265***	-.142***	-.070***	-.098***	.279***	-.031	.137***	-.017	.158***	-.276***	-.050***	.257***	.016	.067***	.303***	.020
SHPR	-.075***	-.113***		.334***	.349***	.275***	.438***	.306***	.433***	.331***	-.169***	.210***	-.176***	.060***	.310***	.011	.224***	.034	.421***	-.271***	-.064***	-.068***
JUEF	-.039**	-.044**	.376***		.541***	.661***	.523***	.602***	.686***	.721***	-.318***	.309***	-.145***	-.009	.192***	.223***	.267***	-.017	.667***	-.127***	-.134***	-.308***
JUIN	-.074***	-.184***	.334***	.551***		.474***	.753***	.610***	.650***	.682***	-.419***	.476***	.047***	-.002	.136***	.277***	.322***	.114***	.482***	-.397***	-.080***	-.120***
LSIN	.020	-.047***	.302***	.703***	.486***		.535***	.616***	.683***	.663***	-.278***	.388***	.088***	-.043**	.362***	.039**	.477***	.147***	.599***	-.343***	.148***	-.124***
VOAC	-.011	-.264***	.432***	.581***	.759***	.577***		.705***	.801***	.765***	-.415***	.502***	.120***	.016	.216***	.308***	.460***	.156***	.504***	-.603***	-.001	.005
POST	-.029	-.135***	.304***	.601***	.601***	.610***	.705***		.736***	.796***	-.298***	.364***	-.026	-.034	.230***	.279***	.362***	.170***	.529***	-.408***	.060***	-.035**
REQU	-.064***	-.098***	.455***	.736***	.661***	.714***	.825***	.738***		.865***	-.346***	.448***	.103***	.046***	.361***	.209***	.545***	.268***	.636***	-.539***	.072***	-.118***
COCU	.020	-.146***	.369***	.799***	.676***	.712***	.784***	.763***	.880***		-.360***	.462***	.024	.022	.239***	.268***	.474***	.187***	.619***	-.425***	.025	-.147***
PWDS	-.113***	.266***	-.215***	-.414***	-.447***	-.354***	-.478***	-.311***	-.435***	-.512***		-.406***	.103***	-.045**	-.067***	-.069***	-.206***	.041**	-.227***	.257***	.070***	.018
INDV	.086***	-.134***	.258***	.421***	.525***	.450***	.581***	.400***	.527***	.563***	-.554***		.112***	.178***	.173***	.101***	.358***	.168***	.307***	-.457***	.044**	-.056***
UNAV	-.083***	.102***	-.187***	-.166***	.067***	.064***	.127***	-.016	.064***	-.048***	.163***	.053***		-.072***	.147***	-.025	.295***	.343***	-.065***	-.398***	.280***	.197***
MASC	-.068***	-.027	.081***	-.052***	-.022	-.072***	-.012	-.055***	.008	-.025	.015	.148***	-.054***		.011	-.026	.062***	-.042**	-.001	-.050***	-.208***	-.085***
LTOR	.044**	.084***	.285***	.213***	.160***	.362***	.260***	.251***	.386***	.271***	-.087***	.190***	.100***	.069***		-.399***	.296***	.302***	.314***	-.387***	.443***	.104***
INDU	.001	-.261***	.005	.186***	.254***	.025	.293***	.255***	.185***	.242***	-.066***	.176***	.027	-.049***	-.392***		-.003	-.118***	.145***	-.034**	-.345***	-.160***
EDAT	-.037**	-.091***	.277***	.313***	.304***	.452***	.428***	.303***	.499***	.466***	-.269***	.399***	.224***	.001	.305***	-.026		.450***	.383***	-.540***	.239***	.120***
LITR	-.234***	.235***	.076***	.097***	.191***	.213**	.202***	.241**	.292***	.209**	-.011	.200***	.273***	-.064***	.242***	.057***	.320***		.134***	-.501***	.398***	.153***
QEDS	-.146***	.004	.431***	.717***	.483***	.632**	.541***	.547**	.674***	.705**	-.328***	.399***	-.095***	-.038**	.310***	.142***	.401***	.215***		-.295***	-.024	-.176***
GERI	.126***	.139***	-.257***	-.146***	-.387***	-.317**	-.594***	-.387**	-.517***	-.418**	.279***	-.450***	-.378***	-.015	-.355***	-.069***	-.436***	-.481***	-.281***		-.343***	-.217***
OFLN	.037**	.238***	-.025	-.104***	-.057***	.157**	.019	.078**	.063***	0.003	.045**	-.012	.245***	-.204***	.463***	-.340***	.183***	.334***	-.011	-.330***		.370***
COHS	.042**	.001	.050***	-.186***	-.024	-0.002	.090***	.037*	-.020	-.062**	-.026	.006	.192***	-.044**	.281***	-.233***	.135***	.145***	-.051***	-.298***	.445***	

Note: The bottom left part of the table represents Pearson correlation matrix, while the upper right part represents the Spearman correlation matrix. The variables are defined as the follows: the dependent variable involves the IFRS adopter categories (*IFRSAC*); the explanatory variables, namely national antecedents of ISAs adoption, including shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence *(JUIN*); integrity of the legal system (*LSIN*); legal origins (*LEOR*); voice and accountability (*VOAC)*; political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*); power distance (*PWDS*); individualism level *(INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC)*; long-term orientation (*LTOR*); indulgence level (*INDU*); educational attainment (*EDAT)*; youth literacy rates (*LITR*); quality of the education system (*QEDS*); Control variables include geographical regions (*GERE*), official languages (*OFLN*), and colonial history (*COHS*). The stars refer to the significant level of the correlation coefficient which denotes *** p< 0.01 level (2-tailed), ** p< 0.05 level (2-tailed), * p< 0.1 level (2-tailed).

7.2.2 Correlation Matrices of All Variables Included in the Consequences Model of Adopting IAIs

Table 14 shows the results of the Pearson and Spearman matrices of dependent, explanatory, and control variables included in the model of economic consequences of ISAs adoption for 185 countries between 1995-2014. Table 14 shows that the correlation coefficients of both matrices are relatively low, indicating that there are no serious multicollinearity problems among independent variables included in the model of the economic consequences of the ISAs. Table 14 reports that there are positive and significant correlations between the *ERMJA* group and the following economic consequences: *FDI, EXPO, IMPO,* and *EXCR*. This indicates that countries with higher levels of economic consequences including *FDI, EXPO, IMPO,* and *EXCR,* are more likely to adopt the ISAs during the initial stages.

Table 14 reports that there are positive and significant correlations between the *LGGRA* group of the ISAs and the economic consequences, namely *ECGR, GDP, INFR* and *INTR*. This suggests that countries with higher levels of the following economic consequences, *ECGR, GDP, INFR* and *INTR,* are more prone to be non-adopters of the ISAs and become included in the *LGGRA* group of the ISAs. Moreover, Table 14 shows that the other three adopter categories of the ISAs are either negatively and significantly or insignificantly correlated with the key economic consequences of the ISAs adoption.

Similarly, Table 15 reports the results of the correlation matrices of dependent, explanatory, and control variables included in the model of the economic consequences of IFRS adoption involving 3,700 observations for 185 countries between 1995-2014. Table 15 shows that the correlation coefficients of both matrices are relatively low, indicating that there are no serious multicollinearity problems among all explanatory variables included in the model of the economic consequences of the IFRS. Table 15 reports that there are positive and significant correlations between the *ERMJF* and economic consequences, including *ECGR, FDI,* and *INTR,* indicating that countries with higher levels of the economic consequences, including *ECGR, FDI,* and *INTR* are more likely to adopt the IFRS during the initial stages.

Furthermore, Table 15 shows that there are positive and significant correlations between the *LTMJF* group and the following economic consequences, *GDP, EXPO,* and *IMPO*, whereas there are positive and significant correlations between the *LGGRF* and two economic consequences (*INFR* and *EXCR).* This suggests that countries with higher levels of *GDP, EXPO,* and *IMPO* are more likely to adopt the IFRS at the late stages, while countries with higher levels relating to the salient two economic consequences, (namely *INFR* and *EXCR)* are more prone to becoming non-adopters of IFRS. Table 15 shows that the *EXPRF* and *ERADF* groups are either negatively and significantly or insignificantly correlated with the economic consequences of IFRS adoption.

Table 14: Correlation matrices of dependent, explanatory, and control variables included in the model of economic consequences of ISAs adoption for 185 countries over 1995-2014

Var	ECGR	FDI	GDP	EXPO	IMPO	INFR	EXCR	INTR	EXPRA	ERADA	ERMJA	LTMJA	LGGRA	NOAD	WIAM	WOAM	WITR	WOTR	WAMT	BLAW	GMAT	IFRSS	GERE	OFLN	COHS
ECGR		.120***	-.035***	-.038***	-.030**	.148***	.129***	-.007	-.003	.029*	.040***	-.078***	.025	.026	.009	.036***	.031*	.049***	-.075***	-.071***	-.063***	.022	.176***	.119***	.048***
FDI	.122***		-.078***	-.005	.001	-.042***	-.099***	-.013	.060***	.017	.148***	-.031*	-.152***	-.161***	.088***	.038**	.063***	.038**	.027*	.087***	-.054***	-.040**	-.164***	-.074***	-0.02
GDP	-.045***	-.048***		.964***	.971***	-.117***	-.066***	-.318***	.069***	.030*	.161***	.171***	-.400***	-.264***	.033**	.195***	.174***	-.012	.114***	-.012	.101***	.001	-.361***	.247***	-.113***
EXPO	-.054***	-.004	.856***		.987***	-.155***	-.117***	-.355***	.084***	.021	.177***	.153***	-.395***	-.276***	.039**	.189***	.170***	-.024	.113***	.022	.102***	-.014	-.384***	.245***	-.121***
IMPO	-.057***	-.010	.923***	.978***		-.138***	-.096***	-.343***	.089***	.033**	.187***	.146***	-.410***	-.303***	.052***	.194***	.178***	-.028*	.136***	.023	.102***	.004	-.399***	.258***	-.099***
INFR	-.016	-.009	-.022	-.033**	-.031*		.188***	.005	-.048***	.080***	.054***	-.096***	.010	.038**	.047***	-.034**	.028*	-.039**	-.089***	-.042**	-.073***	.031*	.150***	.083***	.166***
EXCR	.038**	-.014	-.035**	-.046***	-.042**	.002		.152***	-.106***	.076***	-.021	-.074***	.087***	-.021	.021	.001	.080***	.035**	-.019	-.094***	.022	-.021	.282***	.132***	.141***
INTR	-.017	-.019	-.047***	-.079***	-.072***	-.109***	.053***		-.050***	.074***	-.070***	-.063***	.104***	.123***	-.044***	-.043***	-.049***	.049***	-.051***	-.054***	-.060***	.007	.194***	-.082***	.095***
EXPRA	-.010	.108***	-.020	.014	.008	-.016	-.046***	-.020		-.069***	-.105***	-.133***	-.105***	-.236***	-.061***	-.032**	.024	-.016	.242***	.341***	-.012	-.009	-.132***	.068***	-.072***
ERADA	.006	-.026	-.030*	-.026	-.022	.016	.021	.013	-.069***		-.217***	-.274***	-.217***	-.333***	.176***	.085***	.190***	.112***	.086***	.023	-.025	-.018	-.172***	.101***	.131***
ERMJA	.019	.060***	-.015	.047***	.031*	-.006	.066***	-.016	-.105***	-.217***		-.418***	-.331***	-.207***	.185***	.047***	.132***	-.049***	.024	-.018	-.038**	-.027	-.147***	.006	.031*
LTMJA	-.058***	-.049***	.002	.001	-.006	-.038**	-.058***	.027	-.133***	-.274***	-.418***		-.418***	.101***	-.093***	.003	-.065***	.018	-.054***	.005	.091***	.064***	-.072***	-.072***	-.163***
LGGRA	.044***	-.031*	.044***	-.032**	-0.01	.041**	-.001	-.015	-.105***	-.217***	-.331***	-.418***		.447***	-.193***	-.102***	-.216***	-.049***	-.130***	-.145***	-.038**	-.027	.412***	-.031*	.078***
NOAD	.040**	-.072***	-.015	-.102***	-.087***	.054***	-.064***	.063***	-.236***	-.333***	-.207***	.101***	.447***		-.431***	-.228***	-.482***	-.110***	-.291***	-.324***	-.085***	-.060***	.231***	-.057***	-.019
WIAM	-.003	.052***	-.040**	-.026	-.024	-.022	-.009	-.013	-.061***	.176***	.185***	-.093***	-.193***	-.431***		-.059***	-.126***	-.029*	-.076***	-.084***	-.022	-.016	.061***	-.269***	-.106***
WOAM	.017	.020	.097***	.191***	.160***	-.015	-.042**	-.029*	-.032**	.085***	.047***	.003	-.102***	-.228***	-.059***		-.067***	-.015	-.040**	-.045***	-.012	-.008	-.042**	0.017	-.120***
WITR	.007	-.007	-.009	.013	.009	-.021	.157***	-.020	.024	.190***	.132***	-.065***	-.216***	-.482***	-.126***	-.067***		-.032*	-.085***	-.094***	-.025	-.017	-.143***	.211***	.203***
WOTR	.029*	-.004	-.018	-.028*	-.027	-.008	-.012	.013	-.016	.112***	-.049***	.018	-.049***	-.110***	-.029*	-.015	-.032		-.019	-.022	-.006	-.004	0.001	.102***	.017
WAMT	-.046***	.016	.044***	.123***	.113***	-.019	.028*	-.030*	.242***	.086***	.024	-.054***	-.130***	-.291***	-.076***	-.040**	-.085***	-.019		-.057***	-.015	-.011	-.141***	.102***	-.044***
BLAW	-.061***	.072***	-.049***	-.054***	-.051***	-.020	-.060***	-.033**	.341***	.023	-.018	.005	-.145***	-.324***	-.084***	-.045***	-.094***	-.022	-.057***		-.017	-.012	-.181***	0.006	.007
GMAT	-.036**	-.019	.148***	.145***	.141***	-.008	-.016	-.020	-.012	-.025	-.038**	.091***	-.038**	-.085***	-.022	-.012	-.025	-.006	-.015	-.017		-.003	-.037**	.053***	-.004
IFRSS	.009	-.016	-.005	-.011	-0.01	-.002	-.012	-.001	-.009	-.018	-.027	.064***	-.027	-.060***	-.016	-.008	-.017	-.004	-.011	-.012	-.003		-0.014	0.017	.041**
GERE	.127***	-.055***	-.134***	-.204***	-.200***	.032**	.074***	.088***	-.128***	-.175***	-.148***	-.073***	.415***	.232***	.055***	-.042***	-.144***	-.002	-.133***	-.180***	-.034**	-.018		-.289***	-.184***
OFLN	.069***	-.066***	-.009	.036**	.008	.063***	.114***	-.054***	.066***	.108***	.020	-.068***	-.055***	-.070***	-.253***	.024	.208***	.106***	.094***	.014	.055***	.025	-.292***		.386***
COHS	.019	.007	-.123***	-.130***	-.126***	.056***	.026	-.013	-.060***	.174***	.043***	-.137***	-.001	-.059***	-.100***	-.092***	.207***	.032**	-.023	.023	.017	.045***	-.264***	.444***	

Note: The bottom left side of the table represents the Pearson matrix for parametric correlations while the top right side of the table represents Spearman matrix for non-parametric correlations. The variables are defined as the follows: the dependent variables which include the key economic consequences namely the economic growth (ECGR); foreign direct investment (FDI); gross domestic product (GDP); exports of goods and services (EXPO); imports of goods and services (IMPO); inflation rates measured by the consumer price index (INFR); official exchange rate (EXCR); real interest rate (INTR). The first independent variable is the ISAs adoption categories (*ISAAC*) which involve five main categories namely experimenters group (*EXPRA)*; early adopters group (*ERADA);* early majority group (*ERMJA);* late majority group (*LTMJA);* and laggards group (*LGGRA*); the second independent variable is the ISAs adoption status including the non-adopters group of the ISAs (NOAD); adopted with amendments (WIAM); adopted without amendments (WOAM); adopted with translations (WITR); adopted without translations (WOTR); adopted with amendments and translations (WAMT); adopted by the country law (BLAW); adopted in gap matters (GMAT); adopted for financial statements prepared in accordance to IFRS (IFRSS); and the control variables involve geographical region (GERE); official language (OFLN) and colonial history (COHS). The stars refer to the significant level of the correlation coefficient which denotes *** p< 0.01 level (2-tailed), ** p< 0.05 level (2-tailed), * p< 0.1 level (2-tailed).

Table 15: Correlation matrices of dependent, explanatory, and control variables included in the model of economic consequences of IFRS adoption for 185 countries over 1995-2014

Variables	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*	*EXPRF*	*ERADF*	*ERMJF*	*LTMJF*	*LGGRF*	*IFRSLF*	*IFRSUF*	*IFRSFF*	*IFRSME*	*GERE*	*OFLN*	*COHS*
ECGR		.120***	-.035**	-.038**	-.030	.148***	.129***	-.007	-.032*	.050***	.069***	-.074***	.001	-.024	-.035**	-.129***	-.032**	.176***	.119***	.048***
FDI	.122***		-.078***	-.005	.001	-.042**	-.099***	-.013	-.006	.010	.135***	.008	-.133***	.127***	.127***	.169***	.108***	-.164***	-.074***	-.020
GDP	-.045***	-.048***		.964***	.971***	-.117***	-.066***	-.318***	-.072***	-.035**	-.123***	.345***	-.257***	.392***	.251***	.374***	.013	-.361***	.247***	-.113***
EXPO	-.054***	-.004	.856***		.987***	-.155***	-.117***	-.355***	-.082***	-.033**	-.137***	.356***	-.257***	.400***	.246***	.396***	.009	-.384***	.245***	-.121***
IMPO	-.057***	-.010	.923***	.978***		-.138***	-.096***	-.343***	-.084***	-.032**	-.127***	.357***	-.266***	.410***	.262***	.409***	.028*	-.399***	.258***	-.099***
INFR	-.016	-.009	-.022	-.033**	-.031*		.188***	.005	-.036**	.013	.071***	-.033**	-.020	-.123***	-.079***	-.130***	-.004	.150***	.083***	.166***
EXCR	.038**	-.014	-.035**	-.046***	-.042**	.002		.152***	-.063***	-.082***	-.060***	-.075***	.231***	-.068***	-.002	-.226***	.002	.282***	.132***	.141***
INTR	-.017	-.019	-.047***	-.079***	-.072***	-.109***	.053***		.036**	.067***	.094***	-.243***	.146***	-.138***	-.114***	-.171***	.008	.194***	-.082***	.095***
EXPRF	-.029*	-.014	-.032*	-.050***	-.045***	-.013	-.038**	.009		-.057***	-.063***	-.143***	-.078***	.055***	.159***	.073***	.110***	-.008	-.100***	-.129***
ERADF	.021	-.025	-.080***	-.105***	-.103***	-.009	-.043***	.124***	-.057***		-.163***	-.372***	-.203***	.291***	.179***	.182***	.090***	.042**	-.035**	0.016
ERMJF	.052**	.046**	-.079***	-.092***	-.092***	-.008	-.092***	.036**	-.063***	-.163***		-.407***	-.222***	.132***	.118***	.127***	.182***	-.042**	-.071***	-.104***
LTMJF	-.063***	0.009	.086***	.196***	.166***	-0.018	-.021	-.121***	-.143***	-.372***	-.407***		-.506***	-.016	-.047***	.157***	-.088***	-.357***	.195***	.037**
LGGRF	.024	-0.026	.042**	-.054***	-.022	.041**	.155***	.010	-.078***	-.203***	-.222***	-.506***		-.352***	-.248***	-.475***	-.165***	.439***	-.111***	.078***
IFRSLF	-.027*	.041*	.110***	.196***	.173***	-.075***	-.044***	.014	.047***	.284***	.122***	-.014	-.338***		.694***	.728***	.276***	-.230***	.034**	-.103***
IFRSUF	-.041**	.067**	.027*	.109***	.096***	-.052***	-.012	-.061***	.170***	.144***	.119***	.014	-.299***	.607***		.518***	.319***	-.096***	.002	-.049***
IFRSFF	-.116***	.097**	.140***	.253***	.246***	-.065***	-.116***	-.045***	.061***	.122***	.077***	.196***	-.426***	.677***	.555***		.253***	-.443***	-.008	-.060***
IFRSME	-.035**	0.016	-.042**	-.045***	-.042**	-.023	-.008	-.015	.110***	.090***	.182***	-.088***	-.165***	.270***	.306***	.192***		.027*	-.116***	-.079***
GERE	.127***	-.055**	-.134***	-.204***	-.200***	.032**	.074***	.088***	-.019	.037**	-.061***	-.340***	.442***	-.215***	-.121***	-.447***	.017		-.289***	-.184***
OFLN	.069***	-.066**	-.009	.036**	.008	.063***	.114***	-.054***	-.086***	-.042**	-.056***	.216***	-.150***	.039**	.004	.047***	-.104***	-.292***		.386***
COHS	.019	0.007	-.123***	-.130***	-.126***	.056***	.026	-.013	-.119***	.009	-.077***	.113***	-.035**	-.079***	-.006	.024	-.076***	-.264***	.444***	

Note: The bottom left side of the table represents the Pearson matrix for parametric correlations while the top right side of the table represents Spearman matrix for non-parametric correlations. The variables are defined as the follows: the dependent variables which include the key economic consequences namely the economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); imports of goods and services (*IMPO*); inflation rates measured by the consumer price index (*INFR*); official exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the IFRS adoption categories (*IFRSAC*) including five main categories namely experimenters group (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*); and laggards group (*LGGRF*); the second independent variable represents the IFRS adoption status for domestic listed firms (*IFRSLF*); the third independent variable represents the IFRS adoption status for domestic unlisted firms (*IFRSUF*); the fourth independent variable represents the IFRS adoption status for foreign firms (*IFRSFF*); the fifth independent variable represents the IFRS adoption status for SMEs (*IFRSME*); and the control variables involve three social factors namely geographical region (GERE); official language (OFLN) and colonial history (COHS). The stars refer to the significant level of the correlation coefficient which denotes *** p< 0.01 level (2-tailed), ** p< 0.05 level (2-tailed), * p< 0.1 level (2-tailed).

7.3 Chapter Summary

This chapter has focused on describing the data and characteristics of ISAs and IFRS adopters across groups of countries regarding their antecedents and the consequences of ISAs and IFRS adoption. This chapter has also examined if there is any serious multicollinearity among the variables used in the six models employed in this study. More specifically, the descriptive statistics included in this chapter comprise of two major descriptive statistical methods: univariate and bivariate statistics. The univariate statistics have covered the most common numerical and graphical measures of central tendency (mean), dispersion (standard deviation, variance, minimum and maximum values), and frequency tables (tabulation). The univariate descriptive statistic has been divided into three subsections. The first subsection has provided a summary of the descriptive statistics of all variables including dependent, independent and control variables applied in the models of the antecedents of ISAs and IFRS adoption. The second subsection has reviewed a summary of the descriptive statistics of all variables, including dependent, independent and control variables used in the models of the economic consequences of ISAs and IFRS adoption.

The bivariate descriptive statistics have provided a summary of the Pearson and Spearman correlation matrices of all variables involved in the three main models applied in this study. Specifically, the two bivariate correlation coefficients have been used to measure the strength and magnitude of the correlation coefficient of a monotone association. Moreover, the presence of the multicollinearity problem has also been measured by using two collinearity statistics tests, including the Tolerance and VIF tests in addition to using the two bivariate correlation coefficients, namely the Pearson and Spearman correlation tests to measure for any serious collinearity of a monotone association.

The next chapter will therefore report the inferential statistics, with a view to measure the association between all variables included in the three main models employed in this study and draw a conclusion. Specifically, it will discuss both the non-parametric methods, including logistic regression models based on the antecedents' models as well as the parametric methods, including the multivariate regression results based on both the economic consequences models. It will also examine if the data used in the three main regression models applied in this study meet the assumptions of statistical tests, including normality, linearity, heteroscedasticity and serial-correlation.

Chapter Eight : Empirical Results and Discussion

8. Aims of the Chapter

This chapter discusses the inferential statistical analysis by using the multivariate regression methods and fixed effect models applied to estimate the association between the national antecedents and the consequences of adopting the international accounting innovations. Specifically, Section 8.1 examines the assumptions of the multivariate non-parametric statistical tests and the empirical findings concerning the models of the antecedents of ISAs adoption. Section 8.2 investigates the assumptions of multivariate non-parametric statistical tests and the empirical findings concerning the models of the antecedents of IFRS adoption. Section 8.3 discusses the assumptions of multivariate parametric statistical techniques and the empirical results regarding the models of the economic consequences of ISAs adoption. Section 8.4 examines the assumptions of the multivariate parametric statistical techniques and the empirical results relating to the models of the economic consequences of IFRS adoption. Section 8.5 provides a summary of this chapter.

8.1 Multivariate Non-parametric Regressions to Analyse the Antecedents of Adopting IAIs

The dependent variables applied in the model of the antecedents of ISAs adoption are categorical in nature. Therefore, multivariate non-parametric regression techniques are the best statistical methods that can be used to test the hypothesized relationships discussed in chapter four, between the national antecedents and the adoption of the ISAs. These multivariate non-parametric regression methods include an ordered logit regression model, and separate binary logistic regression models based on the cumulative probabilities.

8.1.1 Testing Assumptions of Ordered Logit Regression Regarding the Antecedents of ISAs

Table 17 shows the results of ordered logit regression model used to examine the relationship between the national antecedents and ISAs adoption across the five adopter categories proposed by the DOI theory. The ordered logit model requires the parallel line (proportional odds) assumption to be held, otherwise the results will be highly misleading. Therefore, if the parallel lines assumption was violated, separate binary logistic regressions models can be efficiently used to analyse ordinal data, with non-proportional odds (Bender & Grouven, 1998). Furthermore, the generalized ordered logistic model (gologit2) provides very similar results that can be obtained by using a series of binary logistic regression models when the proportion odds assumption was not fulfilled (Williams, 2006). However, If the response variable is polytomous and it is not necessarily ordinal, the multinomial regression model is the most suitable model that can be applied, which provides equivalent results to a series of binary logistic models (Nussbaum, 2014; Cheng & Long, 2007).

The validity of the parallel-lines assumption for the ordinal logistic regression model can be tested by using several statistical tests, such as Wald Chi-Square test, Brant's Wald test, and the Likelihood ratio test. A non-significant result indicates that the parallel line assumption has been met (Williams,

2006; Long & Freese, 2014; Ari & Yildiz, 2014). Moreover, a logistic regression does not need the three statistical assumptions required by the multivariate linear regression, including normality, linearity, homoscedasticity, but it does require the error terms to be independent and a perfect multicollinearity must not exist, since they lead to violating the assumptions of logistic regression and produce incorrect results (Osborne, 2008; Hicks & McFrazier, 2014). The presence of multicollinearity has been checked for in Chapter Seven, by using VIF and Tolerance tests and correlation matrices. The correlation coefficients among all variables are shown in the correlation matrices tables from Table 17 to Table 22 and no perfect multicollinearity was found except among some control variables. High multicollinearity can only be ignored when multicollinearity exists between control variables, but not among the variables of interest. This means that the coefficients of the independent variables are not affected, and the results can be accordingly interpreted without concerns (O'Brien, 2017; Allison, 2012).

Column 5 of Table 16 shows the results of the ordered logit regression model towards examining the impact of the national antecedents on ISAs adoption for 162 countries over the period from 1995-2014. As a result, the likelihood-ratio test was applied to check if the parallel lines assumption has been met, and to test whether the coefficients across the five adopter categories of the ISAs are equal. Table 16 shows that the assumption of the proportional odds model is violated, and this means that the results are misleading, since it shows a significant p value = 0.000. Hence, a series of cumulative binary logistic regression models are applied to predict an ordinal response, which provides results equivalent to those that can be achieved by the generalized ordered logit regression with (non-parallel lines) the option to relax the parallel lines assumption for all explanatory variables where no variable must meet the parallel lines assumption.

Columns 1-4 of Table 16 present the results of five contrasting groups, with a binary coding method for four response categories, excluding the base category M =5 -1 = 4. Specifically, Mode 1 contrasts category 1 of the dependent variables' groups, which represents the experiments group with the other four response categories of the ISAs 2, 3, 4 and 5. Model 2 compares categories 1 and 2, which includes the experiments and early adopter groups, with the other response categories of the ISAs 3, 4 and 5. Model 3 matches categories 1, 2, and 3, which involves the first three categories, namely the experiments, early adopters and early majority groups with the other two categories 4 and 5, namely the late majority and laggards groups of the ISAs. Model 4 contrasts categories 1, 2, 3 and 4, which includes the first four response groups of the ISAs, namely experiments, early adopters, early majority and late majority with the fifth category, which represents the laggards' group of the ISAs. In each dichotomization, code zero refers to the lower values of certain categorical groups, while code one refers to the higher values of other categorical groups. Obtaining a positive coefficient indicates that any increase in the independent variable leads to significantly impact the higher levels of categorical groups, while negative coefficients prove otherwise (Williams, 2016).

When the McFadden's Pseudo R2 values are between 0.2 and 0.4, this means that the goodness-of-fit for logit models are relatively good. Whereas, if the Pseudo R2 is greater than 0.4, this indicates that the logit models have a superior goodness of fit (McFadden, 1977). Accordingly, the goodness of fit for the binary logistic of model 3 has shown values greater than 0.3 of McFadden Pseudo R-square measures, implying that the goodness of fit for binary logistic regression models 3 is comparatively good. The values of McFadden Pseudo R-square for binary logit models 1, 2 & 4 show that McFadden Pseudo R2 values are greater than 0.4, indicating that there is a strong improvement of fit in binary logit models 1 and 2. The McFadden's Pseudo R2 does not measure the variability that is often measured by OLS linear regression. Nonetheless, both Pseudo R2 and likelihood ratio index can be used to compare different models that measure the same outcome variable (Hu et al., 2006). Additionally, the values of Nagelkerke R2 tests have shown that the variation in the dependent variable (ISAs categories) based on the four binary logistic models are relatively high at 85.3%, 53.5%, 53.8%, & 71.9%, respectively.

Moreover, Cox and Snell, (1989) reported that if the Cox and Snell R2 statistic is between 0.2-0.3, this means there is a modest improvement of fit in the binary logit model, whereas if the Cox and Snell R2 statistic is greater than 0.3-0.4, this means that there is a modest improvement in goodness of fit in the binary logit model. Whilst, if the Cox and Snell R2 statistic is greater than 0.5, this indicates that the model goodness of fit is superior. Therefore, Table 16 shows that the Cox and Snell R2 statistics values are between $0.3 < R2 < 0.4$ for the binary logit models 2, 3, and 4, indicating that there is a modest improvement in goodness of fit over the three binary logit models. Furthermore, the Cox and Snell R2 statistic for Model 1 reports value of 0.2, implying there is a modest improvement of fit in the binary logit regression of Model 1.

The Likelihood Ratio (LR) Chi-Square test examines whether all regression coefficients in the model are not equal to zero. If the probability of LR Chi2 test is statistically significant, we reject the null hypothesis, which indicates that all the regression coefficients in the model are equal to zero. The p-value of LR Chi2 of all models in Table 16 showed insignificant results, implying that at least one of the regression coefficients in the model is not equal to zero. Regarding the log-likelihood test, the negative value of the log likelihood depends on the scale of the data used in the model. Hence, smaller negative values of log-likelihood test indicate better model fits. Accordingly, the regression diagnostics of Table 16 show that the log-likelihood value of Model 1 represent the first smallest negative value, implying that the number of observations included in Model 1 provides fit that is statistically better than that offered by the other regression of Models 2 and 3. Similarly, the log-likelihood value of Model 4 represents the second smallest negative value across the other three models of the binary logit regression models, indicating that the observations included in Models 4 offer better fit than in Models 2 and 3.

Table 16 shows the empirical results of a series of binary logistic regression models that are performed to examine the effects of the national antecedents, including legal, political, cultural and

educational factors on the worldwide adoption of the ISAs for 162 countries over the period from1995-2014. Table 16 presents a summary of the four major hypotheses and their sub-hypotheses that covering the relationships between the national antecedents and ISAs adoption.

Beginning with the legal antecedents, in terms of legal origins, Model 3 of Table 16 shows that countries with *ENCM* are more likely to adopt the ISAs during the early stages, especially for those who are included in the early majority group. The coefficient is statistically significant at 10% level, indicating that sub-hypothesis H1.1 is supported, which suggests that countries with English common law are more prone to become early adopters of the ISAs. These results are very similar to what has been empirically obtained by the prior CGGs studies (Haxhi & Ees, 2010; Zattoni & Cuomo, 2008; Aguilera & Cuervo-Cazurra, 2004). It also offers theoretical support to the LLSV legal origins theory, which assumes that common law countries are more prone to adopting the accounting innovations to satisfy the needs of their investors by adopting high-quality standards of auditing. Nevertheless, Model 3 of Table 16 shows that only countries with *SOCV* civil law are more likely to adopt the ISAs early, especially those in the early majority group. Furthermore, Model 4 of Table 16 reports that countries with civil law origins, namely *FRCV*, *SPCV*, and *GECV* in addition to mixed legal origins, including *FRIS* and *ENIS,* are more susceptible to delay their decision in adopting the ISAs, especially for those that are included in the laggard's group. This can be explained from the theoretical perspective of the LLSV legal origin theory, which assumes that common law countries have higher quality legal enforcement than civil and mixed legal origin countries (La Porta et al., 1997; 2006; 2008).

With reference to shareholder protection rights, Model 2 of Table 16 shows that countries with a higher level of *SHPR* are more likely to adopt the ISAs at the earlier stages, especially for those who are involved in the early adopters' group of the ISAs. This supports the sub-hypothesis H1.2, which indicates that countries with a strong law for protecting investors' rights are more likely to be the early adopters of the ISAs. This result also supports the evidence obtained from the prior empirical literature, which reported that countries with a higher level of investor protection laws are more prone to adopt the ISAs (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016). Theoretically, this result also provides confirmation for the assumption suggested by the LLSV theory, which assumes that English common law countries with strong shareholder protection laws tend to adopt the international accounting and auditing standards during the initial stages for investment efficiency reasons, with a view to satisfy the new requirements of their local and foreign investors.

Regarding judicial efficiency and legal system integrity, Model 3 of Table 16 reports that countries with a higher level of *JUEF* and *LSIN* are more likely to adopt the ISAs during the initial stages, especially for those who are included in the early majority group of the ISAs. This indicates that sub-hypothesis H1.3 is supported, which proposes that countries with a higher level of judicial efficiency and legal system integrity are more prone to be early adopters of the ISAs. This result is also consistent

with prior empirical studies, which documented that countries with higher judicial efficiency and strong legal integrity are more prone to more rigid accounting and auditing standards (Boolaky, 2011; Hope, 2003). Theoretically, this finding is in line with the LLSV theory, which assumes that the quality of law enforcement is more likely to be higher in the English common law countries than civil countries with decentralized judicial systems. This is because these nations are more likely to benefit from adopting the accounting innovations than countries with centralized judicial systems.

With respect to judicial independence, Model 2 and 3 of Table 16 displays that countries with a higher level of *JUIN* are more likely to adopt the ISAs during the initial stages, especially for those who are included in the early majority group of the ISAs. The coefficient on judicial independence is statistically significant at 1% level, suggesting that sub-hypothesis H1.4 is accepted. Empirically, this finding provides support in the prior literature that found a positive and significant association between judicial independence and the adoption of the international accounting standards (Avram et al., 2015; Houqe et al., 2012; Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014). Theoretically, this result also offers support to the institutional theory, which assumed that countries with strong judicial independence are legally enforced by coercive isomorphism pressures to adopt the accounting innovations to gain greater social legitimacy, rather than obtain economic benefits.

In terms of the political antecedents, namely voice and accountability, Model 2 of Table 16 reports that countries with a higher level of *VOAC* are more likely to adopt the ISAs during the initial stages, especially for those who are included in the early adopters' group of ISAs. The coefficient of *VOAC* is statistically significant at 1% level, implying that sub-hypothesis H2.1 is supported, which suggests that countries with a higher level of voice and accountability are more likely to be early adopters of the ISAs. This result offers support to the previous empirical studies (Houqe et al., 2012; Houqe & Monem, 2013; Gresilova, 2013; Houqe & Monem, 2016), which reported that countries with a strong level of voice and accountability are more likely to adopt the international accounting innovations during the initial stages. Theoretically, this finding also provides results consistent with the theoretical predictions proposed by the institutional theory, which assumes that the quality of political institutions in a country depend on the coercive pressures exerted by political groups exist in a country to satisfy the international bodies by adopting the international accounting innovations (Samaha & Khlif, 2016).

Regarding political stability, Model 3 of Table 16 shows that countries with a lower level of *POST* are more prone to adopting the ISAs during the initial stages, especially for those who are included in the early majority group of the ISAs adoption. The result reports a positive and significant association between *POST* and the ISAs adoption at 5% level, indicating that sub-hypothesis H2.2 is rejected, which assumes that countries with a higher level of *POST* are more likely to be the early ISAs adopters.

Table 16: The results of a series of binary logistic regression models for studying the impact of the national antecedents on the adoption of the ISAs for 162 countries over 1995-2014

National Antecedents	The ISAs adoption categories (*ISAAC*)				
Cumulative Binary Logit Models	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Ordered logit**
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
Legal Factors (*LEGF*)					
SHPR	-0.88***	0.18***	0.01	-0.10*	0.07***
	(0.000)	(0.000)	(0.853)	(0.072)	(0.004)
JUEF	-0.97***	-0.54***	0.25***	0.36***	0.14***
	(0.006)	(0.000)	(0.000)	(0.001)	(0.001)
JUIN	0.82	0.90***	0.35***	-0.82***	-0.15**
	(0.218)	(0.000)	(0.001)	(0.000)	(0.041)
LSIN	0.76**	-0.07	0.07*	0.33***	-0.09***
	(0.013)	(0.192)	(0.076)	(0.000)	(0.000)
Legal Origins (*LEOR*)					
ENCM	-10.23	-0.58	0.75*	-7.39*	-0.28
	(0.989)	(0.172)	(0.091)	(0.075)	(0.196)
FRCV	9.30	21.55	-0.99***	-11.64***	0.74***
	(0.996)	(0.988)	(0.001)	(0.006)	(0.002)
SPCV	14.50	-24.28	-42.84	-16.51*	3.82***
	(0.998)	(0.997)	(0.995)	(0.091)	(0.000)
POCV	-21.80	-1.98	-19.80	-6.86	1.92***
	(0.999)	(0.999)	(0.994)	(0.499)	(0.000)
GECV	-12.72	17.63	-0.97***	-6.87*	0.43*
	(0.997)	(0.990)	(0.004)	(0.095)	(0.093)
SOCV	27.63	21.56	2.01***	15.31	-2.06***
	(0.988)	(0.988)	(0.000)	(0.999)	(0.000)
ENRE	-11.33	-22.10	-2.83***	15.59	2.54***
	(0.998)	(0.996)	(0.000)	(0.998)	(0.000)
ENDU	-1.11	-0.02	0.15	16.36	0.45*
	(0.999)	(0.973)	(0.611)	(0.992)	(0.058)
FRIS	-8.29	-0.71	-4.32***	-9.81**	1.45***
	(1.000)	(0.408)	(0.000)	(0.019)	(0.000)
ENIS	-34.11	-1.46***	-2.45***	-10.72**	1.63***
	(0.989)	(0.006)	(0.000)	(0.010)	(0.000)
Political Factors (*POLF*)					
VOAC	-1.69	1.37***	0.47***	1.60***	-0.70***
	(0.190)	(0.000)	(0.001)	(0.000)	(0.000)
POST	-2.98***	-0.74***	0.20**	-0.74***	0.31***
	(0.000)	(0.000)	(0.046)	(0.000)	(0.000)
REQU	9.59***	0.67***	1.12***	1.48***	-1.10***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
COCU	-5.31***	-0.93***	1.45***	1.11***	1.12***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Cultural Factors (*CULF*)					
PWDS	-0.15	-0.84	-0.17***	0.53***	0.03
	(0.505)	(0.145)	(0.000)	(0.000)	(0.371)
INDV	2.31***	0.67	0.14***	-0.22***	-0.06**
	(0.000)	(0.176)	(0.000)	(0.001)	(0.023)
UNAV	1.48**	-0.26***	-0.05	0.56***	-0.01
	(0.017)	(0.000)	(0.138)	(0.000)	(0.770)
MASC	-3.87***	-0.28***	0.33***	-0.28***	0.20***
	(0.000)	(0.000)	(0.000)	(0.004)	(0.000)
LTOR	-2.50***	-0.09	-0.05	-0.39	0.08**
	(0.000)	(0.172)	(0.293)	(0.000)	(0.023)
INDU	0.79**	-0.42***	0.28***	-0.19***	0.17***
	(0.015)	(0.000)	(0.000)	(0.000)	(0.000)
Educational Factors (*EDUF*)					
EDAT	0.32***	0.06***	0.01	-0.09***	0.03***
	(0.000)	(0.000)	(0.763)	(0.000)	(0.000)
LITR	0.56***	0.05***	0.04***	0.01	-0.04***
	(0.000)	(0.000)	(0.000)	(0.130)	(0.000)
QEDS	-1.03	1.36***	0.70***	1.43***	-0.75***
	(0.221)	(0.000)	(0.000)	(0.000)	(0.000)

Continuation: Table 16	Model 1	Model 2	Model 3	Model 4	Ordered logit
Control variables					
Geographical region (*GERI*)					
EURO	9.89	-2.75***	-0.65**	8.76***	0.48**
	(0.990)	(0.000)	(0.022)	(0.001)	(0.026)
NLSA	-14.58	-1.27***	0.34	2.24***	-0.31*
	(0.994)	(0.001)	(0.199)	(0.000)	(0.093)
CSAS	8.74	1.83***	2.25***	1.19**	-1.86***
	(0.998)	(0.000)	(0.000)	(0.042)	(0.000)
EASP	-1.21	1.53***	0.29	1.99***	-0.27
	(0.999)	(0.000)	(0.189)	(0.000)	(0.131)
MENA	-32.01	2.96	-2.26***	12.72	1.16***
	(0.998)	(0.999)	(0.001)	(0.136)	(0.009)
Official language (*OFLN*)					
ENGL	-14.22	0.44	0.55**	1.61***	-0.45**
	(0.996)	(0.247)	(0.017)	(0.000)	(0.012)
FRNL	-11.44	1.69***	1.10***	2.57***	-0.83***
	(0.989)	(0.002)	(0.000)	(0.001)	(0.001)
SPNL	-34.98	24.52	21.97	12.72	-3.34***
	(0.996)	(0.997)	(0.997)	(0.242)	(0.000)
ARBL	35.81	-1.68	5.88***	-12.76	0.62
	(0.999)	(0.998)	(0.000)	(0.134)	(0.102)
GRML	-6.42	4.22***	0.34	-3.94	-0.16
	(0.998)	(0.000)	(0.256)	(0.117)	(0.503)
RUSL	-46.65	-23.99	-2.45***	2.50	2.34***
	(0.992)	(0.995)	(0.000)	(0.998)	(0.000)
Colonial history (*COHI*)					
NEVC	21.88	0.86***	0.44*	21.65	-0.20
	(0.976)	(0.006)	(0.054)	(0.990)	(0.216)
BRTC	44.43	20.27	0.17	3.16***	-0.39**
	(0.984)	(0.989)	(0.507)	(0.000)	(0.030)
FRNC	21.83	-19.80	-0.19	2.88***	0.38**
	(0.993)	(0.988)	(0.510)	(0.000)	(0.049)
SPNC	62.94	20.99	21.83	-2.70	-1.06***
	(0.991)	(0.997)	(0.997)	(0.997)	(0.007)
PORC	43.76	4.03	-18.40	-1.95	1.30***
	(0.998)	(0.999)	(0.995)	(0.834)	(0.004)
DUTC	15.33	-21.26	-0.83**	1.64*	1.46***
	(0.996)	(0.996)	(0.043)	(0.073)	(0.000)
GRMC	34.69	-19.25	-0.87**	2.34***	0.66**
	(0.989)	(0.995)	(0.034)	(0.000)	(0.013)
RUSC	-27.24	-1.34***	-2.13***	7.22	1.35***
	(0.980)	(0.000)	(0.000)	(0.999)	(0.000)
Constant	-4.61	-25.96	-46.63	-74.12	
	(0.999)	(0.998)	(0.991)	(0.997)	
Number of observations	3240	3240	3240	3240	3240
likelihood LR chi2	853.8***	1238.8***	1663.9***	1980.1***	2209.8***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
McFadden's Pseudo-R2	0.832	0.424	0.394	0.604	0.238
McFadden (adjusted)	0.781	0.399	0.353	0.580	0.227
Cox & Snell R Square	0.232	0.318	0.402	0.457	0.494
Nagelkerke R-Square	0.853	0.535	0.538	0.719	0.524
Log likelihood	-86.364	-840.4	-1393.8	-647.8	-3542.4
Likelihood-ratio test					3530.7***

Note: The abbreviations of the independent variables included in the model are as follows: the national antecedents of ISAs adoption involve four key factors namely, i) legal factors (*LEGF*) including, shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*), legal origins (*LEOR*) include several origins, English common law (*ENCM*); French civil law (*FRCV*); Spanish civil law (*SPCV*); Portuguese civil law (*POCV*); German civil law (*GECV*); Socialist civil law (*SOCV*); mixed English and religious laws (*ENRE*); mixed English and Dutch laws (*ENDU*); mixed French civil and Islamic laws (*FRIS*); mixed English and Islamic laws (*ENIS*); mixed English and civil laws (*ENCV*). ii) political factors (*POLF*) voice and accountability (*VOAC*); political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*), iii) cultural factors (*CULF*), power distance (*PWDS*); individualism level (*INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC*); long-term orientation (*LTOR*); indulgence level (*INDU*), iv) educational factors (*EDUF*), educational attainment (*EDAT*); youth literacy rates (*LITR*); quality of the education system (*QEDS*). Control variables namely geographical regions (*GERI*) including Europe (*EURO*); North, Latin and South America (*NLSA*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); and Africa (*AFRC*); Official languages (*OFLN*) involve seven languages English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTLN*). Colonial history (*COHI*) includes nine groups never colonized countries (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire (*SPNC*); Portuguese Empire (*PORC*); Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); other colonists (*OTCO*). The stars display the significance level (p-values) *** p<0.01, ** p<0.05, * p<0.10.

However, the finding relating to the political stability index (*POST*) is in line with some previous empirical studies that documented that countries with a weak political stability level are more likely to adopt the international accounting innovations (Pricope, 2014; Gresilova, 2013). This can also lend to support to the institutional theory, which suggests that coercive isomorphism arising from different political groups can lead to enforcing their countries to adopt the international auditing standards, with a view to strengthen their political legitimacy. This confirms that only countries with weak political stability tend to adopt the accounting innovations to legitimise their political systems.

With reference to regulatory quality, Model 2 of Table 16 shows that countries with a higher level of *REQU* are more likely to adopt the ISAs during the initial stages, especially for those who are included in the early adopters' group of the ISAs. This finding provides support for sub-hypothesis H2.3, which suggests that countries with a higher level of regulatory quality are more susceptible to be early adopters of the ISAs. This result is consistent with the outcomes obtained by previous empirical studies, which reported that countries with a higher level of regulatory quality are more likely to embrace higher quality accounting and auditing standards to gain more economic benefits (Houqe et al., 2012; Wieczynska, 2016; Gresilova, 2013; Avram et al., 2015). Theoretically, this finding can also shed light on the economic development theory, which suggests that the adoption of accounting and auditing standards does not necessary lead to enhancing the economic situation of adopting countries, due to a lack of regulatory quality (Larson & Kenny, 1996).

In terms of control of corruption, Models 4 of Table 16 shows that countries with a lower level of *COCU* are more likely to adopt the ISAs during the early stages, especially for those are included in the early majority group of the ISAs. This result is statistically significant at 1% level, implying that sub-hypothesis H2.4 is not supported, which assumes that countries with a higher level of control of corruption are more likely to be early adopters of the ISAs. Nevertheless, this finding lends support to the results provided by the previous empirical literature (Houqe & Monem, 2016; Cai et al., 2014; Avram et al., 2015; Gresilova, 2013). Theoretically, this finding provides support to the institutional theory, which assumes that coercive pressures that arise from political institutions can be utilized to minimize the corruption level, especially in countries with a higher corruption level. This can be done by forcing these countries to adopt higher-quality accounting and auditing standards, with a view to reduce their corruption level (Houqe & Monem, 2013).

Regarding the cultural dimensions, namely the power distance level, Model 4 of Table 16 shows that countries with a higher level of *PWDS* are less likely to become the early adopters of the ISAs, especially for those who are included in the early majority group of the ISAs adoption. This result offers support to sub-hypothesis H3.1, which suggests that countries with a higher level of power distance index are less likely to be the early adopters of the ISAs. It also supports the findings obtained by prior empirical studies (Neidermeyer et al. 2012; Lasmin, 2012; Haxhi & Ees, 2008), which reported that

countries with a higher level of power distance are less likely to embrace the international accounting and auditing standards. Theoretically, this result lends to support the Hofstede-Gray cultural theory, which proposes that countries with a higher levels of power distance are more prone to having the following accounting values uniformity, confidentiality and conservatism, which are not in line with the requirements of adopting the international accounting innovations.

In terms of individualism level, Model 3 of Table 16 reports that countries with higher levels of *INDV* are more prone to adopt the ISAs during the early times, especially for those who are included in the early majority adopter of the ISAs. The coefficient is statistically significant at 1% level, indicating that sub-hypothesis H3.2 is accepted, which proposes that countries with a higher level of individualism index are more likely to be early adopters of the ISAs. This finding offers support to the previous empirical study conducted by Lasmin (2012), which reports that developing countries with lower levels of individualism index are more prone to adopting the international accounting innovations. Moreover. this finding is consistent with the suggestion provided by the Hofstede-Gray cultural theory, which assumes that societies with a higher score of individualism are more prone to adopting the ISAs. This is because the accounting values existing in these countries are highly consistent with the requirements of adopting the international accounting and auditing standards, including professionalism, confidence, flexibility and transparency. (Borker, 2012; Perera & Mathews, 1990).

With respect to the uncertainty avoidance level, Model 2 of Table 16 shows that countries with higher levels of *UNAV* are less likely to adopt the ISAs during the early stages, especially for those who are included in the early adopter group of ISAs. The coefficient is statistically significant at1% level, implying that sub-hypothesis H3.3 is accepted, which suggests that countries with a higher level of uncertainty avoidance index are less likely to become early adopters of the ISAs. This finding supports the results of the previous studies (Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Fearnley & Gray, 2015), which reported that countries with higher levels of uncertainty avoidance are less prone to adopt the international accounting innovations. Theoretically, this finding offers support to the Hofstede-Gray cultural theory, which suggests that countries with lower levels of uncertainty avoidance are more likely to adopt the international accounting and auditing standards. This is because the cultural and accounting values existing in these countries are very similar to those in the Anglo-Saxon countries, including professionalism, confidence, flexibility and transparency, which are in line with the requirements of adopting the international accounting innovations (Sasan et al., 2014).

With reference to the masculinity index, Model 3 of Table 16 reports that countries with a lower level of *MASC* are more likely to embrace the ISAs during the initial stages, especially those included in the early majority group of the ISAs. This finding indicates that sub-hypothesis H3.4 is not supported, which assumes that countries with a higher level of masculinity index are more likely to become early adopters of the ISAs. However, this result is consistent with the outcomes achieved by a prior study

conducted by Yurekli (2016), who reported that countries with lower levels of masculinity are more prone to embracing the international accounting innovations. Theoretically, this result also provides support to the Hofstede-Gray cultural theory, which assumes that countries with lower ranks of masculinity index are more susceptible to adopting the international accounting and auditing standards. The reason for this is because these countries mostly possess cultural dimensions, which are very similar to the Anglo-Saxon nations and they often have accounting values that are consistent with the requirements of the ISAs and IFRS adoption, including professionalism, confidence, flexibility, and transparency (Zeghal & Mhedhbi, 2006).

In terms of the long-term orientation index, Model 4 of Table 16 shows that countries with lower levels of *LTOR* are less likely to be the early adopters of the ISAs, especially for those who are included in the laggards' group of the ISAs. The coefficient is statistically significant at 1% level, implying that sub-hypothesis H3.5 is rejected, which suggests that countries with a lower level of long-term orientation index are more likely to become early adopters of the ISAs. Empirically, this result therefore is consistent with the outcomes provided by previous empirical research implemented by Erkan and Agsakal (2013), which revealed that countries with higher levels of long-term orientations are more prone to embracing high-quality international accounting and auditing standards. However, this finding contradicts the theoretical expectation suggested by the Hofstede-Gray cultural theory, which proposes that the adoption of the international accounting innovations can largely occur in countries with lower levels of long-term orientation, who accept changes into their societal values (Naghshbandi et al., 2016). The opposite theoretical predictions obtained might be justified as a result of the missing data regarding *LTOR* replaced by the mean of the variable, which might reduce the statistical power of a regression method and produce biased estimates, leading to invalid conclusions.

Regarding the indulgence index, Model 4 of Table 16 reports that countries with a higher level of *INDU* are more likely to become the early adopters, especially those who are included in the early majority group of the ISAs. The coefficient is statistically significant at 1% levels, indicating that sub-hypothesis H3.6 is empirically supported, which assumes that countries with higher levels of indulgence index are more likely to become early adopters of the ISAs. This result is in line with the results achieved by prior studies (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014), which revealed that countries with a higher level of indulgence index are more susceptible to adopting the international accounting innovations. Theoretically, this finding provides support to the Hofstede-Gray cultural theory, which supposes that countries with higher ranks of indulgence index are more likely to adopt the international accounting and auditing standards. This is because these countries depend heavily on accounting values, which are traditionally consistent with the requirements needed to implement the international accounting innovations, including professionalism, confidence, flexibility and transparency (Borker, 2012; Borker, 2014; Cardona et al., 2014; Borker, 2017).

With respect to educational attainment level, Model 2 of Table 16 shows that countries with higher levels of *EDAT* are more likely to adopt the ISAs during the initial stages, especially those who are included in the early adopters' group of the ISAs. The coefficient is statistically significant at1% level, implying that sub-hypothesis H4.1 is accepted, which suggests that countries with a higher level of educational attainment are more likely to become early adopters of the ISAs. Moreover, this result is consistent with the previous studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013), which reported that countries with higher levels of educational attainment are more prone to embrace the ISAs. Furthermore, this finding lends support to the institutional theory, which assumes that countries with higher levels of education attainment are more prone to embrace the international accounting and auditing standards. This is because the normative pressure exerted by educational institutions is the most powerful isomorphism among the institutional pressures and it can influence these countries to adopt the international accounting innovations (Judge et al., 2010).

With reference to literacy rates, Models 1, 2, and 3 of Table 16 report that countries with higher levels of *LITR* are more likely to adopt the ISAs during the initial stages, especially those who are included in the early adopters and the early majority groups of the ISAs. The coefficients are statistically significant at 1% level, suggesting that sub-hypothesis H4.2 is supported, which proposes that countries with higher literacy rates are more likely to become early adopters of the ISAs. This finding lends support to the previous IFRS studies (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014), which reported that countries with higher literacy rates are more prone to adopt the IFRS. The result also provides support to the institutional theory, which assumes that the normative pressure lead to increase the professionalism level, which in turn can be measured by identifying how literacy rates affect the adoption of international accounting and auditing standards. Hence, countries with a higher level of literacy rates are more prone to adopt the ISAs and IFRS as a response to the higher level of accounting professionalism existing in a country (Pricope, 2015).

Finally, in terms of the quality of the education system, Models 2 and 3 of Table 16 show that countries with lower levels of *QEDS* are more likely to adopt the ISAs during the initial stages, especially those who are included in the early adopters' group of the ISAs. The coefficient is statistically significant at 1% level, indicating that sub-hypothesis H4.3 is not supported, which assumes that countries with higher levels of education quality are more likely to be the early adopters of the ISAs. This result, however, is consistent with a prior study conducted by Jamal et al. (2008), who reported that the adoption of the international accounting standards by countries with higher levels of educational quality, such as the U.S is quite costly, given that the accounting education system in these countries varies significantly from the IFRS. Theoretically, this finding also lends support to the institutional theory, which suggests that countries with lower levels of educational quality are more prone to

adopting more sophisticated standards to acquire higher levels of professionalism and meet the diverse needs of stakeholders, in addition to acquiring greater institutional legitimacy as well (Lasmin, 2011; Felski, 2015; Turner, 1993; Shima & Yang, 2012).

With regards to the control variables, firstly, geographical regions, Models 2 and 3 of Table 16 report that countries located in the *CSAS* and *EASP* regions are more likely to adopt the ISAs during the initial stages, especially those who are involved in the early adopters and the early majority groups of the ISAs. Whereas, Model 4 of Table 16 shows that countries located in the *EURO* and *NLSA* regions are more likely to adopt the ISAs during the late stages, especially those who are included in the late majority group of the ISAs. The ordered logit model in Table 16 displays that countries located in the *MENA* region are more likely to delay their decision to adopt the ISAs, especially those who are included in the laggards' group of the ISAs. Their coefficients are statistically significant at 1% level of significance, implying that countries located in one location are more likely to follow each other and adopt similar accounting and auditing standards.

Secondly, in terms of official languages, Model 2 of Table 16 reports that countries where there are two official languages, including the *FRNL* and *GRML* languages are more likely to adopt the ISAs during the initial times, especially those who are included in the early adopter groups of the ISAs. Model 3 of Table 16 reports that countries where two further languages are a country's official language, namely (*ENGL* and *ARBL)* are more likely to adopt the ISAs during the early times, especially those who are included in the early majority group of the ISAs. The ordered logit Model of Table 16 shows that countries where *RUSL* is the most widely spoken official language are more likely to delay their decision for adopting the ISAs, especially for those who are included in the laggards' group of the ISAs.

Thirdly, regarding colonial history, Models 2 and 3 of Table 16 report that never colonized countries *NEVC* are more likely to adopt the ISAs during the initial stages, especially those who are included in the early adopters and the early majority groups of the ISAs. Model 4 of Table 16 shows that countries that were colonized by the following empires, *BRTC, FRNC,* and *GRMC* are more likely to adopt the ISAs during the late stages, especially those who are included in the late majority group of the ISAs. The ordered logit Model of Table 16 shows that countries colonized by following empires, *PORC, DUTC,* and *RUSC* are more likely to become non-adopters of the ISAs.

8.2 Multivariate Non-parametric Regression to Analyse the Antecedents of IFRS Adoption

The dependent variables employed in the model of the antecedents of IFRS adoption are categorical in nature. Therefore, multivariate nonparametric regression techniques have been applied to test the hypothesized relationships previously discussed in chapter four, between the adoption of the IFRS and the key national antecedents, including legal, political cultural and educational factors. Table 17

represents the results of four multivariate non-parametric regression models specifically a series of binary logistic regression models, in addition to the ordered logistic regression models.

8.2.1 Testing Assumptions of Ordered Logit Regression Regarding the Antecedents of IFRS

Column 5 of Table 17 reports the results of ordered logit regression model for investigating the impact of national antecedents on IFRS adoption for 162 countries between 1995-2014. As a result, the likelihood-ratio test shows a significant p value, which means that the assumption of the proportional odds model was violated. Therefore, a series of cumulative binary logistic regression models are employed to predict the relationship between the notational antecedents and IFRS adoption. Columns 1-4 of Table 17 present the empirical results for four contrasting groups of cumulative binary logistic regression models, excluding the base category. Specifically, Mode 1 contrasts the experiments group with the other four response categories of the IFRS. Model 2 compares two groups, namely experiments and early adopter groups with the other three response categories of the IFRS. Model 3 matches the first three categories namely the experiments, early adopters and early majority groups with the other two categories, namely the late majority and laggards' groups of the IFRS. Model 4 contrasts the first four response groups of the IFRS, namely experiments, early adopters, early majority and late majority with the last category, namely the laggards' group of the IFRS.

The regression diagnostics of Table 17 reports that the values of the McFadden Pseudo R-square for the overall goodness of fit across the four binary logistic regression models have shown a superior fit. This is because the McFadden's adjusted R2 have shown values $0.4 < R2 < 0.9$, implying that the values of goodness of fit for all binary logistic regression models in Table 17 are comparatively superior. Additionally, The Cox and Snell R Square statistics report values $0.3 < R2 < 0.5$ for the binary logit models 2, 3, and 4, indicating that there is a modest improvement in the goodness of fit over the three binary logit models. The Cox and Snell R Square statistic reports a value of 0.2, implying that there is a modest improvement of the fit in the binary logit Model 1. Moreover, the values of R2 provided by the Nagelkerke test represent variation in the dependent variable groups (IFRS adopter categories) for the four binary logistic regression Models 1, 2, 3, and 4, which are 95%, 90.5%, 65.4%, and 76.5%, respectively.

The Likelihood Ratio (LR) Chi2 test examines if all regression coefficient in the model are not equal to zero. If the probability of LR Chi2 test is statistically significant, we reject the null hypothesis, which indicates that all the regression coefficients in the model are equal to zero, while we accept the alternative hypothesis and conclude that at least one of the regression coefficients in the model are not equal to zero. Accordingly, the regression diagnostics of Table 17 have shown small p-values associated with the likelihood ratio (LR) Chi2 tests across the four logistic regression models, indicating that at least one of the regression coefficients in the model are not equal to zero. This means that including these independent variables can create strong improvement in the fit of the models. Regarding the log-

likelihood test, the negative value of the log likelihood depends on the scale of the data used in the model. Hence, smaller negative values of log-likelihood test indicate better model fits. The regression diagnostics of Table 17 display that log-likelihood have increased from Model 1 to Model 4, implying that the number of observations included in Models 1 and 2 provide the best fit.

Table 17 reports the empirical results of a series of binary logistic regressions used to examine the effects of the national antecedents, including legal, political, cultural and educational factors on the worldwide adoption of the IFRS for 162 countries over the period from 1995-2014. Table 17 presents a summary of the four major hypotheses and their sub-hypotheses that investigate the relationship between the national antecedents and IFRS adoption.

In terms of legal origins, Model 3 of Table 17 shows that countries with *ENCM* are more likely to adopt the IFRS during the initial stages. The coefficient is statistically significant at 1% level, implying that sub-hypothesis H1.1 is supported, which suggests that countries with an English common legal origin are more prone to become early adopters of the IFRS. These results are very similar to the findings obtained by the prior IFRS studies (Zehri & Chouaibi, 2013; Dimaa et al., 2013; Kossentini & Ben Othman, 2014; Kolsi & Zehri, 2009). This finding is also in line with the theoretical predictions proposed by the LLSV legal origins theory, which assumes that English common law countries are more susceptible to adopting the IFRS to satisfy the needs of their shareholders (La Porta et al., 1998).

Furthermore, Model 3 of Table 17 also shows that countries with a civil law origin, namely *SOCV* are more prone to adopt the IFRS during the initial stages to enhance their economic performance. This is because Socialist legal origin countries have the lowest quality of national accounting and auditing standards and experience weak economic performance, since they are not dominated by capital market forces (Jorgensen & Soderstrom, 2007). Moreover, Model 3 of Table 17 shows that countries with mixed legal origins, namely *ENDU,* are more prone to adopting the IFRS during the initial stages. This can be explained as a result to the effect of English common legal origin alongside other legal origins in a country. Additionally, Model 4 of Table 17 reports that countries with the following legal origins, including *FRCV* and *FRIS,* are more susceptible to adopting the IFRS during the late stages, especially those who are included in the late majority groups. This is because the legislations in the civil law countries tend to exhibit less protection to outside shareholders. Hence, civil code countries are subject to family ownership and state ownership rather than private ownership (Peng & Meyer, 2016).

With respect to shareholder rights, Model 3 of Table 17 shows that countries with higher levels of *SHPR* are more likely to adopt the IFRS during the earlier stages. This result supports sub-hypothesis H1.2, which indicates that countries with strong laws for protecting investors' rights are more likely to become early adopters of the IFRS. This finding supports the evidence obtained from prior empirical literature (Houqe et al., 2012; Renders & Gaeremynck, 2007), which reported that countries with strong

investor protection laws are more prone to adopting the IFRS. This finding provides evidence consistent with the theoretical predictions offered by the LLSV legal origin theory, which assumes that the adoption of the international accounting innovations is more susceptible to occur in English common law countries with strong shareholders' protection rights, not only to legitimise their legal systems, but also for efficiency reasons (Aguilera & Cuervo-Cazurra, 2004; La Porta et al., 2000).

Regarding judicial efficiency and legal integrity, Model 2 of Table 17 shows that countries with a higher level of *JUEF* and *LSIN* are more likely to adopt the IFRS during the initial times. The coefficient on judicial efficiency is statistically significant at 10% level, whilst the coefficient on legal integrity is statistically significant at 1% level, indicating that sub-hypothesis H1.3 is supported, which suggests that countries with higher levels of judicial efficiency and legal system integrity are more prone to become early IFRS adopters. This result is also consistent with prior empirical studies, which documented that countries with higher judicial efficiency and strong legal integrity are more prone to having rigid accounting and auditing standards (Boolaky, 2011; Hope, 2003). It also offers support to the LLSV legal origin theory. which assumes that countries with decentralized judicial systems are more likely to benefit from adopting the accounting innovations than countries with a centralized system as a result of the quality of law enforcement in countries with decentralized legal systems (Beck et al., 2003; Puri, 2009).

With reference to judicial independence, Model 3 of Table 17 reports that countries with higher levels of *JUIN* are more likely to become early adopters of the IFRS, especially those who are included in the early majority adopters' group of the IFRS. The coefficient on judicial independence is statistically significant at 1% level, suggesting that sub-hypothesis H1.4 is accepted, which proposes that countries with higher levels of judicial independence are more likely to become early adopters of the IFRS. This finding offers support for the evidence provided by prior empirical studies (Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014; Avram et al., 2015; Houqe et al., 2012), which reported that countries with strong judicial independence are more susceptible to embracing the IFRS. This result also supports the theoretical expectations suggested by the institutional theory, which assumes that the countries might be enforced by their legal systems to adopt new standards as a response to external pressures emerging from coercive isomorphism (DiMaggio & Powell, 1983). Therefore, many countries with strong judicial independence are legally enforced by their regulations to adopt the international financial reporting standards to seek legitimacy through legal or social activities rather than gaining economic advantages (Lasmin, 2011; Judge et al., 2010; Kossentini & Ben Othman, 2014).

In terms of voice and accountability, Model 2 of Table 17 reports that countries with a lower level of *VOAC* are more likely to adopt the IFRS during the initial stages. The coefficient of *VOAC* is statistically significant at 1% level, implying that sub-hypothesis H2.1 is not supported, which assumes that countries with a higher level of voice and accountability are more likely to adopt the IFRS at the

early times. Nevertheless, this result lends support to a prior empirical study conducted by Alon and Dwyer (2014), which reported that countries with lower levels of voice and accountability are more likely to adopt the IFRS. This finding supports the theoretical predictions proposed by the institutional theory, which suggests that countries with lower quality political institutions tend to adopt the IFRS as a result of coercive the pressure exerted by the political groups to gain greater political legitimacy and satisfy the international organizations (DiMaggio & Powell, 1983; Nurunnabi, 2015).

Regarding political stability, Model 3 of Table 17 shows that countries with a lower level of *POST* are more likely to embrace the IFRS during the initial stages. The coefficient is statistically significant on political stability at 1% level, indicating that sub-hypothesis H2.2 is not supported, which assumes that countries with higher level of political stability are more prone to become early adopters of the IFRS. Nonetheless, this finding is consistent with the prior studies conducted by Gresilova (2013) and Pricope (2014), which documented that countries with strong political stability levels are less likely to adopt the international accounting standards. This result also provides support for the institutional theory, which suggests that countries with weak political stability need to adopt new standards to legitimise their political systems. This can be done through the coercive pressure that arises from different political groups that influence these countries to adopt the IFRS to strengthen their political systems (Dufour et al., 2014; Lasmin, 2011a).

With respect to regulatory quality, Model 3 of Table 17 displays that countries with a lower level of *REQU* are more likely to adopt the IFRS during the initial stages. The coefficient is statistically significant on political stability at 1% level, implying that this finding sub-hypothesis H2.3 is rejected, which suggests that countries with higher levels of regulatory quality are more susceptible to become early adopters of the IFRS. Nevertheless, this result provides support to the previous empirical studies (Kaya & Koch, 2015; Ramanna & Sletten, 2009), which reported that countries with a higher level of regulatory quality are more likely to delay their decision to adopt the IFRS due to the higher cost of embracing these high-quality standards. Theoretically, this finding also lends support to the economic development theory, which assumes that the adoption of the international accounting standards cannot necessarily lead to enhancing the economic situation of the adopting countries, especially if these countries suffer from a lack of regulatory quality (Larson & Kenny, 1996).

With reference to the control of corruption, Model 3 of Table 17 shows that countries with lower levels of *COCU* are more likely to adopt the IFRS during the initial stages. The results are statistically significant at 1% level, indicating that sub-hypothesis H2.4 is rejected, which assumes that countries with a higher level of control of corruption are more likely to become early adopters of the IFRS. However, this finding supports the results suggested by prior empirical literature, which revealed that countries with lower levels of control of corruption are more likely to embrace the IFRS, with a view to benefit from adopting such type of high-quality standards in reducing their corruption level (Avram

et al., 2015; Gresilova, 2013; Houqe & Monem, 2016; Cai et al., 2014). This finding also sheds light on the institutional theory, which suggests that coercive pressures that arise from political institutions can be used to minimize the corruption level, especially in countries with a lower level of control of corruption by forcing these countries to adopt the international standards (Houqe & Monem, 2013).

Regarding the cultural dimensions, Models 2 and 3 of Table 17 report that developing countries with higher levels of *PWDS* are more likely to adopt the IFRS during the initial stages. The two coefficients are statistically significant at 1% and 5%, respectively, suggesting that sub-hypothesis H3.1 is not supported, which assumes that countries with a higher level of power distance index are less likely to become early adopters of the IFRS. Nevertheless, this finding is consistent with the previous CGGs study conducted by Haxhi and Ees (2008), which reported that governments in countries with higher levels of power distance index are more prone to adopting the international accounting innovations, namely the codes of good governance. Theoretically, this result lends support to the Hofstede-Gray cultural theory, which assumes that countries with higher levels of power distance index are more prone to have a lower level of the accounting values in terms of professionalism, which are in fact not in line with the requirements of adopting the IFRS (Borker, 2012). Developing countries tend to have a higher score of power distance and uncertainty avoidance indexes. Hence, the professionalism level seems to be relatively weak in emerging economies (Gray, 1988).

With respect to individualism level, Model 3 of Table 17 shows that countries with lower levels of *INDV* are more likely to adopt the IFRS during the initial times, whereas Model 4 of Table 17 shows that countries with higher levels of *INDV* are more likely to delay their decision to adopt the IFRS up to the late stages. The two coefficients are statistically significant at 1% level, indicating that sub-hypothesis H3.2 is not supported, which suggests that countries with higher levels of individualism are more likely to become early adopters of the IFRS. However, this finding offers empirical support to the previous research conducted by Lasmin (2012), who reported that countries with lower levels of individualism are more prone to embracing the IFRS. This result, however, does not support the assumption offered by the Hofstede-Gray cultural theory, which suggests that individualistic countries are more susceptible to adopt the IFRS, since these countries often tend to possess the accounting values that are consistent with the requirements of adopting the IFRS, including professionalism, confidence, flexibility and transparency (Borker, 2012). This result might be explainable, since individualistic countries, such as the US, would concentrate more on creating their own accounting standards, rather than adopting the international accounting standards, because these individualistic countries seek to improve the situation of their societies only. Collective societies on the other hand will be more likely to conform to IFRS standards, since they have already realized that there are many global benefits for adopting a single set of global accounting standards (Neidermayer et al., 2012; Clements et al., 2010).

With reference to uncertainty avoidance level, Model 3 of Table 17 shows that countries with a lower level of *UNAV* are more likely to adopt the IFRS during the early times. The coefficients are statistically significant at 1% level, implying that sub-hypothesis H3.3 is supported, which assumes that countries with higher levels of uncertainty avoidance index are less likely to become early adopters of the IFRS. This finding is consistent with prior empirical studies (Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Fearnley & Gray, 2015), which suggested that countries with lower levels of uncertainty avoidance are more prone to adopting the IFRS. Moreover, this result also supports the Hofstede-Gray cultural theory, which assumes that countries with lower levels of uncertainty avoidance are more likely to adopt the IFRS. This is because the cultural values for these countries tend to be very similar to the accounting values existing in the Anglo-Saxon countries, including professionalism, confidence, flexibility and transparency (Sasan et al., 2014).

In terms of the masculinity index, Model 3 of Table 17 reports that countries with a lower level of *MASC* are more likely to adopt the IFRS during the initial stages, especially those who are included in the early majority group of IFRS adoption. The coefficient is statistically significant at 1% level, suggesting that sub-hypothesis H3.4 is not supported, which assumes that countries with a higher level of masculinity index are more likely to be early IFRS adopters. Nevertheless, this result is consistent with the findings achieved by prior empirical studies (Archambault & Archambault, 2003; Hope, 2003; Yurekli, 2016), which reported that countries with lower levels of masculinity are more prone to embracing the IFRS, with a view to provide greater levels of high-quality disclosure of financial data. Theoretically, this result also provides a support to the Hofstede-Gray cultural theory, which assumes that countries with a lower score of masculinity index are more prone to adopting the IFRS. This is because these countries mostly possess cultural dimensions that are very similar to those existing in the Anglo-Saxon nations, which are consistent with the requirements of IFRS adoption, including professionalism, confidence, flexibility, and transparency (Zeghal & Mhedhbi, 2006).

With respect to the long-term orientation index, Model 2 of Table 17 reports that countries with a lower level of *LTOR* are likely to adopt the IFRS during the early times. The coefficient is statistically significant at 1% level, implying that sub-hypothesis H3.5 is accepted, which assumes that countries with lower levels of long-term orientation index are more likely to become early adopters of the IFRS. This result is consistent with the prior empirical studies (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008), which revealed that countries with lower levels of long- term orientation index are more susceptible to adopting the IFRS. This result also offers support to the Hofstede-Gray cultural theory which, assumes that IFRS adoption is more likely to occur in countries with a short-term orientated value that accept changes in their societal values (Naghshbandi et al., 2016). This is because the short-term orientated cultural value is positively associated with the accounting values required for adopting the IFRS, including confidence, flexibility, and transparency (Borker, 2013).

Table 17: The results of a series of binary logistic regression models for studying the impact of national antecedents on the adoption of the IFRS for 162 countries over 1995-2014

National Antecedents	The IFRS adoption (*IFRSAC*)				
Cumulative Binary Logit Models	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Ordered logit**
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
Legal Factors (*LEGF*)					
SHPR	-1.52	-0.22*	0.07*	-0.51***	0.09***
	(0.998)	(0.060)	(0.078)	(0.000)	(0.000)
JUEF	2.09	0.36*	-0.05	0.95***	0.07
	(0.999)	(0.090)	(0.471)	(0.000)	(0.108)
JUIN	-3.17	0.33	0.39***	-0.31*	-0.26***
	(0.997)	(0.293)	(0.001)	(0.079)	(0.001)
LSIN	0.44	0.44***	0.01	0.19***	0.07**
	(0.999)	(0.007)	(0.886)	(0.009)	(0.014)
Legal Origins (*LEOR*)					
ENCM	-36.12	14.59	1.68***	-0.77	-1.12***
	(0.996)	(0.945)	(0.000)	(0.211)	(0.000)
FRCV	-45.80	-31.74	-1.43**	3.49***	-0.84***
	(0.996)	(0.998)	(0.015)	(0.000)	(0.002)
SPCV	-11.99	-40.04	-28.47	20.83	1.68***
	(0.999)	(0.994)	(0.997)	(0.984)	(0.000)
POCV	-47.56	-61.38	-41.08	-16.22	1.76***
	(0.995)	(0.992)	(0.994)	(0.884)	(0.000)
GECV	-22.09	-22.79	-0.51	22.86	-1.09***
	(0.998)	(0.889)	(0.353)	(0.989)	(0.000)
SOCV	-2.18	72.90	1.26**	0.01	-1.20***
	(0.999)	(0.750)	(0.022)	(0.998)	(0.000)
ENRE	-14.26	42.65	-0.88	30.05	-1.17**
	(0.998)	(0.840)	(0.179)	(0.993)	(0.011)
ENDU	-45.40	20.91	4.60***	1.36*	-1.39***
	(0.997)	(0.921)	(0.000)	(0.083)	(0.000)
FRIS	-28.02	46.74	-0.40	3.66***	-0.07
	(0.998)	(0.825)	(0.454)	(0.000)	(0.839)
ENIS	12.65	43.24	-1.23**	0.09	-0.43
	(0.999)	(0.838)	(0.010)	(0.916)	(0.118)
Political Factors (*POLF*)					
VOAC	1.81	2.25***	-0.01	0.71***	-0.15
	(0.999)	(0.000)	(0.965)	(0.004)	(0.182)
POST	1.13	-2.79***	0.31***	0.35**	-0.32***
	(0.999)	(0.000)	(0.008)	(0.024)	(0.000)
REQU	-8.06	0.20	0.99***	1.79***	-0.67***
	(0.999)	(0.690)	(0.000)	(0.000)	(0.000)
COCU	-0.23	-0.34	1.82***	-1.39***	0.95***
	(0.999)	(0.553)	(0.000)	(0.000)	(0.000)
Cultural Factors (*CULF*)					
PWDS	2.93	5.24***	0.12**	0.89***	-0.13***
	(0.999)	(0.000)	(0.020)	(0.000)	(0.000)
INDV	-1.02	-7.01***	0.57***	0.76***	0.20***
	(0.999)	(0.000)	(0.000)	(0.000)	(0.000)
UNAV	-0.25	-3.26***	0.20***	0.08	-0.01
	(0.999)	(0.000)	(0.000)	(0.411)	(0.914)
MASC	1.44	0.43*	0.24***	-0.65***	-0.12***
	(0.999)	(0.074)	(0.000)	(0.000)	(0.000)
LTOR	-6.13	4.85***	-0.18***	0.58***	0.06
	(0.999)	(0.000)	(0.008)	(0.000)	(0.128)
INDU	-2.99	-4.43***	-0.10**	-0.37***	0.09***
	(0.996)	(0.000)	(0.026)	(0.000)	(0.001)
Educational Factors (*EDUF*)					
EDAT	-1.49	0.05	0.02**	-0.11***	0.01***
	(0.998)	(0.154)	(0.037)	(0.000)	(0.004)
LITR	-0.56	0.61***	0.04***	-0.04***	-0.01**
	(0.996)	(0.000)	(0.000)	(0.000)	(0.040)
QEDS	10.46	7.06***	1.17***	0.98***	-0.93***
	(0.997)	(0.000)	(0.000)	(0.000)	(0.000)

Continuation: Table 17	Model 1	Model 2	Model 3	Model 4	Ordered logit
Control variables					
Geographical region (*GERI*)					
EURO	-11.99	-13.08	-3.25***	35.38***	-0.06
	(0.999)	(0.185)	(0.000)	(0.000)	(0.793)
NLSA	57.56	47.03***	3.50***	4.28***	-1.76***
	(0.996)	(0.000)	(0.000)	(0.000)	(0.000)
CSAS	-6.51	-45.97***	2.38***	15.60	-1.99***
	(0.999)	(0.000)	(0.000)	(0.997)	(0.000)
EASP	-38.51	-22.21	-1.90***	2.29***	0.71***
	(0.993)	(0.952)	(0.000)	(0.000)	(0.000)
MENA	-19.54	-28.42***	-0.42	1.15*	-0.85**
	(0.998)	(0.000)	(0.559)	(0.095)	(0.027)
Official language (*OFLN*)					
ENGL	-35.91	-10.81***	-2.15***	4.02***	-0.18
	(0.992)	(0.000)	(0.000)	(0.000)	(0.334)
FRNL	-32.37	-18.01	-0.23	-3.25***	1.42***
	(0.996)	(0.988)	(0.703)	(0.000)	(0.000)
SPNL	-23.94	-21.80	16.60	15.49	-1.65***
	(0.998)	(0.999)	(0.997)	(0.988)	(0.000)
ARBL	-22.93	-12.13***	1.51**	-1.66**	-1.11***
	(0.997)	(0.000)	(0.040)	(0.033)	(0.002)
GRML	-6.86	-23.01	-25.82	25.31	-0.48**
	(0.999)	(0.966)	(0.991)	(0.992)	(0.050)
RUSL	-14.92	-36.09***	-2.80***	4.02	0.81***
	(0.999)	(0.000)	(0.000)	(0.999)	(0.003)
Colonial history (*COHI*)					
NEVC	21.81	-56.62	-1.34***	0.72	-0.45***
	(0.993)	(0.946)	(0.000)	(0.223)	(0.008)
BRTC	3.84	-7.05***	0.09	4.81***	-1.20***
	(0.998)	(0.000)	(0.762)	(0.000)	(0.000)
FRNC	-12.36	-20.22***	-2.78***	-0.67	1.69***
	(0.998)	(0.000)	(0.000)	(0.168)	(0.000)
SPNC	-35.58	34.35	8.33***	9.59	-0.78*
	(0.998)	(0.995)	(0.000)	(0.999)	(0.058)
PORC	-3.01	7.51	19.32	18.99	-1.60***
	(0.998)	(0.998)	(0.997)	(0.865)	(0.000)
DUTC	-8.78	-6.24	-25.50	-4.52***	1.06***
	(0.999)	(0.997)	(0.994)	(0.000)	(0.001)
GRMC	14.83	20.83	2.35***	-1.11	-0.69**
	(0.998)	(0.940)	(0.000)	(0.178)	(0.026)
RUSC	-4.10	-21.03	0.31	8.55	-0.58***
	(0.999)	(0.807)	(0.334)	(0.999)	(0.004)
Constant	-24.64	-77.35	-5.09***	-1.87	
	(0.997)	(0.715)	(0.000)	(0.207)	
Number of observations	3240	3240	3240	3240	3240
LR chi2	597.6***	2446.4***	2009.6***	2066.2***	2155.1***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
McFadden Pseudo-R2 (adjusted)	0.933	0.830	0.485	0.640	0.247
Cox & Snell R Square	0.168	0.530	0.462	0.472	0.486
Nagelkerke R-Square	0.950	0.905	0.654	0.765	0.526
Log likelihood	-2.90	-203.9	-981.1	-519.4	-3079.8
Likelihood-ratio test					3985.2***

Note: The abbreviations of the independent variables included in the model of antecedents of IFRS are as follows: the national antecedents of ISAs adoption involve four key factors namely, i) legal factors (*LEGF*) including, shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*), legal origins (*LEOR*) include several origins, English common law (*ENCM*); French civil law (*FRCV*); Spanish civil law (*SPCV*); Portuguese civil law (*POCV*); German civil law (*GECV*); Socialist civil law (*SOCV*); mixed English and religious laws (*ENRE*); mixed English and Dutch laws (*ENDU*); mixed French civil and Islamic laws (*FRIS*); mixed English and Islamic laws (*ENIS*); mixed English and civil laws (*ENCV*). ii) political factors (*POLF*) voice and accountability (*VOAC*); political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*), iii) cultural factors (*CULF*), power distance (*PWDS*); individualism level (*INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC*); long-term orientation (*LTOR*); indulgence level (*INDU*), iv) educational factors (*EDUF*), educational attainment (*EDAT*); youth literacy rates (*LITR*); quality of the education system (*QEDS*). Control variables namely geographical regions (*GERI*) including Europe (*EURO*); North, Latin and South America (*NLSA*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); and Africa (*AFRC*); Official languages (*OFLN*) involve seven languages English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTLN*). Colonial history (*COHI*) includes nine groups never colonized countries (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire (*SPNC*); Portuguese Empire (*PORC*); Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); other colonists (*OTCO*). The stars display the significance level (p-values) *** p<0.01, ** p<0.05, * p<0.10.

Regarding the indulgence index, the ordered logit model of Table 17 reports that countries with lower levels of *INDU* are more likely to delay their decision for adopting the IFRS, especially for those who are included in the laggards' group of the IFRS. The coefficient is statistically significant at 1% levels, indicating that sub-hypothesis H3.6 is accepted, which suggests that countries with higher levels of indulgence index are more likely to become early adopters of the IFRS. This result is consistent with the previous empirical studies (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014), which documented that countries with higher levels of indulgence index are more likely to adopt the IFRS. Theoretically, this finding also provides support to the Hofstede-Gray cultural theory, which suggests that countries with a higher score of indulgence index are more likely to adopt the IFRS. This is because the accounting values existing in these countries are very similar to those accounting values required by the IFRS, which include professionalism, confidence, flexibility and transparency (Perera & Mathews, 1990).

With respect to educational attainment level, Models 3 of Table 17 shows that countries with higher levels of *EDAT* are more likely to adopt the IFRS during the initial stages. The coefficient is statistically significant at 5% level, indicating that sub-hypothesis H4.1 is supported, which assumes that countries with higher levels of educational attainment are more likely to become early adopters of the IFRS. Empirically, this result is consistent with the previous IFRS studies (Judge et al., 2010; Lasmin, 2011a; Zehria & Chouaibi, 2013), which reported that countries with higher levels of educational attainment are more prone to adopting the IFRS. Theoretically, this finding lends support to the institutional theory, which assumes that countries with higher levels of education attainment are more prone to embracing the IFRS. This is because the normative pressures arising from educational institutions is the most powerful isomorphism among the institutional pressures, and it can force these countries to adopt a single set of high-quality global accounting standards (Judge et al., 2010).

With reference to literacy rates, Models 2 and 3 of Table 17 reports that countries with higher levels of *LITR* are more likely to adopt the IFRS during the initial stages. The two coefficients are statistically significant at 1% level, implying that sub-hypothesis H4.2 is accepted, which assumes that countries with higher level of literacy rates are more likely to become early IFRS adopters. This finding provides support to the previous IFRS studies (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009; Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014), which reported that countries with higher levels of literacy rates are more prone to adopting the IFRS. These observations are in line with the theoretical predictions provided by the institutional theory, which assumes that countries with higher levels of literacy rates are more susceptible to adopting the IFRS as a response to normative pressure, which refers to the existence of a higher level of accounting professionalism in a given country (Pricope, 2015).

Finally, in terms of the quality of education system, Models 2 and 3 of Table 17 shows that countries with lower levels of *QEDS* are more likely to adopt the IFRS during the initial stages. The coefficients are statistically significant at 1% level, suggesting that sub-hypothesis H4.3 is not accepted, which assumes that countries with higher levels of education quality system are more likely to become early adopters of the IFRS. This result, however, does not offer empirical support to the outcomes achieved by the prior empirical studies (Masoud, 2014a; Zakari, 2014; Dowa et al., 2017; Carmona & Trombetta, 2008), which outlined that IFRS adoption has been significantly affected by the cost and the shortage of knowledge and skills needed to apply these international accounting standards, especially in developing countries. Therefore, developed countries with higher quality of education systems are more prone to adopt the IFRS. Theoretically, this finding offers insights consistent with the theoretical predictions suggested by the institutional theory, which assumes that countries with a lower level of educational quality are more susceptible to adopting the IFRS to acquire higher levels of professionalism and gain more institutional legitimacy (Lasmin, 2011; Felski, 2015; Turner, 1993; Shima & Yang, 2012). This theoretical expectation can be explained by the higher costs of adopting the high-quality accounting standards by countries with lower levels of education system quality, in addition to a lack of skills needed to apply the IFRS.

Regarding the control variables, namely geographical regions, Models 2 and 3 of Table 17 report that countries located in *NLSA* are more likely to adopt the IFRS during the initial stages, especially those who are involved in the early adopters and the early majority group of the IFRS. Model 3 of Table 17 shows that countries located in *CSAS* are more likely to adopt the IFRS during the earlier times, especially for those who are included in the early majority group of the IFRS. Model 4 of Table 17 shows that countries located in the following regions, *EURO*, *EASP*, and *MENA* are more likely to adopt the IFRS during the late stages, especially those who are included in the late majority group of the IFRS. Their coefficients are statistically significant at the 1% level except for the *MENA* region, which is significant at 10% level. The ordered logit model of Table 17 reported that countries located in *EASP* are more prone to delaying their decision to adopt the IFRS, especially for those, who are involved in the laggards' group of IFRS adoption.

In terms of official language, Model 3 of Table 17 reports that countries where *ARBL* is the most widely spoken language are more likely to adopt the IFRS aduring the early times, especially those who are included in the early majority adopters' group of the IFRS. Model 4 of Table 17 shows that countries where *ENGL* is a country's official language are more likely to adopt the IFRS during the late stages, especially those who are included in the late majority group of the IFRS. The ordered logit model of Table 17 shows that countries where *FRNL* and *RUSL* are the most widely spoken official languages are more likely to delay their decision to adopt the IFRS, especially those who are included in the

laggards group of the IFRS. Table 17 shows an insignificant association between countries where the following languages *SPNL* and *GRML*, are widely spoken and IFRS adoption.

Finally, regarding colonial history, Model 3 of Table 17 reports that countries that were colonized by two empires, namely *SPNC* and *GRMC* are more likely to adopt the IFRS during the initial stages, especially those who are included in the early majority group of the IFRS. Model 4 of Table 17 shows that countries that were colonized by the *BRTC* empire are more likely to adopt the IFRS during the late stages, especially those who are included in the late majority adopters of the IFRS, since they follow their former colonizer. The ordered logistic Model of Table 17 reports that countries that were colonized by the *FRNC* and *DUTC* empires are more likely to delay their decision to adopt the IFRS and stay as non-adopters of the IFRS. However, Table 17 reports that there is an insignificant relationship between the adoption of the IFRS and colonial history, especially those countries that were never colonised, in addition to countries that were colonized by the *PORC* and *RUSC* empires.

8.3 Multivariate Linear Regression to Analyse the Economic Consequences of ISAs Adoption

The dependent variables applied in the model of economic consequences of ISAs adoption are naturally continuous. As a result, multivariate parametric regression methods are the best statistical analysis techniques to check the hypothesized relationships previously discussed in chapter five, between ISAs adoption and the economic consequences of the adopting countries. These multivariate parametric regression methods include multiple linear regression models (OLS), fixed effects models and random effects models.

8.3.1 Testing Assumptions of Multiple Linear Regressions Concerning the Consequences of ISAs

Table 18 shows the results of testing the statistical assumptions of the multiple linear regression models using ordinary least squares (OLS) estimations to examine the effects of adopting ISAs on the economic consequences for 185 adopting countries around the world. There are five statistical assumptions relating to the multiple linear regression model, including multicollinearity, linearity, normality, heteroscedasticity, and serial-correlation (Berry & Feldman, 1985). Additionally, using non-stationary variables in regression models can also lead to producing spurious results and drawing misleading conclusions as a result of the presence of unit roots in the panels (Baumohl & Lyocsa, 2009). Most of the existing unit-root tests are used to examine the presence of unit roots in the series, which leads to obtaining biased results (Khandakar & Hyndman, 2008). Accordingly, this study runs panel unit root and stationarity tests to examine the economic consequences of ISAs adoption for a sample of 185 countries over the period from 1995-2014.

To begin with, checking for multicollinearity can be done by using variance inflation factor (VIF) ratio, a value of VIF greater than 10, implying that there is a strong multicollinearity among two or more explanatory variables (Marquardt, 1980). Furthermore, multicollinearity can also be checked by

applying a tolerance test, a tolerance value lower than 0.1 indicating that there is a perfect multicollinearity among independent variables (Belsley et al., 1980). Therefore, the existence of multicollinearity has been checked previously in chapter seven across the six regression models applied in this thesis, by using three basic statistical techniques termed variance inflation factor (VIF), tolerance statistics, in addition to Pearson's correlation coefficient and Spearman's correlation coefficient tests. As was explained in chapter seven, multicollinearity tests have not shown any serious multicollinearity violations among all the variables included in the economic consequences model of adopting the ISAs.

Secondly, the linearity assumption between continuous dependent and independent variables can be graphically tested by using scatter plot histograms of the residuals against the predicted values. However, the linearity assumption is not required if the covariate variables included in a study are naturally categorical (Casson & Farmer, 2014). Nevertheless, an orthogonal polynomial contrasts test can be applied to check the linearity between the continuous dependent variable and the categorical explanatory variables. Polynomial contrasts for linear trends are based on the null hypothesis, which assumes that there is no linear trend between the population means and a different number of categorical groups. If the P value of a linear trend is small, this means that there is a statistically significant linear trend (Hedeker & Gibbons, 2006). Accordingly, the regression diagnostics of Table 18 show that the polynomial contrasts indicate that there is a linear trend between most of the economic consequences and the ISAs adopter groups, except for three economic factors (*ECGR, INFR, & EXCR),* which are positively but insignificant association with economic factors, indicating that there is a non-linear trend among the three economic consequences termed *ECGR*, *INFR,* and *EXCR* and the adopters of ISAs. As a result, the exponential transformation of original variables into either a square root or logarithmic transformation are the most common techniques that are utilized not merely to enhance the linearity, but also to improve the heteroscedasticity of residuals as well (Frank, 1966; Bernier et al., 2011).

Thirdly, the Shapiro-Wilk and Jarque-Bera analytical tests are the most common tests applied to check for the normality assumption due to their superior power properties (Das & Imon, 2016; Razali & Wah, 2011; Noughabi, 2016; Jarque & Bera, 1987). The p-value of normality tests is based on the null hypothesis, which suggests that the data are normally distributed. Therefore, if the P values of normality analytical tests are less than 5% significance level, this means that the distribution of residuals is non-normal (Ghasemi & Zahediasl, 2012). Consequently, the regression diagnostics of Table 18 shows that the p-values regarding the Shapiro-Wilk and Jarque-Bera for normality across all the economic consequences are statistically significant, indicating that the residuals of variables included in the linear regression are not normally distributed.

Table 18: The results of multiple linear regression assumptions for studying the effects of the ISAs adoption on the economic consequences for 185 countries over 1995-2014

OLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	***ECGR***	***FDI***	***GDP***	***EXPO***	***IMPO***	***INFR***	***EXCR***	***INTR***
Independent variables	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**
The ISAs Adopters								
EXPRA	0.74	6.21***	-6.32***	-88.1***	-107.7***	7.29	-487.3*	6.54***
	(0.308)	(0.000)	(0.000)	(0.000)	(0.000)	(0.496)	(0.089)	(0.004)
ERADA	0.20	-2.24***	-6.33***	-111.2***	-122.6***	7.60	215.9	6.42***
	(0.664)	(0.007)	(0.000)	(0.000)	(0.000)	(0.265)	(0.237)	(0.000)
ERMJA	0.49	0.11	-5.20***	-63.4***	-81.2***	3.82	220.1	4.93***
	(0.177)	(0.872)	(0.000)	(0.000)	(0.000)	(0.481)	(0.129)	(0.000)
LTMJA	-0.10	-1.32**	-5.47***	-82.2***	-98.4***	-1.43	-5.78	4.95***
	(0.757)	(0.020)	(0.000)	(0.000)	(0.000)	(0.761)	(0.964)	(0.000)
The ISAs Status								
WIAM	-0.06	1.17	2.11	27.51**	22.81*	-7.39	69.11	-4.51***
	(0.888)	(0.103)	(0.975)	(0.014)	(0.060)	(0.215)	(0.665)	(0.000)
WOAM	0.63	1.66	5.55***	181.4***	164.7***	-8.77	-398.1	-6.22***
	(0.313)	(0.135)	(0.000)	(0.000)	(0.000)	(0.340)	(0.106)	(0.002)
WITR	-0.15	0.80	2.00***	57.98***	59.98***	-15.70***	179.9***	-3.59***
	(0.689)	(0.215)	(0.001)	(0.000)	(0.000)	(0.003)	(0.000)	(0.002)
WOTR	0.42	2.39	1.31	36.13	40.45	-25.74	-643.3	-3.21
	(0.733)	(0.278)	(0.529)	(0.290)	(0.276)	(0.159)	(0.188)	(0.410)
WAMT	-0.74	0.62	2.17**	88.50***	92.44***	-13.65*	868.2***	-2.80*
	(0.163)	(0.517)	(0.016)	(0.000)	(0.000)	(0.083)	(0.000)	(0.095)
BLAW	-1.12**	2.08**	-9.83	0.07	-6.19	-10.39	133.3	-4.12***
	(0.025)	(0.019)	(0.241)	(0.996)	(0.678)	(0.157)	(0.498)	(0.009)
GMAT	-2.01	-2.94	2.20***	295.8***	337.1***	-5.83	-219.3	-5.98**
	(0.203)	(0.297)	(0.000)	(0.000)	(0.000)	(0.803)	(0.726)	(0.229)
IFRSS	0.48	-2.48	2.42	45.72	60.69	-34.67	-322.3	-1.01
	(0.829)	(0.534)	(0.521)	(0.458)	(0.365)	(0.293)	(0.715)	(0.886)
Dummy 08-09								
D08-09	-2.21***	0.93	2.10	8.24	8.45	-1.58	45.05	1.06
	(0.000)	(0.131)	(0.717)	(0.385)	(0.413)	(0.756)	(0.740)	(0.328)
Control Variables								
Geographical region								
EURO	-3.06***	0.69	2.28***	77.50***	89.76***	-17.66***	-931.4***	-9.11***
	(0.000)	(0.389)	(0.003)	(0.000)	(0.000)	(0.008)	(0.000)	(0.000)
LNAM	-3.73***	-1.83**	9.17***	122.9***	146.8***	-9.86	-890.4***	-4.28
	(0.000)	(0.013)	(0.000)	(0.000)	(0.000)	(0.108)	(0.000)	(0.001)
CSAS	-0.78	-0.78	3.36	22.72	32.82**	-10.74	-964.4***	1.80
	(0.134)	(0.401)	(0.703)	(0.115)	(0.036)	(0.163)	(0.000)	(0.274)
EASP	-1.61***	-0.31	2.09***	86.75***	77.16***	-14.31**	40.04	-5.72***
	(0.000)	(0.655)	(0.002)	(0.000)	(0.000)	(0.014)	(0.798)	(0.000)
MENA	-0.60	-0.81	6.69	1.41	11.28***	-5.92	815.7***	-7.71***
	(0.367)	(0.500)	(0.554)	(0.939)	(0.576)	(0.550)	(0.002)	(0.000)
Official language								
ENGL	-1.36***	6.32***	7.12	35.31***	48.64***	-9.37	-838.8***	2.57**
	(0.001)	(0.000)	(0.292)	(0.001)	(0.000)	(0.114)	(0.000)	(0.042)
FRNL	-2.72***	-0.53	7.13	77.38***	68.63***	-1.54	-987***	2.05
	(0.000)	(0.591)	(0.444)	(0.000)	(0.000)	(0.851)	(0.000)	(0.239)
SPNL	1.30	1.20	-3.38*	-41.99	-31.04	-6.49	-232.8	-0.42
	(0.208)	(0.518)	(0.053)	(0.143)	(0.320)	(0.672)	(0.571)	(0.898)
ARBL	-1.49**	0.73	-6.86	50.31**	33.64	-9.29	-903.6***	0.45
	(0.036)	(0.566)	(0.568)	(0.011)	(0.117)	(0.378)	(0.000)	(0.840)
GRML	-1.01*	3.63***	6.34	108.75***	83.74***	-7.81	-487.3**	1.43
	(0.096)	(0.001)	(0.536)	(0.000)	(0.000)	(0.384)	(0.043)	(0.456)
RUSL	-1.12	-1.39	1.49	14.64	-3.67	17.45	-365.6	-11.23***
	(0.130)	(0.291)	(0.905)	(0.473)	(0.869)	(0.110)	(0.212)	(0.000)

Continuation: Table 18	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Colonial history								
NEVC	-0.85*	0.02	9.83***	234.61***	224.6***	-5.53	-191.1	-1.30
	(0.055)	(0.979)	(0.000)	(0.000)	(0.000)	(0.401)	(0.278)	(0.355)
BRTC	0.40	-2.46***	1.12	-21.09*	-16.72	-5.91	164.1	-2.97**
	(0.344)	(0.001)	(0.876)	(0.071)	(0.189)	(0.345)	(0.328)	(0.026)
FRNC	0.34	0.42	-2.37***	-88.96***	-74.81***	-16.79**	940.9***	-0.77
	(0.519)	(0.660)	(0.008)	(0.000)	(0.000)	(0.033)	(0.000)	(0.647)
SPNC	0.37	1.79	-3.60**	-37.09	-58.31*	-3.11	955.6**	0.99
	(0.731)	(0.356)	(0.049)	(0.217)	(0.074)	(0.846)	(0.014)	(0.772)
PORC	0.23	1.89*	-2.94***	-42.16**	-43.77**	33.89***	600.4**	2.02
	(0.713)	(0.095)	(0.006)	(0.016)	(0.022)	(0.000)	(0.017)	(0.311)
DUTC	0.71	6.50***	-2.19*	-20.62	-18.73	-1.07	981.2***	-4.15*
	(0.352)	(0.000)	(0.090)	(0.330)	(0.416)	(0.925)	(0.000)	(0.086)
GRMC	-0.67	-5.85***	-3.35***	-111.7***	-102.9***	-8.33	-180.2	-3.40*
	(0.297)	(0.000)	(0.002)	(0.000)	(0.000)	(0.387)	(0.485)	(0.098)
RUSC	0.75	3.11***	-1.83	-30.93**	-25.06*	16.70**	185.7	1.75
	(0.135)	(0.001)	(0.829)	(0.026)	(0.097)	(0.025)	(0.351)	(0.269)
Constant	6.60***	3.80***	3.77***	41.81***	43.62***	31.53***	202.7***	10.89***
	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)	(0.000)	(0.000)	(0.000)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
Clusters groups	185	185	185	185	185	185	185	185
F value	8.33***	8.23***	22.16***	46.45***	37.01***	3.23***	21.29***	6.14***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.068	0.067	0.162	0.288	0.244	0.027	0.157	0.051
Adjusted R-squared	0.060	0.059	0.155	0.282	0.237	0.019	0.149	0.043
Polynomials contrasts	1.33	17.48***	26.98***	23.21***	26.73***	1.08	1.52	8.96***
	(0.249)	(0.000)	(0.000)	(0.000)	(0.000)	(0.299)	(0.217)	(0.003)
Shapiro-Wilk W test	0.638***	0.408***	0.220***	0.382***	0.344***	0.066***	0.278***	0.404***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Jarque-Bera LM test	2.80***	3.50***	1.80***	3.20***	6.10***	2.80***	3.25***	1.77***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Durbin's alternative	300.4***	228.6***	20124.2***	19029.9***	22182.1***	1038.4***	24006.5***	3207.9***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Breusch-Godfrey LM	280.3***	217.2***	3234.1***	3102.4***	3175.2***	816.7***	3209.8***	1726.7***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Breusch-Pagan test	1037.2***	5920.6***	9271.7***	4408.6***	4393.7***	18832.8***	4528.9***	2276.8***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
White's test chi2	339.7***	616.7***	2924.6***	2216.9***	2451.4***	70.61***	1175.2***	149.7***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Levin-Lin-Chu Test	-22.8***	-15.7***	-8.85***	-7.86***	-9.99***	-11.72***	-2.13***	-36.58***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Breitung Test	-18.3***	-11.7***	10.85	2.43	2.79	-8.56***	2.94	-12.98***
	(0.000)	(0.000)	(0.998)	(0.993)	(0.997)	(0.000)	(0.998)	(0.000)

Note: The variables are defined as the follows: the dependent variables which include the economic consequences, namely the economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the ISAs adoption categories which comprises five groups experimenters (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*) and laggards group (*LGGRA*). The second independent variable is the ISAs adoption status including adopted with amendments (*WIAM*); adopted without amendments (*WOAM*); adopted with translations (*WITR*); adopted without translations (*WOTR*); adopted with amendments and translations (*WAMT*); adopted by the country law (*BLAW*); adopted in gap matters (*GMAT*); adopted for financial statements prepared in accordance to IFRS (*IFRSS*); the non-adopters group of the ISAs (*NOAD*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. Statistical significance level (p-value) in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Fourthly, the Durbin Watson test is one of the most common statistical tests that can be used to check for auto-correlation, when the error terms are correlated with each other in a different time series (Durbin & Watson, 1951). Specifically, the Durbin-Watson statistic test assumes that DW values range from 0 to 4, if the value of DW is between 0 and 1.6, This suggests that there is a positive serial correlation between errors in one period with errors from another period. If the DW value is between 2 and 4, this means that there is a negative autocorrelation among errors. However, if the DW value is between 1.6 and 2, this indicates that there is no autocorrelation among errors in the sample (Miller & Whicker, 1998). Moreover, the updated version of Stata software has added new diagnostic tests for checking serial correlation in the panel data. These tests include the Durbin's alternative test for autocorrelation with the P value and the Breusch–Godfrey test for testing serial correlation in the residuals. The Durbin's alternative and Breusch–Godfrey tests are based on the null hypothesis, which assumes that there is no serial correlation in the residuals (Yaffee, 2007; Gluzmann & Panigo, 2015). Table 18 shows that the P values of the Durbin's alternative test and the Breusch–Godfrey test are statistically significant across the eight economic consequence models. This implies that there is serious autocorrelation in the residuals from all the regression models.

Fifthly, both White's test and the Breusch-Pagan test for heteroscedasticity are based on the null hypothesis, which assumes that the residuals are homoscedastic, where versus the alternative hypothesis, the residuals are heteroscedastic (Breusch & Pagan, 1979; Long & Ervin, 2000; White, 1980). Accordingly, the regression diagnostics of Table 18 report that the two heteroscedasticity tests yield dramatically equivalent results and the p-values of the White's test and the Breusch-Pagan test across all the economic consequences are statistically significant, implying that the error terms are heteroscedastic. For this reason, serial correlation and heteroscedasticity of residuals can be corrected by using the cluster-robust estimation at the panel level to generate efficient estimates of standard errors (Drukker, 2003).

Finally, there are several first-generation panel data tests that can be implemented by the Stata software package to check for unit-root and stationarity panel data, which examine the presence of cross-sectional independence across the distribution of error components in the panel data. These panel unit-root and stationarity tests include Levin–Lin–Chu test (2002), Harris–Tsavalis test (1999), Breitung test (2000), Im–Pesaran–Shin test (2003), Maddala and Wu test (1999), Hadri LM test (2000), and the Hadri and Larsson test (2005). These panel unit root tests are based on the null hypothesis which suggests that panels contain unit roots versus the alternative hypothesis, which is that the panels are stationary (Maddala & Wu, 1999; Choi, 2001). The Levin–Lin–Chu and the Breitung tests have the highest power of panel unit root and stationarity tests and the smallest size distortions (Hlouskova & Wagner, 2006). The power of the panel unit-root tests increases if a study has included a substantial number of cases across a long-time span (Montiel, 2007).

Therefore, the Levin–Lin–Chu and the Breitung tests have been widely used to check for unit root and stationary variables. The regression diagnostics of Table 18 reports that the p-values of the LLC test for unit roots across all the eight economic consequences models are statistically significant at 1% level. However, the P values of the Breitung test for unit roots are statistically insignificant for four economic consequences models namely *GDP*, *EXPO, IMPO,* and *EXCR*. This indicates that these four variables have unit roots in their time series. Hence, the first-differences approach is the best technique that can be applied to make the data non-stationary (Levin et al., 2002).

8.3.2 RelaxingAssumptions of Multiple Linear Regressions Concerning the Consequences of ISAs

The regression diagnostics of Table 19 have shown serious violations across the eight economic consequences in the four key assumptions of the regression analysis, including linearity, normality, heteroscedasticity, and serial-correlation. Accordingly, there are two common types of data transformations are used to convert non-normal data into normal distributions, termed logarithmic transformation and square root transformation (Bartlett, 1936; Keene, 1995; Bland & Altman, 1996). Furthermore, the two-step transformation approach is also utilized to relax the violation of linearity and normality assumptions, since it offers an optimal transformation toward normality, especially for continuous variables. the two-step transformation can also lead to reducing the violation of heteroscedasticity assumptions, thus ultimately producing unbiased statistical results (Templeton, 2011; Samanta, 2008). Consequently, the data relevant to all the economic consequences have been converted by using the two-step transformation approach to more closely meet the assumptions of the linear regression analysis.

Accordingly, this study has employed the two-step transformation method to relax the violation of the normality assumption of the residuals, and thus obtain reliable results and draw a valid conclusion. This is because the normality results that have been achieved by using the two-step transformation approach are much more powerful than the normality outcomes provided by the logarithmic and square root methods. Therefore, the eight economic consequences (dependent variables) included in this study have been transformed by using the two-step transformation approach, namely economic growth (*ECGR*), foreign direct investment (*FDI)*, gross domestic product (*GDP*), exports of goods and services (*EXPO*), imports of goods and services (*IMPO*), inflation rates (*INFR*), exchange rates (*EXCR*), and real interest rate (*INTR*). The regression diagnostics of Table 19 show that the normality and linearity assumptions for all the economic consequences have considerably improved after the transformation.

Furthermore, the violation of two statistical assumptions namely the independence of residuals (auto-correlation) and the unequal spread of residuals to predict the outcome variable (heteroskedasticity) can both be statistically solved by using robust-clustered standard errors in Stata software. This is because the cluster-robust estimator can increase the independence of residuals across groups and it produces a roughly equal spread of residuals (Mehmetoglu & Jakobsen, 2017; Cameron & Miller, 2015; Meuleman

et al., 2015). Therefore, Table 19 has included the robust cluster (id) option in Stata to produce robust clustered standard errors and mitigate the violation of two statistical assumptions, including heteroskedasticity and the serial correlation of residuals.

In terms of unit root check, after converting the variables that contain unit roots by using the two-step transformations and taking the first differences, the diagnostics of Table 19 have shown that the P-values of the unit root tests, namely the Levin-Lin-Chu test and Breitung test, are less than 5%, implying that all series in the panels are stationary. Overall, the diagnostics of Table 19 show that the assumptions of the multiple linear regression models have been met after the data have transformed in addition to using robust-clustered standard errors.

Regarding the models fit, the diagnostics of Table 19 have reported that the probability of F-statistic tests for all linear regression models are statistically significant at 1% level, indicating that the coefficients on the main independent variables, in addition to the control variables, are not equal to zero across all the regression models. This means that the models with the main explanatory variables, including the five adoption groups of ISAs and the ISAs adoption status (besides the control variables), can significantly provide a better fit to the data than models containing only intercepts. Additionally, the goodness-of-fit of multiple linear regression models can also be measured by using R2 and adjusted R2 values. The diagnostics of Table 19 show that adj-R2 values for all regression models are relatively good and range from 0.122 to 0.493. This means that at least 12.2% of the variation in the economic consequences can be explained by the main independent variables, including the five adopter groups of the ISAs and the ISAs adoption status, implying that the regression models fit the data well, since the data are close to the fitted lines and the differences between the true and predicted values are small.

8.3.3 Results of Multiple Linear Regressions Concerning the Consequences of ISAs Adoption

Table 19 reports the results of multiple linear regression with cluster-robust standard errors towards examining the effects of the ISAs adoption on the economic consequences for 185 adopting countries over the period from 1995-2014. Column 1 of Table 19 reports that the economic growth level is positively and significantly associated with the ISAs adoption at 5% level. However, this result does not provide support for the sub-hypothesis H5.1, which assumes that there is an insignificant relationship between the economic growth rate and the early adoption of the ISAs. The finding is not consistent with previous empirical studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017), which revealed that there is an insignificant association between the economic growth rates and the adoption of the ISAs. Theoretically, this can also provide support to the institutional theory, which assumes that developing countries with an English common legal origin along with higher rates of economic growth, are more prone to adopting the international accounting and auditing standards as a result of the coercive pressure emerging from their political institutions to gain social legitimacy (Soderstrom & Sun, 2007).

Column 2 of Table 19 provides a result consistent with sub-hypothesis H5.2, which states that countries that adopted the ISAs during the early stages are more likely to achieve higher levels of FDI inflows. Empirically, this finding lends support to the prior empirical literature (Gordon et al., 2012; Akpomi & Nnadi, 2017; Boachie, 2016; Okpala, 2012; Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016; Rakesh & Shilpa, 2013; Pricope, 2017), which revealed that countries that adopted the international accounting innovations are more prone to achieving higher levels of FDI inflows, especially for developing countries. Theoretically, the positive finding offers support to the resource-based theory, which suggests that developing countries with a lower level of financial resources are more prone to adopting the international accounting innovations to satisfy the desires of their resource providers, such as foreign investors, thus increasing their potential chances to receive greater FDI inflows (Shima & Yang 2012; Daude & Stein, 2007; Alem, 2015).

Column 3 of Table 19 shows that there is a positive and significant association at 5% level, between the early adoption of ISAs and GDP levels. This result is not consistent with the expectation of sub-hypothesis H5.3, which proposed that countries that adopted the ISAs during the early stages are more likely to have lower levels of GDP. Empirically, this finding is in line with most of the previous empirical research (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015). Theoretically, this result lends support to the network economic theory, which suggests that due to the network impact, developed countries are still obtaining higher levels of GDP, despite continuing to use their local accounting standards, whereas, developing nations with lower levels of GDP tend to adopt the international accounting innovations to promote their economic performance (Katz & Shapiro, 1985; Ramanna & Sletten, 2009; Ramanna & Sletten, 2014).

As hypothesised, column 4 of Table 19 shows that there is a positive and significant relationship at 5% level between the adoption of ISAs and the levels of exports, suggesting that sub-hypothesis H5.4 is supported, which assumes that countries that adopted the ISAs during the early times are more prone to achieve higher levels of exports. This finding is in line with previous empirical research conducted by Boolaky and Cooper (2015), who reported that Asian countries with a higher level of exports are more prone to adopting the international accounting and auditing standards than the European countries, which tend to delay their adoption time. This result sheds light on the network economic theory, which assumes that trading partners tend to adopt the international accounting innovations as response to the effect of economic network among the trade countries. Therefore, export levels can be used as a proxy to measure the strength of international trade network among countries (Ramanna & Sletten, 2009).

Similarly, and in line with the prediction suggested by the sub-hypothesis H5.5, which assumes that countries that adopted the ISAs during the initial stages are more likely to have higher levels of imports, column 5 of Table 19 reports that there is a positive and statistically significant association at 5% level, between ISAs adoption and import rates. Empirically, this finding is consistent with previous empirical

studies (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009), which suggest that the imports level among trading countries have significantly increased after the adoption of the international accounting innovations, due to the reduction of information asymmetry among trading countries. This result supports the network economic theory, which assumes that countries that adopted the international accounting innovations are more likely to experience positive economic benefits, such import levels, as a result of the network effects between peers (Zaiyol et al., 2017; Kossentini & BenOthman 2014).

Column 6 of Table 19 reports that there is a positive and significant association between ISAs adoption and the inflation rates. The coefficient is statistically significant at 5% level, indicating that sub-hypothesis H5.6 is accepted, which suggests that countries with higher levels of inflation rates are more likely to become early adopters of the ISAs. The positive relationship between ISAs adoption and the inflation rates supports the findings provided by previous studies (Archambault & Archambault, 1999; Agustini, 2016; Archambault & Archambault, 2009; Arsoy & Gucenme, 2009), which reported that the levels of inflation rates in emerging economies have significantly increased even after these countries have adopted the international accounting innovations. This finding offers support to signalling theory, which assumes that countries with higher levels of inflation rates are more prone to adopt the IAS 29 for inflation, with a view to create signalling economic incentives by adopting high quality standards (Shima & Yang, 2012; Ben Othman & Kossentini, 2015).

Column 7 of Table 19 shows that there is a positive but statistically insignificant association between ISAs adoption and foreign exchange rates. This indicates that sub-hypothesis H5.7 is rejected, which suggests that countries that adopted the ISAs during the early times are more likely to have higher levels of foreign exchange rates. The positive and statistically insignificant coefficients on foreign exchange rates rejects the results obtained by previous studies (Ashbaugh & Pincus, 2001; Ashbaugh, 2001; Pinto, 2005; Bonetti et al., 2012; Huang & Vlady, 2012), which reported that there is a positive and significant association between the equity market value and foreign exchange rates changes under the IAS/IFRS 21 to disclose information about the fluctuation in foreign exchange rates. This finding supports the signalling theory, which suggests that the adoption of IAS 21 for changes in foreign exchange rates lead to convert all foreign currency transactions across different countries into a single acceptable currency. This lends a positive signal to foreign investors about the desires of adopters to improve uniformity and comparability among different countries (Unegbu, 2014).

Table 19: The results of multiple linear regression with cluster-robust standard errors for studying the effects of the ISAs adoption on the economic consequences for 185 countries over 1995-2014

OLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	***ECGR***	***FDI***	***GDP***	***EXPO***	***IMPO***	***INFR***	***EXCR***	***INTR***
Independent variables	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**
The ISAs Adopters								
EXPRA	2.11***	5.12	0.41	0.75	0.77	2.48*	-10.58	7.82
	(0.008)	(0.145)	(0.149)	(0.110)	(0.116)	(0.094)	(0.202)	(0.192)
ERADA	1.03	-0.93	0.36	0.52	0.55	3.73***	5.48	9.64***
	(0.153)	(0.651)	(0.220)	(0.308)	(0.308)	(0.007)	(0.333)	(0.003)
ERMJA	1.20**	2.72*	0.63**	1.10**	1.16**	2.64*	-1.40	4.11
	(0.048)	(0.092)	(0.019)	(0.018)	(0.019)	(0.055)	(0.765)	(0.134)
LTMJA	0.38	0.20	0.65**	1.02**	1.08**	0.91	-0.13	2.84
	(0.505)	(0.904)	(0.018)	(0.025)	(0.029)	(0.408)	(0.976)	(0.330)
The ISAs Status								
WIAM	0.20	1.21	0.39***	0.77***	0.90***	-1.02	6.70*	-6.58***
	(0.755)	(0.371)	(0.001)	(0.000)	(0.000)	(0.170)	(0.061)	(0.001)
WOAM	1.24	2.64	0.86***	1.57***	1.71***	-1.87	4.30	-6.44**
	(0.211)	(0.237)	(0.000)	(0.000)	(0.000)	(0.209)	(0.358)	(0.027)
WITR	-0.13	2.42**	0.36***	0.70***	0.77***	-2.92***	5.76	-5.89***
	(0.786)	(0.035)	(0.001)	(0.000)	(0.000)	(0.002)	(0.111)	(0.007)
WOTR	0.40	6.31***	0.19	0.20	0.18	-9.07***	5.55	-0.07
	(0.818)	(0.005)	(0.271)	(0.445)	(0.553)	(0.000)	(0.621)	(0.987)
WAMT	-1.44*	1.64	0.11	0.26	0.50**	-3.41***	2.57	-3.72
	(0.060)	(0.326)	(0.353)	(0.224)	(0.015)	(0.008)	(0.502)	(0.134)
BLAW	-1.55**	1.85	-0.08	0.11	0.14	-2.90***	1.29	-4.69*
	(0.020)	(0.224)	(0.531)	(0.625)	(0.580)	(0.001)	(0.799)	(0.072)
GMAT	-3.50***	-7.65***	1.13***	1.82***	1.99***	-5.73**	12.22***	-10.91**
	(0.009)	(0.007)	(0.002)	(0.003)	(0.002)	(0.049)	(0.007)	(0.000)
IFRSS	0.87	-8.73***	0.25	-0.14	0.57	-5.12	-13.73**	1.65
	(0.639)	(0.000)	(0.471)	(0.812)	(0.225)	(0.272)	(0.049)	(0.915)
Dummy 08-09								
D08-09	-2.77***	2.15***	0.13***	0.21***	0.28***	2.09***	0.042	-0.17
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.917)	(0.829)
Control Variables								
Geographical region								
EURO	-4.10***	1.52	0.68***	1.47***	1.55***	-7.96***	-26.88***	-12.48***
	(0.000)	(0.497)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)
LNAM	-3.94***	1.32	0.08	0.15	0.10	-4.91***	-22.65***	-1.68
	(0.000)	(0.613)	(0.837)	(0.789)	(0.876)	(0.003)	(0.000)	(0.654)
CSAS	-0.62	-3.81	0.42	0.65	0.80*	-2.54	-15.68**	3.19
	(0.526)	(0.159)	(0.147)	(0.139)	(0.089)	(0.168)	(0.045)	(0.531)
EASP	-1.48	-0.95	0.26	0.78*	0.74*	-6.70***	-17.96***	-6.10*
	(0.102)	(0.660)	(0.302)	(0.071)	(0.099)	(0.000)	(0.001)	(0.056)
MENA	-0.93	-3.47	0.30	0.81	0.62	-3.55	-12.03	-9.63
	(0.324)	(0.131)	(0.524)	(0.340)	(0.452)	(0.140)	(0.182)	(0.240)
Official language								
ENGL	-2.57***	5.25***	-0.33	-0.40	-0.30	-3.88***	-18.95***	3.08
	(0.004)	(0.007)	(0.160)	(0.325)	(0.459)	(0.004)	(0.000)	(0.305)
FRNL	-3.72***	-3.88	0.24	0.38	0.31	-5.61***	-18.27**	6.10
	(0.000)	(0.168)	(0.313)	(0.373)	(0.478)	(0.009)	(0.014)	(0.277)
SPNL	1.53	2.60	0.28	0.47	0.53	0.05	6.29	-0.64
	(0.199)	(0.279)	(0.224)	(0.308)	(0.248)	(0.976)	(0.591)	(0.901)
ARBL	-1.90*	0.66	0.53	0.86	1.07	-3.22	-31.46***	-1.71
	(0.052)	(0.811)	(0.232)	(0.293)	(0.169)	(0.232)	(0.002)	(0.847)
GRML	-1.57**	2.40	0.12	0.62	0.49	-5.06***	-11.02	5.06
	(0.020)	(0.401)	(0.800)	(0.464)	(0.575)	(0.001)	(0.113)	(0.125)
RUSL	-1.19	-1.02	0.01	0.23	0.05	6.33**	6.93	-15.25*
	(0.223)	(0.764)	(0.990)	(0.568)	(0.894)	(0.035)	(0.566)	(0.058)

Continuation: Table 19	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Colonial history								
NEVC	-1.15	1.12	1.06***	2.01***	1.96***	-5.24***	-3.86	-5.67*
	(0.128)	(0.564)	(0.000)	(0.000)	(0.000)	(0.000)	(0.536)	(0.070)
BRTC	1.11	0.57	-0.06	0.10	-0.19	-1.37	-4.51	-4.54
	(0.209)	(0.798)	(0.822)	(0.832)	(0.672)	(0.377)	(0.411)	(0.257)
FRNC	1.32	3.91*	-0.37	-0.45	-0.59	-3.48	23.57***	2.85
	(0.131)	(0.070)	(0.152)	(0.352)	(0.195)	(0.110)	(0.001)	(0.622)
SPNC	-0.83	-0.18	0.16	0.56	0.46	-0.81	-6.36	1.45
	(0.514)	(0.952)	(0.563)	(0.298)	(0.399)	(0.673)	(0.627)	(0.810)
PORC	1.00	4.55	-0.22	0.17	-0.08	-2.33	-16.36*	6.40
	(0.463)	(0.135)	(0.638)	(0.828)	(0.921)	(0.414)	(0.086)	(0.399)
DUTC	1.18**	2.21	0.25	0.85	0.73	1.29	15.43	-5.99
	(0.040)	(0.751)	(0.531)	(0.198)	(0.300)	(0.540)	(0.267)	(0.188)
GRMC	-0.16	-7.28**	-0.83**	-1.62***	-1.74***	0.47	-7.08	-2.93
	(0.916)	(0.014)	(0.015)	(0.009)	(0.003)	(0.803)	(0.419)	(0.638)
RUSC	1.71**	7.74***	-0.58***	-0.67*	-0.85**	0.31	-9.44	4.76
	(0.021)	(0.001)	(0.005)	(0.078)	(0.024)	(0.858)	(0.223)	(0.199)
Constant	6.57***	0.85	1.81***	-1.09**	-1.06**	83.30***	31.4***	11.99**
	(0.000)	(0.743)	(0.000)	(0.034)	(0.047)	(0.000)	(0.000)	(0.026)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
Clusters groups	185	185	185	185	185	185	185	185
F value	12.71***	7.37***	27.74***	27.76***	35.49***	10.94***	14.07***	13.86***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.129	0.149	0.475	0.495	0.497	0.200	0.371	0.159
Adjusted R-squared	0.122	0.142	0.470	0.490	0.493	0.193	0.365	0.152
Polynomials Contrasts	7.86***	1.58***	4.85**	3.71**	4.06**	6.12**	2.80*	3.40*
	(0.006)	(0.001)	(0.029)	(0.051)	(0.045)	(0.014)	(0.095)	(0.056)
Jarque-Bera LM test	0.24	0.23	0.11	0.66	0.10	0.24	0.71	0.11
	(0.885)	(0.891)	(0.947)	(0.717)	(0.946)	(0.886)	(0.702)	(0.946)
Levin-Lin-Chu test	-17.3***	-11.8***	-12.4***	-7.73***	-8.57***	-13.3***	-6.02***	-69.03***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Breitung Test	-17.4***	-9.54***	-22.8 ***	-2.86***	-2.31**	-12.31***	-17.6***	-12.88***
	(0.000)	(0.000)	(0.000)	(0.002)	(0.010)	(0.000)	(0.000)	(0.000)

Note: The variables are defined as the follows: the dependent variables which include the economic consequences, namely economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the ISAs adoption categories which comprises five groups experimenters (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*) and laggards group (*LGGRA*). The second independent variable is the ISAs adoption status including adopted with amendments (*WIAM*); adopted without amendments (*WOAM*); adopted with translations (*WITR*); adopted without translations (*WOTR*); adopted with amendments and translations (*WAMT*); adopted by the country law (*BLAW*); adopted in gap matters (*GMAT*); adopted for financial statements prepared in accordance to IFRS (*IFRSS*); the non-adopters group of the ISAs (*NOAD*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. Statistical significance level (p-value) in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Column 8 of Table 19 suggests that there is a positive and significant association between ISAs adoption and real interest rates. The coefficient is statistically significant at 1% level, implying that sub-hypothesis H5.8 is supported, which assumes that countries that adopted the ISAs during the early stages are more prone to imposing higher levels of interest rates. Empirically, this finding offers support to the findings obtained by prior studies (Chen et al., 2015; Zhang, 2008; Bischof, 2009), which revealed that there is a positive and strong association between real interest rates and the adoption of international accounting innovations. This result provides support to the signalling theory, which assumes that most borrowers tend to adopt IFRS with a view to send a positive signal to foreign lenders about their intention to improve their capital investment decisions (De George & Shivakumar, 2016).

With respect to the ISAs adoption status, Table 19 reports that ISAs adoption with amendments (*WIAM*) is positively and significantly associated with four economic consequences, including *GDP, EXPO, IMPO* and *EXCR*, and negatively with *INTR.* The ISAs adoption without amendments (*WOAM*) is positively and significantly associated with three economic consequences, namely *GDP, EXPO* and *IMPO,* and negatively with the *INTR.* The ISAs adoption with translation (*WITR*) is positively and significantly associated with four economic consequences, including *FDI, GDP, EXPO* and *IMPO*, and negatively with *INFR* and *INTR.* The ISAs adoption without translation (*WOTR*) is positively and significantly associated with the *FDI,* and negatively with the *INFR.* The ISAs adoption with amendment and translation (*WAMT*) is positively and significantly associated with *IMPO,* and negatively with two other economic consequences (*ECGR* and *INFR).* The ISAs adopted by the country law (*BLAW*) are negatively correlated with the following economic factors, *ECGR, INFR* and *INTR,* whilst the ISAs adopted in gap matters (*GMAT*) are positively and significantly correlated with the following economic indicators, *GDP, EXPO, IMPO* and *EXCR,* and negatively with the remainder of the economic factors, including *ECGR, FDI, INFR* and *INTR.* The ISAs adopted for financial statements that were prepared in accordance to IFRS (*IFRSS*) are negatively and significantly associated with two economic consequences, namely *FDI* and *EXCR.*

With reference to the control variables, Table 19 shows that countries that adopted the ISAs and who are located in *EURO* region tend to have higher levels of economic consequences including *GDP, EXPO* and *IMPO,* and lower levels of the following four economic indicators: *ECGR, INFR, EXCR* and *INTR*. Furthermore, countries that adopted the ISAs and who are located in *LNAM* region tend to have lower levels of the following economic indicators: *ECGR, INFR* and *EXCR*. Moreover, countries that adopted the ISAs and who are located in *CSAS* region tend to have higher levels of *IMPO,* alongside lower levels of *EXCR.* Additionally, countries that adopted the ISAs and who are located in *EASP* region tend to have higher levels of *IMPO* and *EXPO,* and lower levels of the following economic indicators: *INFR, EXCR* and *INTR*.

In terms of official language, Table 19 shows that countries that adopted the ISAs where *ENGL* is the official language are more likely to have higher levels of *FDI*, whilst they tend to have lower levels of the following economic indicators: *ECGR*, *INFR* and *EXCR*. Furthermore, countries that adopted the ISAs where *FRNL* is a widely spoken language are more likely to have higher levels of *FDI*, whilst they tend to have lower levels of the following economic indicators: *ECGR*, *INFR* and *EXCR*. Moreover, countries that adopted the ISAs where *ARBL* is the official language are more likely to have lower levels of *ECGR* and *EXCR*. Additionally, countries that adopted the ISAs where *GRML* is a widely spoken language tend to have lower levels of *ECGR* and *INFR*. Finally, countries that adopted the ISAs where *RUSL* is the official language are more likely to have higher levels of *INFR*, and lower levels of *INTR*.

Regarding colonial history, Table 19 shows that countries that adopted the ISAs, who were never colonized (*NEVC)* tend to have higher levels of the following economic consequences: *GDP*, *EXPO* and *IMPO*, and lower levels of *INFR* and *INTR*. Furthermore, countries that adopted the ISAs, who were colonized by the *FRNC* empire tend to have higher levels of economic indicators, namely *FDI* and *EXCR*. Moreover, countries that adopted the ISAs, who were colonized by the *PORC* empire tend to have lower levels of *EXCR*. Countries that adopted the ISAs who were colonized by the *DUTC* empire tend to have higher levels of *ECGR*. Additionally, countries that adopted the ISAs, who were colonized by the *GRMC* empire tend to have lower levels of the following economic consequences: *FDI*, *GDP*, *EXPO* and *IMPO*. Finally, countries that adopted the ISAs who were colonized by the *RUSC* empire tend to have higher levels of *ECGR* and *FDI*, while they tend to have lower levels of the following economic consequences: *GDP*, *EXPO* and *IMPO*.

8.3.4 Results of Fixed-Effects Models Concerning the Economic Consequences of ISAs Adoption

There are two statistical models that can be used to control for time-series, cross-sectional and panel data in the regression termed fixed effects and random effects models (Bell & Jones, 2015). The fixed effects model requires variability within subjects to estimate the effects of variables that vary across time. Nevertheless, it is often utilized to control for the effects of variables that do not change across time (Williams, 2015). The main effect of the explanatory categorical variables can be captured by using a fixed effects regression model for categorical data to analyse the dummy variables (Snijders, 2005). The fixed effects model is widely applied to control for omitted variables bias in panel regression since it captures variation across subjects, although these omitted variables should not vary across time (Roland, 2016). However, the choice between either using a fixed effects model or random effects model can be made through applying the Hausman test to evaluate which regression model is appropriate for the data. The Hausman test is based on the null hypothesis, which assumes that the random effects model is appropriate versus the alternative hypothesis, which suggests that a fixed effects model is appropriate (Hausman, 1978; Baltagi et al., 2003; Clark & Linzer, 2015). The xtoverid command in Stata software

can be used to apply a Sargan-Hansen test (robust-standard Hausman test) that can only be utilized after running the random effects to opt between fixed effects and random effects (Schaffer & Stillman, 2006).

Prior empirical studies suggested that the ISAs adoption and the country-specific nature of institutional factors can be statistically examined by including country year level characteristics to control for fixed effects (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Harahap et al., 2018). This is because these country year level effects might not be detected by merely using the multiple linear regression models. Therefore, this study has applied two different panel data estimators, including fixed effects models, and random effects models (the results for the random effects models are not reported here, because they are not defined as appropriate models by the Sargan-Hansen statistic, which is known as the robust standard Hausman test). The findings of the fixed effects models for the panel data regarding the economic consequences of the ISAs are reported in Table 20 and they are very similar to those presented by the multiple linear regression models in Table 19.

In terms of the model's fit, the R2 values measure the proportion of the total variability of the response variables, explained by the variation of the explanatory variables included in the linear regression models (Maxwell & Delaney, 2004; Barile, 2013). Accordingly, Table 20 shows that Adjusted-R2 values range from 18% up to 53% across the eight regression models concerning the economic consequences of ISAs adoption, which are relatively high. This means that the independent variables included in the regression models in addition to the year level fixed effects can explain at least 18% of the variability of the economic indicators. Moreover, if the p-value for the overall F-statistic of the regression model is statistically significant at 5% level, this means that the independent variables that included in a regression model fits the data better than running the model with intercept-only (Pillai, 2016). Accordingly, the p-value of the F-test across all regression models included in Table 20 have statistically shown a significant relationship at 1% level, implying that the predictors included in the regression models provide a better fit to the data. Moreover, the p-values of the Wald test (testparm) for comparing pooled OLS and a fixed effects model show that the null hypothesis is rejected, which assumes that coefficients for all years are jointly equal to zero, hence, time fixed effects are more appropriate than multiple linear models (Ferrer, 2012).

With respect to *ECGR*, the results that appear in Table 20 suggest that the magnitude and direction of the economic growth remains relatively the same as reported previously in Table 19, with only minor changes. Specifically, the coefficients on *EXPRA* was statistically positive at 1%, and became statistically positive at 5%, whilst the significance level for *ERMJA* was statistically positive at 5% and now is statistically positive at 10%. The coefficients on the ISAs status, namely *WAMT* remain negative, but it was statistically positive at 1%, and it is now insignificant. Additionally, the signs and significance level of the coefficients relating to the control variables are very similar to what has been reported by the *ECGR* model displayed in Table 19.

Table 20: The results of fixed effects models with cluster-robust standard errors for studying the effects of ISAs adoption on the economic consequences of 185 countries over 1995-2014

Economic Consequences	Economic Consequences (dependent variables)							
Fixed cluster Effects	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Independent variables	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.	Coef.
The ISAs Adopters								
EXPRA	1.82**	8.06**	0.80***	1.53***	1.66***	0.47	-8.39	3.48
	(0.042)	(0.031)	(0.005)	(0.001)	(0.001)	(0.774)	(0.320)	(0.559)
ERADA	0.86	1.56	0.68**	1.15**	1.28**	2.07	7.37	5.98*
	(0.255)	(0.471)	(0.022)	(0.024)	(0.018)	(0.169)	(0.203)	(0.065)
ERMJA	1.10*	4.44**	0.85***	1.54***	1.66***	1.50	-0.11	1.58
	(0.086)	(0.024)	(0.002)	(0.001)	(0.001)	(0.296)	(0.982)	(0.564)
LTMJA	0.30	1.14	0.77***	1.27***	1.36***	0.27	0.60	1.47
	(0.613)	(0.495)	(0.005)	(0.006)	(0.006)	(0.813)	(0.888)	(0.615)
The ISAs Status								
WIAM	0.32	-1.98	-0.01	-0.01	-0.01	1.05	4.21	-1.88
	(0.666)	(0.178)	(0.958)	(0.973)	(0.994)	(0.238)	(0.232)	(0.384)
WOAM	1.45	-0.44	0.46**	0.79**	0.80**	0.07	2.04	-1.93
	(0.164)	(0.849)	(0.022)	(0.034)	(0.030)	(0.962)	(0.676)	(0.521)
WITR	0.09	-0.60	-0.04	-0.07	-0.13	-0.88	3.39	-1.50
	(0.869)	(0.642)	(0.743)	(0.691)	(0.493)	(0.361)	(0.359)	(0.510)
WOTR	1.00	3.50	-0.22	-0.60**	-0.75**	-6.56***	3.02	3.97
	(0.564)	(0.114)	(0.186)	(0.023)	(0.013)	(0.002)	(0.786)	(0.302)
WAMT	-1.13	-1.37	-0.29**	-0.53**	-0.42**	-1.27	0.50	0.68
	(0.160)	(0.436)	(0.019)	(0.016)	(0.047)	(0.348)	(0.900)	(0.795)
BLAW	-1.24*	-0.93	-0.46***	-0.64**	-0.74***	-1.02	-0.88	-0.52
	(0.097)	(0.587)	(0.001)	(0.010)	(0.005)	(0.306)	(0.865)	(0.847)
GMAT	-3.25**	-10.41***	0.77**	1.11*	1.16*	-4.27	10.6**	-7.18***
	(0.022)	(0.000)	(0.039)	(0.074)	(0.082)	(0.150)	(0.024)	(0.007)
IFRSS	2.24	-10.65***	-0.19	-0.98*	-0.41	-2.14	-15.8**	3.86
	(0.229)	(0.000)	(0.572)	(0.082)	(0.351)	(0.661)	(0.027)	(0.805)
Dummy 08-09								
D08-09	-5.08***	6.23***	0.52***	1.07***	1.26***	0.04	6.57***	3.30
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.959)	(0.000)	(0.146)
Control Variables								
Geographical region								
EURO	-4.12***	1.50	0.68***	1.48***	1.55***	-7.95***	-27.02***	-12.5***
	(0.000)	(0.504)	(0.004)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)
LNAM	-3.96***	1.31	0.08	0.16	0.11	-4.93***	-22.69***	-1.68
	(0.000)	(0.616)	(0.830)	(0.781)	(0.867)	(0.003)	(0.000)	(0.653)
CSAS	-0.65	-3.81	0.42	0.66	0.81*	-2.57	-15.73**	3.19
	(0.508)	(0.159)	(0.145)	(0.135)	(0.086)	(0.163)	(0.045)	(0.534)
EASP	-1.50	-1.00	0.25	0.79*	0.74*	-6.69***	-18.07***	-6.02*
	(0.101)	(0.646)	(0.306)	(0.073)	(0.095)	(0.000)	(0.001)	(0.059)
MENA	-0.95	-3.37	0.32	0.84	0.66	-3.63	-11.45	-9.78
	(0.319)	(0.152)	(0.499)	(0.317)	(0.421)	(0.133)	(0.215)	(0.234)
Official language								
ENGL	-2.54***	5.28***	-0.33	-0.40	-0.30	-3.88***	-18.94***	3.02
	(0.005)	(0.007)	(0.160)	(0.324)	(0.456)	(0.004)	(0.000)	(0.316)
FRNL	-3.74***	-3.95	0.24	0.37	0.30	-5.58**	-18.44**	6.21
	(0.000)	(0.163)	(0.327)	(0.391)	(0.502)	(0.010)	(0.013)	(0.218)
SPNL	1.56	2.75	0.29	0.50	0.56	-0.04	6.36	-0.88
	(0.201)	(0.257)	(0.206)	(0.284)	(0.224)	(0.978)	(0.588)	(0.862)
ARBL	-1.89*	0.55	0.52	0.83	1.05	-3.15	-32.07***	-1.55
	(0.054)	(0.844)	(0.240)	(0.303)	(0.176)	(0.245)	(0.002)	(0.861)
GRML	-1.56**	2.46	0.12	0.63	0.50	-5.06***	-11.02	4.99
	(0.021)	(0.389)	(0.793)	(0.460)	(0.569)	(0.001)	(0.114)	(0.134)
RUSL	-1.24	-1.05	0.01	0.23	0.07	6.27**	6.91	-15.18*
	(0.211)	(0.758)	(0.974)	(0.542)	(0.869)	(0.037)	(0.568)	(0.057)

Continuation: Table 20	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Colonial history								
NEVC	-1.13	0.99	1.04***	1.98***	1.92***	-5.14***	-4.12	-5.48*
	(0.134)	(0.609)	(0.000)	(0.000)	(0.000)	(0.001)	(0.512)	(0.082)
BRTC	1.10	0.57	-0.06	0.10	-0.18	-1.38	-4.65	-4.57
	(0.212)	(0.794)	(0.826)	(0.830)	(0.678)	(0.375)	(0.401)	(0.256)
FRNC	1.33	3.97*	-0.36	-0.43	-0.57	-3.52	23.51***	2.75
	(0.129)	(0.066)	(0.161)	(0.367)	(0.207)	(0.107)	(0.001)	(0.634)
SPNC	-0.84	-0.41	0.14	0.51	0.40	-0.66	-6.63	1.82
	(0.513)	(0.889)	(0.621)	(0.340)	(0.457)	(0.728)	(0.613)	(0.761)
PORC	1.00	4.58	-0.22	0.18	-0.07	-2.40	-16.51*	6.34
	(0.464)	(0.131)	(0.646)	(0.820)	(0.930)	(0.397)	(0.085)	(0.403)
DUTC	1.22**	2.02	0.23	0.79	0.67	1.41	15.21	-5.74
	(0.036)	(0.771)	(0.574)	(0.227)	(0.342)	(0.505)	(0.274)	(0.210)
GRMC	-0.15	-7.23**	-0.83**	-1.61**	-1.74***	0.43	-7.17	-3.02
	(0.918)	(0.015)	(0.017)	(0.010)	(0.004)	(0.819)	(0.416)	(0.630)
RUSC	1.68**	7.65***	-0.59***	-0.68*	-0.87**	0.32	-9.59	4.92
	(0.024)	(0.001)	(0.005)	(0.072)	(0.021)	(0.850)	(0.218)	(0.184)
Constant	6.19***	-3.89	1.51***	-1.69***	-1.75***	14.60***	25.38***	13.56**
	(0.000)	(0.153)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.017)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
Clusters groups	185	185	185	185	185	185	185	185
F-value	16.9***	9.00***	37.3***	38.2***	54.3***	27.32***	14.64***	15.42***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.190	0.191	0.499	0.525	0.534	0.279	0.377	0.202
Adjusted R-squared	0.179	0.180	0.492	0.518	0.528	0.269	0.369	0.191
Cox & Snell R Square	0.190	0.191	0.499	0.525	0.534	0.279	0.377	0.202
Nagelkerke R-Square	0.190	0.191	0.524	0.533	0.541	0.279	0.377	0.202
Sargan-Hansen Statistic	86.1***	29.8***	170.5***	116.7***	170.4***	44.8***	44.1***	23.8***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.005)
Wald test (testparm)	14.9***	8.2***	34.6***	45.3***	64.3***	25.4***	8.42***	7.33***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note: The variables are defined as the follows: the dependent variables which include the economic consequences, namely the economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the ISAs adoption categories which comprises five groups experimenters (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*) and laggards group (*LGGRA*). The second independent variable is the ISAs adoption status including adopted with amendments (*WIAM*); adopted without amendments (*WOAM*); adopted with translations (*WITR*); adopted without translations (*WOTR*); adopted with amendments and translations (*WAMT*); adopted by the country law (*BLAW*); adopted in gap matters (*GMAT*); adopted for financial statements prepared in accordance to IFRS (*IFRSS*); the non-adopters group of the ISAs (*NOAD*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. Statistical significance level (p-value) in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Regarding FDI level, Table 20 shows that the magnitude and the signs on the coefficients relating to FDI are very similar to those predicted by the multiple linear model. Particularly, Table 20 reports that *EXPRA* and *ERMJA* are statistically positive at 5% related to the FDI, in which *EXPRA* was statistically insignificant, while *ERMJA* was statistically positive at 10% level. The coefficients on the ISAs status, namely *WITR* and *WOTR*, which were statistically positive at 5% and 1% respectively, are now statistically insignificant. The coefficients on *GMAT* and *IFRSS* remain statistically negative at 1% level. Additionally, the directions and signs on the coefficients relevant to the control variables are very similar to what has been achieved by the FDI model reported in Table 19.

With reference to GDP level, Table 20 indicates that GDP level is positively and significantly associated with the ISAs adopter categories. Specifically, the coefficients on *EXPRA* and *ERADA* were positive but statistically insignificant, and have become statistically positive at 1% and 5% respectively. On the other hand, the coefficients on *ERMJA* and *LTMJA* were statistically positive at 5% level, and they are now statistically positive at 1% level. The coefficients on the ISAs status, namely *WIAM* and *WITR*, were positively and significantly associated with GDP at 1% level, and they are now negatively and insignificant associated with GDP. The coefficient on *WOAM* and *GMAT*, which were positively and significantly at 1% level correlated with GDP, have became positively and significantly at 5%. The coefficient on *BLAW* was negative, but statistically insignificant, they are now statistically negative at 1%. Additionally, the significance level and the signs on the coefficients relevant to the control variables are very similar to what have been predicted by the GDP model reported in Table 19.

In terms of *EXPO* and *IMPO*, Table 20 reports that the exports and the imports levels are positively and statistically significantly associated with the ISAs adoption categories. Specifically, the coefficients on *EXPRA* and *ERADA* were positive but statistically insignificant, they became statistically positive at 1% & 5% respectively. On the other hand, the coefficients on *ERMJA* and *LTMJA* were statistically positive at 5%, they are now statistically positive at 1%. The coefficients on the ISAs status namely *WIAM* and *WITR* were positively and significantly associated with both *EXPO* and *IMPO* at 1%, they are now negatively but statistically insignificant. The coefficients on *WOAM* and *GMAT*, which were positively and statistically significant at 1% is now positively and statistically significant at 5% and 10% respectively. The coefficient on *WOTR*, *WAMT*, and *BLAW* were positive, but statistically insignificant, are now negative and statistically significant at 5%. The coefficient on *IFRSS* was negatively insignificant, it is now negative and significant at 10% associated only with the level of *EXPO*. Furthermore, the direction and signs on the coefficients regarding the control variables remain the same to those results that were predicted by the *EXPO* and *IMPO* models reported in Table 19.

Regarding the *INFR*, Table 20 shows that the inflation rate is positively and insignificantly associated with the ISAs adopter categories. Specifically, the coefficients on *EXPRA, ERADA* and *ERMJA* were positive and statistically significant at 10%, 1%, and 5% respectively, they are now positively, but

statistically insignificant associated with *INFR*. The coefficients on the ISAs status namely *WITR, WAMT, BLAW*, and *GMAT,* which were negatively and significantly associated with *INFR* at 1% level, are now negatively, but statistically insignificant associated with *INFR*. The coefficient on *WOTR* which was negatively and statistically significant at 1%, it remains negatively and statistically significant at 1% level. Table 20 of fixed effects shows that *INFR* was positively and significantly at 1% level associated with *D08-09*, which is now still positive but statistically insignificant. Additionally, the magnitude and the directions on the coefficients relevant to the control variables are still the same as those results reported by the *INFR* model displayed in Table 19.

With reference to *EXCR*, as reported in Table 19, there is an insignificant relationship between foreign exchange rates and the ISAs adoption categories. Similarly, Table 20 indicates that foreign exchange rate is negatively and insignificantly associated with *EXPRA* and *ERMJA*, while it is positively but statistically insignificantly associated with *ERADA* and *LTMJA*. The coefficients on the ISAs adoption status, namely *GMAT* was positively and statistically significant at 1% associated with *EXCR*, it is still positively and statistically significant at 5% level. The coefficient on *IFRSS* was negatively and statistically significant at 5%, it remains the same as was reported in Table 19. Whereas, *WIAM* was positively and significantly correlated with *EXCR* at 5%, it is now statistically insignificant. Table 20 of fixed effects shows that *EXCR* was positively but insignificantly associated with *D08-09*, it is now still positive but statistically significant at 1% level. Moreover, the magnitude and the directions on the coefficients relevant to the control variables are still the same as those results reported in Table 19.

In connection with *INTR*, Table 20 suggests that real interest rates are positively and significantly associated with *ERADA*, while it is positively but statistically insignificantly associated with the other ISAs adopter groups, namely *EXPRA, ERMJA*, and *LTMJA*. The coefficients on the ISAs adoption status, namely *WOAM, WIAM, WOAM,* and *BLAW* were negatively and significantly associated with *INTR* at 1%, 5%, 1%, and 5%, respectively, which are now negatively but statistically insignificant. The coefficient on *GMAT*, which was negatively and statistically significant at 1%, is still the same as those reported in Table 19. Additionally, the direction and the signs on the coefficients relevant to the control variables are very similar to those reported by the *INTR* model presented in Table 19.

8.4 Multivariate Linear Regression to Analyse the Economic Consequences of IFRS Adoption

The dependent variables applied in the model of economic consequences of IFRS adoption are naturally continuous. Consequently, multivariate parametric regression methods are the best statistical analysis techniques that can be utilized to check the hypothesized relationships, which were previously discussed in chapter five, between IFRS adoption and the economic consequences of the adopting countries. These multivariate parametric regression methods include the multiple linear regression model (OLS), fixed effects model and random effects model.

8.4.1 Testing Assumptions of Multiple Linear Regressions Concerning the Consequences of IFRS

Table 21 shows the results of testing the statistical assumptions of the multiple linear regression models using multiple linear regression estimations to examine the impact of adopting the IFRS on the economic consequences for 185 adopting countries between 1995-2014. The four OLS assumptions have been statistically examined by using Stata software, including linearity, normality, heteroscedasticity, and serial-correlation, in addition to the presence of unit root.

As mentioned earlier, the multicollinearity problem has been checked in chapter seven, by using the variance inflation factor (VIF), tolerance test, in addition to Pearson's and Spearman's correlation coefficients. Accordingly, as formerly explained in chapter seven, multicollinearity tests have not shown any serious violation among all variables included in the economic consequences model of the IFRS.

To check for the linearity assumption, the linearity assumption cannot be violated when the nature of the independent variable is nominal, since there is only two dummy coding for each independent variable and there are no outliers in the data (Poole & O'Farrell, 1971). Nevertheless, the orthogonal polynomial contrasts appear in Table 21, which presents that there is a linear relationship between IFRS adoption categories and the following economic consequences: *GDP, EXPO, IMPO, EXCR* and *INTR*, whilst the linear effect is statistically insignificant across the other three economic indicators, including *ECGR, FDI,* and *INFR*, indicating that there is a non-linear relationship between these three economic factors and the IFRS adopter groups. Hence, the exponential transformation of these non-linear variables might lead to resulting in a linear relationship between theses variables.

Regarding the check of normality assumption, Table 21 displays that the p-values regarding the Shapiro-Wilk test for normality detection are statistically significant at 1% across all the economic consequences, indicating that the residuals of variables included in linear regression are not normally distributed. Therefore, the two-step transformation method can be utilized to mitigate the violation of normality. Furthermore, to check for the serial correlation assumption, Table 21 shows that the P value of the Durbin's alternative test for detecting auto-correlation are statistically significant at 1% level. This means that there is serious autocorrelation in the residuals from all the regression models concerning the economic consequences of IFRS adoption. Similarly, to check for the heteroscedasticity of residuals, Table 21 displays that p-values of the White's test from all regression models are statistically significant at 1%, implying that the error terms are heteroscedastic and cluster-robust estimations are the solution.

The regression diagnostics of Table 21 reports that the p-values of the Breitung test for unit roots across the next economic consequences models are statistically significant at 1% level, including *ECGR, FDI, INFR,* and *INTR*, while it was statistically insignificant for other four economic consequences models, namely *GDP, EXPO, IMPO,* and *EXCR*. This indicates that these four variables have unit roots.

Table 21: The results of multiple linear regression assumptions for studying the effects of the IFRS adoption on the economic consequences for 185 countries over 1995-2014

OLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
The IFRS Adopters								
EXPRF	-0.80	-2.01	-1.12***	-13.18***	-18.49***	-9.11	-86.39**	15.42***
	(0.377)	(0.215)	(0.000)	(0.000)	(0.000)	(0.497)	(0.013)	(0.000)
ERADF	0.18	-0.66	-5.41***	-74.46***	-91.4***	-5.83	-20.99***	15.12***
	(0.740)	(0.489)	(0.000)	(0.000)	(0.000)	(0.458)	(0.001)	(0.000)
ERMJF	1.07**	1.26	-7.36***	-86.22***	-11.08***	-8.02	-18.66***	9.97***
	(0.034)	(0.163)	(0.000)	(0.000)	(0.000)	(0.285)	(0.000)	(0.000)
LTMJF	-0.05	-0.72	-3.17***	-17.64*	-37.03***	-6.58	-17.13***	3.06***
	(0.883)	(0.278)	(0.000)	(0.077)	(0.001)	(0.233)	(0.000)	(0.007)
The IFRS for listed firms								
NREQ	0.70	-0.62	3.26	17.22	18.51	-8.18	14.44	-3.08**
	(0.128)	(0.454)	(0.662)	(0.165)	(0.166)	(0.233)	(0.437)	(0.029)
NPER	1.14**	-0.19	1.52**	14.83	26.69**	-23.12***	-68.01***	0.66
	(0.015)	(0.823)	(0.044)	(0.236)	(0.048)	(0.001)	(0.000)	(0.643)
RFAL	1.05	-0.25	-3.05**	63.49***	1.28	-12.67	-15.57	-6.28**
	(0.186)	(0.862)	(0.018)	(0.003)	(0.956)	(0.286)	(0.599)	(0.010)
PFAL	0.48	-3.64**	-2.48*	71.78***	-5.77	-14.27	35.42	12.48***
	(0.558)	(0.014)	(0.063)	(0.001)	(0.809)	(0.244)	(0.181)	(0.000)
RFBI	1.08	-2.59	5.86	99.66***	44.67	-9.83	15.50	-2.82
	(0.280)	(0.152)	(0.719)	(0.000)	(0.125)	(0.510)	(0.426)	(0.360)
EXBI	3.38*	-0.92	-6.94**	-43.45	-92.32*	-25.89	-13.84***	-8.81
	(0.073)	(0.786)	(0.023)	(0.392)	(0.092)	(0.356)	(0.003)	(0.128)
The IFRS for unlisted firms								
NOTP	-0.08	-0.43	5.41***	81.98***	87.46***	7.32	28.59***	-0.50
	(0.845)	(0.545)	(0.000)	(0.000)	(0.000)	(0.214)	(0.000)	(0.678)
RADF	1.03	-0.43	-4.56	-41.48**	-34.49*	-13.66	66.50***	-10.63***
	(0.102)	(0.707)	(0.655)	(0.015)	(0.060)	(0.146)	(0.008)	(0.000)
RBIP	1.04	2.51**	-4.01***	-79.68***	-91.05***	-17.44*	60.68**	-9.78***
	(0.116)	(0.036)	(0.000)	(0.000)	(0.000)	(0.078)	(0.021)	(0.000)
PADF	1.19**	2.12**	-3.30***	-27.29*	-33.72**	-8.32	21.78***	-12.97***
	(0.035)	(0.037)	(0.000)	(0.074)	(0.040)	(0.324)	(0.006)	(0.000)
RFFI	0.78	-1.05	4.80	-15.08	0.28	-15.70	29.03**	-5.99***
	(0.273)	(0.416)	(0.679)	(0.434)	(0.989)	(0.140)	(0.015)	(0.006)
RLPF	1.28	-1.00	-2.23	-93.79***	-86.73***	-18.44	16.21***	-9.36***
	(0.127)	(0.508)	(0.101)	(0.000)	(0.000)	(0.139)	(0.000)	(0.000)
PEBI	-0.24	-1.47	3.15**	20.69	45.74*	-10.10	27.98	-8.88***
	(0.803)	(0.388)	(0.039)	(0.416)	(0.096)	(0.473)	(0.310)	(0.002)
The IFRS for foreign firms								
NOTR	-1.22***	-2.09***	1.17*	23.21**	18.46	-3.42	-16.66	1.14
	(0.002)	(0.003)	(0.065)	(0.028)	(0.105)	(0.557)	(0.290)	(0.342)
RAFC	-1.94***	0.18	7.02***	46.13**	15.84***	7.43	-20.84	10.43***
	(0.005)	(0.885)	(0.000)	(0.014)	(0.000)	(0.472)	(0.242)	(0.000)
PAFC	-1.36*	0.99	1.34***	15.92***	34.38***	2.33	-11.29***	-0.86
	(0.074)	(0.471)	(0.000)	(0.000)	(0.000)	(0.837)	(0.000)	(0.714)
RSPO	-3.93***	0.42	9.55***	13.36***	19.99***	6.68	-26.78**	12.21***
	(0.000)	(0.771)	(0.000)	(0.000)	(0.000)	(0.580)	(0.039)	(0.000)
IFRS adoption for SMEs								
ASME	-1.42***	-0.81	-4.01	3.91	1.17	-0.88	56.22	-1.39
	(0.001)	(0.280)	(0.552)	(0.727)	(0.923)	(0.887)	(0.372)	(0.277)
Dummy 08-09								
D08-09	-2.34***	0.48	2.72	6.62	7.15	-2.43	99.32	1.07
	(0.000)	(0.434)	(0.623)	(0.472)	(0.471)	(0.632)	(0.462)	(0.309)
Control Variables								
Geographical regions								
EURO	-2.15***	2.27**	1.46*	34.59**	53.28***	-13.76*	-16.40***	-4.68***
	(0.000)	(0.013)	(0.076)	(0.012)	(0.000)	(0.070)	(0.000)	(0.003)
LNAM	-4.07***	-2.83***	1.05***	15.44***	57.08***	-5.53	-27.78	-4.09***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.388)	(0.109)	(0.002)
CSAS	-0.58	0.33	1.77**	36.80***	54.00***	-7.07	-15.66***	1.44**
	(0.270)	(0.722)	(0.038)	(0.009)	(0.000)	(0.365)	(0.002)	(0.371)
EASP	-1.83***	-0.43	2.00***	95.67***	84.41***	-16.37***	-18.59	-3.44***
	(0.000)	(0.553)	(0.002)	(0.000)	(0.000)	(0.006)	(0.907)	(0.005)
MENA	-0.40	0.34	-3.39***	-52.74***	-53.62***	-2.89	-20.47***	-6.20***
	(0.559)	(0.777)	(0.002)	(0.004)	(0.006)	(0.774)	(0.000)	(0.003)

Continuation: Table 21	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Official language								
ENGL	-1.03**	6.30***	6.05	31.61***	44.72***	-7.33	-16.74***	3.78***
	(0.010)	(0.000)	(0.350)	(0.003)	(0.000)	(0.218)	(0.000)	(0.002)
FRNL	-3.57***	-1.87*	1.26	99.69***	89.87***	-5.05	-18.91***	5.18***
	(0.000)	(0.068)	(0.173)	(0.000)	(0.000)	(0.552)	(0.000)	(0.003)
SPNL	0.92	-1.14	-2.10	-52.28*	-35.30	-7.19	-11.55	1.51
	(0.375)	(0.542)	(0.212)	(0.061)	(0.241)	(0.642)	(0.606)	(0.636)
ARBL	-2.34***	-0.22	5.19***	74.52***	29.68***	-9.13	-34.24***	1.02
	(0.001)	(0.869)	(0.000)	(0.000)	(0.000)	(0.400)	(0.000)	(0.648)
GRML	-1.21**	2.03*	2.39**	83.02***	12.51***	-7.92	-15.09***	3.36*
	(0.044)	(0.060)	(0.014)	(0.000)	(0.000)	(0.375)	(0.001)	(0.068)
RUSL	-1.38*	-1.35	8.55	47.88**	22.78	15.83	-11.73	-8.91***
	(0.058)	(0.304)	(0.469)	(0.015)	(0.282)	(0.145)	(0.462)	(0.000)
Colonial history								
NEVC	-0.77*	0.22	8.75***	27.82***	19.59***	-2.51	-98.74	-0.94
	(0.083)	(0.784)	(0.000)	(0.000)	(0.000)	(0.703)	(0.573)	(0.488)
BRTC	0.40	-1.58**	3.73	-21.12*	-16.63***	-3.97	38.37	-4.69***
	(0.346)	(0.037)	(0.586)	(0.063)	(0.175)	(0.527)	(0.406)	(0.000)
FRNC	0.73	1.73*	-5.35***	-24.09***	-12.34***	-19.61**	21.31***	-0.58
	(0.174)	(0.074)	(0.000)	(0.000)	(0.000)	(0.014)	(0.000)	(0.726)
SPNC	1.12	6.21***	-8.44***	-67.46**	-17.72***	-1.09	15.18**	0.20
	(0.307)	(0.002)	(0.000)	(0.022)	(0.001)	(0.947)	(0.031)	(0.953)
PORC	0.04	2.51**	-7.18	-7.34	-2.97	32.58***	18.02	3.14
	(0.949)	(0.026)	(0.481)	(0.664)	(0.871)	(0.000)	(0.425)	(0.104)
DUTC	1.08	7.64***	-4.81***	-64.10***	-65.44***	2.98	11.51***	-3.39
	(0.155)	(0.000)	(0.000)	(0.002)	(0.003)	(0.793)	(0.000)	(0.146)
GRMC	-0.15	-4.79***	-2.25**	-10.18***	-87.65***	-13.19	-32.49	-3.71*
	(0.814)	(0.000)	(0.032)	(0.000)	(0.000)	(0.171)	(0.194)	(0.063)
RUSC	0.01**	1.83**	3.35	-21.85	-10.88	18.25**	15.71	2.52
	(0.989)	(0.044)	(0.683)	(0.108)	(0.458)	(0.015)	(0.152)	(0.104)
Constant	6.63***	4.28***	7.80	-22.55	-19.70	44.75***	13.35***	8.80***
	(0.000)	(0.000)	(0.377)	(0.124)	(0.213)	(0.000)	(0.000)	(0.000)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
F value	7.74***	6.75***	27.5***	44.25***	38.73***	2.93***	18.53***	11.58***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.082	0.072	0.240	0.337	0.308	0.033	0.176	0.117
Adjusted R-squared	0.071	0.061	0.231	0.329	0.299	0.021	0.166	0.107
Polynomials contrasts	0.50	1.32	63.1***	39.2***	56.2***	0.37	6.81***	53.1***
	(0.478)	(0.258)	(0.000)	(0.000)	(0.000)	(0.540)	(0.009)	(0.000)
Shapiro-Wilk W test	0.64***	0.41***	0.22***	0.38***	0.34***	0.07***	0.28***	0.40***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Durbin's alternative	396.8***	217.9***	112.1***	157.2***	724.6***	119.8***	762.5***	778.2***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
White's test chi2	481.3***	573.1***	280.1***	808.7***	399.9***	208.7***	898.1***	973.6***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Breitung Test	-18.3***	-11.7***	10.9	2.43	2.79	-8.56***	2.94	-12.98***
	(0.000)	(0.000)	(0.998)	(0.993)	(0.997)	(0.000)	(0.998)	(0.000)

Note: The dependent variables, which include the economic consequences, namely the economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the IFRS adoption categories which comprises five groups experimenters (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*) and laggards group (*LGGRF*). The second independent variable represents the IFRS adoption status for domestic listed firms (*IFRSLF*) including the following classification; there is no local stock exchange in the country (*NOSE*); IFRS is not required for listed companies (*NREQ*); IFRS is not permitted for listed companies (*NPER)*; IFRS is required for all listed firms *(RFAL*); IFRS is permitted for all listed companies (*PFAL*); IFRS is required only for banks and insurance firms (*RFBI*); IFRS is required for all firms except banks and insurance firms (*EXBI*). The third independent variable represents the IFRS status for domestic unlisted firms (*IFRSUF*) including the next groups IFRS is not required for domestic unlisted firms (*NORQ*); IFRS is not permitted for unlisted firms (*NOTP*); IFRS is required for all unlisted firms (*RADF*); IFRS is required for unlisted banks & insurance firms (*RBIP*); IFRS is permitted for all unlisted firms (*PADF*); IFRS is required for unlisted financial institutions (*RFFI*); IFRS is required for publicly accountable firms (*RPAF*); IFRS is permitted for all unlisted firms except banks and insurance companies (*PEBI*). The fourth independent variable represents the IFRS adoption status for foreign firms (*IFRSFF*) including the following classifications IFRS is not applicable (*NOTA*); IFRS is not required for foreign firms (*NOTR*); IFRS is required for all foreign companies (*RAFC*); IFRS is permitted for all foreign companies (*PAFC*); IFRS is required for some foreign firms, permitted for others (*RSPO*). The fifth independent variable represents the IFRS adoption status for SMEs (*IFRSME*) which involves two groups namely, IFRS is not adopted by SMEs (*NSME*); IFRS is adopted by SMEs (*ASME*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. The p-value in parentheses *** p<0.01, ** p<0.05, * p<0.1.

8.4.2 Relaxing Assumptions of Multiple Regressions Concerning the Consequences of IFRS

The regression diagnostics of Table 22 report that linearity and normality assumptions have been met after using the two-step transformation technique. Additionally, the violation of serial correlation and heteroskedasticity assumptions have been relaxed after applying robust-clustered standard errors.

Regarding the unit root check, four economic indicators, including *GDP, EXPO, IMPO,* and *EXCR,* have been converted into the first difference for linear trend to obtain a stationary series. The diagnostics of Table 22 have shown that the p-values of the Breitung unit root test are less than 1%, implying that all series in the panels are stationary. Overall, the diagnostics of Table 22 report that all the statistical assumptions of the multiple linear regression models have been met after the data have been transformed by the two-step transformation method, in addition to using robust-clustered standard errors.

With respect to the models fit, the diagnostics of Table 22 have reported that the p-values of F- tests for all linear regression models are statistically significant at 1% level, indicating that the models with the main explanatory variables in addition to the control variables can significantly provide a better fit to the data than models that contain only intercepts. Additionally, the adjusted-R2 values for all regression models are relatively good, which range from 0.134 to 0.595. This means that at least 13.4% of the variation in the economic consequences of the ISAs can be explained by the main independent variables, including the IFRS adopter groups and IFRS adoption status for listed firms, unlisted firms, foreign firms and small and medium firms (*SMEs)*.

8.4.3 Results of Multiple Regressions Concerning the Economic Consequences of IFRS Adoption

Table 22 reports the findings of the multiple linear regression with cluster-robust standard errors in investigating the effects of IFRS adoption on the economic consequences for 185 adopting countries over the period from 1995-2014. Column 1 of Table 22 shows that the economic growth level is positively and significantly associated with early IFRS adoption at 10% level. This result does not lend support to the sub-hypothesis H5.1, which assumes that there is an insignificant relationship between the economic growth rate of a country and the early adoption of the IFRS. Nevertheless, this finding is consistent with the previous empirical IFRS studies (Larson, 1993; Stainbank, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013), which revealed that there is a positive and significant association between the economic growth rates and the adoption of the IFRS. This result offers support to the institutional theory, which suggests that common law countries tend to have strong legal systems and better accounting standards. Hence, these countries tend to have higher rates of economic growth (Soderstrom & Sun, 2007).

Column 2 of Table 22 provides a result consistent with sub-hypothesis H5.2, which suggests that the levels of FDI flows have significantly increased after the early adoption of the IFRS by those countries included in the early majority adopters group of the IFRS. Empirically, this finding provides support to

the prior empirical IFRS research (Rakesh & Shilpa, 2013; Pricope, 2017; Gordon et al., 2012; Okpala, 2012; Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016; Akpomi & Nnadi, 2017; Boachie, 2016), which revealed that developing countries that adopted the IFRS are more prone to obtaining higher levels of FDI inflows and gaining more financial resource. The positive finding offers support to the resource-based theory, which assumes that developing countries with lower levels of financial resources are more susceptible to embracing the international accounting standards to satisfy the needs of their resource providers, including the foreign investors, thus increasing their potential chances to receive greater FDI inflows (Pfeffer & Salancik, 1978; Shima & Yang 2012).

Column 3 of Table 22 shows that countries that experienced the mandatory adoption of the IFRS recently tend to have higher levels of GDP. The p-value is significant at 10% level between IFRS adoption and gross domestic product (GDP), especially those countries who are included in the late majority adopter group of IFRS. As hypothesized, this result is consistent with the expectation suggested by sub-hypothesis H5.3, which supposes that countries that adopted the IFRS during the early times are more likely to achieve lower levels of GDP. Empirically, this finding is in line with most of the previous IFRS literature (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015), which reported that large countries with higher GDP are more prone to delaying their decision to adopt the IFRS, since these nations have already established strong local accounting and reporting standards. This result supports the network economic theory, which suggests that developed countries are still obtaining higher levels of GDP, despite continuing to use their local accounting standards, due to the network effect among these countries (Ramanna & Sletten, 2014).

Column 4 of Table 22 shows that the levels of exports have significantly increased after the mandatory adoption of the IFRS, especially those countries who are included in the late majority group of the IFRS. This finding, however, is not consistent with the prediction of sub-hypothesis H5.4, which assumes that the early adoption of the IFRS has significantly led to increases in the exports level of the adopting countries. Nonetheless, this result supports the finding obtained from the previous empirical IFRS research (Marquez-Ramos, 2008; Marquez-Ramos, 2011; Ramanna & Sletten, 2009), which revealed that exports levels have been significantly increased after the mandatory adoption of the IFRS by the European countries, due to the benefits of adopting the IFRS, such as reducing information asymmetry and enhancing transparency of financial reports. This result supports the economic network theory, which proposes that effects of adopting the IFRS can be measured by evaluating the economic benefits that can be received by international trade, such as export levels among trade partners (Ramanna & Sletten 2014; Opanyi, 2016).

Table 22: The results of multiple linear regression with cluster-robust standard errors for studying the effects of the IFRS adoption on the economic consequences for 185 countries over 1995-2014

OLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	***ECGR***	***FDI***	***GDP***	***EXPO***	***IMPO***	***INFR***	***EXCR***	***INTR***
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
The IFRS Adopters								
EXPRF	-0.51	-3.17	-0.15	-0.52	-0.71	-2.64	-4.70	13.61**
	(0.621)	(0.276)	(0.759)	(0.510)	(0.425)	(0.307)	(0.546)	(0.035)
ERADF	0.88	-0.04	-0.01	-0.21	-0.25	-0.85	2.22	12.11***
	(0.335)	(0.985)	(0.963)	(0.656)	(0.613)	(0.657)	(0.751)	(0.006)
ERMJF	1.57*	2.23*	-0.18	-0.48	-0.50	-0.20	1.88	10.10***
	(0.071)	(0.078)	(0.577)	(0.374)	(0.391)	(0.919)	(0.755)	(0.007)
LTMJF	0.55	-0.07	0.41*	0.53*	0.50*	0.62	4.83	1.06
	(0.440)	(0.964)	(0.074)	(0.084)	(0.092)	(0.680)	(0.343)	(0.735)
The IFRS for listed firms								
NREQ	0.73	-0.33	0.57***	1.07***	1.01**	-1.49	1.60	-3.06
	(0.333)	(0.862)	(0.007)	(0.004)	(0.011)	(0.366)	(0.741)	(0.333)
NPER	1.27	-0.11	0.43*	0.72	0.79	-4.31**	-2.33	-1.98
	(0.201)	(0.955)	(0.087)	(0.125)	(0.132)	(0.014)	(0.709)	(0.589)
RFAL	1.21	-0.51	0.61**	1.34**	1.13**	0.44	1.97	-13.42***
	(0.430)	(0.825)	(0.047)	(0.012)	(0.041)	(0.819)	(0.792)	(0.009)
PFAL	1.14	-4.15	0.44	1.01	0.85	-1.37	-2.19	-4.20
	(0.526)	(0.138)	(0.235)	(0.121)	(0.224)	(0.439)	(0.768)	(0.489)
RFBI	1.70	-3.69	0.93***	1.81***	1.59***	2.69	16.39*	-6.43
	(0.164)	(0.149)	(0.000)	(0.000)	(0.000)	(0.162)	(0.096)	(0.333)
EXBI	4.92**	3.63	0.15	0.44	0.26	-1.58	-15.03	-22.06***
	(0.014)	(0.288)	(0.757)	(0.597)	(0.770)	(0.512)	(0.186)	(0.001)
The IFRS for unlisted firms								
NOTP	-0.12	-0.01	0.79***	1.24***	1.28***	2.29*	10.60*	0.33
	(0.885)	(0.994)	(0.000)	(0.002)	(0.004)	(0.091)	(0.060)	(0.913)
RADF	1.24	2.21	0.49**	0.77**	0.90**	-1.30	5.85	-2.57
	(0.220)	(0.326)	(0.017)	(0.030)	(0.019)	(0.370)	(0.292)	(0.567)
RBIP	1.25	5.95***	0.11	0.18	0.11	-2.99**	-0.63	-1.51
	(0.207)	(0.004)	(0.569)	(0.602)	(0.768)	(0.031)	(0.910)	(0.752)
PADF	1.50	5.27***	0.27	0.55*	0.56	0.61	6.48	-5.33
	(0.149)	(0.009)	(0.178)	(0.094)	(0.106)	(0.584)	(0.150)	(0.251)
RFFI	1.12	1.66	0.62***	1.08***	1.20***	0.20	5.82	1.45
	(0.316)	(0.442)	(0.002)	(0.003)	(0.002)	(0.886)	(0.342)	(0.804)
RLPF	2.00	2.22	0.58**	0.72*	0.79*	-0.98	10.39	-2.10
	(0.111)	(0.433)	(0.012)	(0.063)	(0.053)	(0.527)	(0.240)	(0.686)
PEBI	-0.58	1.22	0.46**	0.59*	0.80*	0.70	9.55	2.64
	(0.557)	(0.683)	(0.041)	(0.094)	(0.060)	(0.808)	(0.262)	(0.688)
The IFRS for foreign firms								
NOTR	-0.83	-0.32	0.53***	0.96***	0.98***	1.66	-5.10	2.91
	(0.223)	(0.850)	(0.002)	(0.002)	(0.004)	(0.233)	(0.293)	(0.323)
RAFC	-1.86	1.11	0.24	0.36	0.60	-0.42	-5.44	9.70**
	(0.215)	(0.595)	(0.356)	(0.436)	(0.207)	(0.790)	(0.388)	(0.028)
PAFC	-1.56	0.87	0.71*	1.24*	1.46*	-3.09*	-9.31	3.27
	(0.300)	(0.725)	(0.074)	(0.077)	(0.051)	(0.058)	(0.170)	(0.449)
RSPO	-4.70***	-3.38	0.64**	1.14**	1.33**	-4.29**	-12.41*	9.45*
	(0.001)	(0.140)	(0.021)	(0.023)	(0.010)	(0.020)	(0.072)	(0.053)
IFRS adoption for SMEs								
ASME	-1.79***	0.09	0.19***	0.30***	0.41***	-1.18*	4.35*	0.71
	(0.002)	(0.928)	(0.006)	(0.008)	(0.001)	(0.057)	(0.068)	(0.643)
Dummy 08-09								
D08-09	-2.90***	1.85***	0.13***	0.20***	0.27***	2.09***	0.79	0.02
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.179)	(0.983)
Control Variables								
Geographical regions								
EURO	-3.11***	4.01*	0.23	0.65	0.83*	-7.13***	-24.88***	-7.50**
	(0.001)	(0.094)	(0.366)	(0.143)	(0.084)	(0.000)	(0.000)	(0.045)
LNAM	-4.39***	-0.14	0.13	0.20	0.19	-4.14**	-20.66***	-2.90
	(0.000)	(0.952)	(0.686)	(0.698)	(0.745)	(0.018)	(0.000)	(0.450)
CSAS	-0.53	-2.97	0.21	0.29	0.46	-2.52	-15.34**	3.20
	(0.584)	(0.262)	(0.455)	(0.510)	(0.335)	(0.139)	(0.035)	(0.473)
EASP	-1.68*	-0.38	0.30	0.88**	0.84*	-7.07***	-18.27***	-3.56
	(0.063)	(0.862)	(0.196)	(0.029)	(0.051)	(0.000)	(0.001)	(0.209)
MENA	-0.64	-1.57	0.20	0.62	0.43	-3.03	-10.24	-9.02
	(0.406)	(0.568)	(0.414)	(0.210)	(0.292)	(0.155)	(0.232)	(0.242)

Continuation: Table 22	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Official language								
ENGL	-2.17***	5.23**	-0.28	-0.35	-0.22	-3.13**	-16.89***	3.52
	(0.008)	(0.013)	(0.227)	(0.343)	(0.566)	(0.021)	(0.002)	(0.203)
FRNL	-4.52***	-5.24**	0.33	0.49	0.42	-5.95***	-19.34**	8.50*
	(0.000)	(0.045)	(0.200)	(0.296)	(0.409)	(0.004)	(0.013)	(0.075)
SPNL	1.23	-0.47	0.39	0.52	0.63	-0.37	10.40	1.60
	(0.329)	(0.841)	(0.107)	(0.327)	(0.243)	(0.776)	(0.276)	(0.782)
ARBL	-3.12***	-1.52	0.42	0.63	0.89*	-3.97	-37.30***	-1.15
	(0.001)	(0.597)	(0.153)	(0.277)	(0.074)	(0.128)	(0.000)	(0.896)
GRML	-1.91***	0.14	0.13	0.51	0.39	-5.68***	-10.32	6.77**
	(0.005)	(0.962)	(0.704)	(0.423)	(0.552)	(0.000)	(0.134)	(0.026)
RUSL	-1.46*	-1.03	0.24	0.65*	0.53	6.56***	3.54	-15.95**
	(0.068)	(0.739)	(0.204)	(0.053)	(0.133)	(0.006)	(0.751)	(0.022)
Colonial history								
NEVC	-1.05	1.89	1.01***	1.88***	1.88***	-4.84***	-4.93	-4.65*
	(0.163)	(0.387)	(0.000)	(0.000)	(0.000)	(0.001)	(0.424)	(0.089)
BRTC	1.07	0.95	-0.12	0.02	-0.27	-1.16	-5.91	-5.72
	(0.199)	(0.672)	(0.599)	(0.960)	(0.466)	(0.474)	(0.293)	(0.123)
FRNC	1.97**	6.45***	-0.42**	-0.50	-0.65*	-3.37	21.82***	3.33
	(0.026)	(0.003)	(0.042)	(0.203)	(0.079)	(0.109)	(0.002)	(0.550)
SPNC	-0.10	5.42*	-0.24	0.01	-0.15	0.17	-11.19	2.32
	(0.943)	(0.062)	(0.463)	(0.982)	(0.825)	(0.921)	(0.329)	(0.725)
PORC	0.67	5.05*	-0.36	-0.09	-0.36	-2.80	-18.38**	8.44
	(0.663)	(0.097)	(0.350)	(0.898)	(0.644)	(0.245)	(0.045)	(0.238)
DUTC	1.35**	2.93	-0.12	0.16	0.06	1.40	14.97	-5.26
	(0.027)	(0.662)	(0.792)	(0.844)	(0.946)	(0.437)	(0.276)	(0.157)
GRMC	0.28	-6.88**	-0.88***	-1.72***	-1.87***	-0.84	-9.25	-4.22
	(0.855)	(0.018)	(0.001)	(0.000)	(0.000)	(0.688)	(0.267)	(0.491)
RUSC	0.96	6.85***	-0.39**	-0.38	-0.51	0.44	-9.24	5.14
	(0.210)	(0.002)	(0.048)	(0.268)	(0.145)	(0.774)	(0.189)	(0.124)
Constant	6.34***	0.40	1.27***	-1.94	-1.90***	9.21***	29.60***	10.01*
	(0.000)	(0.878)	(0.000)	(0.001)	(0.002)	(0.000)	(0.000)	(0.086)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
F value	9.76***	6.75***	18.6***	21.4***	20.9***	10.9***	9.62***	6.80***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.144	0.161	0.589	0.600	0.591	0.222	0.388	0.193
Adjusted R-squared	0.134	0.152	0.584	0.595	0.587	0.213	0.381	0.183
Polynomials contrasts	7.78***	3.47***	6.92***	7.41***	6.42***	5.54	6.81***	7.36***
	(0.005)	(0.005)	(0.009)	(0.007)	(0.001)	(0.004)	(0.009)	(0.007)
Jarque-Bera LM test	0.244	0.231	0.110	0.666	0.109	0.243	0.674	0.111
	(0.885)	(0.891)	(0.947)	(0.717)	(0.947)	(0.886)	(0.714)	(0.946)
Levin-Lin-Chu test	-17.4***	-12.3***	-22.7***	-26.4***	-23.5***	-12.0***	-5.42***	-50.7***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Breitung test	-13.9***	-9.55***	-12.9	-19.6	-18.8	-7.34***	-9.05***	-5.88***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note: The dependent variables include the following economic consequences, economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the IFRS adoption categories which comprises five groups experimenters (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*) and laggards group (*LGGRF*). The second independent variable represents the IFRS adoption status for domestic listed firms (*IFRSLF*) including the following classification; there is no local stock exchange in the country (*NOSE*); IFRS is not required for listed companies (*NREQ*); IFRS is not permitted for listed companies (*NPER)*; IFRS is required for all listed firms *(RFAL)*; IFRS is permitted for all listed companies (*PFAL*); IFRS is required only for banks and insurance firms (*RFBI*); IFRS is required for all firms except banks and insurance firms (*EXBI*). The third independent variable represents the IFRS status for domestic unlisted firms (*IFRSUF*) including the next groups IFRS is not required for domestic unlisted firms (*NORQ*); IFRS is not permitted for unlisted firms (*NOTP*); IFRS is required for all unlisted firms (*RADF*); IFRS is required for unlisted banks & insurance firms (*RBIP*); IFRS is permitted for all unlisted firms (*PADF*); IFRS is required for unlisted financial institutions (*RFFI*); IFRS is required for publicly accountable firms (*RPAF*); IFRS is permitted for all unlisted firms except banks and insurance companies (*PEBI*). The fourth independent variable represents the IFRS adoption status for foreign firms (*IFRSFF*) including the following classifications IFRS is not applicable (*NOTA*); IFRS is not required for foreign firms (*NOTR*); IFRS is required for all foreign companies (*RAFC*); IFRS is permitted for all foreign companies (*PAFC*); IFRS is required for some foreign firms, permitted for others (*RSPO*). The fifth independent variable represents the IFRS adoption status for SMEs (*IFRSME*) which involves two groups namely, IFRS is not adopted by SMEs (*NSME*); IFRS is adopted by SMEs (*ASME*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. The p-value in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Similarly, column 5 of Table 22 suggests that the levels of imports have increased significantly after the mandatory IFRS adoption, solely for those countries that have adopted the IFRS recently and those who are included in the late majority adopter group of the IFRS. The p-value is statistically significant at 10% level, indicating that the prediction suggested by the sub-hypothesis H5.5 is rejected, which assumes that the early adoption of the IFRS leads to increasing the import levels of adopting countries. Empirically, this finding is consistent with the previous empirical studies (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009), which suggest that the import levels have significantly increased after the adoption of the IFRS, due to the reduction of information asymmetry among trading countries. Theoretically, this result lends support to the economic network theory, which assumes that developed countries tend to adopt IFRS, with a view to increase opportunities to extend their international trade by increasing their imports with other trading partner countries, who have already embraced the IFRS (Murphy, 2000).

Column 6 of Table 22 reports that there is a negative, but statistically insignificant association between the inflation rates and the early adoption of the IFRS, whilst the relationship is positive but statistically insignificant between the inflation rates and the late mandatory IFRS adoption. This indicates that sub-hypothesis H5.6 is not supported, which suggests that countries that suffer from higher levels of inflation rates are more prone to adopting the IFRS early. The negative relationship between the inflation rates and IFRS adoption during the initial stages supports the findings provided by the previous studies (Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008; Gucenme & Arsoy, 2006), which reported that countries with higher levels of inflation rates tend to adopt the international inflation standards, which in turn leads to mitigate the high inflation effects on their economic performance. This finding supports the theoretical predictions suggested by the signalling theory, which suggests that countries with a higher level of inflation rate are more prone to adopting IFRS, with a view to send a positive signal to foreign investors about their desire to reduce their higher inflation rates as a result of the presence of economic instability (Khurana & Michas, 2011).

Column 7 of Table 22 shows that foreign exchange rates have insignificantly increased following the early and late mandatory IFRS adoption. This indicates that sub-hypothesis H5.7 is rejected, which suggests that countries that adopted the IFRS during the initial stages are more prone to achieve higher levels of foreign exchange rates. The positive and statistically insignificant coefficients on foreign exchange rates contradict the results reported by the prior empirical IFRS studies (Bonetti et al., 2012; Huang & Vlady, 2012; Ashbaugh, 2001; Pinto, 2005; Ashbaugh & Pincus, 2001), which reported that there is a positive and significant association between the equity market value and the foreign exchange rates changes under the IAS 21, with a view to disclose the fluctuation in foreign exchange rates. This finding provides support for the signalling theory, which assumes that IFRS adoption sends a positive signal to investors for improving the credibility of information (Nnadi & Nwobu, 2017).

Column 8 of Table 22 reports that the real interest rates level has significantly increased after the early adoption of the IFRS. The coefficient is statistically significant at 1% level, implying that sub-hypothesis H5.8 is supported, which assumes that countries that adopted the IFRS during the initial times are more likely to impose higher levels of real interest rates. Empirically, this finding supports the prior studies (Chen et al., 2015; Zhang, 2008; Bischof, 2009), which revealed that there is a positive and substantial association between the real interest rates and the adoption of the IFRS. This result provides support to the signalling theory, which suggests that IFRS adoption sends a positive signal to foreign lenders about the borrowers' intention to minimize the interest rate risk changes (Uwalomwa et al., 2016). Hence, countries that adopted the IAS/IFRS 39 relating to interest rates are more prone to imposing higher levels of interest rates, because of the high quality of their accounting information, which might differ across countries due to differences in the financial regulations among countries (Gebhardt et al., 2011).

With reference to the IFRS adoption status for listed firms, Table 22 reports that countries where the IFRS adoption is not required for listed companies (*NREQ*) are positively and significantly associated with the following economic indicators, including *GDP*, *EXPO* and *IMPO*. While countries where IFRS adoption is not permitted for listed companies (*NPER*) are positively and significantly correlated with *GDP*, and negatively and substantially with *INFR*. Similarly, countries where IFRS adoption is required for all listed firms (*RFAL*) are positively and significantly associated with the following economic indicators, including *GDP*, *EXPO* and *IMPO*, and negatively with *INTR*. Countries where IFRS adoption is required only for banks and insurance firms (*RFBI*) are positively and significantly associated with the following economic indicators, including *GDP*, *EXPO*, *IMPO* and *EXCR*. Whereas, countries where IFRS adoption is required for all firms except banks and insurance firms (*EXBI*) are negatively and significantly correlated with *INTR*. However, Table 22 reports that the economic indicators are insignificantly associated with IFRS adoption for listed firms in the countries where IFRS adoption is permitted for all listed firms (*PFAL*).

In terms of the IFRS status for unlisted firms, Table 22 indicates that countries where IFRS adoption is not permitted for unlisted firms (*NOTP*) are positively and significantly associated with the following economic indicators, *GDP*, *EXPO*, *IMPO*, *INFR* and *EXCR*. Countries where IFRS adoption is required for unlisted banks and insurance firms (*RBIP*) are positively and significantly associated with the *FDI*. Countries where IFRS adoption is permitted for all unlisted firms (*PADF*) are positively and significantly associated with *FDI* and *EXPO*. Surprisingly, the levels of three economic consequences, including *GDP*, *EXPO* and *IMPO* have significantly increased in countries where IFRS adoption for unlisted firms adheres to the following status: IFRS is required for all unlisted firms (*RADF*), IFRS is required for unlisted financial institutions (*RFFI*), IFRS is required for publicly accountable firms (*RPAF*), and IFRS is permitted for all unlisted firms, except banks and insurance firms (*PEBI)*.

Regarding the IFRS status for foreign firms, Table 22 shows that countries where IFRS adoption is not required for foreign firms (*NOTR*) are positively and significantly associated with the following economic indicators, including *GDP, EXPO,* and *IMPO.* Countries where IFRS adoption is required for all foreign companies (*RAFC*) are positively and significantly associated with the *INTR.* Moreover, countries where IFRS adoption is permitted for all foreign companies (*PAFC*) are positively and significantly associated with the following economic factors, including *GDP, EXPO* and *IMPO,* but is negatively and significantly correlated with *INFR.* Countries where IFRS adoption is required for some foreign firms, permitted for others (*RSPO*) are positively and significantly associated with the following economic indicators, including *GDP, EXPO, IMPO* and *INTR,* but it was negatively and significantly correlated with the remainder of the economic indicators: *ECGR, FDI, INFR* and *EXCR.*

With reference to the control variables, Table 22 shows that countries that adopted the IFRS, and who are located in the *EURO* region tend to have lower levels of economic consequences, including *ECGR, INFR, EXCR* and *INTR*, while they also tend to have higher levels of two economic indicators: *FDI* and *IMPO*. Furthermore, countries that adopted the IFRS, and who are located in the *LNAM* region tend to have lower levels of economic consequences, including *ECGR, INFR* and *EXCR*. Moreover, countries that adopted the IFRS and located in the *CSAS* region tend to have lower levels of economic indicators, namely *EXCR*. Besides, countries that adopted the IFRS, and who are located in the *EASP* region tend to have lower levels of the following economic consequences, *ECGR, INFR* and *EXCR,* whilst they tend to have higher levels of two economic indicators, including *EXPO* and *IMPO*.

In terms of official language, Table 22 reports that countries that adopted the IFRS where *ENGL* is the official language are more likely to have higher levels of *FDI,* and lower levels of the following economic consequences, *ECGR, INFR* and *EXCR.* Countries that adopted the IFRS where *FRNL* is a widely spoken language are more likely to have higher levels of *INTR* and lower levels of the following economic indicators: *ECGR, FDI, INFR* and *EXCR*. Countries that adopted the IFRS where *ARBL* is the official language are more likely to have higher levels of *IMPO* and tend to have a lower level of *ECGR* and *EXCR*. Countries that adopted the IFRS where *GRML* is a widely spoken language are more likely to have higher levels of *INTR,* whilst tend to have lower level of *ECGR* and *INFR.* Countries that adopted the IFRS where *RUSL* is the official language are more likely to have higher levels of two economic indicators, namely *EXPO* and *INFR,* and are less likely to have lower levels of two further economic consequences, including *ECGR* and *INTR.*

Regarding colonial history, Table 22 shows that countries that adopted the IFRS who have never been colonized (*NEVC)* are more likely to have higher levels of economic consequences, including *GDP, EXPO* and *IMPO,* while they are less likely to have lower levels of economic consequences, namely *INFR* and *INTR.* Countries that adopted the IFRS, who were colonized by the *FRNC* empire tend to have higher levels of the following economic indicators, *ECGR, FDI* and *EXCR,* while they are

less likely to have lower levels of two economic indicators *GDP* and *IMPO*. Countries that adopted the IFRS, who were colonized by the *SPNC* empire tend to have higher levels of *FDI*. Countries that adopted the IFRS, who were colonized by the *PORC* empire tend to have higher levels of *FDI*, and they tend to have lower levels of *EXCR*. Countries that adopted the IFRS, who were colonized by the *DUTC* empire tend to have higher levels of *ECGR*. Countries that adopted the IFRS, who were colonized by the *GRMC* empire tend to have lower levels of the following economic indicators, *FDI*, *GDP*, *EXPO* and *IMPO*. Finally, countries that adopted the IFRS, who were colonized by the *RUSC* empire tend to have higher levels of *FDI*, and lower levels of *GDP*.

8.4.4 Results of Fixed-Effects Models Concerning the Economic Consequences of IFRS Adoption

Previous IFRS research have reported that the country and year fixed effects model is the best statistical approach that can be utilized for examining panel data regressions concerning the association between IFRS adoption and the country-specific indicators (Ramanna & Sletten, 2014; Cascino & Gassen, 2015; Santos, & Cavalcante, 2014; DeFond, et al., 2014). The reason for this is because the country and year level effects might not be estimated by only employing the simple multiple linear regression models. Therefore, this study has applied two panel data estimators, namely fixed effects and random effects models (the results of the random effects models are not reported here, because they are not chosen as appropriate models by the Sargan-Hansen statistic, which is known as the robust standard Hausman test). The findings of the fixed effects models with robust-clustered standard errors for the panel data concerning the economic consequences of adopting the IFRS are reported in Table 23. The results of the fixed-effects models for the economic consequences of adopting the IFRS are relatively the same as those findings that were obtained by the multiple linear regressions in Table 22.

To check for the model fit, the regression diagnostics of Table 23 represent that the adjusted-R2 values range from 18.3% up to 61.8% across the eight linear regression models concerning the economic consequences of IFRS adoption, which are relatively superior. This means that the variation of the independent variables and control variables included in the eight regression models in addition to the year level fixed effects can explain at least 18.3% of the total variability of economic consequences. Moreover, the p-values for the overall F-statistic of all the multiple linear regression models that appear in Table 23 have shown a statistically significant association at 1% level, indicating that the independent variables included in the regression models provide a good fit to the data, better than running the regression models with the intercept-only.

With respect to the *ECGR* Model, Table 23 displays that *ERMJF* is positively associated with the *ECGR* and it was statistically significant at 10%, and now is still positively and statistically significant at 10% level. The coefficients on the IFRS status for domestic listed firms namely *EXBI* was statistically positive at 5%, and it became statistically positive at 1% level, whilst the coefficients on the IFRS status for foreign firms, namely *RSPO* was statistically negative at 1% level, and now it remains statistically

negative at 1% level. The coefficient on the IFRS adoption for SMEs, namely *ASME* was negatively and significantly associated with *ECGR*, and it is now negative but statistically insignificant. Additionally, the signs and magnitude of the coefficients relating to the control variables are very similar as those reported by *ECGR* model in Table 22.

Regarding to the *FDI* Model, Table 23 shows that the magnitude and the signs on the coefficients concerning the relationship between IFRS adoption and FDI are very similar to those predicted by the multiple linear model in Table 22. Particularly, Table 30 reports that the IFRS adopter category termed *ERMJF* is statistically positive at 10% related to the FDI, which was also positively statistically significant at 10% level. The coefficients on the IFRS adoption status for unlisted firms, namely *RBIP* and *PADF*, were statistically positive at 1% level, they are now positive and significant at 5% and 10% respectively. The coefficients on *ASME* remain statistically positively insignificant. Besides, the directions and signs of the coefficients relevant to the control variables are very similar to what has been achieved by the FDI model reported in Table 22.

Table 23 indicates that GDP is positively associated with the IFRS adopter group, namely *LTMJF* at 5% level, and it was statistically positive at 10% level. The coefficients on the IFRS status for listed firms, namely *NREQ* and *RFBI*, were positively and significantly associated with GDP at 1% level, and they are still positively significant at 1% level. The coefficient on *NPER* remain statistically positive at 10% level, whilst the coefficient on *RFAL*, was positive and statistically significant at 5% level, it is now positive but statistically insignificant. The coefficients on the IFRS adoption status for unlisted firms, namely *RADF* and *PEBI*, were statistically positive at 5% level, and they are now positive but statistically insignificant, while the coefficients on the IFRS adoption status for unlisted firms, including *RFFI* and *RLPF*, were statistically positive at 1% and 5% levels, are now positive and statistically significant at 5% and 10% levels respectively, whilst the coefficient on the IFRS adoption status for unlisted firms, namely *NOTP* is still statistically positive at 1% level. The coefficient on the IFRS adoption status for foreign firms, namely *NOTR* and *RSPO*, remain statistically positive at 1% and 5% levels respectively, while the coefficient on *PAFC* was positive and statistically significant at 10%, and is now positively significant at 5% level. The coefficients on *ASME* was statistically positive at 1% level, and it is now negatively but insignificantly associated with GDP. Additionally, the magnitude and the signs on the coefficients relevant to the control variables are very similar to what was predicted by the GDP model reported in Table 22.

In terms of the *EXPO* model, Table 23 reports that *EXPO* is positively and statistically significantly associated with the IFRS adopter category, namely *LTMJF* at 10% level. The coefficients on the IFRS adoption status for listed firms, including *NREQ* and *RFBI*, remain positive and significantly associated with *EXPO* at 1% level, whilst the coefficient on *RFAL* for listed firms is still positively and significantly associated with at 5% level. The coefficient on the IFRS adoption status for unlisted firms, namely

RADF, *PADF*, and *RLPF*, were positively and statistically significant at 10% relating to *EXPO*, and now positively but insignificantly linked with *EXPO*. The coefficient on *RFFI* for unlisted firms was positively and statistically significant at 1% level, and it is now positively and statistically significant at 5% level. The coefficient on *NOTP* for unlisted firms remains positively and statistically significant at 1% level. The coefficients on the IFRS adoption status for foreign firms, including *NOTR* and *RSPO*, are still positively and significantly associated with *EXPO* at 1% and 5% levels respectively, while the coefficient on *PAFC* for foreign firms was positive and statistically significant at 10% level, and it is now positively and significantly associated with *EXPO* at 5% level. The coefficient on the IFRS adoption status for *ASME* was statistically positive at 1% level, and now is negatively but insignificantly associated with *EXPO*. Furthermore, the direction and signs on the coefficients regarding the control variables are the same as those results reported by *EXPO* model in Table 22.

With respect to the *IMPO* model, Table 23 shows that *IMPO* is positively and significantly associated with the *LTMJF* at 10% level. The coefficient on the IFRS adoption status for listed firms, namely *RFBI* remains positive and significantly associated with *IMPO* at 1% level, whilst the coefficient on *NREQ* was positively and significantly associated with *IMPO* at 5% level, it is now statistically insignificant, while the coefficient on *RFAL* remains positively and significantly linked with *IMPO* at 1% level. The coefficient on the IFRS adoption status for unlisted firms, namely *RADF*, *RLPF*, and *PEBI*, were positively and significantly associated with *IMPO* at the 5%, 10% and 10% levels respectively, are now positively but insignificantly linked with *IMPO*, whereas the coefficient on *RFFI* was positively and significantly associated with *IMPO* at the 1%, level, is now significantly positive at 5% level, whilst the coefficient on *NOTP* remains positively and statistically significant at 1% level.

Further, Table 23 reports that the coefficients on IFRS adoption status for foreign firms, including *PAFC* and *RSPO* were, positively and significantly associated with *IMPO* at 10% and 5%, levels respectively, are now positively and statistically significant at 5% and 1% levels respectively, while the coefficient on *RAFC* was positive but statistically insignificant, it is now positively and significantly associated with *IMPO* at 10% level, whereas the coefficient on *NOTR* remains positively and significantly linked with *IMPO* at 1% level. The coefficient on IFRS adoption status for *ASME* was statistically positive at 1% level, it is now negatively but insignificantly associated with *IMPO*. Moreover, the direction and signs on the coefficients regarding the control variables are the same as those results reported by *IMPO* model in Table 22.

Table 23: The results of fixed effects model with cluster-robust standard errors for studying the effects of IFRS adoption on the economic consequences of 185 countries over 1995-2014

OLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	***ECGR***	***FDI***	***GDP***	***EXPO***	***IMPO***	***INFR***	***EXCR***	***INTR***
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
The IFRS Adopters								
EXPRF	-0.14	-0.91	0.16	0.08	0.01	-4.19	-1.57	9.60
	(0.896)	(0.756)	(0.735)	(0.917)	(0.992)	(0.104)	(0.843)	(0.155)
ERADF	1.22	1.76	0.22	0.25	0.29	-2.00	4.66	8.97**
	(0.206)	(0.464)	(0.416)	(0.601)	(0.570)	(0.307)	(0.504)	(0.048)
ERMJF	1.63*	3.47*	0.02	-0.10	-0.05	-0.84	3.72	7.87**
	(0.071)	(0.098)	(0.945)	(0.857)	(0.938)	(0.675)	(0.540)	(0.040)
LTMJF	0.57	0.52	0.51**	0.72*	0.72*	0.14	5.68	-0.06
	(0.432)	(0.759)	(0.028)	(0.085)	(0.094)	(0.925)	(0.265)	(0.935)
The IFRS for listed firms								
NREQ	1.01	0.12	0.59***	1.13***	1.07***	-1.52	2.08	-3.92
	(0.192)	(0.948)	(0.005)	(0.002)	(0.008)	(0.355)	(0.668)	(0.213)
NPER	1.22	-0.15	0.44*	0.73	0.80	-4.31**	-2.42	-1.94
	(0.213)	(0.939)	(0.087)	(0.125)	(0.132)	(0.014)	(0.700)	(0.595)
RFAL	1.15	-1.64	0.43	1.01**	0.74	1.27	0.42	-11.57**
	(0.458)	(0.503)	(0.142)	(0.049)	(0.157)	(0.507)	(0.956)	(0.027)
PFAL	1.10	-5.45*	0.24	0.62	0.38	-0.40	-3.96	-2.01
	(0.541)	(0.061)	(0.496)	(0.309)	(0.553)	(0.818)	(0.604)	(0.741)
RFBI	1.67	-4.57*	0.79***	1.56***	1.29***	3.44*	15.14	-4.97
	(0.182)	(0.082)	(0.001)	(0.000)	(0.002)	(0.076)	(0.132)	(0.442)
EXBI	5.40***	3.19	0.01	0.16	-0.07	-0.18	-16.50	-21.37***
	(0.003)	(0.340)	(0.957)	(0.834)	(0.935)	(0.941)	(0.149)	(0.001)
The IFRS for unlisted firms								
NOTP	-0.13	-0.12	0.78***	1.21***	1.24***	2.36*	10.49*	0.51
	(0.874)	(0.936)	(0.001)	(0.003)	(0.005)	(0.081)	(0.064)	(0.866)
RADF	0.80	0.75	0.33	0.45	0.52	-0.49	3.98	0.01
	(0.443)	(0.743)	(0.113)	(0.211)	(0.168)	(0.731)	(0.481)	(0.998)
RBIP	0.95	4.64**	-0.05	-0.14	-0.27	-2.14	-2.48	0.87
	(0.353)	(0.029)	(0.793)	(0.675)	(0.446)	(0.125)	(0.665)	(0.863)
PADF	1.09	3.93*	0.12	0.26	0.22	1.27	4.81	-2.97
	(0.305)	(0.053)	(0.541)	(0.432)	(0.529)	(0.268)	(0.293)	(0.548)
RFFI	0.77	0.23	0.45**	0.75**	0.81**	1.03	3.90	3.95
	(0.510)	(0.919)	(0.029)	(0.044)	(0.036)	(0.451)	(0.531)	(0.509)
RLPF	1.75	1.02	0.40*	0.38	0.38	-0.36	8.90	0.19
	(0.161)	(0.721)	(0.077)	(0.333)	(0.345)	(0.819)	(0.317)	(0.972)
PEBI	-1.20	-0.55	0.28	0.25	0.40	1.47	7.39	5.74
	(0.224)	(0.851)	(0.198)	(0.498)	(0.339)	(0.622)	(0.394)	(0.398)
The IFRS for foreign firms								
NOTR	-0.79	-0.09	0.56***	1.02***	1.05***	1.54	-4.80	2.54
	(0.249)	(0.960)	(0.002)	(0.002)	(0.003)	(0.266)	(0.323)	(0.388)
RAFC	-2.27	1.16	0.33	0.53	0.81*	-0.99	-5.11	9.53**
	(0.129)	(0.591)	(0.183)	(0.231)	(0.070)	(0.525)	(0.426)	(0.032)
PAFC	-1.70	0.98	0.75**	1.32**	1.56**	-3.35**	-9.13	3.17
	(0.252)	(0.698)	(0.042)	(0.044)	(0.023)	(0.036)	(0.185)	(0.454)
RSPO	-4.85***	-3.42	0.65**	1.16**	1.35***	-5.03***	-11.72*	9.40*
	(0.001)	(0.145)	(0.016)	(0.017)	(0.006)	(0.006)	(0.093)	(0.057)
IFRS adoption for SMEs								
ASME	-0.28	0.55	-0.05	-0.15	-0.14	0.55	3.66	0.37
	(0.666)	(0.654)	(0.540)	(0.301)	(0.363)	(0.467)	(0.178)	(0.835)
Dummy 08-09								
D08-09	-4.65***	5.25***	0.49***	0.86***	1.06***	-9.17***	9.08***	3.44
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.151)
Control Variables								
Geographical regions								
EURO	-2.94***	4.38*	0.26	0.71	0.89*	-7.03***	-24.72***	-8.03**
	(0.001)	(0.096)	(0.311)	(0.113)	(0.063)	(0.000)	(0.000)	(0.032)
LNAM	-4.35***	-0.03	0.14	0.22	0.21	-4.19**	-20.52***	-3.08
	(0.000)	(0.990)	(0.664)	(0.670)	(0.715)	(0.017)	(0.000)	(0.422)
CSAS	-0.37	-2.86	0.20	0.26	0.43	-2.38	-15.34**	3.05
	(0.701)	(0.283)	(0.482)	(0.546)	(0.365)	(0.171)	(0.034)	(0.493)
EASP	-1.56*	-0.30	0.29	0.86**	0.82*	-6.98***	-18.26***	-3.69
	(0.083)	(0.892)	(0.214)	(0.034)	(0.061)	(0.000)	(0.001)	(0.169)
MENA	-0.63	-1.36	0.23	0.68	0.50	-3.19	-9.97	-9.37
	(0.416)	(0.620)	(0.346)	(0.173)	(0.223)	(0.145)	(0.243)	(0.218)

Continuation: Table 23	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Official language								
ENGL	-2.17***	5.38**	-0.25	-0.30	-0.16	-3.23**	-16.70***	3.25
	(0.008)	(0.011)	(0.271)	(0.414)	(0.675)	(0.018)	(0.002)	(0.243)
FRNL	-4.37***	-4.97**	0.35	0.52	0.45	-5.98***	-19.07**	8.08*
	(0.000)	(0.050)	(0.186)	(0.276)	(0.381)	(0.004)	(0.015)	(0.093)
SPNL	1.41	-0.41	0.36	0.47	0.57	-0.09	10.23	1.59
	(0.296)	(0.860)	(0.116)	(0.351)	(0.261)	(0.943)	(0.287)	(0.785)
ARBL	-2.95***	-1.33	0.41	0.62	0.88*	-3.91	-37.16***	-1.43
	(0.003)	(0.642)	(0.162)	(0.291)	(0.082)	(0.141)	(0.000)	(0.869)
GRML	-1.86***	0.28	0.14	0.54	0.42	-5.73***	-10.17	6.54**
	(0.006)	(0.927)	(0.676)	(0.403)	(0.524)	(0.000)	(0.139)	(0.034)
RUSL	-1.51*	-1.13	0.23	0.64*	0.51	6.55***	3.46	-15.81**
	(0.059)	(0.717)	(0.210)	(0.054)	(0.133)	(0.006)	(0.759)	(0.021)
Colonial history								
NEVC	-1.08	1.94	1.02***	1.91***	1.92***	-4.88***	-4.88	-4.73*
	(0.148)	(0.375)	(0.000)	(0.000)	(0.000)	(0.001)	(0.430)	(0.086)
BRTC	0.90	0.77	-0.13	-0.01	-0.30	-1.11	-6.10	-5.42
	(0.236)	(0.727)	(0.564)	(0.987)	(0.425)	(0.492)	(0.280)	(0.147)
FRNC	1.87**	6.31***	-0.43**	-0.51	-0.66*	-3.33	21.64***	3.58
	(0.034)	(0.004)	(0.043)	(0.201)	(0.080)	(0.114)	(0.002)	(0.520)
SPNC	-0.35	5.29*	-0.21	0.07	-0.08	-0.12	-11.11	2.46
	(0.804)	(0.070)	(0.507)	(0.907)	(0.902)	(0.946)	(0.335)	(0.710)
PORC	0.68	5.09*	-0.36	-0.08	-0.35	-2.80	-18.35**	8.37
	(0.660)	(0.096)	(0.368)	(0.915)	(0.665)	(0.244)	(0.045)	(0.242)
DUTC	1.31**	2.82	-0.13	0.13	0.03	1.43	14.85	-5.06
	(0.034)	(0.676)	(0.772)	(0.869)	(0.972)	(0.430)	(0.283)	(0.175)
GRMC	0.16	-6.97**	-0.87***	-1.70***	-1.85***	-0.93	-9.28	-4.08
	(0.915)	(0.016)	(0.001)	(0.001)	(0.000)	(0.661)	(0.266)	(0.508)
RUSC	0.84	6.67***	-0.40**	-0.39	-0.52	0.38	-9.35	5.41
	(0.279)	(0.003)	(0.049)	(0.262)	(0.143)	(0.802)	(0.184)	(0.110)
Constant	5.66***	-3.99	0.96***	-2.54***	-2.59***	15.32***	22.33***	11.76*
	(0.000)	(0.138)	(0.005)	(0.000)	(0.000)	(0.000)	(0.004)	(0.054)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
F value	14.2***	8.36***	32.3***	26.9***	33.3***	25.4***	10.5***	8.36***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.203	0.196	0.609	0.624	0.622	0.302	0.397	0.233
Adjusted R-squared	0.190	0.183	0.603	0.618	0.616	0.291	0.387	0.220
Cox & Snell R Square	0.203	0.196	0.609	0.624	0.622	0.302	0.397	0.233
Nagelkerke R-Square	0.204	0.196	0.639	0.633	0.630	0.303	0.397	0.233
Sargan-Hansen Statistic	92.5***	73.9***	285.0***	169.2***	232.4***	69.7***	26.21***	41.66***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.009)	(0.002)
Wald test (testparm)	13.6***	6.93***	22.1***	24.5***	37.5***	24.4***	5.34***	6.44***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note: The dependent variables include the following economic consequences, economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the IFRS adoption categories which comprises five groups experimenters (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*) and laggards group (*LGGRF*). The second independent variable represents the IFRS adoption status for domestic listed firms (*IFRSLF*) including the following classification; there is no local stock exchange in the country (*NOSE*); IFRS is not required for listed companies (*NREQ*); IFRS is not permitted for listed companies (*NPER)*; IFRS is required for all listed firms *(RFAL*); IFRS is permitted for all listed companies (*PFAL*); IFRS is required only for banks and insurance firms (*RFBI*); IFRS is required for all firms except banks and insurance firms (*EXBI*). The third independent variable represents the IFRS status for domestic unlisted firms (*IFRSUF*) including the next groups IFRS is not required for domestic unlisted firms (*NORQ*); IFRS is not permitted for unlisted firms (*NOTP*); IFRS is required for all unlisted firms (*RADF*); IFRS is required for unlisted banks & insurance firms (*RBIP*); IFRS is permitted for all unlisted firms (*PADF*); IFRS is required for unlisted financial institutions (*RFFI*); IFRS is required for publicly accountable firms (*RPAF*); IFRS is permitted for all unlisted firms except banks and insurance companies (*PEBI*). The fourth independent variable represents the IFRS adoption status for foreign firms (*IFRSFF*) including the following classifications IFRS is not applicable (*NOTA*); IFRS is not required for foreign firms (*NOTR*); IFRS is required for all foreign companies (*RAFC*); IFRS is permitted for all foreign companies (*PAFC*); IFRS is required for some foreign firms, permitted for others (*RSPO*). The fifth independent variable represents the IFRS adoption status for SMEs (*IFRSME*) which involves two groups namely, IFRS is not adopted by SMEs (*NSME*); IFRS is adopted by SMEs (*ASME*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. The p-value in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Regarding *INFR* model, Table 23 shows that *INFR* is negatively and insignificantly associated with the IFRS adopter categories, including *EXPRF*, *ERADF*, and *ERMJF*, while *INFR* is positively and insignificantly associated with the IFRS adopter category *LTMJF*. The coefficients on IFRS adoption status for listed firms, including *NPER* is still negatively and significantly associated with *INFR* at 5% level, whilst the coefficient on *RFBI* was positively and insignificantly associated with *INFR*, and it is now significantly and positively associated with *INFR* at 10% level of significance.

Further, Table 23 shows that the coefficient on IFRS adoption status for unlisted firms, including *NOTP* is still positively and significantly linked with *INFR*, while the coefficient on *RBIP* was negatively and statistically significant at 5% level, it is now negatively and insignificantly associated with *INFR*. The coefficients on IFRS adoption status for foreign firms, including *PAFC* and *RSPO* were negatively and significantly linked with *INFR* at 10% and 5% levels respectively, are now negatively and significantly associated with *INFR* at 5% and 1% levels respectively. The coefficient on IFRS adoption for *ASME* was statistically negative at 10% level, it is now negatively but insignificantly associated with *INFR*. Table 23 of shows that *INFR* was positively and significantly associate with *D08-09* at 1% level, it is now negatively and significantly associated with *INFR* at 1% level.

With reference to the *EXCR* model, Tables 22 and 23 shows that there is a positive, but insignificant relationship between *EXCR* and the IFRS adopter categories. The coefficients on IFRS adoption status for listed firms, namely *RFBI*, was positively and statistically significant at 10% level associated with *EXCR*, it is still positively but statistically insignificantly linked with *EXCR*. The coefficient on IFRS adoption status for unlisted firms, including *NOTP*, is positively and statistically significant at 10% level associated with *EXCR*, it remains as the same as was reported in Table 22. The coefficient on IFRS adoption status for foreign firms, namely *RSPO*, is still positively and significantly correlated with *EXCR* at 10% level. The coefficient on IFRS adoption for *ASME* was statistically positive at 10% level, it is now positively but insignificantly associated with *EXCR*. Table 30 shows that *EXCR* was positively but insignificantly associated with *D08-09*, it is now still positive but statistically significant at 1% level. Moreover, the magnitude and the directions on the coefficients relevant to the control variables are very similar to those results reported by the *EXCR* model in Table 22.

In connection with the *INTR* model, Table 23 report that there is a positive and significantly at 5% level between *INTR* and the IFRS adopter categories, including *ERADF* and *ERMJF*, while they were positively and statistically significant at 1% level, as the same as were reported in Table 22. The coefficients on IFRS adoption status for listed firms, including *RFAL* and *EXBI*, are negatively and significantly associated with *INTR* at 1% and 5% levels respectively, they were negatively and statistically significant linled with *INTR* at 1% level. Tables 22 and 23 shows that there is an insignificant association between IFRS adoption status for unlisted firms and *INTR*. The coefficients on IFRS adoption status for foreign firms: *RAFC* and *RSPO*, remain positively and statistically significant

associated with *INTR* at 5% and 10% levels respectively. The coefficient on IFRS adoption for *ASME* is still positively and insignificantly correlated with *INTR*. Table 23 shows that *INTR* remain positively but insignificantly associated with *D08-09*. Additionally, the direction and the signs on the coefficients relevant to the control variables are the same as those results reported by the *INTR* model in Table 22.

8.5 Chapter Summary

This chapter presented the empirical findings and discussion surrounding studying the relationship between the national antecedents and the consequences of the worldwide adoption of international accounting innovations. Firstly, this chapter tested the statistical assumption and presented the empirical results relevant to the multivariate non-parametric regression analyses employed to test the association between the key national antecedents and the adoption of international accounting innovations. Secondly, this chapter tested the statistical assumption and presented the empirical results relevant to the multivariate parametric regression analyses employed to examine the effects of adopting the international accounting and auditing standards on the economic consequences of the adopting countries. Overall, the non-parametric regression methods do not require meeting statistical assumptions to obtain valid results, except for the multicollinearity assumption, while the parametric regression analysis requires testing and correcting six main statistical assumptions, including multicollinearity, linearity, normality, homoscedasticity, autocorrelation and unit root.

The analytical tests are used to check for linearity assumption, including polynomials contrasts for linear effects, in addition to the statistical tests applied to test for normality assumption, including the Shapiro-Wilk and Jarque-Bera tests, which have shown a violation in their statistical assumptions across all regression models employed in this study. Therefore, the two-step transformation technique has been applied to convert the outcome variables from the original scale into the exponential method to make the data normally distributed. Furthermore, two analytical tests have been employed to check for auto-correlation, including the Durbin's alternative and Breusch-Godfrey LM tests, and both have shown a violation in the serial-correlation assumption. Moreover, two statistical tests have been employed to check for the homoscedasticity of residuals, including Breusch-Pagan and White's test, and both have shown a clear violation in the homoscedasticity of residuals across all variables included in the main multiple linear regressions. Consequently, multiple linear regressions and fixed effects models with cluster robust standard errors have been employed to relax the violation of homoscedasticity and serial-correlation, with a view to examine the relationship between the economic consequences of adopting the international accounting and auditing standards.

The multicollinearity problem has been previously checked in chapter seven by using different statistical methods including VIF and tolerance tests in addition to the correlation coefficients, and they have not shown any perfect multicollinearity among variables included in all regression models applied in this study. In terms of testing the unit root and stationarity, two analytical tests have been applied to

check for unit roots in the panel data series, including the Levin-Lin-Chu test and Breitung test. The results of the LLC test have shown that there is no unit root in the outcome variables used in this study, whereas the results of the Breitung test for unit root have shown that there are some variables have unit roots in their panel. Therefore, the first difference operator has been applied for those variables that have unit roots, with a view to obtain a stationary series and to yield spurious regression results.

The obtained empirical findings relevant to the antecedents of ISAs adoption suggests that countries are more likely to be early adopters of the ISAs when they have higher levels of the following national antecedents, including *ENCM, SOCV, SHPR, JUIN, VOAC, REQU, UNAV, EDAT* and *LITR*, while countries are more likely to delay their ISAs adoption decision if they have higher levels of the following national antecedents, namely *JUEF, LSIN, COCU* and *INDU*. In return, countries with lower levels of the following national antecedents, including *POST, INDV, MASC* and *QEDS* are more likely to be early adopters of the ISAs, whilst countries with lower scores of the following two national antecedents, namely *PWDS* and *LTOR* are more likely to delay their decision for adopting the ISAs. Similarly, the achieved empirical results regarding the antecedents of IFRS adoption suggest that countries are more prone to be early IFRS adopters if they have higher levels of the following national antecedents, including *ENCM, SOCV, ENDU, SHPR, JUEF, LSIN, JUIN, PWDS, INDU, EDAT* and *LITR*, whilst countries are more likely to be early IFRS adopters if they have lower levels of the following national antecedents: *FRCV, FRIS, VOAC, POST, REQU, COCU, INDV, UNAV, MASC, LTOR* and *QEDS*.

Regarding the empirical findings related to the economic consequences of ISAs adoption, this chapter reported that there is a positive and significant association among the early adoption of ISAs and the following economic indicators, including *ECGR, FDI, GDP, EXPO, IMPO* and *INTR*. Meanwhile, the results relevant to the economic consequences of IFRS adoption suggest that there is a positive and significant association between the early adoption of the IFRS and the following three economic indicators: *ECGR, FDI* and *INTR*, whilst countries with higher levels of three further economic factors, namely *GDP, EXPO,* and *IMPO,* are more likely to delay their decision for adopting the IFRS until the late stages. Interestingly, two economic consequences, namely *INFR* and *EXCR*, are insignificantly associated with ISAs and IFRS adoption alike.

Finally, additional statistical tests can be performed to check the robustness of the main multiple linear regression models and to test whether the empirical findings achieved are not sensitive to different endogeneity problems. Therefore, the next chapter will endeavour to discuss and check the robustness of the results that were obtained from the main multiple linear regression models.

Chapter Nine : Robustness Checks and Sensitivity Tests

9. Aims of the Chapter

This chapter discusses additional robustness checks and sensitivity tests employed to check for the validity of the empirical findings obtained from running multivariate parametric and non-parametric regression tests to estimate the relationship between national antecedents and the consequences of adopting the international accounting innovations. Specifically, Section 9.1 examines the robustness tests to check the validity of a series of binary logistic regression models applied to examine the causal effects of the associated regressors included in the models of national antecedents of ISAs adoption. Section 9.2 displays the robustness tests to check the validity of a series of binary logistic regression models, utilized to investigate the causal effects of the associated regressors included in the models of the national antecedents of IFRS adoption. Section 9.3.1 discusses the robustness tests to check the validity of the multivariate linear regression models, applied to examine the economic consequences of ISAs adoption by employing the instrumental variables (2SLS) estimation. Section 9.3.2 reports on the robustness tests to check the validity of the multivariate linear regression models to examine the economic consequences of IFRS adoption by employing the instrumental variables (2SLS) estimation. Section 9.4 outlines a summary of the most important points discussed in this chapter.

9.1 Robustness Checks of Empirical Results Regarding the Antecedents Models of ISAs Adoption

As discussed in chapter eight, Section 8.1.1 has implemented a series of binary logit regression methods to examine the relationship between the national antecedents and the worldwide adoption of the ISAs. Therefore, this section uses further analysis techniques to check the robustness of the empirical results that were previously reported in Section 8.1.1. More specifically, this section uses alternative multivariate non-parametric regression techniques to the examine the antecedents of the ISAs adoption by employing a series of binary probit regression models and to check the validity of the empirical results obtained from logit models.

The probit and logit regression models produce the same results, especially when the data used to run the regression are balanced panel data (Chen & Tsurumi, 2010). Moreover, internal validity can be asserted when the empirical results detect causal effects among dependent and independent variables. The external validity can be confirmed when the obtained results can be empirically achieved by using different statistical methods (Onwuegbuzie & McLean, 2003; Campbell, 1986). Additionally, the robustness check tests the validity of regression specification by, comparing the coefficient estimates of the core variables, which can be checked either by employing different statistical methods or by adding and removing valid covariates (Lu & White, 2014). Accordingly, this Section 9.1 uses an alternative multivariate non-linear regression technique to check the robustness of non-parametric regression methods applied in chapter eight to estimate the relationship between antecedents and ISAs adoption.

To check the robustness and the validity of empirical results obtained from a series of binary logit regression models presented in chapter eight regarding the antecedents of ISAs adoption, this study has also employed a series of binary probit regressions. Therefore, a probit regression model with multiple regressors is used to examine the antecedents of ISAs adoption as specified in equation (4) below.

$$\boldsymbol{Pr[Y=1/Xi] = \Phi\ (\beta_0 + \sum_{i=1}^{5} \beta_1\ LEGA_{it} + \sum_{i=1}^{4} \beta_2\ POLA_{it} + \sum_{i=1}^{6} \beta_3\ CULA_{it} + \sum_{i=1}^{3} \beta_4\ EDUA_{it} + \sum_{i=1}^{3} \beta_i\ CONTROLS_{it} + \varepsilon_{it})} \quad (4)$$

Where *Xi* refers to the four key national antecedents including *LEGA*, *POLA*, *CULA*, and *EDUA* and still involve the same proxies included in the model (1) presented in chapter six, Φ (z) = Pr(Z ≤ z) is the probit function, which refers to the cumulative probabilities of the standard normal distribution values, the predicted z-value = $(\beta_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \beta_4 X4)$, for a given predictor Xi, Y = predicted probability that Yi is a binary variable, which refers to countries that adopted the ISAs in a specific year = 1, for a given predictor Xi, β_0 = the coefficient for the intercept, while β_i= the coefficient for the predictor variables, $\sum_{i=1}^{4} \beta_i\ CONTROLS_{it}$ refer to three variables controlled in the model, which are identical to those used in model 1, and ε_{it} refers to the error term for country (i) in a year (t).

Column 5 of Table 24 reports the results of the ordered probit regression model for examining the impact of the national antecedents on ISAs adoption. The likelihood-ratio test shows a significant p-value, indicating that the assumption of the proportional odds model was violated. Therefore, this study re-estimated the antecedents' model of ISAs adoption by using a series of binary probit regression models to check the validity and robustness of the empirical findings obtained from a series of binary logit regression models. Table 24 presents the results of a series of binary probit regression models to examine the antecedents of ISAs adoption. By comparing the findings of logit and probit coefficients among different models and across several groups, the results that appear in Models 1 to 4 of Table 24 remain basically the same as those reported in Table 16, with minor changes. In Model 2, the negative coefficient on *PWDS* was statistically insignificant and it is now significantly negative. In Model 3, the positive coefficient on *LSIN* was statistically significant, and it is now insignificantly positive.

Table 24 shows that the coefficients on *LTOR* and *DUTC* were negative but insignificant and they are now significantly negative at 10% level. The positive coefficients on *EASP* and *GRML* were statistically insignificant, are now positive and significant at 10% level. In Model 4, the negative coefficient on *SPCV* was statistically significant at 10% level, it is now negatively insignificant. Whereas, the negative coefficients on *POCV, ARBL* and *GRML* were statistically insignificant, and are now significantly negative at 10%, 1%, and 10% levels respectively. The positive coefficients on *CSAS* and *DUTC* were statistically significant at 5% and 10% levels respectively, are now positively insignificant. The positive coefficients on *MENA* and *SPNL*, were statistically insignificant, and are now significantly positive at 1% level.

Table 24: The results of a series of cumulative binary probit regressions for examining the impact of national antecedents on the adoption of ISAs for 162 countries over 1995-2014

National Antecedents	The ISAs adoption categories (*ISAAC*)				
Cumulative Binary Logit Models	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Ordered Probit**
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
Legal Factors (*LEGF*)					
SHPR	-0.44***	0.11***	0.01	-0.07**	0.03**
	(0.000)	(0.000)	(0.764)	(0.017)	(0.015)
JUEF	-0.51***	-0.32***	0.15***	0.22***	0.08***
	(0.008)	(0.000)	(0.000)	(0.000)	(0.001)
JUIN	0.39	0.50***	0.19***	-0.46***	-0.08*
	(0.289)	(0.000)	(0.002)	(0.000)	(0.054)
LSIN	0.40**	-0.04	0.03	0.21***	-0.06***
	(0.015)	(0.224)	(0.111)	(0.000)	(0.000)
Legal Origins (*LEOR*)					
ENCM	-3.48	-0.36	0.24*	-2.48***	0.03
	(0.997)	(0.146)	(0.082)	(0.001)	(0.824)
FRCV	6.78	7.52	-0.48***	-4.44***	0.19
	(0.958)	(0.959)	(0.007)	(0.000)	(0.145)
SPCV	3.30	-7.50	-13.06	-5.70	2.13***
	(0.996)	(0.992)	(0.982)	(0.997)	(0.000)
POCV	-5.36	-1.73	-5.94	-3.54*	1.14***
	(0.997)	(0.994)	(0.978)	(0.094)	(0.000)
GECV	-4.55	5.24	-0.49**	-2.14***	0.29**
	(0.995)	(0.971)	(0.011)	(0.009)	(0.045)
SOCV	13.18	7.51	1.23***	6.52	-1.16***
	(0.909)	(0.959)	(0.000)	(0.999)	(0.000)
ENRE	7.64	-7.74	-1.73***	6.04	1.44***
	(0.998)	(0.999)	(0.000)	(0.994)	(0.000)
ENDU	0.21	-0.01	0.05	6.13	-0.26*
	(0.999)	(0.982)	(0.756)	(0.996)	(0.054)
FRIS	-1.78	-0.48	-2.51***	-3.59***	0.73***
	(0.992)	(0.328)	(0.000)	(0.000)	(0.000)
ENIS	-13.05	-0.88***	-1.54***	-4.14***	1.03***
	(0.997)	(0.005)	(0.000)	(0.000)	(0.000)
Political Factors (*POLF*)					
VOAC	-0.76	0.79***	0.29***	0.87***	-0.46***
	(0.290)	(0.000)	(0.000)	(0.000)	(0.000)
POST	-1.73***	-0.43***	0.12**	-0.36***	0.21***
	(0.000)	(0.000)	(0.033)	(0.000)	(0.000)
REQU	5.42***	0.40***	0.63***	0.81***	-0.57***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
COCU	-3.18***	-0.55***	-0.82***	0.58***	0.64***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Cultural Factors (*CULF*)					
PWDS	-0.10	-0.06*	-0.09***	0.27***	0.03
	(0.390)	(0.073)	(0.000)	(0.000)	(0.120)
INDV	1.26***	0.04	0.08***	-0.07*	-0.02
	(0.000)	(0.158)	(0.000)	(0.061)	(0.136)
UNAV	0.87**	0.15***	-0.03	0.27***	-0.01
	(0.010)	(0.000)	(0.161)	(0.000)	(0.714)
MASC	-2.18***	-0.17***	0.18***	-0.13**	0.12***
	(0.000)	(0.000)	(0.000)	(0.010)	(0.000)
LTOR	-1.24***	-0.06	-0.04*	-0.18	0.03
	(0.000)	(0.120)	(0.096)	(0.000)	(0.147)
INDU	0.36**	-0.25***	-0.17***	-0.10***	0.09***
	(0.033)	(0.000)	(0.000)	(0.000)	(0.000)
Educational Factors (*EDUF*)					
EDAT	0.16***	0.03***	0.01	-0.06***	0.02***
	(0.000)	(0.000)	(0.936)	(0.000)	(0.000)
LITR	0.30***	0.03***	0.03***	0.01	-0.02***
	(0.000)	(0.000)	(0.000)	(0.114)	(0.000)
QEDS	-0.45	0.80***	0.40***	0.71***	-0.46***
	(0.308)	(0.000)	(0.000)	(0.000)	(0.000)

Continuation: Table 24	Model 1	Model 2	Model 3	Model 4	Ordered logit
Control variables					
Geographical region (*GERI*)					
EURO	1.46	-1.53***	-0.31*	3.78***	0.17
	(0.990)	(0.000)	(0.057)	(0.001)	(0.159)
NLSA	-8.15	-0.74***	0.16	1.12***	-0.18*
	(0.998)	(0.001)	(0.270)	(0.000)	(0.086)
CSAS	2.39	1.09***	1.48***	0.26	-1.06***
	(0.998)	(0.000)	(0.000)	(0.414)	(0.000)
EASP	-0.76	0.94***	0.25*	0.82***	-0.25**
	(0.992)	(0.000)	(0.057)	(0.001)	(0.011)
MENA	-21.65	2.98	-1.16***	4.79***	-0.71***
	(0.999)	(0.999)	(0.003)	(0.000)	(0.004)
Official language (*OFLN*)					
ENGL	-3.85	0.28	0.37***	0.78***	-0.28***
	(0.999)	(0.197)	(0.006)	(0.001)	(0.007)
FRNL	-4.89	0.97***	0.61***	0.96**	-0.31**
	(0.995)	(0.002)	(0.001)	(0.020)	(0.019)
SPNL	-8.13	8.67	7.02	4.67***	-1.80***
	(0.993)	(0.987)	(0.987)	(0.001)	(0.000)
ARBL	21.55	-2.16	3.34***	-5.08***	0.23
	(0.998)	(0.998)	(0.000)	(0.000)	(0.290)
GRML	-3.88	2.36***	0.33*	-1.80*	-0.10
	(0.998)	(0.000)	(0.054)	(0.090)	(0.454)
RUSL	-20.25	-8.81	-1.44***	0.39	1.23***
	(0.992)	(0.998)	(0.000)	(0.995)	(0.000)
Colonial history (*COHI*)					
NEVC	8.26	0.53***	0.30**	8.41	-0.26***
	(0.885)	(0.004)	(0.027)	(0.992)	(0.004)
BRTC	18.43	6.76	0.19	1.57***	-0.38***
	(0.998)	(0.963)	(0.195)	(0.000)	(0.000)
FRNC	8.34	-6.93	-0.09	1.28***	0.29**
	(0.995)	(0.993)	(0.600)	(0.000)	(0.012)
SPNC	22.94	6.19	6.76	-1.23	-0.85***
	(0.974)	(0.991)	(0.987)	(0.426)	(0.000)
PORC	15.31	2.79	-5.03	-0.08	0.62**
	(0.994)	(0.994)	(0.982)	(0.968)	(0.021)
DUTC	4.79	-7.25	-0.27	0.43	0.82***
	(0.992)	(0.998)	(0.231)	(0.395)	(0.000)
GRMC	12.95	-6.35	-0.51**	1.08***	0.34**
	(0.993)	(0.995)	(0.035)	(0.003)	(0.031)
RUSC	-14.47	-0.77***	-1.28***	1.99	0.73***
	(0.994)	(0.000)	(0.000)	(0.996)	(0.000)
Constant	-45.05	-10.92	-1.45***	-0.93	
	(0.997)	(0.940)	(0.001)	(0.354)	
Number of observations	3240	3240	3240	3240	3240
likelihood LR chi2	850.4***	1250.1***	1650.6***	1960.9***	2168.9***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
McFadden's Pseudo-R2	0.828	0.428	0.371	0.599	0.233
McFadden (adjusted)	0.770	0.397	0.350	0.574	0.223
Cox & Snell R Square	0.231	0.320	0.399	0.454	0.488
Nagelkerke R-Square	0.850	0.539	0.534	0.714	0.517
Log likelihood	-88.05	-834.8	-1400.5	-657.3	-3562.9
Likelihood-ratio test					3616.5***

Note: The independent variables included in the model of antecedents of ISAs are defined as follows: the national antecedents of ISAs adoption involve four key factors: i) legal factors (*LEGF*) including, shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*), legal origins (*LEOR*) include several origins, English common law (*ENCM*); French civil law (*FRCV*); Spanish civil law (*SPCV*); Portuguese civil law (*POCV*); German civil law (*GECV*); Socialist civil law (*SOCV*); mixed English and religious laws (*ENRE*); mixed English and Dutch laws (*ENDU*); mixed French civil and Islamic laws (*FRIS*); mixed English and Islamic laws (*ENIS*); mixed English and civil laws (*ENCV*). ii) political factors (*POLF*) voice and accountability (*VOAC*); political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*), iii) cultural factors (*CULF*), power distance (*PWDS*); individualism level (*INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC*); long-term orientation (*LTOR*); indulgence level (*INDU*), iv) educational factors (*EDUF*), educational attainment (*EDAT*); youth literacy rates (*LITR*); quality of the education system (*QEDS*). Control variables namely geographical regions (*GERI*) including Europe (*EURO*); North, Latin and South America (*NLSA*); central and south Asia (*CSAS*); east Asia and pacific (*EASP*); middle east and north Africa (*MENA*); and Africa (*AFRC*); Official languages (*OFLN*) involve seven languages English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTLN*). Colonial history (*COHI*) includes nine groups never colonized countries (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire(*SPNC*); Portuguese Empire (*PORC*); Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); other colonists (*OTCO*). The stars display the significance level (p-values) *** p<0.01, ** p<0.05, * p<0.10.

The logit and probit regression models basically provide very similar outcomes. Nevertheless, the distribution of the standard errors represents the main difference between the logistic and probit models. If the panel data used in the study are balanced binary data, the results obtained from the logit and probit models are often identical (Chen & Tsurumi, 2010). The distribution of errors in the logit regression model is expected to follow the standard logistic distribution, whilst the distribution of errors in the probit regression model is supposed to follow a normal distribution of errors (Cramer, 2007). Accordingly, the panel data used for examining the antecedents of ISAs adoption are strongly balanced, which cover 162 countries over the period from 1995 to 2014. Therefore, the findings from the logit and probit regression models are generally very similar. Overall, after comparing the findings of a series of binary logistic regression models presented in Table 16 with the results of a series of binary probit regression models presented in Table 24, the findings remain relatively similar with minor changes, indicating that the results of this study are valid across the four adopter groups being studied, which represent the cumulative probabilities of the ISAs adopter categories.

9.2 Robustness Checks of Empirical Results Regarding the Antecedents Models of IFRS Adoption

The validity and robustness checks of binary logit regression can be done by using an alternative statistical data analysis method, such as binary probit regression (Young & Holsteen, 2017). This is because the maximum likelihood estimators of binary logistic and probit regression methods are statistically different and they are sensitive to outliers (Tabatabai et al., 2014; Masten & Masten, 2012). Accordingly, this study uses the same model specification applied in equation (4), except for the outcome variable (*Yi*), which refers to countries that adopted the IFRS in a specific year to examine the robustness checks of the empirical results obtained from running a series of binary logit regression models concerning the antecedents of IFRS adoption, by employing a series of cumulative binary probit regression models to estimate the causal relationship between the national antecedents and the worldwide adoption of the IFRS.

Column 5 of Table 25 reports the results of the ordered probit regression model for examining the influence of national antecedents on IFRS adoption. The likelihood-ratio test shows a significant p-value, indicating that the assumption of the parallel lines has been violated. Therefore, this study re-estimated the antecedents' model of IFRS adoption, by using a series of binary probit regression models to check the validity and robustness of the empirical results obtained from a series of binary logit regression models. Table 25 shows the results of a series of binary probit regression models to examine the national antecedents of IFRS adoption. This study compared the findings of a series of binary probit regression models examining the antecedents of IFRS adoption appearing in Models 1 to 4 of Table 25, with the results of a series of binary logit regression models displayed in Models 1 to 4 of Table 17.

Table 25: The results of a series of cumulative binary probit regressions for examining the impact of national antecedents on the adoption of IFRS for 162 countries over 1995-2014

National Antecedents	The IFRS adoption (*IFRSAC*)				
Cumulative Binary Logit Models	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Ordered Probit**
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
Legal Factors (*LEGF*)					
SHPR	-1.36	-0.11*	0.05**	-0.30***	0.07***
	(0.998)	(0.078)	(0.030)	(0.000)	(0.000)
JUEF	1.42	0.19	-0.01	-0.51***	0.05**
	(0.999)	(0.102)	(0.886)	(0.000)	(0.038)
JUIN	-1.24	0.15	0.22***	-0.19*	-0.15***
	(0.997)	(0.394)	(0.001)	(0.053)	(0.001)
LSIN	0.68	0.25***	-0.02	0.11**	0.02
	(0.999)	(0.008)	(0.336)	(0.014)	(0.151)
Legal Origins (*LEOR*)					
ENCM	-23.57	6.51	1.01***	-0.32	-0.61***
	(0.996)	(0.979)	(0.000)	(0.315)	(0.000)
FRCV	-25.05	-4.81	-0.69**	1.88***	-0.47***
	(0.996)	(0.998)	(0.039)	(0.000)	(0.001)
SPCV	-13.85	-18.32	-6.05	-9.59	0.93***
	(0.999)	(0.996)	(0.993)	(0.992)	(0.000)
POCV	-37.17	-26.79	-12.65	-7.37	1.09***
	(0.995)	(0.992)	(0.985)	(0.931)	(0.000)
GECV	-15.55	-15.80	-0.19	8.12	-0.62***
	(0.998)	(0.889)	(0.543)	(0.989)	(0.000)
SOCV	-8.64	37.64	1.05***	0.18	-0.76***
	(0.999)	(0.888)	(0.001)	(0.621)	(0.000)
ENRE	1.21	21.90	-0.37	12.21	-0.74***
	(0.998)	(0.930)	(0.332)	(0.993)	(0.001)
ENDU	-16.56	9.99	2.61***	0.78*	-0.81***
	(0.997)	(0.968)	(0.000)	(0.064)	(0.000)
FRIS	-14.70	23.91	-0.15	1.80***	-0.34*
	(0.998)	(0.924)	(0.619)	(0.000)	(0.066)
ENIS	4.12	22.16	-0.60**	0.08	-0.53***
	(0.999)	(0.930)	(0.024)	(0.859)	(0.000)
Political Factors (*POLF*)					
VOAC	0.08	1.25***	-0.05	0.38***	-0.11*
	(0.999)	(0.000)	(0.576)	(0.004)	(0.066)
POST	0.84	-1.53***	0.18***	0.18**	-0.25***
	(0.999)	(0.000)	(0.006)	(0.031)	(0.000)
REQU	-0.11	0.06	0.60***	1.04***	-0.34***
	(0.999)	(0.831)	(0.000)	(0.000)	(0.000)
COCU	-0.49	-0.17	1.05***	-0.69***	0.57***
	(0.999)	(0.590)	(0.000)	(0.000)	(0.000)
Cultural Factors (*CULF*)					
PWDS	3.26	2.85***	0.08***	0.51***	-0.07***
	(0.999)	(0.000)	(0.005)	(0.000)	(0.000)
INDV	-0.20	-3.79***	0.29***	0.38***	0.11***
	(0.999)	(0.000)	(0.000)	(0.000)	(0.000)
UNAV	-0.23	-1.78***	0.12***	0.03	-0.01
	(0.999)	(0.000)	(0.000)	(0.547)	(0.926)
MASC	1.34	0.22*	0.11***	-0.34***	-0.06***
	(0.999)	(0.096)	(0.000)	(0.000)	(0.000)
LTOR	-3.78	2.58***	-0.10***	0.26***	0.03
	(0.999)	(0.000)	(0.004)	(0.000)	(0.104)
INDU	-2.39	-2.43***	-0.04	-0.18***	0.07***
	(0.996)	(0.000)	(0.155)	(0.000)	(0.000)
Educational Factors (*EDUF*)					
EDAT	-0.15	0.02	0.01*	-0.06***	0.01***
	(0.998)	(0.285)	(0.085)	(0.000)	(0.000)
LITR	-0.40	0.34***	0.02***	-0.02***	-0.02
	(0.996)	(0.000)	(0.000)	(0.000)	(0.223)
QEDS	6.68	3.82***	0.67***	0.49***	-0.53***
	(0.997)	(0.000)	(0.000)	(0.000)	(0.000)

Continuation: Table 25	Model 1	Model 2	Model 3	Model 4	Ordered Probit
Control variables					
Geographical region (*GERI*)					
EURO	-0.58	-60.64	-1.82***	13.84***	-0.08
	(0.999)	(0.503)	(0.000)	(0.000)	(0.529)
NLSA	24.84	25.66***	1.85***	2.07***	-1.11***
	(0.996)	(0.000)	(0.000)	(0.000)	(0.000)
CSAS	-4.54	-24.98***	1.33***	4.97	-1.16***
	(0.999)	(0.000)	(0.000)	(0.997)	(0.000)
EASP	-27.64	-52.19	-1.07***	1.19***	0.27***
	(0.993)	(0.980)	(0.000)	(0.000)	(0.009)
MENA	-16.37	-15.49***	-0.19	0.73*	-0.45**
	(0.998)	(0.000)	(0.631)	(0.056)	(0.039)
Official language (*OFLN*)					
ENGL	-24.42	-5.87***	-1.18***	2.15***	-0.17*
	(0.992)	(0.000)	(0.000)	(0.000)	(0.093)
FRNL	-22.38	-16.51	-0.09	-1.97***	0.76***
	(0.996)	(0.988)	(0.802)	(0.000)	(0.000)
SPNL	-5.94	-21.45	4.62	5.63	-0.97***
	(0.998)	(0.999)	(0.993)	(0.995)	(0.000)
ARBL	-14.09	-6.47***	0.85**	-1.01**	-0.34*
	(0.997)	(0.000)	(0.035)	(0.019)	(0.099)
GRML	-3.06	-14.90	-8.83	9.43	-0.30**
	(0.999)	(0.966)	(0.967)	(0.992)	(0.033)
RUSL	-2.50	-19.67***	-1.58***	1.89	0.49***
	(0.999)	(0.000)	(0.000)	(0.999)	(0.004)
Colonial history (*COHI*)					
NEVC	22.44	-28.56	-0.76***	0.38	-0.28***
	(0.993)	(0.946)	(0.000)	(0.252)	(0.005)
BRTC	8.92	-3.75***	0.09	2.46***	-0.60***
	(0.998)	(0.000)	(0.594)	(0.000)	(0.000)
FRNC	-11.72	-10.89***	-1.60***	-0.31	0.97***
	(0.998)	(0.000)	(0.000)	(0.243)	(0.000)
SPNC	-20.02	21.33	0.29	6.25	-0.31
	(0.998)	(0.996)	(0.998)	(0.994)	(0.212)
PORC	-13.29	0.80	6.01	8.56	-0.95***
	(0.998)	(0.998)	(0.992)	(0.920)	(0.000)
DUTC	-1.66	-4.05	-8.41	-2.44***	0.70***
	(0.999)	(0.997)	(0.981)	(0.000)	(0.000)
GRMC	19.35	12.48	1.26***	-0.51	-0.54***
	(0.998)	(0.969)	(0.000)	(0.253)	(0.001)
RUSC	-2.28	-10.54	0.11	4.04	-0.29**
	(0.999)	(0.909)	(0.548)	(0.998)	(0.013)
Constant	0.783	-40.66	-2.81***	-0.539	
	(0.997)	(0.871)	(0.000)	(0.491)	
Number of observations	3240	3240	3240	3240	3240
LR chi2	597.6***	2444.6***	1998.3***	2051.5***	2117.2***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
McFadden's Pseudo-R2	0.998	0.856	0.503	0.661	0.255
McFadden (adjusted)	0.933	0.830	0.479	0.636	0.243
Cox & Snell R Square	0.168	0.530	0.460	0.469	0.480
Nagelkerke R-Square	0.950	0.905	0.652	0.761	0.520
Log likelihood	-2.90	-204.9	-986.8	-528.8	-3098.6
Likelihood-ratio test					3988.2***

Note: The independent variables included in the model of antecedents of IFRS are defined as follows: the national antecedents of ISAs adoption involve four key factors: i) legal factors (*LEGF*) including, shareholders' protection rights (*SHPR*); judicial efficiency (*JUEF*); judicial independence (*JUIN*); integrity of the legal system (*LSIN*), legal origins (*LEOR*) include several origins, English common law (*ENCM*); French civil law (*FRCV*); Spanish civil law (*SPCV*); Portuguese civil law (*POCV*); German civil law (*GECV*); Socialist civil law (*SOCV*); mixed English and religious laws (*ENRE*); mixed English and Dutch laws (*ENDU*); mixed French civil and Islamic laws (*FRIS*); mixed English and Islamic laws (*ENIS*); mixed English and civil laws (*ENCV*). ii) political factors (*POLF*) voice and accountability (*VOAC*); political stability (*POST*); regulatory quality (*REQU*); control of corruption (*COCU*), iii) cultural factors (*CULF*), power distance (*PWDS*); individualism level (*INDV*); uncertainty avoidance (*UNAV*); masculinity level (*MASC*); long-term orientation (*LTOR*); indulgence level (*INDU*), iv) educational factors (*EDUF*), educational attainment (*EDAT*); youth literacy rates (*LITR*); quality of the education system (*QEDS*). Control variables namely geographical regions (*GERI*) including Europe (*EURO*); North, Latin and South America (*NLSA*); central and south Asia (*CSAS*); east Asia and pacific (*EASP*); middle east and north Africa (*MENA*); and Africa (*AFRC*); Official languages (*OFLN*) involve seven languages English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTLN*). Colonial history (*COHI*) includes nine groups never colonized countries (*NEVC*); British Empire (*BRTC*); French Empire (*FRNC*); Spanish Empire (*SPNC*); Portuguese Empire (*PORC*); Dutch Empire (*DUTC*); German Empire (*GRMC*); Russian Empire (*RUSC*); other colonists (*OTCO*). The stars display the significance level (p-values) *** p<0.01, ** p<0.05, * p<0.10.

The findings remain fundamentally the same as reported in Table 17, with only slight changes. Specifically, In Model 2, the positive coefficient on *JUEF* was statistically significant at 10% level and it is now positively but statistically insignificant. In Model 3, the positive coefficient on *LSIN* was statistically insignificant, and it is now insignificantly negative. The coefficient on *INDU* was negative and statistically significant at 5% level, and it is now negatively and insignificant associated with IFRS adoption. The positive coefficients on *SPNC* were statistically significant at 1% level, it is now positive but insignificantly correlated with IFRS adoption. In Model 4, the positive coefficient on *JUEF* was statistically significant at 1% level, and it is now negatively and statistically significant at 1% level. This indicates that the estimated results of the antecedents' model of IFRS adoption are robust and consistent with the findings reported in the binary logit regression models that appear in Table 17 reported, in chapter eight.

9.3 Robustness Checks of the Results Concerning the Economic Consequences of Adopting IAIs

There are three common reasons that can lead to cause an endogeneity bias, including omitted variables bias, reverse causality bias and measurement error bias (Ntim et al., 2015; Antonakis et al., 2010; Wooldridge, 2010). Due to the endogeneity bias, fixed and random effects models might be biased and inconsistent. Hence, the instrumental variables (IV) estimations are the most common statistical techniques that are widely applied to control for endogeneity bias by using the instrumental variables estimations, such as two-stage least square 2SLS (Baum et al., 2003). Panel fixed and random effects models are used to correct for Type I errors, while instrumental variables estimations are usually utilized to control for Type II errors and endogeneity (Fernández-Val & Lee, 2013). The fixed effects model can be applied to mitigate endogeneity bias, but only if the regression model has time-varying covariates (Skrondal & Rabe-Hesketh, 2008). Accordingly, this section discusses the robustness checks and sensitivity tests regarding the empirical results obtained from the multivariate linear regression models applied to examine the causal relationship between ISAs adoption and the economic consequences of the adopting countries. Specifically, this study uses Stata statistical software package for analysing the data by using the instrumental variables (IV) regression methods (2SLS) to check the robustness of the empirical results obtained from linear regression models applied to examine the economic consequences of ISAs adoption appearing in chapter eight.

If the R-square values are relatively low, this indicates that the regression coefficients suffer from measurement error bias (Peters & Taylor, 2017). Instrumental variables estimations can be utilized to address the measurement errors bias in the independent variables (Bascle, 2008). Nevertheless. correcting the measurement error bias in the two-stage least square regression depends on the validity of the instrumental variables applied in the model (Bisbe et al 2006). Therefore, this study implements several sensitivity tests to check the validity of proposed instrumental variables included in the 2SLS estimators. These sensitivity tests include an under-identification test, a weak identification test, a

redundancy test, an over-identification test, an endogeneity test, an omitted variables test, and a measurement error test. This is because sensitivity tests are essential to examine the validity of the employed instrumental variables, which can be done by implementing identification tests to check whether the excluded instruments are valid thus they can be used to address endogeneity bias (Small, 2007; Kitagawa, 2015).

9.3.1 Sensitivity Analysis Regarding the Models of Economic Consequences of ISAs Adoption

This section employs the most common instrumental variables estimators namely 2SLS to control for potential endogeneity bias. Additionally, this section implements a set of sensitivity tests to check for the validity of proposed instrumental variables. This is because the 2SLS estimator must include valid instrumental variables, which are identified as being strongly correlated with predicted variables, but should not be correlated with the error terms or the outcome variable (Crown et al., 2011).

The 2SLS estimation of IVs can address the endogeneity problems that occur when the endogenous independent variables are correlated with the residuals (French & Popovici, 2011). However, it is not acceptable to run the 2SLS regression model on a binary endogenous regressor. This is because using OLS in the first stage with non-linear endogenous variables leads to performing a forbidden regression, which in turn will generate predicted values of binary endogenous regressor in the second stage (Wooldridge, 2002; Angrist & Pischke, 2009). Nevertheless, the 2SLS estimators can be employed to check and mitigate the endogeneity problem, even if the response variable and the endogenous variables included in the regression model are naturally categorical. This can be done by using a non-parametric instrumental variable model, which includes either a probit or logit model in the first stage regression instead of using multiple linear regression with binary endogenous regressors (Chesher & Rosen, 2013).

Furthermore, there are five main statistical methods that can be applied to control for potential endogeneity in a regression model with a binary endogenous variable and to avoid executing the forbidden regression. The first three techniques handle endogeneity by using instrumental variables (IV), including 2SLS linear approaches, namely linear probability model (LPM), two-stage probit least squares (2SPLS) for non-linear regression and the three-step instrumental variables (IV) approach, which uses the predicted variables of endogenous regressors to estimate causal relationships among variables. In contrast, the other two statistical models do not employ instrumental variables to control for endogeneity, including two Heckman selection models, namely the two-step approach and the full maximum likelihood method (Basinger & Ensley, 2010; Bollen et al., 1995).

Although there are some statistical methods that can be used to improve the likelihood of the model, such as the 2SLS estimator, the endogeneity problem in discrete choice models is virtually unavoidable. This is because the endogeneity problem cannot be completely corrected in the logistic regression with a binary endogenous regressor (Guevara & Ben-Akiva, 2010). Similarly, the two-stage least squares

(2SLS) model does not provide valid results if it is used to account for the endogeneity problem in the non-linear regression model, such as logit and probit models (Garrido et al., 2012). Likewise, the linear regression model requires instruments variables to correct for the endogeneity problem when the endogenous independent variables are correlated with the residuals. However, instrumental variables are not necessary for non-linear regression models with discrete choice models (Guevara & Polanco, 2013). In this regard, the dependent variables regarding the model of economic consequences of ISAs adoption are naturally continuous, which include eight numerical economic indicators, including economic growth (*ECGR*), foreign direct investment (*FDI*), gross domestic product (*GDP*), exports (*EXPO*), imports (*IMPO*), inflation rates (*INFR*), foreign exchange (*EXCR*) and interest rates (*INTR*). Therefore, this study employs the 2SLS test to control for endogeneity bias in the linear models by employing the three-step instrumental variables (2SLS) approach to avoid running forbidden regression as the endogenous regressors are binary in the economic consequence of the ISAs.

Regarding the sensitivity tests, Stata Software provides several under-identification tests to check for the correlation between the endogenous variables and instrumental variables. The under-identification tests include the Anderson LM and Cragg-Donald Wald statistics, which are valid for homoscedastic and independent errors, while Kleibergen-Paap LM statistic can be used with clustered- robust standards errors. However, it provides only one single test for different endogenous regressors (Baum et al., 2007). Hence, the Stata software can offer an advanced statistical test termed the Sanderson-Windmeijer (SW) test to check under-identification and weak identification diagnostics for each binary endogenous regressor in the question separately, along with the first-stage regressions. The Sanderson-Windmeijer (SW) statistic test reports the p-values for the under-identification test to check whether the instruments are relevant, which can also be used to check the weak identification, by identifying if instruments are strongly or weakly correlated with several endogenous regressors (Sanderson & Windmeijer, 2016).

Additionally, the Stata software can also provide an advanced statistical analysis through the Lagrange Multiplier (LM) redundancy tests, which can be statistically estimated to check whether the instrumental variables that are excluded from the equation (2) are redundant. The null hypothesis of the LM statistical test for IV redundancy assumes that the instrumental variables specified in the two-stage least square (2SLS) estimation are not redundant (Baum et al., 2007). Therefore, this study uses the LM redundancy test to check whether the instrumental variables included in the second stage regressions are redundant.

Further, there are two sensitivity tests that can be applied in Stata software to check if over-identifying restrictions are valid. These over-identification tests assume homoscedasticity in the residual, including the Anderson-Rubin test and the Stock-Wright test (Baum et al., 2015). The Sargan-Hansen test for over-identifying restrictions is robust in the existence of heteroskedasticity in residuals. Hence, the Sargan-Hansen test is widely used to check if excluded instruments are exogenous and whether they are correctly excluded from the main equation (Baum et al., 2003; De Blander, 2008).

Additionally, the over-identification tests estimated by using the instrumental variable 2SLS estimation are also used to assess the model specification and identify whether the independent variable included in the main regression models are relevant (Kirby & Bollen, 2009). Therefore, this study employs the Sargan-Hansen test for over-identification, as the linear regression models applied to examine the economic consequences of ISAs adoption suffer from heteroscedastic residuals.

The Stata Software offers several endogeneity tests to check whether the specified endogenous regressors are exogenous. These sensitivity tests that can be used to check the endogeneity bias in independent variables, including Durbin Statistic and Wu–Hausman Statistic tests, which can only be applied if the regression models are robust to homoscedastic residuals (Baum et al., 2003). However, if the regression models suffer from heteroscedasticity in the error terms, the C Statistic, which is also known as a difference in Sargan-Hansen Statistic test, can be computed by Stata Software to check whether the specified endogenous regressors are significantly correlated with the error term within the specified regression model (Bascle, 2008). Accordingly, this study uses the C Statistic test (difference in Sargan-Hansen Statistic) as a sensitivity test to check the presence of endogeneity bias in the five adopter categories of the ISAs, since all the regression models used to examine the economic consequences of the ISAs adoption suffer from heteroscedasticity in the error terms.

The Stata Software also provides an additional sensitivity test to check for the presence of omitted variables in the specified regression models. The RESET command has been widely applied in Stata to check for omitted variables in the linear regression models (Leung & Yu, 2000). Additionally, the Ramsey reset test for omitted variables bias can be also used to check for the model specification error in the linear regression models, by identifying if the specified regression models suffer from omitted variables bias or if they might include irrelevant variables (Sapra, 2005; Erees & Demirel, 2012). Therefore, this study employs the Ramsey reset test to check for the presence of omitted variables bias and model specification errors in the multiple linear regression models used to examine the economic consequences of the ISAs adoption.

Following prior IFRS literature (e.g., Shima & Yang, 2012; Cang et al., 2014; Zaidi & Huerta, 2014), this study re-estimates the multiple linear regression models employed to examine the effects of ISAs adoption on the economic consequences for 185 countries between 1995-2014, by using the instrumental variable (2SLS) estimation to control for potential endogeneity bias in the linear regression models discussed in chapter eight. Table 26 presents the results of the instrumental variables (2SLS) estimation to address endogeneity in the models used to examine the effects of the ISAs adoption on the economic consequences for 185 countries between 1995-2014.

Accordingly, there are six macro-economic factors that have been chosen to be included as instrumental variables in the 2SLS models for studying the effects of the economic consequences on

ISAs adoption. The six instrumental variables were chosen as a result of the high correlation coefficients between them and the four endogenous regressors, namely *EXPRA, ERADA, ERMJA* and *LTMJA,* whereas, the fifth group, which represents the laggards' group (*LGGRA*) was chosen as a base category. The six instrumental variables involve GDP per capita (current USD), purchasing power parity PPP (current USD), exports of goods and services as a percent of GDP, imports of goods and services as a percent of GDP, net official development assistance and official aid received (current USD), and the total external debt of stocks (current USD)[1].

The instrumental variable (2SLS) estimations have been implemented by using the three steps approach to address endogeneity bias for binary endogenous regressors and to avoid running the forbidden 2SLS regression. In the first step, the outcome variables, which refer to the economic consequences, have been replaced by the four-binary endogenous regressors, which refer to the ISAs adopter categories and the binary probit regression models have been run with all exogenous variables and control variables along with the six instrumental variables, as shown in the first stage equation (5) below. In the second step, the predicted values have been generated from the first stage equation for each endogenous regressor individually. In the third step, the original outcome variables which are the ISAs adopter categories, have been used in the OLS regression, while the endogenous regressors have been replaced by their predicted values generated in a second step with all exogenous variables along with the six instrumental variables chosen. Therefore, the first stage probit regression model with exogenous variables and the instrumental variables is specified as appears in the equation (5) below.

$$\boldsymbol{Pr[Y_{it}=1] = \Phi\ (\beta_0 + \beta_1\ ISAAC_{it} + \sum_{i=1}^{3} \beta_i\ CONTROLS_{it} + \beta_i Instrumental\ Variables_{it} + \varepsilon_{it})} \quad (5)$$

Where Y_{it} = 1 is a binary dummy variable, which refers to whether a country (i) adopted the ISAs in a given year (t). The ISAs adoption status ($ISAAS_{it}$) are still involve the same groups included in the model (2) presented in chapter six, Φ (z) = Pr(Z ≤ z) is the probit function, which refers to the cumulative probabilities of the standard normal distribution values, which takes a value between 0 and 1 from the cumulative normal tables, the predicted z-value = $(\beta_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \beta_4 X4)$, for a given predictor Xi, β_0 = the coefficient for the intercept, while β_i = the coefficient for the predictor variables, $\sum_{i=1}^{3} \beta_i\ CONTROLS_{it}$ refer to three social variables controlled in the model, which are still the same as those applied in model (2), $\text{Instrumental Variables}_{it}$ refer to the six instrumental variables the have been chosen to be included in the first stage equation (5), and ε_{it} refers to the residuals for a country (i) in a year (t).

The second stage equation (6) contains the same predictor variables included in the main equation (2) in chapter six, with some changes. The $ECISAs_{it}$ refers to the economic consequences. The ISAs

[1] The six instrumental variables have been collected from the World Bank Data.

adoption groups (ISAAC) have been replaced by their predicted values, namely *PEXPRA, PERADA, PERMJA,* and *PLTMJA* in equation (6), in addition to the six instrumental variables that are defined and included in the equation (6) below.

$$ECISAs_{it} = \alpha_0 + \beta_1 PEXPRA_{it} + \beta_2 PERADA_{it} + \beta_3 PERMJA_{it} + \beta_4 PLTMJA_{it} + \beta_5 ISAAS_{it} + \sum_{i=1}^{3} \beta_i CONTROLS_{it} + Instrumental\ Variables_{it} + \varepsilon_{it} \quad (6)$$

Table 26 shows the results of instrumental variables (2SLS) estimation, which represent the second stage estimations used to address endogeneity bias in the models of economic consequences of the ISAs for 185 countries between 1995-2014. The F-values across all the 2SLS regression models in Columns 1 to 8 of Table 26 are all statistically significant at 1% level. This means that the models with the endogenous regressors, including the five adoption groups of the ISAs and the exogenous explanatory variables, including the ISAs adoption status, in addition to the control and IVs, can jointly explain significant differences in the economic consequences of the ISAs and provide a better fit to the data.

The diagnostics of Table 26 show that adj-R2 values across all the IV (2SLS) regression models provide a higher percentage than what was reported in Table 26 in chapter eight. The adj-R2 values in Table 26 range from 0.150 to 0.667, meaning that at least 15% of the variation in the economic consequences can be explained by the explanatory variables included in equation (6), in addition to the control and instrumental variables, implying that the IV regression models provide a better fit to the data, even after including the six instrumental variables in equation (6).

Regarding the validity of the six instrumental variables, the diagnostics of Table 26 show that the Sanderson-Windmeijer (SW) statistic test rejects the null hypothesis that the instrumental variables are irrelevant and they are weakly correlated with the endogenous regressors included in equation (6), indicating that the six instrumental variables chosen are valid and they are significantly correlated with the four adopter groups of the ISAs, including *EXPRA, ERADA, ERMJA* and *LTMJA* at 10%, 1%, 1%, and 10% levels respectively.

Furthermore, Table 26 shows that the p-value of the Lagrange Multiplier (LM) statistical test for IV redundancy is statistically significant at 5% level. This means the LM redundancy test rejects the null hypothesis that the instrumental variables specified in the two-stage least square (2SLS) estimation in equation (6) are not redundant. This indicates that the six instrumental variables included in the second stage regressions in equation (6) that were excluded from the main equation (2) are redundant.

Additionally, the diagnostics of Table 26 reports that the p-values of the Sargan-Hansen test for overidentifying restrictions are statistically insignificant across the six following economic consequences, including *ECGR, FDI, GDP, EXPO, IMPO* and *INTR*, implying that all excluded instruments included in the six economic consequences models are exogenous. However, the p-values

of the Sargan-Hansen test relevant to the other two economic consequences models, including *INFR* and *EXCR* are statistically significant at 1%, and 10% levels respectively. This indicates that all excluded instruments included in *INFR* and *EXCR* are correlated with the error terms.

In terms of checking for the endogeneity problem, Table 26 reports that the p-values of the C Statistic test to control for endogeneity bias are statistically significant at 1% level across the following five economic consequences, *ECGR, FDI, GDP, EXPO, IMPO* and *INTR*. This indicates that the C Statistic test of endogeneity bias rejects the null hypothesis that the four adopter categories of the ISAs included in equation (6) are endogenous regressors and further they are correlated to the error terms. Meanwhile, the p-values of the C Statistic test relevant to *INFR* and *EXCR* are statistically insignificant, implying that the following four adopter categories of the ISAs, *EXPRA, ERADA, ERMJA & LTMJA* involved in equation (6) are not endogenous regressors.

Regarding the presence of omitted variables, Table 26 shows that the p-values of the Ramsey Reset test for omitted variables bias across all economic consequences of ISAs adoption are statistically insignificant. This means that the Ramsey test fails to reject the null hypothesis, that the main linear regression models have omitted-variables bias, and this also confirms that the main regression models are correctly specified, and they do not include irrelevant variables. Table 26 reports that the findings presented in the *ECGR* model of the ISAs adoption remain relatively similar to those results that were reported in Column 1 of Table 19 in chapter eight, with some changes in the significant levels.

Specifically, Column 1 of Table 26 suggests that the coefficient on *ERMJA* is positively but insignificantly associated with the *ECGR*, which was positive and significant at 5% level. The coefficient on the geographical regions (*GERE*), specifically the East Asia and Pacific region (*EASP*) is statistically negative at 10% level, and it was negative but insignificantly correlated with *ECGR*. The coefficient on the adopted countries speaking German language (*GRML*) is negatively but statistically insignificant correlated with *ECGR*, which was significantly negative at 5% level. The coefficient on the colonial history (*COHS*), namely the French Empire (*FRNC*) was positive insignificant, and it became positively significant at 10%, while the coefficient on the Dutch Empire (*DUTC*) was significantly positive at 5% level, it is now positively and insignificantly correlated with *ECGR*.

Column 2 of Table 26 shows that results related to the *FDI* model remain largely the same with minor exceptions. The coefficients on *ERMJA* and *FRNC* were significantly positive at 10% level, they are still positive but insignificant. The coefficients on the geographical regions, including *EASP* and *MENA* regions are significantly negative at 10% level, and were insignificantly negative. However, the signs remain insignificant, while the directions have been changed for some explanatory variables from positive to negative associations between the *FDI* and the following predictors, including ISAs status: *WIAM* and *BLAW*, the official languages *ARBL* and *GRML*, and the colonial history *BRTC* and *DUTC*.

Table 26: The results of instrumental variables (2SLS) estimation to address endogeneity in the models used to examine the effects of ISAs adoption on the economic consequences for 185 countries between 1995-2014

2SLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	***ECGR***	***FDI***	***GDP***	***EXPO***	***IMPO***	***INFR***	***EXCR***	***INTR***
Independent variables	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**	**Coef**
The ISAs Adopters								
EXPRA	2.07**	4.25	0.55***	0.84***	0.97***	1.85	-11.66	7.99
	(0.010)	(0.143)	(0.002)	(0.007)	(0.005)	(0.251)	(0.169)	(0.171)
ERADA	0.89	-0.55	0.52**	0.78**	0.87**	3.10**	3.96	9.34***
	(0.220)	(0.752)	(0.014)	(0.040)	(0.029)	(0.015)	(0.495)	(0.005)
ERMIA	0.79	1.56	0.55***	0.79**	0.91**	2.47**	-1.93	5.65**
	(0.172)	(0.321)	(0.005)	(0.023)	(0.013)	(0.045)	(0.679)	(0.038)
LTMIA	0.35	0.66	0.54***	0.81**	0.92**	0.79	-0.38	3.65
	(0.526)	(0.631)	(0.008)	(0.021)	(0.017)	(0.418)	(0.927)	(0.191)
The ISAs Status								
WIAM	0.13	-0.06	0.26**	0.44**	0.55***	-0.67	7.25**	-5.70***
	(0.835)	(0.963)	(0.012)	(0.013)	(0.006)	(0.348)	(0.036)	(0.004)
WOAM	1.29	2.02	0.10	0.25	0.29	-2.46*	6.08	-4.41
	(0.111)	(0.281)	(0.597)	(0.474)	(0.442)	(0.070)	(0.254)	(0.214)
WITR	-0.36	2.08*	0.11	0.27**	0.28**	-3.11***	5.50	-4.88**
	(0.485)	(0.057)	(0.116)	(0.033)	(0.042)	(0.000)	(0.123)	(0.028)
WOTR	0.76	7.99***	-0.34	-0.60	-0.66	-7.53***	7.68	2.03
	(0.660)	(0.000)	(0.182)	(0.186)	(0.210)	(0.000)	(0.478)	(0.614)
WAMT	-1.43*	0.79	0.12	0.31	0.43**	-3.37***	3.16	-4.56*
	(0.053)	(0.594)	(0.300)	(0.115)	(0.041)	(0.008)	(0.443)	(0.067)
BLAW	-1.72**	-0.22	-0.08	-0.07	-0.04	-2.39***	2.63	-4.04*
	(0.014)	(0.878)	(0.406)	(0.699)	(0.852)	(0.003)	(0.608)	(0.095)
GMAT	-2.40**	-5.49***	0.68**	1.28**	1.34**	-4.41**	13.85***	-10.62***
	(0.020)	(0.001)	(0.035)	(0.037)	(0.041)	(0.039)	(0.006)	(0.000)
IFRSS	0.62	-8.26***	0.31*	0.25	0.69**	-4.72	-12.62*	-0.50
	(0.697)	(0.005)	(0.060)	(0.387)	(0.038)	(0.280)	(0.061)	(0.973)
Dummy 08-09								
D08-09	-2.78***	2.15***	0.09***	0.15***	0.20***	2.23***	0.04	-0.02
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.934)	(0.982)
Control Variables								
Geographical region								
EURO	-3.81***	-0.02	0.31	0.67*	0.74*	-4.50***	-22.05***	-9.63**
	(0.000)	(0.994)	(0.131)	(0.067)	(0.061)	(0.001)	(0.001)	(0.017)
LNAM	-3.17***	2.67	-0.14	-0.13	-0.17	-3.81**	-20.11***	-1.45
	(0.000)	(0.175)	(0.538)	(0.727)	(0.695)	(0.011)	(0.000)	(0.684)
CSAS	-0.48	-2.99	0.15	0.26	0.37	-2.44	-15.42**	3.88
	(0.624)	(0.169)	(0.475)	(0.452)	(0.318)	(0.123)	(0.038)	(0.440)
EASP	-1.52*	-3.24*	0.12	0.31	0.30	-4.92***	-14.35***	-4.38
	(0.082)	(0.082)	(0.593)	(0.429)	(0.438)	(0.000)	(0.007)	(0.159)
MENA	-0.79	-3.58*	0.10	0.33	0.22	-1.63	-9.33	-7.38
	(0.355)	(0.058)	(0.784)	(0.546)	(0.698)	(0.473)	(0.317)	(0.390)
Official language								
ENGL	-2.28**	3.64**	-0.25	-0.38	-0.28	-3.61***	-17.72***	2.50
	(0.010)	(0.013)	(0.278)	(0.340)	(0.462)	(0.001)	(0.000)	(0.413)
FRNL	-3.51***	-3.81	-0.07***	-0.22	-0.24	-3.96**	-15.83**	8.13
	(0.000)	(0.128)	(0.755)	(0.578)	(0.557)	(0.042)	(0.027)	(0.112)
SPNL	1.50	2.52	0.36**	0.59**	0.68**	0.60	6.61	-0.47
	(0.152)	(0.117)	(0.015)	(0.023)	(0.016)	(0.629)	(0.548)	(0.934)
ARBL	-2.34**	-0.13	0.24	0.24	0.46	-1.59	-29.19***	0.73
	(0.010)	(0.951)	(0.445)	(0.664)	(0.414)	(0.538)	(0.005)	(0.940)
GRML	-1.03	-0.66	-0.37	-0.54	-0.65	-1.66	-6.08	8.65**
	(0.181)	(0.727)	(0.420)	(0.538)	(0.484)	(0.228)	(0.373)	(0.018)
RUSL	-1.35	-1.91	-0.09	-0.04	-0.19	6.70***	8.38	-14.44*
	(0.190)	(0.596)	(0.609)	(0.888)	(0.597)	(0.008)	(0.479)	(0.072)

Continuation: Table 26	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Colonial history								
NEVC	-0.89	0.76	0.51***	1.00***	0.93**	-4.03***	-0.98	-3.30
	(0.191)	(0.612)	(0.014)	(0.006)	(0.015)	(0.002)	(0.880)	(0.309)
BRTC	0.49	-1.12	-0.12	-0.18	-0.45	0.06	-3.65	-2.46
	(0.573)	(0.553)	(0.617)	(0.662)	(0.239)	(0.966)	(0.511)	(0.553)
FRNC	1.37*	2.71	-0.08	-0.02	-0.15	-4.62**	21.52***	1.47
	(0.094)	(0.166)	(0.721)	(0.953)	(0.693)	(0.020)	(0.002)	(0.810)
SPNC	-1.21	-3.15	0.12	0.22	0.14	-0.19	-5.24	2.81
	(0.280)	(0.109)	(0.528)	(0.519)	(0.711)	(0.907)	(0.673)	(0.670)
PORC	0.65	2.42	-0.20	0.06	-0.24	-1.56	-14.43*	6.73
	(0.540)	(0.439)	(0.561)	(0.927)	(0.729)	(0.555)	(0.098)	(0.356)
DUTC	0.61	-2.66	-0.05**	-0.15	-0.22	3.00**	18.04	-2.28
	(0.319)	(0.639)	(0.896)	(0.845)	(0.778)	(0.046)	(0.207)	(0.677)
GRMC	-0.22	-6.65***	-0.61*	-1.16**	-1.30**	-0.01	-8.50	-4.07
	(0.880)	(0.004)	(0.066)	(0.048)	(0.022)	(0.995)	(0.337)	(0.531)
RUSC	1.67**	4.94**	-0.16	-0.22	-0.30	0.61	-8.74	4.08
	(0.030)	(0.020)	(0.347)	(0.462)	(0.352)	(0.691)	(0.263)	(0.261)
Constant	4.91***	-3.78*	2.16***	-0.73	-0.82	8.07***	30.95***	11.95**
	(0.000)	(0.093)	(0.000)	(0.141)	(0.110)	(0.000)	(0.000)	(0.023)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
Clusters groups	185	185	185	185	185	185	185	185
F value	18.18***	35.84***	186.1***	196.1***	171.1***	32.75***	61.66***	21.39***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R-squared	0.159	0.271	0.659	0.671	0.640	0.254	0.390	0.182
Adjusted R-squared	0.150	0.264	0.655	0.667	0.636	0.245	0.384	0.173
The SW Chi2 test for underid								
EXPRA	6.42*	6.42*	6.42*	6.42*	6.42*	6.42*	6.42*	6.42*
	(0.092)	(0.092)	(0.092)	(0.092)	(0.092)	(0.092)	(0.092)	(0.092)
ERADA	11.37***	11.37***	11.37***	11.37***	11.37***	11.37***	11.37***	11.37***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
ERMJA	14.03***	14.03***	14.03***	14.03***	14.03***	14.03***	14.03***	14.03***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
LTMJA	7.02*	7.02*	7.02*	7.02*	7.02*	7.02*	7.02*	7.02*
	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)
The LM test of IV redundancy	39.82**	39.82**	39.82**	39.82**	39.82**	39.82**	39.82**	39.82**
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
The Sargan-Hansen of overid	0.623	2.59	2.56	2.55	1.48	19.83***	5.53*	2.91
	(0.732)	(0.274)	(0.278)	(0.280)	(0.476)	(0.000)	(0.063)	(0.233)
The C statistic of endogeneity	25.17***	15.33***	25.38***	39.21***	38.79***	5.20	4.15	10.85***
	(0.000)	(0.004)	(0.000)	(0.000)	(0.000)	(0.267)	(0.387)	(0.008)
Reset test of omitted variables	0.18	0.13	0.02	0.61	0.90	0.26	0.14	0.22
	(0.674)	(0.720)	(0.940)	(0.437)	(0.343)	(0.611)	(0.709)	(0.643)

Note: The variables are defined as follows: the dependent variables which include the economic consequences namely the economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the ISAs adoption categories which comprises five groups experimenters (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*) and laggards group (*LGGRA*). The second independent variable is the ISAs adoption status including adopted with amendments (*WIAM*); adopted without amendments (*WOAM*); adopted with translations (*WITR*); adopted without translations (*WOTR*); adopted with amendments and translations (*WAMT*); adopted by the country law (*BLAW*); adopted in gap matters (*GMAT*); adopted for financial statements prepared in accordance to IFRS (*IFRSS*); the non-adopters group of the ISAs (*NOAD*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. Statistical significance level (p-value) in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Column 3 of Table 26 displays that the findings related to *GDP* model remain very similar with some changes. The coefficients on *EXPRA, ERADA, IFRSS* and *SPNL,* were positively but statistically insignificant, and they are now significantly positive at 1%, 5%, 10% and 5% levels respectively. In contrast, the coefficients on the *WOAM, WITR* and *EURO,* were positively significant at 1% level, they became insignificantly positive. The coefficient on the *RUSC* was negatively significant at 1% level, and it is now negatively but insignificant correlated with the *GDP*. Nevertheless, the signs remain insignificant, whereas the directions have been changed for some predictors from positive to negative association between the *GDP* and the following predictors: *LNAM, FRNL, GRML, RUSL,* and *DUTC.*

Column 4 of Table 26 reports that the results relevant to *EXPO* model are still very similar with some exceptions. The coefficients on *EXPRA, ERADA* and *SPNL* are positive and statistically significant at 1%, 5% and 5% levels respectively, where they were insignificantly positive. In contrast, the coefficients on the *WOAM* and *EASP* are positive but statistically insignificant, and they were positive and significantly associated with *EXPO* at 1% and 10 levels respectively. The coefficient on the *RUSC* was negatively and significantly associated with *EXPO*, and it is now negatively but statistically insignificant. Nonetheless, the signs remain insignificant, but the directions have been changed from a positive to a negative association between the *EXPO* and the following explanatory variables, including *WOTR, BLAW, LNAM, FRLN, GRML, RUSL, BRTC* and *DUTC.* Moreover, the coefficient on *IFRSS* was negatively insignificant, and it is now positive, but still insignificantly associated with *EXPO*. Additionally, Column 5 of Table 26 reports the same changes in the *IMPO* model, which are very similar to the changes that happened to the results relevant to the *EXPO* model with additional changes. The coefficient on *IFRSS* was positively insignificant, and it is now positively and significantly associated with *IMPO* at 5% level of significance.

Column 6 of Table 26 shows that the results regarding *INFR* model are the same as those finding reports in column six in Table 19, with some changes. The coefficient on *EXPRA* is positive but statistically insignificant, where it was positively significant at 10% level. However, the coefficients on the *WOAM* and *FRNC* are negative and statistically significant at 10% and 5% respectively, where they were insignificantly positive. The coefficient on *GRML* is negative but statistically insignificant, where it was negatively and significantly associated with *INFR* at 1% level. Furthermore, the signs remain insignificant, while the direction has been converted from a positive to a negative association between the *INFR* and *GRMC*, whereas the sign has changed from a negative to a positive correlation between *INFR* and *BRTC.*

Surprisingly, Column 7 of Table 26 presents identical results related to the *EXCR* model that have been reported in Column 7 of Table 19. Column 8 of Table 26 displays that the findings related to *INTR* model are very similar to those results reported in column eight of Table 19 with some exceptions. The coefficient on *ERMJA* is significantly positive at 5% level, where it was positively but insignificantly

associated with *INTR*. Additionally, the coefficients on *WOAM, EASP* and *NEVC* are insignificantly negative, where they were negative and statistically significant at 5%,10% and 10% respectively. The coefficient on *WAMT* was insignificantly negative, and it is now negatively and significantly associated with *INTR* at 10% level. In contrast, the coefficient on *GRML* was positively insignificant, and it is now positively and insignificantly associated with *INTR*. Moreover, the signs remain insignificant, while the direction has converted from a positive to a negative association between the *INTR* and *IFRSS*, whereas the sign has changed from a negative to a positive one for the following two predictors, including *WOTR* and *ARBL*.

Overall, after comparing the findings of 2SLS estimations presented in Table 26, with the results of the multiple linear regression models reported in Table 19, this study shows that although the signs of some predictor variables have changed, the direction of most predictors used to examine the economic consequences of ISAs are still relatively the same. This means that the results of multiple linear regression models applied to study the effects of ISAs adoption on the economic consequences of adopting countries are not largely affected by the endogeneity bias especially for the *INFR* and *EXCR* models. It could be said that reverse causality is the main cause that led to produce some endogeneity bias in the regression models. This was confirmed by the sensitivity tests, which have shown that the regression models do not suffer from neither omitted variable bias nor model specification errors.

9.3.2 Sensitivity Analysis Regarding the Economic Consequences Models of IFRS Adoption

This section uses the instrumental variables (2SLS) estimation to address potential endogeneity bias in the multiple linear regression models employed to examine the economic consequences of IFRS adoption. Moreover, this section estimates a set of sensitivity tests to check whether the specified instrumental variables are valid and whether the proposed instrumental variables are strongly correlated with predicted values, but not with the residuals. Therefore, this study employs 2SLS test to control for endogeneity bias in the linear models by employing the three-step instrumental variables (2SLS) approach in order to avoid running forbidden regression with endogenous binary regressors in the model of economic consequences of IFRS adoption.

As discussed in the previous section, this study re-estimates the multiple linear regression models by employing the instrumental variable (2SLS) estimation to control for potential endogeneity bias in the linear regression models. Accordingly, Table 27 presents the findings of instrumental variables (2SLS) estimation that are employed to control for endogeneity bias in the economic consequences' models of IFRS adoption for 185 countries between 1995-2014. There are five macro-economic factors that have been selected to be included as instrumental variables in the 2SLS estimations towards studying the effects of the economic consequences on IFRS adoption. The specified instrumental variables were selected to be included as excluded instruments, due to the higher correlations between the IV and the four endogenous regressors, including *EXPRF, ERADF, ERMJF,* and *LTMJF*. The following five

instrumental variables (IV) were included, namely GDP per capita (current USD), GDP per capita, PPP (current USD), GNI per capita, PPP (current USD), exports of goods and services as a percent of GDP, imports of goods and services as a percent of GDP.

As explained in the previous section, the instrumental variable (2SLS) estimations have been employed by using the three steps approach to address endogeneity bias for binary endogenous regressors and to avoid running the forbidden 2SLS regression. The first stage equation involves binary probit regression models for each endogenous regressor separately, while the outcome variable represents the four IFRS adopter categories, and the predictor variables include the explanatory and control variables that are included in equation (3) presented in chapter six, in addition to the five specified instrumental variables. In the second stage equation, which presents multiple linear regression models, the dependent variables are the economic consequences, whereas the four-binary endogenous regressors (IFRS adopter groups) have been replaced by their predicted values generated from the first stage equation, along with all exogenous independent and control variables included in equation (3) in chapter six, in addition to the five proposed instrumental variables. Therefore, the first stage is a binary probit model, with exogenous and the instrumental variables as specified in the equation (7) below.

$$\boldsymbol{Pr[Y_{it}=1]= \Phi\ (\beta_0 + \beta_1\, IFRSLF_{it} + \beta_2 IFRSUF_{it} + \beta_3 IFRSFF_{it} + \beta_7 IFRSME_{it} + \sum_{i=1}^{3} \beta_i\, CONTROLS_{it} + \beta_i Instrumental\, Variables_{it} + \varepsilon_{it})} \quad (7)$$

Where Y_{it}= 1 is a binary dummy variable, which refers to whether or not a country (i) adopted the IFRS in a given year (t), Φ (z) = Pr(Z ≤ z) is the probit function, which refers to the cumulative probabilities of the standard normal distribution values, which takes a value between 0 and 1 from the cumulative normal tables, the predicted z-value = (β_0+$\beta_1 X1$ + $\beta_2 X2$ + $\beta_3 X3$ + $\beta_4 X4$), for a given predictor Xi, β_0= the coefficient for the intercept, while β_i = the coefficient for the predictor variables, the explanatory variables are still the same as included in odel (3) in chapter six, including IFRS status for listed firms (*IFRSLF*), IFRS status for unlisted firms (*IFRSUF*), IFRS status for foreign firms (*IFRSFF*), IFRS adoption status for SMEs (*IFRSME*), $\sum_{i=1}^{3} \beta_i\, CONTROLS_{it}$ refer to three social variables controlled in the model, which are still also the same as those applied in model (3). $\text{Instrumental Variables}_{it}$ refer to the five proposed instrumental variables the have been selected to be included in the first stage equation (8), and ε_{it} refers to the error terms for a country (i) in a year (t).

The second stage equation (8) comprises of the same predictor variables included in the equation (3) presented in chapter six with slight changes, ($ECIFRS_{it}$) are the economic indicators**,** the IFRS adopter groups ($IFRSAC_{it}$) have been replaced by their predicted values, including *PEXPRF*, *PERADF*, *PERMJF* and *PLTMJF*, produced from equation (7), in addition to the five proposed instrumental variables that are specified to be as excluded instruments as identified in the equation (8) below.

$$ECIFRS_{it} = \alpha_0 + \beta_1 PEXPRF_{it} + \beta_2 PERADF_{it} + \beta_3 PERMJF_{it} + \beta_4 PLTMJF_{it} + \beta_5 IFRSLF_{it} + \beta_6 IFRSUF_{it} + \beta_7 IFRSFF_{it} + \beta_8 IFRSME_{it} + \sum_{i=1}^{3} \beta_i CONTROLS_{it} + \beta_i Instrumental\ Variables_{it} + \varepsilon_{it} \quad (8)$$

Table 27 reports the findings of the instrumental variables (2SLS) estimation, which represent the second stage estimations used to control for the endogeneity bias in the models of economic consequences of IFRS adoption for 185 countries between 1995-2014. The diagnostics of Table 27 show that the p-values of F-statistic across all the instrumental variables (2SLS) regression models are all statistically significant at 1% level. This means that the models with the endogenous regressors, namely the IFRS adopter groups *EXPRF*, *ERADF*, *ERMJF* and *LTMJF* along with the exogenous explanatory and the control variables included in equation (8), in addition to the five specified instrumental variables, can jointly explain the variation in the economic consequences of the IFRS and provide a better fit to the data than those models with intercepts only.

Additionally, the diagnostics of Table 27 report that adj-R2 values across all 2SLS regression models provide a higher percentage than what were previously reported in Table 22 in chapter eight. The adj-R2 values in Table 27 range from 0.147 to 0.709, meaning that at least 14.7% of the variation in the economic consequences can be explained by the independent variables included in equation (8) in addition to the control variables and the proposed instrumental variables, implying that the IV regression models provide a better fit to the data, even after including the five specified IVs in equation (8).

With respect to the sensitivity tests used to check the validity of the specified instrumental variables, Table 27 shows that the Sanderson-Windmeijer (SW) statistic test for an under-identification check rejects the null hypothesis that the specified instrumental variables are weakly correlated with the endogenous regressors included in equation (8), indicating that the selected instrumental variables are valid and they are significantly correlated with the binary endogenous regressors, including *EXPRF*, *ERADF*, *ERMJF* and *LTMJF* at 5%, 1%, 1%, and 1% levels respectively.

Further, Table 27 displays that the p-value of the Lagrange Multiplier (LM) statistical test for the IV redundancy test is statistically significant at 10% level. This means the LM redundancy test rejects the null hypothesis that the specified instrumental variables included in 2SLS estimation in equation (8) are not redundant. This means that the proposed instrumental variables included in the second stage regressions in equation (8) are redundant and they cannot affect the result, as they have already been excluded from the main multiple linear regression model presented in equation (3) in chapter six.

To test for over-identifying restrictions, Table 27 shows that the p-values of the Sargan-Hansen test to check for over-identifying restrictions that are statistically insignificant across the following seven economic consequences: *ECGR, GDP, EXPO, IMPO, INFR, EXCR* and *INTR*, implying that the five specified IVs included in the seven economic consequences models are exogenous. Nevertheless, Table

27 displays that the p-values of the Sargan-Hansen test relevant to the *FDI* model are statistically significant at 1% level. This indicates that the five proposed IVs that were included in the *FDI* model are correlated with the error terms, thus they might lead to estimate biased results in the 2SLS model.

To check for potential endogeneity, Table 27 reports that the p-values of the C Statistic test to check for endogeneity bias are statistically significant across the following six economic consequences: *ECGR, GDP, EXPO, IMPO, INTR* and *INFR*. This indicates that the C Statistic test for endogeneity bias rejects the null hypothesis that the four-binary endogenous regressors related to the IFRS adopter groups are endogenous regressors and they are correlated with the residuals. Whereas, the p-values of the C Statistic test relevant to two economic factors, *FDI* and *EXCR* models are statistically insignificant, implying that the following four adopter categories of the IFRS, including *EXPRF, ERADF, ERMJF* and *LTMJF*, involved in equation (8) cannot be treated as endogenous regressors, meaning that the *FDI* and *EXCR* models do not suffer from endogeneity bias. This indicates that the main multiple linear regression related to *FDI* and *EXCR* models are more accurate than the 2SLS regression models presented in equation (8).

To address omitted variables concerns, Table 27 shows that the p-values of the Ramsey Reset test for omitted variables bias across all the economic consequences models of IFRS adoption are statistically insignificant. This implies that the Ramsey test for omitted variables check fails to reject the null hypothesis, that the main multiple linear regression models have omitted-variables bias. This can also indicate that the multiple linear regression models do not have irrelevant variables, thus the multiple linear regression models are correctly specified.

Table 27 shows that the results related to the *ECGR* model remain largely similar to those findings reported in Column 1 of Table 22 in chapter eight with slight changes in the significant levels. Specifically, Column 1 of Table 27 suggests that the coefficients on *RFBI* and *RLPF* are positively and significantly associated with the *ECGR* at 10% level, which was positive but statistically insignificant. In contrast, the coefficients on *ERMJF, FRNC* and *DUTC* are positive but insignificantly associated with *ECGR*, where they were positive and significant at 10%, 5% and 5% levels respectively.

Column 2 of Table 27 shows that the 2SLS findings are relevant to the *FDI* model. The coefficients on *RLPF* and *SPNC* were positive but statistically insignificant, and they are now positive and statistically significant at 10% level. The coefficients on *ERMJF, EURO, ENGL* and *PORC* are positive but statistically insignificant, where they were positive and significantly associated with *FDI* at 10%, 10%, 5% and 10% levels respectively. However, the signs remain insignificant, while the directions have been changed from a negative to a positive association between the *FDI* and certain predictor variables, including *LTMJF, NOTP, LNAM* and *SPNL*, whereas the sign has changed from a positive to a negative correlation between *FDI* and the following control variables: *GMRL, BRTC* and *DUTC*.

Column 3 of Table 27 reports that the findings related to the *GDP* model are very similar to the results reported in Table 22, with minor changes. The coefficients on *RAFC, EASP* and *SPNL* were positively but statistically insignificant, and they are now significantly positive at 5%, 10% and 5% levels, respectively. In contrast, the coefficients on *BRTC* was negative but statistically insignificant, and it is now significantly negative at 10% level. The coefficient on *RUSC* is negative, but insignificant, where it was negatively and significantly associated with *GDP* at 5% level. Nevertheless, the signs remain insignificant, whereas the directions have been changed for certain predictors from a positive to a negative association between the *GDP* and the following predictor variables: *EXBI, LNAM* and *GRML*.

Column 4 of Table 27 shows that the results relevant to the *EXPO* model are still very similar, with some exceptions. The coefficients on *RAFC* and *SPNL* are positive and significant at 10% level, where they were positively but insignificantly associated with *EXPO*. In contrast, the coefficients on *LTMJF, RFAL, PADF, RLPF* and *RUSL* are positive but statistically insignificant, where they were positive and significantly associated with *EXPO* at 10%, 5%, 10%, 10% and 10% levels respectively. Additionally, the signs remain insignificant, but the directions have been changed from a positive to a negative association between the *EXPO* and the following variables: *EXBI, LNAM, FRNL, GRML, BRTC, SPNC* and *DUTC*, whereas the sign remains insignificant, but the direction has been converted from a negative to a positive association, between the *EXPO* and *ENGL*. Additionally, Column 5 of Table 27 reports the same changes in the *IMPO* model, which are very similar to the changes that happened to the results relevant to the *EXPO* model with minor changes. Specifically, the coefficients on *PEBI, EURO, EASP* and *ARBL* were significantly positively, and they are now insignificantly positive linked with *IMPO*.

Column 6 of Table 27 shows that the findings relevant to the *INFR* model are the same as those results reports in Table 22 with slight changes. The coefficients on *EXPRA* and *FRNC* were negative but statistically insignificant, and they are now negatively and significantly associated with *INFR* at 10% and 5% levels respectively. The coefficients on the *RFBI, NOTR,* and *DUTC* are positive and statistically significant at 5% level, where they were positively but insignificantly correlated with *INFR*. The coefficient on the *PAFC* and *GRML* were negatively and significantly associated with *INFR* at 10% and 1% level respectively, they are now negative but statistically insignificant. However, the signs remain insignificant between the *INFR* and *ERMJF*, while the direction has changed to negative.

Surprisingly, Column 7 of Table 27 reports results related to the *EXCR* model comparable to the findings that have been reported in Column 7 of Table 22, without any changes in the magnitude and direction across all predictor variables. Similarly, Column 8 of Table 27 shows that the findings related to the *INTR* model are the same as those results reported in Table 22, with some exceptions. The coefficient on *NEVC* was negatively and significantly associated with *INTR* at 10% level, and it is now negatively but statistically insignificant. However, the signs remain insignificant, while the direction has converted from a positive to a negative association between the *INTR* and *D08-09.*

Table 27: The results of instrumental variables (2SLS) estimation to address endogeneity in the models used to examine the effects of IFRS adoption on the economic consequences for 185 countries over 1995-2014

2SLS Regression Models	Economic Consequences (dependent variables)							
Dependent variables	***ECGR***	***FDI***	***GDP***	***EXPO***	***IMPO***	***INFR***	***EXCR***	***INTR***
Independent variables	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**	**Coef.**
The IFRS Adopters								
EXPRF	-0.56	-1.94	-0.24	-0.56	-0.68	-3.68*	-7.05	13.81**
	(0.613)	(0.472)	(0.514)	(0.354)	(0.344)	(0.075)	(0.323)	(0.030)
ERADF	0.60	-0.03	-0.15	-0.50	-0.46	-0.49	2.59	14.40***
	(0.516)	(0.987)	(0.502)	(0.185)	(0.290)	(0.775)	(0.708)	(0.001)
ERMJF	1.21	1.54	-0.12	-0.44	-0.43	-0.31	0.99	10.63***
	(0.196)	(0.415)	(0.634)	(0.288)	(0.365)	(0.859)	(0.867)	(0.003)
LTMJF	0.58	0.92	0.22	0.20	0.27	0.25	3.76	2.81
	(0.412)	(0.497)	(0.238)	(0.559)	(0.488)	(0.853)	(0.443)	(0.352)
The IFRS for listed firms								
NREQ	0.87	-0.21	0.48***	0.83***	0.87**	-1.45	1.69	-1.73
	(0.273)	(0.881)	(0.006)	(0.006)	(0.012)	(0.313)	(0.721)	(0.574)
NPER	1.22	-0.64	0.43*	0.62	0.75	-4.65***	-2.88	-1.30
	(0.191)	(0.682)	(0.052)	(0.121)	(0.117)	(0.001)	(0.633)	(0.723)
RFAL	1.49	-0.08	0.21	0.48	0.47	1.57	3.44	-9.38*
	(0.331)	(0.970)	(0.455)	(0.344)	(0.410)	(0.460)	(0.676)	(0.063)
PFAL	1.42	-3.11	0.24	0.58	0.56	-1.14	-1.77	-1.72
	(0.429)	(0.207)	(0.459)	(0.353)	(0.411)	(0.572)	(0.825)	(0.780)
RFBI	2.16*	-1.63	0.44*	0.90**	0.87*	4.54**	19.26**	-1.67
	(0.087)	(0.508)	(0.058)	(0.032)	(0.051)	(0.023)	(0.046)	(0.798)
EXBI	5.13**	4.68	-0.16	-0.19	-0.22	-0.34	-13.09	-18.64***
	(0.010)	(0.104)	(0.740)	(0.832)	(0.820)	(0.897)	(0.271)	(0.004)
The IFRS for unlisted firms								
NOTP	0.14	1.42	0.61***	0.97***	1.07***	2.59**	10.88*	1.47
	(0.857)	(0.280)	(0.002)	(0.004)	(0.007)	(0.018)	(0.051)	(0.630)
RADF	1.34	2.75	0.40**	0.58*	0.73**	-0.65	7.09	-1.30
	(0.181)	(0.187)	(0.023)	(0.052)	(0.038)	(0.634)	(0.206)	(0.764)
RBIP	1.30	6.48***	0.08	0.05	0.04	-2.83**	-0.02	-0.11
	(0.195)	(0.001)	(0.632)	(0.860)	(0.911)	(0.038)	(0.997)	(0.981)
PADF	1.40	3.52*	0.24	0.29	0.36	1.01	7.16	-4.10
	(0.196)	(0.053)	(0.149)	(0.324)	(0.274)	(0.376)	(0.109)	(0.365)
RFFI	1.03	0.94	0.67***	1.03***	1.17***	0.41	6.56	2.28
	(0.377)	(0.694)	(0.000)	(0.002)	(0.001)	(0.769)	(0.274)	(0.693)
RLPF	2.23*	4.76*	0.41**	0.55	0.68*	-1.04	10.22	-0.77
	(0.086)	(0.060)	(0.039)	(0.104)	(0.080)	(0.481)	(0.241)	(0.880)
PEBI	-0.40	2.25	0.34	0.45	0.63	1.22	10.29	2.90
	(0.701)	(0.470)	(0.135)	(0.216)	(0.187)	(0.653)	(0.221)	(0.685)
The IFRS for foreign firms								
NOTR	-0.82	-0.20	0.35**	0.59**	0.68**	2.16**	-4.68	4.53
	(0.222)	(0.880)	(0.021)	(0.021)	(0.026)	(0.046)	(0.329)	(0.101)
RAFC	-1.86	0.76	0.47*	0.79*	0.94*	-1.59	-7.14	7.25*
	(0.195)	(0.672)	(0.055)	(0.068)	(0.056)	(0.442)	(0.334)	(0.088)
PAFC	-1.37	0.19	0.65**	1.02*	1.24**	-2.84	-9.01	3.40
	(0.356)	(0.993)	(0.029)	(0.062)	(0.045)	(0.158)	(0.238)	(0.409)
RSPO	-4.25***	-3.62*	0.44*	0.80*	0.92*	-3.74*	-12.27*	8.65*
	(0.004)	(0.080)	(0.062)	(0.059)	(0.053)	(0.095)	(0.096)	(0.069)
IFRS adoption for SMEs								
ASME	-1.73***	0.04	0.18***	0.26**	0.36***	-1.09*	4.52*	0.79
	(0.002)	(0.965)	(0.004)	(0.014)	(0.003)	(0.091)	(0.051)	(0.608)
Dummy 08-09								
D08-09	-2.85***	2.01***	0.11***	0.18***	0.24***	2.14***	0.84	-0.03
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.163)	(0.975)
Control Variables								
Geographical regions								
EURO	-3.68***	0.35	0.21	0.50	0.57	-4.51***	-20.90***	-7.31*
	(0.000)	(0.874)	(0.349)	(0.196)	(0.193)	(0.005)	(0.003)	(0.058)
LNAM	-4.06***	1.76	-0.09	-0.03	-0.06	-3.34**	-19.74***	-2.51
	(0.000)	(0.305)	(0.687)	(0.939)	(0.886)	(0.040)	(0.000)	(0.514)
CSAS	-0.43	-2.95	0.24	0.47	0.56	-2.40	-15.35**	1.43
	(0.669)	(0.160)	(0.318)	(0.245)	(0.227)	(0.126)	(0.033)	(0.750)
EASP	-1.76*	-3.10*	0.35*	0.71*	0.66	-5.43***	-15.04***	-2.76
	(0.056)	(0.093)	(0.097)	(0.053)	(0.102)	(0.000)	(0.007)	(0.305)
MENA	-0.54	-2.11	0.11	0.34	0.21	-1.84	-7.99	-7.41
	(0.534)	(0.320)	(0.542)	(0.346)	(0.529)	(0.375)	(0.344)	(0.348)

Continuation: Table 27	*ECGR*	*FDI*	*GDP*	*EXPO*	*IMPO*	*INFR*	*EXCR*	*INTR*
Official language								
ENGL	-2.31***	2.14	-0.01	0.03	0.05	-3.09**	-16.61***	0.73
	(0.004)	(0.177)	(0.978)	(0.940)	(0.895)	(0.005)	(0.001)	(0.788)
FRNL	-4.22***	-4.54**	0.06	-0.01	-0.03	-4.53**	-17.23**	10.36**
	(0.000)	(0.048)	(0.774)	(0.991)	(0.945)	(0.020)	(0.025)	(0.033)
SPNL	1.22	0.73	0.38**	0.64*	0.73*	-0.17	10.83	1.48
	(0.283)	(0.677)	(0.045)	(0.068)	(0.065)	(0.885)	(0.241)	(0.818)
ARBL	-3.10***	-1.89	0.33	0.44	0.67	-2.31	-34.34***	-0.13
	(0.005)	(0.400)	(0.138)	(0.316)	(0.107)	(0.350)	(0.000)	(0.989)
GRML	-2.10**	-3.74**	-0.32	-0.35	-0.52	-2.27	-6.59	7.69**
	(0.010)	(0.040)	(0.410)	(0.640)	(0.516)	(0.139)	(0.328)	(0.025)
RUSL	-1.67**	-2.54	0.21	0.44	0.36	7.21***	4.59	-14.70**
	(0.046)	(0.400)	(0.234)	(0.113)	(0.277)	(0.000)	(0.680)	(0.040)
Colonial history								
NEVC	-1.03	1.57	0.65***	1.24***	1.27***	-3.22**	-3.17	-2.60
	(0.182)	(0.350)	(0.000)	(0.000)	(0.000)	(0.021)	(0.616)	(0.362)
BRTC	0.64	-0.15	-0.36*	-0.56*	-0.77**	0.33	-3.89	-2.23
	(0.411)	(0.938)	(0.051)	(0.061)	(0.028)	(0.811)	(0.484)	(0.556)
FRNC	1.44	4.20**	-0.33**	-0.46	-0.57*	-4.56**	19.28***	3.12
	(0.117)	(0.036)	(0.038)	(0.104)	(0.068)	(0.030)	(0.009)	(0.597)
SPNC	-0.86	0.50	-0.07	-0.08	-0.22	0.75	-10.45	2.54
	(0.493)	(0.802)	(0.780)	(0.856)	(0.652)	(0.660)	(0.357)	(0.725)
PORC	0.18	2.36	-0.24	-0.03	-0.33	-1.85	-16.76*	7.90
	(0.892)	(0.407)	(0.471)	(0.960)	(0.636)	(0.428)	(0.068)	(0.247)
DUTC	0.21	-4.61	-0.18	-0.28	-0.37	3.71**	17.44	-4.31
	(0.772)	(0.364)	(0.661)	(0.685)	(0.657)	(0.012)	(0.245)	(0.315)
GRMC	0.12	-5.92**	-0.85***	-1.57***	-1.72***	-1.57	-10.50	-4.27
	(0.935)	(0.018)	(0.001)	(0.001)	(0.001)	(0.378)	(0.196)	(0.471)
RUSC	0.69	4.69**	-0.25	-0.35	-0.44	-0.08	-9.82	5.50
	(0.347)	(0.019)	(0.127)	(0.196)	(0.164)	(0.953)	(0.166)	(0.103)
Constant	5.61***	4.57**	1.97***	-0.99**	-1.14**	9.30***	31.45***	6.76
	(0.000)	(0.030)	(0.000)	(0.030)	(0.036)	(0.000)	(0.000)	(0.238)
Observations	3700	3700	3700	3700	3700	3700	3700	3700
F value	10.3***	13.3***	19.6***	20.6***	18.6***	15.6***	9.74***	10.33***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Adjusted R-squared	0.147	0.285	0.695	0.709	0.657	0.257	0.396	0.208
The SW Chi2 test for underid								
EXPRF	7.84**	7.84**	7.84**	7.84**	7.84**	7.84**	7.84**	7.84**
	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
ERADF	20.45***	20.45***	20.45***	20.45***	20.45***	20.45***	20.45***	20.45***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
ERMJF	14.63***	14.63***	14.63***	14.63***	14.63***	14.63***	14.63***	14.63***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
LTMJF	20.16***	20.16***	20.16***	20.16***	20.16***	20.16***	20.16***	20.16***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
The LM test of IV redundancy	33.68*	33.68*	33.68*	33.68*	33.68*	33.68*	33.68*	33.68*
	(0.090)	(0.090)	(0.090)	(0.090)	(0.090)	(0.090)	(0.090)	(0.090)
The Sargan-Hansen of overid	1.87	4.34	1.55	1.69	2.45	2.61	0.435	0.905
	(0.392)	(0.114)	(0.459)	(0.429)	(0.294)	(0.272)	(0.805)	(0.636)
The C statistic of endogeneity	9.30**	1.99	30.91***	27.94***	17.35***	17.3***	7.18	15.11***
	(0.045)	(0.736)	(0.000)	(0.000)	(0.002)	(0.002)	(0.127)	(0.005)
Reset test of omitted variables	0.10	0.35	2.11	0.02	0.01	1.97	0.28	1.26
	(0.968)	(0.553)	(0.148)	(0.875)	(0.906)	(0.162)	(0.598)	(0.264)

Note: The dependent variables include the economic consequences are defined as follows: the economic growth (*ECGR*); foreign direct investment (*FDI*); gross domestic product (*GDP*); exports of goods and services (*EXPO*); exports of goods and services (*IMPO*); Inflation rates measured by the consumer price index (*INFR*); foreign exchange rate (*EXCR*); real interest rate (*INTR*). The first independent variable is the IFRS adoption categories which comprises five groups experimenters (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*) and laggards group (*LGGRF*). The second independent variable represents the IFRS adoption status for domestic listed firms (*IFRSLF*) including the following classification; there is no local stock exchange in the country (*NOSE*); IFRS is not required for listed companies (*NREQ*); IFRS is not permitted for listed companies (*NPER*); IFRS is required for all listed firms *(RFAL*); IFRS is permitted for all listed companies (*PFAL*); IFRS is required only for banks and insurance firms (*RFBI*); IFRS is required for all firms except banks and insurance firms (*EXBI*). The third independent variable represents the IFRS status for domestic unlisted firms (*IFRSUF*) including the next groups IFRS is not required for domestic unlisted firms (*NORQ*); IFRS is not permitted for unlisted firms (*NOTP*); IFRS is required for all unlisted firms (*RADF*); IFRS is required for unlisted banks & insurance firms (*RBIP*); IFRS is permitted for all unlisted firms (*PADF*); IFRS is required for unlisted financial institutions (*RFFI*); IFRS is required for publicly accountable firms (*RPAF*); IFRS is permitted for all unlisted firms except banks and insurance companies (*PEBI*). The fourth independent variable represents the IFRS adoption status for foreign firms (*IFRSFF*) including the following classifications IFRS is not applicable (*NOTA*); IFRS is not required for foreign firms (*NOTR*); IFRS is required for all foreign companies (*RAFC*); IFRS is permitted for all foreign companies (*PAFC*); IFRS is required for some foreign firms, permitted for others (*RSPO*). The fifth independent variable represents the IFRS adoption status for SMEs (*IFRSME*) which involves two groups namely, IFRS is not adopted by SMEs (*NSME*); IFRS is adopted by SMEs (*ASME*); year dummy for the crisis period (*D08-09*); and the control variables involve three administrative factors. Firstly, geographical regions (*GERE*) comprise the following regions, Europe (*EURO*); Latin and North America (*LNAM*); Central and South Asia (*CSAS*); East Asia and Pacific (*EASP*); Middle East and North Africa (*MENA*); Africa (*AFRC*). Secondly, official languages (*OFLN*) consists of basic languages namely English (*ENGL*); French (*FRNL*); Spanish (*SPNL*); Arabic (*ARBL*); German (*GRML*); Russian (*RUSL*); and other languages (*OTHL*). Thirdly, colonial history (*COHS*) involves the following colonialisms, countries that were never colonized (*NEVC);* British Empire *(BRTC);* French Empire *(FRNC);* Spanish Empire *(SPNC);* Portuguese Empire *(PORC);* Dutch Empire *(DUTC);* German Empire *(GRMC);* Russian Empire *(RUSC);* and other colonialisms *(OTHC*). The last independent categorical variables have been chosen as base categories for each group of nominal data included in the model. The p-value in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Overall, after comparing the findings of 2SLS estimations presented in Table 27 with the results of multiple linear regression models reported in Table 22, this study reports that despite the magnitude of some predictor variables changing from significant to insignificant relationship or vice-versa, the direction of most predictors used to examine the economic consequences of IFRS adoption are still relatively very similar. This indicates that the results of multiple linear regression models applied to study the effects of IFRS adoption on the economic consequences of adopting countries are not largely influenced by the potential endogeneity bias. Specifically, the findings of Table 27 indicate some sensitivity in the results relevant to the following six economic effects: *ECGR, GDP, EXPO, IMPO, INFR* and *INTR*, while only two models of economic consequences have not shown any sensitivity into their results, including *INFR* and *EXCR* models. This means that the main findings presented in Table 22 relating to the *INFR* and *EXCR* models do not suffer from neither the endogeneity problem nor omitted variables bias. Therefore, this section reveals that the main results of the multiple linear regression models presented in Table 22 are robust and they have not been affected by potential endogeneity bias or influenced by omitted variables, which are not suggested by the theoretical and empirical models applied in this study.

9.4 Chapter Summary

This chapter reported on the findings of additional robustness checks and sensitivity tests employed to check for the validity of the findings obtained by running multivariate parametric and non-parametric regression used to examine the national antecedents and the economic consequences of adopting the international accounting innovations. Specifically, the cumulative binary probit regression models have been implemented to check the robustness of a series of logit regression models applied in chapter eight to investigate the national antecedents of the worldwide adoption of the international accounting innovations. Moreover, the most common IV estimations, known as the 2SLS estimator has been employed to examine the robustness of the findings obtained from conducting multiple linear regression models employed to examine the economic consequences of adopting the international accounting and auditing standards.

Additionally, several sensitivity tests have been performed to check the validity of IVs included in the 2SLS regression models, used to check the presence of potential endogeneity bias and the effect of omitted variables in the main multiple linear regression models. These sensitivity tests include the Sanderson-Windmeijer (SW) test, which was used to check if the IVs included in the regression models are under-identified and weakly correlated with the endogenous regressors. The Lagrange Multiplier (LM) statistical test is another sensitivity test that was applied to check whether the IV are redundant, since they were excluded from the main regression models. The Sargan-Hansen test was also employed to check for over-identifying restrictions and identify whether the IV included in the regression models are not correlated with the error terms. The C statistic test was implemented to check the presence of

potential endogeneity bias in the main regression models. Finally, the Ramsey Reset test was employed to check whether the main regression models have omitted variables bias and have irrelevant variables.

Overall, this chapter reports that the results that have been achieved from a series of binary logit regression models are largely consistent with the findings obtained from a series of cumulative binary probit regression models applied to examine the national antecedents of adopting the international accounting innovations. Furthermore, this chapter also indicates that the results of the multiple linear regression models used to examine the economic consequences of adopting the international accounting innovations are robust in terms of different endogeneity problems, with a few sensitivities to unobserved bias in the control variables. Finally, the next chapter presents a summary of the results and identifies the research implications and further highlights the theoretical, empirical and methodological contributions of conducting this study. The next chapter will also assess the impact of each limitation in relation to the overall findings and conclusions and will provide some future research suggestions.

Chapter Ten : Summary of Findings, Implications, and Further Research

10. Aims of the Chapter

This chapter presents a summary of the major findings of this study and draws conclusions, highlights the theoretical and empirical contributions of this study, suggests implications for academic research and practice, identifies the limitations of this study, and suggests new areas for future research. Specifically, Section 10.1 summarises the main findings and draws conclusions relating to the national antecedents and the consequences of the worldwide adoption of the international accounting innovations. Section 10.2 discusses the theoretical, empirical and methodological contributions of this study. Section 10.3 presents implementable implications that might be important for policymakers, practice, theory, and academic research. Section 10.4 discusses the potential weaknesses and identifies several practical and fundamental limitations of this research. Section 10.5 provides suggestions and potential directions that could be explored in future research. Finally, Section 10.6 provides a summary of the conclusion chapter.

10.1 Summary of the Main Research Findings

This section summarizes the main research findings of the study discussed in chapters eight. This study has examined the national antecedents and consequences of the worldwide adoption of the international accounting innovations over the period from 1995-2014. To this end, the current study has employed two different regression models. Firstly, this study has applied non-parametric logistic regression models to investigate the association between the key national antecedents, including legal, cultural, political and educational factors, on the adoption of the international accounting and auditing standards for 162 countries. Secondly, this study has employed parametric multiple linear regression models to explore the causal relationship between the adoption of the international accounting and auditing standards and the economic consequences for 185 adopting countries around the world.

Accordingly, the following section is divided into four different subsections, which summarise the main findings relevant to each model separately. Specifically, subsection 10.1.1 outlines the major results relating to the model of national antecedents of ISAs adoption. Subsection 10.1.2 summaries the main findings relating to the model of national antecedents of IFRS adoption. Subsection 10.1.3 provides a summary of the primary results regarding the model of economic consequences of ISAs adoption. Subsection 10.1.4 summarises the main findings relating to the model of economic consequences of IFRS adoption.

10.1.1 Findings Related to the Antecedents Model of Adopting ISAs

As discussed in section 8.1 of chapter eight, this study examined the association between the key national antecedents, including legal, political, cultural and educational factors on the diffusion of the international standards on auditing (ISAs). The ISAs adopter categories represent the outcome variable of the model of national antecedents of ISAs, which includes five main groups derived from the DOI

theory, including experiments, early adopters, early majority, late majority and laggards. This has been done by running a series of cumulative binary logistic regression models, since the dependent variable is categorical in nature. Therefore, this subsection summaries the main empirical findings relating to the antecedents' model of the ISAs adoption.

Regarding the legal antecedents, consistent with the findings of prior CGGs studies (Haxhi & Ees, 2010; Zattoni & Cuomo, 2008; Aguilera & Cuervo-Cazurra, 2004), the results of this study show that countries with an English common legal origin (*ENCM)* are more likely to be the early adopters of the ISAs. This result also provides support to the LLSV legal origins theory, which assumes that common law countries are more prone to adopting the accounting innovations, with a view to satisfy the needs of their investors, and further due to the higher levels of their legal enforcement (La Porta et al., 1997). Similarly, the findings reported that countries with civil law and mixed legal origins are more likely to delay their decision to adopt the ISAs, as a result of weak judicial enforcement levels in the civil law countries. Additionally, the results indicate that countries with Socialist civil law (*SOCV*) are more prone to adopting the ISAs during the initial stages. This finding is in line with previous studies (Jorgensen & Soderstrom, 2007), which reported that Socialist legal origin countries have the lowest quality of national auditing standards. Hence, they are more likely to adopt the ISAs to attract more investors, and thus enhance their weak economic performance.

Furthermore, the results of this study suggest that countries with strong laws for protecting shareholder rights (*SHPR*) are more likely to adopt the ISAs during the earlier stages. This result is in line with prior empirical studies (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016). Additionally, the findings of this study report that countries with strong judicial efficiency (*JUEF*) and a higher level of legal system integrity (*LSIN*) are more likely to adopt the most rigid international auditing standards during the initial stages. This finding is consistent with the previous studies discussed in chapter four (Boolaky, 2011; Hope, 2003). Besides, this study also concluded that countries with a higher level of judicial independence (*JUIN*) are more likely to adopt the ISAs during the early stages. This finding lends support to the prior literature (Avram et al., 2015; Houqe et al., 2012; Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014), and to institutional theory, which assumes that countries with strong judicial independence are more prone to adopting the international auditing standards as a response to the coercive pressures arising from legal institutions, with a view to gain more legal legitimacy (Pricope, 2016).

With respect to the political antecedents, this study finds that countries with higher levels of voice and accountability (*VOAC*) are more likely to adopt the ISAs during the initial stages. This result offers support to the prior IFRS studies (Houqe et al., 2012; Houqe & Monem, 2013; Gresilova, 2013; Houqe & Monem, 2016), and lends support to the institutional theory, which supposes that countries with strong political power are more susceptible to adopting the accounting innovations as a reaction to the

coercive pressures exerted by political groups to satisfy the international organizations (Kossentini & Ben Othman, 2014). Similarly, the findings of this research show that countries with weak political stability (*POST)* are more likely to adopt the ISAs during the initial stages. This result is in line with previous studies (Pricope, 2014; Gresilova, 2013). This finding can lend support to the institutional theory, which suggests that the coercive isomorphism arises from political groups and leads to enforcing the adoption of the international auditing standards to legitimatise their political systems (Irvine, 2008).

In a similar vein, and consistent with the results of prior studies (Houqe et al., 2012; Wieczynska, 2016; Gresilova, 2013; Avram et al., 2015), the results of this study show that countries with a higher level of regulatory quality (*REQU*) are more likely to embrace the ISAs during the initial stages, to gain more economic benefits. This finding also offers support to the economic development theory, which suggests that adopting the international standards on auditing can lead to enhancing the economic performance of countries with strong regulatory quality (Larson & Kenny, 1996). Moreover, the obtained findings show that countries with weak corruption controls (*COCU*) are more likely to embrace the ISAs during the initial stages. This finding lends support to the previous empirical literature (Zaidi & Huerta, 2014; Houqe & Monem, 2016; Cai et al., 2014; Avram et al., 2015; Gresilova, 2013). This finding provides support to institutional theory, which assumes that the coercive pressures that arise from political institutions can be used to minimize the corruption level in countries with a high corruption and weak governance environment, by adopting the international accounting innovations (Houqe & Monem, 2013).

With respect to the cultural antecedents, the results of this research report that countries with higher levels of power distance culture (*PWDS*) are less likely to be the early adopters of the ISAs. This result offers support to the findings obtained by the prior studies (Neidermeyer et al. 2012; Lasmin, 2012; Haxhi & Ees, 2008). Besides, the findings of this study report that countries with a higher level of individualism (*INDV*) are more prone to adopting the ISAs during the early stages, and this finding provides support for another previous study (Lasmin, 2012). Moreover, the findings show that countries with a higher level of uncertainty avoidance culture (*UNAV*) are less likely to adopt the ISAs during the initial stages. This finding supports the results achieved by the previous studies (Shima & Yang, 2012; Fearnley & Gray, 2015; Yurekli, 2016; Felski, 2015; Lasmin, 2012). Additionally, the results of this research show that countries with a lower level of masculinity (*MASC*) are more likely to embrace the ISAs during the initial stages, and this result is in line with a further study conducted by Yurekli (2016).

The results relating to the previous four cultural dimensions provide theoretical support to the Hofstede-Gray cultural theory, which assumes that countries with higher levels of individualism index and lower ranks of power distance, uncertainty avoidance and masculinity index, are more prone to adopting the international accounting innovations. This is because these cultural values are very similar to the Anglo-Saxon nations that have accounting values consistent with the requirements needed to

implement the international accounting innovations, including professionalism, confidence, flexibility, and transparency (Zeghal & Mhedhbi, 2006; Borker, 2012; Perera & Mathews, 1990).

Furthermore, consistent with the results provided by the prior empirical research conducted by (Erkan & Agsakal, 2013), this study shows that countries with lower levels of long-term orientation index (*LTOR*) are less likely to be the early adopters of the ISAs. However, this result contradicts the theoretical assumption suggested by the Hofstede-Gray cultural theory relating to the long-term orientation index. Moreover, the findings of this study revealed that countries with higher levels of indulgence index (*INDU*) are more likely to be the early adopters of the ISAs. This result is in line with the findings reported by the previous empirical studies (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014). It also provides support to the Hofstede-Gray cultural theory, which supposes that countries with higher levels of indulgence index are more subject to the following accounting values, professionalism, confidence, flexibility and transparency, which in fact are consistent with the requirements of the international accounting and auditing standards (Borker, 2017).

Regarding the educational antecedents, this study reports that countries with higher levels of educational attainment (*EDAT*) are more likely to be the early adopters of the ISAs. This result provides consistency with the previous empirical ISAs studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017; Boolaky et al., 2013). This finding supports the institutional theory, which assumes that countries with a higher level of education attainment are more prone to embracing the international accounting innovations as a response to the normative pressures arising from the higher educational institutions existing in these countries (Judge et al., 2010).

Similarly, this study shows that countries with higher levels of literacy rates (*LITR*) are more likely to be the early adopters of the ISAs. This finding lends support to the prior IFRS studies (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Pricope, 2015). It also provides support to the institutional theory, which assumes that countries with a higher level of literacy rates are more prone to adopting the international accounting innovations, because of normative pressures that emerge from educational institutions to enhance the professionalism level in a country (Pricope, 2015). Likewise, this research suggests that countries with lower education quality (*QEDS*) are more likely to adopt the ISAs during the initial stages. This finding is consistent with the outcomes obtained by the previous study conducted by Jamal et al. (2008). It also lends support to the institutional theory, which suggests that countries with lower levels of educational quality tend to adopt high-quality standards to improve their professionalism as a reaction to the normative pressures arising from higher educational institutions, with a view to legitimise their educational systems (Lasmin, 2011; Shima & Yang, 2012).

10.1.2 Findings Related to the Antecedents Models of Adopting IFRS

As explained in section 8.2 of chapter eight, this research has studied the association between the key national antecedents, including legal, political, cultural and educational factors, on the adoption of the international financial reporting standards (IFRS). The dependent variables are the IFRS adopter categories proposed by the DOI theory, based on their first-time adoption, which are different from those countries that have been included in the five groups used in the model of the antecedents of ISAs adoption. Similarly, the model of the antecedents of IFRS adoption has also included the five IFRS adopter groups, namely experiments, early adopters, early majority, late majority and laggards. The results of the antecedents' model of IFRS adoption have been obtained by conducting a series of cumulative binary logistic regression models. Therefore, this subsection summaries the main empirical findings related to the model of national antecedents of IFRS adoption, as demonstrated below.

Regarding the legal origins, the results of this research indicate that countries with an English common legal origin (*ENCM*) are more likely to adopt the IFRS during the early stages. This finding is in keeping with the results achieved by the previous IFRS studies (Zehri & Chouaibi, 2013; Dimaa et al., 2013; Kossentini & Ben Othman, 2014; Kolsi & Zehri, 2009). This finding is also in line with the theoretical predictions proposed by the LLSV legal origins theory, which assumes that English common law countries are more prone to adopting the IFRS, with a view to satisfy the needs of their shareholders (La Porta et al., 1998).

Furthermore, this study shows that countries with Socialist civil law (*SOCV*) are more prone to adopting the IFRS during the initial stages. This result is consistent with the finding achieved by Jorgensen and Soderstrom (2007), who reported that Socialist legal origin countries have the lowest quality of national accounting standards and weak economic performance. Therefore, countries with Socialist civil law tend to adopt the IFRS, with a view to improve their economic performance. Additionally, the present study has revealed that countries with the mixed civil and religious legal origins, including French civil law (*FRCV*) and French civil and Islamic laws (*FRIS)* are more susceptible to delay their decision for adopting the IFRS until the late stages. This is because the legislations in the civil law countries exhibit less protection to shareholders rights than common law countries (Peng & Meyer, 2016).

In terms of protection rights, the results of this research indicate that countries with strong laws for protecting shareholders rights (*SHPR*) are more likely to adopt the IFRS at the earlier stages. This finding was also confirmed by prior studies as discussed in chapter eight (Houqe et al., 2012; Renders & Gaeremynck, 2007). Moreover, this result provides evidence consistent with the theoretical expectations suggested by the LLSV legal origin theory, which assumes that countries with an English common legal origin, where there is a strong level of shareholders' protection rights are more prone to adopting the international accounting innovations for efficiency reasons (La Porta et al., 2000).

Similarly, consistent with the findings obtained by the prior empirical study conducted by Hope (2003), this study has also shown that countries with strong judicial efficiency (*JUEF*) and higher levels of legal system integrity (*LSIN*) are more prone to become early IFRS adopters. This result also offers support to the LLSV legal origin theory, which assumes that countries with strong judicial laws and enforcement tend to benefit more from adopting the international accounting innovations than countries with lower levels of judicial efficiency and weak law enforcement (Puri, 2009).

Consistent with the previous IFRS literature (Zaidi & Huerta, 2014; Ozcan, 2016; Cai et al., 2014; Avram et al., 2015; Houqe et al., 2012), the results of this study revealed that countries with a higher level of judicial independence (*JUIN*) are more likely to become early IFRS adopters. This finding also supports the theoretical prediction suggested by the institutional theory, which assumes that IFRS adoption is more likely to happen in countries with strong judicial independence, as a response to the coercive pressures emerging from the legal institutions in a given country, with a view to gain more economic benefits (Lasmin, 2011; Judge et al., 2010).

With reference to the political antecedents, this study indicates that countries with a lower level of voice and accountability index (*VOAC*) are more likely to adopt the IFRS during the initial stages. This result lends support to the findings achieved by the previous study conducted by Alon and Dwyer (2014). Furthermore, in line with the prior IFRS studies (Gresilova, 2013; Pricope, 2014), this study also shows that countries with a weak political stability level (*POST*) are more likely to embrace the IFRS during the initial stages. In a similar vein, the results indicate that countries with a lower level of regulatory quality (*REQU*) are more likely to adopt the IFRS during the initial stages. This finding provides support to the previous empirical studies conducted to examine the relationship between regulatory quality and IFRS adoption (Kaya & Koch, 2015; Ramanna & Sletten, 2009). Moreover, the findings of this study report that countries with lower levels of control of corruption (*COCU*) are more likely to become early IFRS adopters. This result provides support to some prior literature that examined the association between corruption level and IFRS adoption (Avram et al., 2015; Gresilova, 2013; Houqe & Monem, 2016; Cai et al., 2014).

The findings relating to the political antecedents lend support to the theoretical predictions suggested by the institutional theory, which suggests that countries with lower quality of governance indicators are more prone to adopting the international financial reporting standards. This happens due to the coercive pressures exerted by the political groups in those countries to strengthen their political systems, thus adding more legitimacy to their political systems (DiMaggio & Powell, 1983; Nurunnabi, 2015; Houqe & Monem, 2013; Dufour et al., 2014; Lasmin, 2011a).

Regarding the cultural dimensions, the results of this study stated that countries with higher levels of power distance index (*PWDS*) are more likely to become early IFRS adopters. Although this finding contradicts the results of majority of prior empirical studies, it is consistent with the results reported by one CGGs study conducted by Haxhi and Ees (2008), who indicated that countries with higher levels of power distance culture are more prone to become early CGGs adopters. Similarly, this study indicates that countries with lower levels of individualism index (*INDV*) are more likely to adopt the IFRS during the initial stages. Despite this finding disagreeing with the outcomes that were summarized by some previous empirical studies, it still offers support to the result reported by the prior research conducted by Lasmin (2012). Furthermore, consistent with the results obtained from previous empirical studies (Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Fearnley & Gray, 2015), this study suggests that countries with a lower level of uncertainty avoidance (*UNAV*) index are more prone to embrace the IFRS during the initial stages.

In addition, the findings of this thesis report that countries with a lower level of masculinity index (*MASC*) are more likely to adopt the IFRS during the initial stages. This finding endorses the result achieved from previous empirical studies that examined the relationship between masculinity index and IFRS adoption (Archambault & Archambault, 2003; Hope, 2003; Yurekli, 2016). Moreover, this research reports that countries with lower levels of long-term orientation index (*LTOR*) are more likely to adopt the IFRS during the early stages. This result is in line with the previous studies that showed a negative association between the long-term orientation index and the IFRS (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008). Similarly, and in line with the prior empirical studies (e.g., Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014), this study indicates that countries with higher levels of indulgence index (*INDU*) are more likely to become early IFRS adopters.

All the findings relevant to the cultural antecedents offer support to the Hofstede-Gray cultural theory, except for the individualistic countries (*INDV*), which solely seek to boost the situation of their societies. The Hofstede-Gray cultural theory suggests that countries with a higher score of two cultural values, including the individualism index (*INDV*) and indulgence index (*INDU*) along with lower levels of four cultural values, namely power distance (*PWDS*), uncertainty avoidance (*UNAV*), masculinity index (*MASC*), and long-term orientation index (*LTOR*) are more likely to adopt the IFRS. This is because the cultural dimensions existing in these countries are very similar to those accounting values existing in the Anglo-Saxon countries, which meet the following four basic requirements needed to implement the IFRS: professionalism, confidence, flexibility and transparency (Gray, 1988; Clements et al., 2010; Zeghal & Mhedhbi, 2006; Borker, 2013; Perera & Mathews, 1990; Sasan et al., 2014; Neidermayer et al., 2012).

With respect to the educational antecedents, the result of this research indicates that countries with higher levels of educational attainment (*EDAT*) are more prone to adopting the IFRS during the initial

stages. Empirically, this result is consistent with the previous IFRS studies (Judge et al., 2010; Lasmin, 2011a; Zehria & Chouaibi, 2013). Furthermore, this study reports that countries with higher levels of literacy rates (*LITR*) are more likely to become early IFRS adopters. This finding lends support to the previous IFRS studies that examined the relationship between literacy rates and IFRS adoption (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009; Pricope, 2015; Zehri & Abdelbaki, 2013; Kolsi & Zehri, 2009; Masoud, 2014). Additionally, the finding of this research shows that countries with lower levels of education systems quality (*QEDS*) are more likely to adopt the IFRS during the initial stages. However, this finding contradicts the results of previous empirical studies (Masoud, 2014a; Zakari, 2014; Dowa et al., 2017; Carmona & Trombetta, 2008), which reported that developed countries with higher levels of education systems quality are more prone to adopting the IFRS in order to enhance the quality of their accounting systems.

The results relating to the educational antecedents offers insights consistent with the theoretical predictions suggested by the institutional theory, which suggests that countries with lower levels of educational system quality, along with higher levels of educational attainment and literacy rates, are more prone to adopting the IFRS during the initial stages. This can occur as a response to the normative pressures that are exerted by higher educational institutions to influence their countries to embrace the IFRS in order to acquire higher levels of accounting professionalism and add more legitimacy to their educational systems (Judge et al., 2010; Pricope, 2015; Lasmin, 2011; Felski, 2015; Shima & Yang, 2012).

10.1.3 Findings Relevant to the Economic Consequences Models of Adopting ISAs

As discussed in section 8.3 of chapter eight, this subsection provides a summary of the major findings relating to the model of economic consequences of ISAs adoption. The dependent variables are continuous in nature, which include eight economic indicators, economic growth (*ECGR*), foreign direct investment (*FDI*), gross domestic product (*GDP*), exports of goods and services (*EXPO*), imports of goods and services (*IMPO*), inflation rates (*INFR*), foreign exchange rate (*EXCR*) and real interest rate (*INTR*). The findings relating to the model of economic consequences of ISAs adoption have been obtained by conducting multiple linear regression models with cluster-robust standard errors. Accordingly, this subsection outlines the main results regarding the model of economic consequences of the ISAs adoption for 185 adopting countries between 1995-2014, as shall be explained below.

To begin with, the level of economic growth (*ECGR*) is found to be positively and significantly associated with the early adoption of the ISAs, especially for those countries that are included in the early majority group. However, the coefficient was insignificant for the countries that are included in the late majority group of the ISAs, which achieved lower levels of economic growth. This result contradicts the results obtained by the previous ISAs studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017), which revealed that there is an insignificant association between the economic

growth rates and the ISAs adoption. This finding, however, provides support to the institutional theory, which assumes that English common legal countries are more prone to adopting the international accounting innovations as a reaction to the coercive pressures that emerge from their legal and political institutions to acquire greater economic advantages, such as obtaining higher rates of economic growth (Zehri & Chouaibi, 2013; Soderstrom & Sun, 2007).

Consistent with the results reported by the prior empirical literature (Pricope, 2017; Gordon et al., 2012; Akpomi & Nnadi, 2017; Boachie, 2016; Okpala, 2012; Madawaki, 2012; Ifeoluwa et al., 2016; Lungu et al., 2017), this study revealed that countries that are included in the early majority group of the ISAs have obtained higher levels of *FDI* inflows. This finding lends support to the resource-based theory, which indicates that developing countries with lower levels of financial resources are more prone to adopting the international accounting innovations to satisfy the needs of their resource-providers, such as foreign investors, and thus increase their potential chances to receive more FDI inflows (Pfeffer & Salancik, 1978; Shima & Yang 2012; Daude & Stein, 2007; Alem, 2015).

The results of this research indicate that there is a positive and significant association between *GDP* and the early adoption of the ISAs. The coefficients are positively and significantly associated with the early majority and late majority groups of ISAs alike. This result is consistent with most of the previous studies (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015). This finding offers support to the institutional theory, which assumes that countries with a lower level of *GDP* are more prone to adopting the international accounting innovations, as a reaction to the mimetic pressures to acquire additional economic advantages (Scott 2001; Pricope, 2016). Moreover, it also supports the theoretical predictions assumed by the network economic theory, which suggests that emerging economies with lower levels of GDP tend to adopt the international accounting innovations to promote their economic performance, whilst some developed economies are still using their national accounting standards, they have gained higher levels of GDP due to the network effects between these nations (Katz & Shapiro, 1985; Ramanna & Sletten, 2014).

This study reports that ISAs adoption has a positive and significant effect on the exports of goods and services levels (*EXPO*), especially for countries included in two adopter groups including the early majority and the late majority groups of the ISAs alike. This finding is in line with the previous empirical study conducted by Boolaky and Cooper (2015). This result can also support the theoretical expectation proposed by the economic network theory, which assumes that adopters of the international accounting innovations are more likely to have higher export levels as a result of the network effects of international trade among trade partners (Katz & Shapiro, 1985; Ramanna & Sletten 2014; Opanyi, 2016).

In line with the prediction suggested by the prior empirical studies (Pricope, 2016; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009; Shima & Yang, 2012), this study reports

that the importing of goods and services (*IMPO*) has been positively impacted and has significantly increased after ISAs adoption, particularly for countries that are included in the early majority and the late majority groups of the ISAs. This result lends support to the economic network theory, which suggests that countries tend to adopt the international accounting innovations in order to increase their chances to extend their international trade with trading partners as a result of the network effect of those trade partners, who have already embraced these high-quality standards (Ramanna & Sletten 2014; Kossentini & Ben-Othman 2014; Opanyi, 2016; Samaha & Khlif, 2016; Murphy, 2000).

The findings of this research indicate that countries with higher levels of inflation rates (*INFR*) are more likely to become early ISAs adopters, with a view to use these international inflation standards towards mitigating their inflation effects and benefiting from the tax advantage. This result supports the findings of previous empirical studies (Arsoy & Gucenme, 2009; Archambault & Archambault, 1999; Agustini, 2016; Archambault & Archambault, 2009). Additionally, this finding offers support to the signalling theory, which suggests that countries with higher rates of inflation are more prone to adopt the IAS 29 for inflation-adjusted accounting as a signal to foreign investors about their desire to mitigate their hyperinflation (Shima & Yang, 2012; Ben Othman & Kossentini, 2015; Khurana & Michas, 2011; Elliott & Elliott, 2008).

This study suggests that fluctuations in foreign exchange rates (*EXCR*) have been positively, but insignificantly affected by adopting the ISAs. However, this result was inconsistent with the findings obtained by the prior studies (Ashbaugh & Pincus, 2001; Ashbaugh, 2001; Pinto, 2005; Bonetti et al., 2012; Huang & Vlady, 2012), which indicated that the equity market values have been positively and significantly increased after adopting the IAS/IFRS 21 used to disclose financial information about the effects of changes in foreign exchange rates. In addition, this finding does not support the theoretical prediction suggested by the signalling theory regarding IFRS adoption, which assumes that countries tend to adopt IAS 21 in order to mitigate changes in foreign exchange rates against their local currencies. This sends a positive signal to foreign investors about their desires to increase the credibility of their accounting information, thus leading to improve uniformity and comparability of financial reportings among different countries (Unegbu, 2014; Nnadi & Nwobu, 2017; Marquez-Ramos, 2008).

The finding of this research reports that the early adoption of ISAs has a significant positive effect on the real interest rates (*INTR*) of the adopting countries that are included in the early adopter groups of the ISAs. This result provides support to the finding obtained by the prior empirical studies (Chen et al., 2015; Zhang, 2008; Bischof, 2009). Additionally, this result lends support to the theoretical expectation proposed by the signalling theory, which suggests that countries with higher levels of interest rates are more prone to adopting the IAS 39 for selecting the best interest rate method with a view to send a positive signal to foreign lenders about their intention to minimize the interest rate risk

changes, thus leading eventually to reducing the cost of equity capital (De George & Shivakumar, 2016; Kim et al., 2011; Uwalomwa et al., 2016).

Regarding the ISAs adoption status, the results of this study report that the economic growth level (*ECGR*) significantly decreases in countries where ISAs adoption adheres to the following statuses: *WAMT, BLAW* and *GMAT*. Furthermore, foreign direct investment (*FDI*) inflow significantly increases in countries where ISAs adoption adheres to the following two ISAs adoption statuses: *WITR* and *WOTR*, whereas *FDI* significantly decreases in countries where ISAs adoption complies with the following ISAs adoption statuses, *GMAT* and *IFRSS*. Moreover, the three following economic factors, including *GDP*, exports (*EXPO*) and imports (*IMPO*) significantly increases in countries where the ISAs adoption follows at least one of the following statuses, *WIAM, WOAM, WITR* and *GMAT*. Additionally, the inflation rates (*INFR*) significantly decreases in countries where the ISAs adoption conforms to the following ISAs statuses, including *WITR, WOTR, WAMT, BLAW* and *GMAT*. Besides, the foreign exchange rate (*EXCR*) significantly increases in countries where the ISAs adoption adheres to the following two ISAs status: *WIAM* and *GMAT*, and significantly decreases in countries where the financial reports are prepared in accordance to the IFRS (*IFRSS*). Finally, the real interest rate (*INTR*) significantly decreases in countries where ISAs adoption adheres to the following statuses, namely *WIAM, WOAM, WITR, BLAW* and *GMAT*.

10.1.4 Findings Relevant to the Economic Consequences Models of Adopting IFRS

As explained in section 8.4 of chapter eight, this subsection outlines a summary of the main findings related to the model of economic consequences of IFRS adoption. Similar to the outcome variables included in the previous subsection, the dependent variables used in this subsection include eight economic consequences, namely economic growth (*ECGR*), foreign direct investment (*FDI*), gross domestic product (*GDP*), exports of goods and services (*EXPO*), imports of goods and services (*IMPO*), inflation rates (*INFR*), foreign exchange rate (*EXCR*) and real interest rate (*INTR*). The main results related to the model of economic consequences of IFRS adoption have been achieved by using the multiple linear regression models with cluster-robust standard errors. Therefore, this subsection reports the major findings relevant to the model of economic consequences of IFRS adoption for 185 adopting countries over the period from 1995-2014, which shall be discussed below.

The results of this study reports that the level of economic growth (*ECGR*) has significantly increased following the early adoption of IFRS, especially for those countries that are included in the early majority adopter group of the IFRS. This result lends support to the findings reported by the prior empirical IFRS studies (Larson, 1993; Stainbank, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013). This result also offers support to the theoretical assumption suggested by the institutional theory, which assumes that countries with higher levels of economic performance are more prone to adopting

the IFRS as a response to coercive pressures that emerge from their legal and political institutions, with a view to boost their economic growth levels (Zehri & Chouaibi, 2013; Soderstrom & Sun, 2007).

The findings of this study indicate that the levels of *FDI* inflows have considerably increased after the early adoption of the IFRS, particularly for those countries that are included in the early majority adopter group of the IFRS. This finding provides support to the results obtained by prior empirical IFRS research (Rakesh & Shilpa, 2013; Pricope, 2017; Gordon et al., 2012; Okpala, 2012; Jinadu et al., 2016; Madawaki, 2012; Ifeoluwa et al., 2016; Akpomi & Nnadi, 2017; Boachie, 2016). This result lends support to the resource-based theory, which assumes that countries with lower levels of financial resources are more prone to adopting the IFRS, with a view to fulfil the desires of resource providers, such as foreign investors, and thus increase their potential chances to receive greater FDI inflows (Pfeffer & Salancik, 1978; Shima & Yang 2012).

The result of this study suggests that the level of *GDP* has significantly increased following the mandatory adoption of the IFRS, especially for those countries that are included in the late majority adopter group of the IFRS. This finding is in line with the results obtained by the previous IFRS literature (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Evgenidis et al., 2016; Efobi, 2015). This result also provides support to the theoretical prediction proposed by the network economic theory, which proposes that IFRS adoption is more likely to happen in countries with lower level of economic benefits as a result to the network-related value with other countries with strong economic indicators, with a view to improve their economic performance and gain more economic benefits, such as higher levels of GDP rates (Katz & Shapiro, 1985; Kossentini & Ben-Othman 2014; Zaiyol et al., 2017; Adereti & Sanni, 2016; Ramanna & Sletten, 2014; Emeni & Urhoghide, 2014).

The result of this study reveals that the export levels of goods and services have insignificantly decreased after the early adoption of the IFRS. However, this study found that the export levels have significantly increased after the mandatory adoption of IFRS, especially for those countries that are included in the late majority group of IFRS. This result is consistent with the finding reported by some previous empirical IFRS studies (Marquez-Ramos, 2008; Marquez-Ramos, 2011; Ramanna & Sletten, 2009). Additionally, this result also supports the theoretical expectation of the economic network theory, which assumes that economic benefits, including export performance can be significantly improved post the adoption of IFRS as a result of the direct network effects with international trade partners, who have already adopted these high-quality standards (Ramanna & Sletten 2014; Katz & Shapiro, 1985; Adereti & Sanni, 2016; Opanyi, 2016).

Consistent with the findings achieved by prior empirical studies (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009), the finding of this research suggests that the level of imports has insignificantly decreased following the early adoption of

the IFRS. Nevertheless, the imports levels have increased significantly after the mandatory adoption of the IFRS, especially for those countries that are included in the late majority adopter group of the IFRS. This result supports the economic network theory, which suggests that countries that have adopted IFRS are more likely to experience positive economic benefits, such as higher import levels. This can happen due to the direct network-related value between trade peers. Nevertheless, it needs a strong political and legal system within a country (Ramanna & Sletten, 2009; Katz & Shapiro, 1985; Ramanna & Sletten 2014; Kossentini & Ben-Othman 2014; Opanyi, 2016; Samaha & Khlif, 2016).

The finding of this research reports that the inflation rates have insignificantly declined after the early adoption of the IFRS. Nonetheless, the inflation rates have insignificantly increased following the mandatory adoption of the IFRS in 2005. This result offers support to the findings reported by the previous empirical studies (Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008; Gucenme & Arsoy, 2006). However, this finding contradicts the theoretical predictions suggested by the signalling theory, which assumes that countries with higher level of inflation rates are more prone to adopting the IAS 29 for inflation, as a signal to foreign investors about their intentions to mitigate their hyperinflation, thus lending credibility to financial information (Schreiner & Yaron, 2001; Rezende et al., 2012; Shima & Yang, 2012; Ben Othman & Kossentini, 2015; Khurana & Michas, 2011). This opposite result might have happened due to the higher IFRS transition costs, which may be much higher than the benefits of adopting the IFRS.

The result of this study indicates that there is a small but insignificant increase in the foreign exchange rates following the early and mandatory adoption of the IFRS. However, this result contradicts the findings reported by prior empirical IFRS studies (Bonetti et al., 2012; Huang & Vlady, 2012; Ashbaugh, 2001; Pinto, 2005; Ashbaugh & Pincus, 2001), which found a positive and significant relationship between the equity market value and the foreign exchange rates changes under the IFRS 21, to disclose information about the changes in the foreign exchange rates. Additionally, this finding contradicts the predictions suggested by the signalling theory, which assumes that countries tend to adopt IAS 39 for mitigating the fluctuations in foreign currency as a signal to foreign investors about their desires for increasing uniformity and comparability of financial information by converting the value of their local currencies into a more functional foreign currency (Unegbu, 2014; Nnadi & Nwobu, 2017; Butler, 2009; Marquez-Ramos, 2008).

The finding of this research reports that the level of real interest rates has increased significantly after the early adoption of the IFRS. However, the level of real interest rate has insignificantly increased following the mandatory adoption of the IFRS. This finding is consistent with the results reported by the previous studies (Chen et al., 2015; Zhang, 2008; Bischof, 2009). Additionally, this result provides support to the signalling theory, which suggests that countries tend to adopt IFRS with a view to send a positive signal to foreign lenders about their intention to minimize the interest rate risk change. This

will lead to attracting more foreign lenders, since they will obtain higher levels of interest rates (Kim et al., 2011; De George & Shivakumar, 2016).

Regarding the IFRS adoption status, the results of this study report that economic growth level (*ECGR*) has significantly increased in countries where IFRS adoption is required for all listed firms, except for banks and insurance firms (*EXBI*), and negatively in countries where the IFRS is required for some foreign firms and permitted for others (*RSPO*). In addition, foreign direct investment (*FDI*) has significantly increased in countries where the IFRS is required for unlisted banks and insurance firms (*RBIP*) and permitted for all unlisted firms (*PADF*). Moreover, the three following economic indicators *GDP*, exports (*EXPO*) and imports (*IMPO*) have significantly increased in countries where IFRS adoption adheres to the following statuses: IFRS is not required for listed companies (*NREQ*), required for all listed firms (*RFAL*), required only for banks and insurance firms (*RFBI*), IFRS is not permitted for unlisted firms (*NOTP*), IFRS is required for all unlisted firms (*RADF*), IFRS is required for unlisted financial institutions (*RFFI*), IFRS is required for publicly accountable firms (*RPAF*), and IFRS is permitted for all unlisted firms, except banks and insurance companies (*PEBI*), in addition to the following IFRS adoption statuses relating to foreign firms, *NOTR, PAFC*, and *RSPO*.

Furthermore, the inflation rates (*INFR*) significantly decreased in countries where IFRS adoption conforms to the following statuses: IFRS is not permitted for listed companies (*NPER*), IFRS is required for unlisted banks and insurance firms (*RBIP*), IFRS is permitted for all foreign companies (*PAFC*), and IFRS is required for some foreign firms and permitted for others (*RSPO*). However, inflation rates (*INFR*) significantly increased in countries where the IFRS is not permitted for unlisted firms (*NOTP*). Besides, the foreign exchange rate (*EXCR*) significantly increased in countries where IFRS adoption follows the following statuses: IFRS is required only for banks and insurance firms (*RFBI*), and IFRS is not permitted for unlisted firms (*NOTP*). However, the foreign exchange rate significantly decreased in countries where IFRS adoption is required for some foreign firms and permitted for others (*RSPO*). Additionally, the real interest rate (*INTR*) is significantly reduced in countries where IFRS adoption adheres to the two following statuses: IFRS is required for all listed firms (*RFAL*), and IFRS is required for all listed firms except banks and insurance firms (*EXBI*). However, the real interest rate (*INTR*) significantly increased in countries where IFRS adoption is either required for all foreign companies (*RAFC*), or IFRS is required for some foreign firms and permitted for others (*RSPO*).

Finally, the findings of this study outlined that the following four economic indicators have significantly increased in countries where the IFRS is adopted by SMEs (*ASME*), including *GDP, EXPO, IMPO* and *EXCR*, while the following two economic indicators, namely *ECGR* and *INFR*, are significantly decreased in countries where the IFRS is adopted by SMEs (*ASME*).

10.2 The Major Contributions of the Research Findings

This section summarises the main contributions that have been achieved by conducting this research. Subsection 10.2.1 discusses the theoretical contributions relevant to the antecedents and the consequences of ISAs adoption. Subsection 10.2.2 summarizes the theoretical contributions related to the antecedents and the consequences of IFRS adoption. Subsection 10.2.3 presents the empirical contributions related to the antecedents and the consequences of ISAs adoption. Subsection 10.2.4 outlines the empirical contributions related to the antecedents and the consequences of IFRS adoption. Subsection 10.2.5 summarizes the methodological contributions related to the antecedents and the consequences of ISAs adoption. Subsection 10.2.6 discusses the methodological contributions relevant to the antecedents and the consequences of IFRS adoption.

10.2.1 Theoretical Contributions Relating to the Antecedents and Consequences of ISAs Adoption

Regarding the antecedents of ISAs adoption, there have been two theoretical frameworks applied by the previous studies to examine the effects of the institutional factors of adopting countries on the adoption of the international standards on auditing (ISAs). These two theoretical frameworks include institutional theory (Boolaky & Soobaroyen, 2017), and Gray cultural theory (Boolaky & Omoteso, 2016). Furthermore, there are several individual theories that have been used by the prior research to investigate the association between the environmental factors and the strength of auditing and financial reporting standards rather than using the adoption and the diffusion level of the ISAs. The previous studies have employed four primary theoretical perspectives including, institutional theory (Boolaky & Cooper, 2015), economic development theory (Boolaky et al., 2013), Nobes' Classification theory (Boolaky, 2011; Boolaky & O'Leary, 2011; Boolaky, et al., 2013; Boolaky & Cooper, 2015), and Gray cultural theory (Boolaky & O'Leary, 2011).

However, this study combines multiple-theoretical underpinnings, including LLSV legal origins theory, Hofstede-Gray cultural theory, institutional theory, and diffusion of innovation (DOI) theory, with a view to examine the relationship between ISAs adoption and four key national antecedents, including legal, political, cultural and educational factors. The LLSV legal origins theory is used to test the effects of national legal factors on ISAs adoption. The Hofstede-Gray cultural theory is applied to examine the effects of national cultural dimensions on ISAs adoption. The institutional theory is employed to study the effects of national political and educational factors on ISAs adoption. Moreover, this study provides a unique theoretical contribution to the existing auditing literature by employing the DOI theory developed by Rogers (1962) as a main theory to examine the national antecedents of ISAs adoption. Thus, this study identifies, which national antecedents are associated with the decision of adopting the ISAs, either during the early or late stages, and which characteristics might cause a group of countries to be included in one of the five categories suggested by DOI theory, namely experimenters, early adopters, early majority, late majority or laggards of the ISAs.

In terms of the consequences of the ISAs, the institutional theory has been merely employed by Boolaky and Soobaroyen (2017), who examined the influence of adopting the ISAs on few economic consequences of the adopting countries, including GDP growth, foreign aid, market capitalisation and import penetration. A further prior empirical study conducted by Boolaky and Omoteso (2016), who did not apply any theoretical framework to explain the impact of adopting the ISAs on the economic factors that were involved in their study, including GDP growth rate and the market capitalisation as a percentage of GDP. However, this study has employed DOI theory as its main theory, in addition to four supplementary theoretical underpinnings to explain a range of economic indicators post ISAs adoption. This thesis has applied institutional theory to explain the development of economic growth post ISAs adoption. This study has also used resource dependence theory to explain the the development of FDI post ISAs adoption. This thesis has utilized economic network theory to explain the development of international trade including GDP, imports and exports level. This study has also applied signalling theory to explain the changes in inflation rates, exchange rates and interest rates post ISAs adoption.

10.2.2 Theoretical Contributions Relating to the Antecedents and Consequences of IFRS Adoption

With reference to the antecedents of IFRS adoption, and as discussed in chapter three, the LLSV legal origin theory has been employed by some scholars to examine the effects of legal factors on the economic and financial developments (La Porta et al., 2008; Puri, 2009; Yoon, 2012; Levine, 2008; Beck et al., 2003; Armour et al., 2009; Beck & Levine, 2008; Siems, 2007). Moreover, other researchers have applied LLSV legal origin theory to explain the diffusion of good corporate governance (Dam, 2006; Zattoni & Cuomo, 2008; Padgett, 2011; Gerner-Beuerle, 2017; Matoussi & Jardak, 2012). However, prior IFRS studies have not yet employed LLSV legal origin theory to explain the national legal factors of IFRS adoption. Therefore, this study extends the existing research related to the effect of legal factors on IFRS adoption by employing LLSV legal origin theory to illustrate the clear differences in IFRS adoption, due to diversity in the national legal antecedents among countries.

In terms of the cultural dimensions, there have been few prior studies that have applied Hofstede-Gray cultural theory to explain the cultural impact of a small number of countries on the diversity of IFRS adoption levels among countries (Borker, 2012; Borker, 2014; Borker, 2017; Borker, 2013; Borker, 2016; Tanaka, 2013; Combs et al., 2013). Therefore, since not much empirical work has been done based on Hofstede-Gray cultural theory, this study contributes to the current literature by employing Hofstede-Gray cultural theory to examine the influence of the six cultural dimensions developed by Geert Hofstede on IFRS adoption for a large number of countries, with a view to provide a better understanding for the effects of cultural values on the IFRS.

Regarding the political and educational antecedents of the IFRS, although there has been considerable research that draws on institutional theory to examine the adoption of IFRS at the macro-country level (Kossentini & Ben-Othman 2014; Hope et al. 2006; Alon & Dwyer, 2014; Pricope, 2016; Judge et al.,

2010; Alon & Dwyer, 2016; Irvine, 2008; Lasmin, 2011; Phan, 2014; Yeow & Mahzan, 2013; Florou & Pope, 2012; Hassan et al., 2014), there is still a lack of common agreement among the previous studies for identifying, which type of institutional isomorphic pressures affects the national antecedents of the early and mandatory adoption of the IFRS. Hence, this study has applied institutional theory to provide a significant contribution to the existing IFRS studies.

With respect to the DOI theory, there have been some studies that that draw on the theoretical framework of DOI theory to examine the impact of institutional factors on the diffusion of management accounting innovations (Lapsley & Wright, 2004; Al-Omiri, 2003; Alcouffe et al., 2008; Leftesi, 2008; Nassar et al., 2011a; Sisaye & Birnberg, 2012; Ax & Bjornenak, 2005; Shil et al., 2015; Askarany et al., 2016; Nassar et al., 2011; Epstein, 2012; Tucker & Parker, 2014). Similarly, some scholars have suggested employing DOI theory towards explaining the diffusion of the IFRS (e.g., Alon, 2010; Pelucio-Grecco et al., 2016; Ball, 2016; Jayeoba et al., 2016). Therefore, this study uses DOI as its main theory to explain the adoption of the IFRS, since this theory provides a new classification scheme for describing the potential adopters based on their adoption-time, including the experimenters, the early adopters, the early majority, the late majority and the laggards of IFRS.

With reference to the consequences of the IFRS, the most often applied individual theories that have been employed by prior studies to explain the consequences of the IFRS adoption by applying institutional theory (Kossentini & Ben-Othman 2014; Hope et al. 2006; Alon & Dwyer, 2014; Pricope, 2016; Judge et al., 2010; Alon & Dwyer, 2016; Irvine, 2008; Lasmin, 2011; Phan, 2014; Yeow & Mahzan, 2013; Florou & Pope, 2012; Hassan et al., 2014), and signalling theory, which has also been widely employed by many prior studies to explain the consequences of the IFRS (Masoud, 2017; Tsalavoutas, 2011, Kolsi & Zehri, 2009; Hallberg & Persson, 2011; Akman, 2011; Iatridis, 2008; Smith, 2008; Shima & Yang, 2012; Phan et al., 2016; Abdul-Baki et al., 2014; Olugbenga et al., 2014; Ifeoluwa et al., 2016; Guggiola, 2010; Balsam et al., 2016; Lopes & Rodrigues, 2007; Katselas & Rosov, 2017; Affes & Callimaci, 2007). However, very few studies have applied the theoretical framework suggested by resource dependence theory to understand the effects of IFRS adoption (Lundqvist et al., 2008; Alon & Dwyer, 2014; Kim, 2017). Similarly, very little research has been done to address the effects of IFRS adoption, by applying economic network theory (Ramanna & Sletten, 2014; Saucke, 2015; Phan et al., 2016; Adereti & Sanni, 2016; Ben-Othman & Kossentini, 2015; Houqe et al., 2012).

Accordingly, this study provides a significant contribution to the existing knowledge by combining multiple-theoretical frameworks to explain the economic consequences of IFRS adoption, including institutional theory, resource-based theory, economic network theory and signalling theory. Following the prior studies, this study therefore draws on multiple theories to explain a wide range of economic indicators post the early and mandatory IFRS adoption, rather using one single individual theory to the explain a range of economic consequences post IFRS adoption.

10.2.3 Empirical Contributions Relating to the Antecedents and Consequences of ISAs Adoption

With respect to the legal antecedents, little research has been done by prior studies to examine the relationship between ISAs adoption and the national legal antecedents. Specifically, the effect of legal origins on ISAs adoption has not been empirically studied yet. Likewise, the association between the adoption of the ISAs and legal enforcement, including judicial efficiency and judicial integrity have not yet been studied so far. Nevertheless, very few studies have examined the relationship between the judicial efficiency of a country and the strength of the accounting innovations and have shown mixed results (Boolaky, 2011; Boolaky & O'Leary, 2011; Boolaky et al., 2013). Additionally, only two empirical studies investigated the relationship between ISAs adoption and the protection of minority investors (Boolaky & Soobaroyen, 2017; Boolaky & Omoteso, 2016). Therefore, the current study adds great significance to the existing ISAs literature by filling some of those gaps.

Regarding the political antecedents, the influence of the worldwide governance indicators on the strength of accounting and auditing standards has been studied by very few empirical studies (Boța-Avram, 2014; Bota-Avram et al., 2015). Furthermore, the study of the effects of the worldwide governance indicators on ISAs adoption has not yet been investigated so far. Therefore, this research offers a substantial contribution to the existing studies that examined the determinants of ISAs adoption, since there is an acute shortage of empirical studies concerning the political antecedents affecting the adoption of ISAs.

In terms of the cultural antecedents, the effects of cultural dimensions developed by Hofstede on the adoption of ISAs has only been examined by one single study, conducted by Boolaky and Soobaroyen (2017) who studied the relationship between the ISAs adoption and two cultural values, including the power distance cultural index and the individualism index. The prior study has utilized both cultural factors as additional variables that have been added to the main models, with a view to check the robustness of the major results. Accordingly, the current study contributes to the existing research by filling the gaps in the previous studies through examining the effects of six cultural dimensions suggested by Hofstede on the global adoption of ISAs.

With reference to the educational antecedents, the impacts of educational attainment on the strength of accounting and auditing standards have been empirically studied by few researchers (Boolaky et al., 2013; Boolaky, 2011; Boolaky and O'Leary, 2011). However, there are two empirical studies that have examined the relationship between educational attainment in a country and ISAs adoption (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). In contrast, the influence of educational antecedents, including literacy rates and educational quality on the adoption of the ISAs, has not yet been examined so far. Therefore, this study makes an empirical contribution to the existing research by examining the impact of the educational antecedents, including literacy rates and educational quality on the worldwide adoption of ISAs.

In terms of the economic consequences of ISAs, there have been very few studies conducted on studying the effects of ISAs adoption on the economic consequences of the adopting countries, including economic growth rates (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017). Moreover, the influence of the export levels on the strength of accounting and auditing standards have been empirically studied by few scholars and have shown mixed results (Boolaky & Cooper, 2015; Boolaky & O'Leary, 2011). However, the impact of the ISAs adoption on the following economic indicators has not yet been examined so far: the FDI inflows, gross domestic product (GDP), export levels, imports levels, inflation rates, foreign exchange rates, and real interest rates. Therefore, this study provides a significant contribution to the existing knowledge regarding the improvements of the economic performance following the ISAs adoption, which have not yet been studied sufficiently.

Additionally, this study has also investigated the economic consequences of the ISAs adoption status, which include additional groups related to the ISAs adoption status, which are different from those suggested by the DOI theory. The ISAs adoption status includes, but is not limited to the following groups: ISAs adopted with modifications, ISAs adopted without modifications, ISAs adopted with translations, ISAs adopted without translations, and ISAs adopted with modifications and translation. The impact of these classifications on the economic consequences of the ISAs has not been examined yet. Hence, this study offers a great contribution to the current studies by examining the impact of the various statuses of ISAs adoption on the economic consequences of the adopting countries.

10.2.4 Empirical Contributions Relating to the Antecedents the Consequences of IFRS Adoption

Regarding the national legal antecedents, the relationship between the legal origin of a country and IFRS adoption has been examined by few empirical studies (Zehri & Chouaibi, 2013; Dimaa et al., 2013; Dayanandan et al., 2016; Wang et al., 2008). Furthermore, few studies have examined the relationship between IFRS adoption and shareholder protection laws (Renders & Gaeremynck, 2007; Houqe et al., 2012; Chebaane & Othman, 2014; Houqe et al., 2014; Hope et al., 2006; Francis et al., 2008). Nonetheless, most of the past research has studied the impact of IFRS adoption, either on earnings quality by controlling the investor protection laws among countries or they have included only a small number of countries. Moreover, very few researches have studied the association between IFRS adoption and legal enforcement level, which refers either to the levels of judicial efficiency (Beuselinck et al., 2009; Cai et al., 2012; Li, 2010), or judicial independence (Houqe et al., 2012; Halabi & Yi, 2015; Avram et al., 2015; Ozcan, 2016; Cai et al., 2014; Houqe et al., 2016). Therefore, this study provides a significant contribution to the existing knowledge through examining the relationship between the key national legal antecedents, including legal origin, shareholder protections laws, judicial efficiency, judicial independence and legal system integrity and IFRS adoption for a large number of countries based on their adoption-time, as suggested by DOI theory.

With reference to the political antecedents, few governance indicators have been applied by the prior IFRS studies to examine the association between IFRS adoption and the political antecedents, including the voice and accountability index (Alon & Dwyer, 2014; Houqe et al., 2012; Ben-Othman & Zeghal, 2008; Houqe & Monem, 2016; Gresilova, 2013), the political stability index (Ozcan, 2016; Gresilova, 2013; Riahi & Khoufi, 2017a; Pricope, 2014; Hoque et al., 2011; Pricope, 2015; Zaidi & Huerta, 2014), the regulatory quality index (Houqe et al., 2012; Wieczynska, 2016; Gresilova, 2013; Louis & Urcan, 2012; Christensen et al., 2013; Mita & Husnah, 2015), and the control of corruption index (Amiram, 2012; Rahman, 2016; Nurunnabi, 2015; Riahi & Khoufi, 2017; Houqe & Monem, 2016; Cai et al., 2014). Consequently, unlike prior studies which limited their analysis to one or two governance indicators, this study uses four out of six individual governance indicators, including voice and accountability index, political stability index, regulatory quality index, and control of corruption index, in order to examine the association between IFRS adoption and the worldwide governance indicators. This study has excluded the two remainders of governance indicators, namely government effectiveness and the rule of law, due to the presence of high multi-collinearity among these two indicators.

With regards to the cultural antecedents, a small number of cultural dimensions have been utilized by the prior IFRS studies to address the association between IFRS adoption and the cultural dimensions, including the power distance cultural index (Neidermeyer et al. 2012; Lasmin, 2012; Cardona et al., 2014; Clements et al., 2010), individualism index (Cardona et al., 2014; Neidermeyer et al., 2012; Machado & Nakao, 2014; Lasmin, 2012; Clements et al., 2010), uncertainty avoidance index (Neidermeyer et al., 2012; Machado & Nakao, 2014; Shima & Yang, 2012; Yurekli, 2016; Felski, 2015; Lasmin, 2012; Cardona et al., 2014; Clements et al., 2010), masculinity index (Combs et al., 2013; Fearnley & Gray, 2015; Yurekli, 2016; Cardona et al., 2014; Clements et al., 2010; Lasmin, 2012), long-term orientation (Chand & Patel, 2011; Tsui & Windsor, 2001; Ge & Thomas, 2008), and the indulgence index (Quinn, 2015; Borker, 2013; Erkan & Agsakal, 2013; Gierusz et al., 2014; Rotberg, 2016). Therefore, different from the prior IFRS studies that restricted their research to a few cultural factors, this study uses the six cultural dimensions developed by Geert Hofstede to verify any impacts claimed by the prior studies and to extend the findings related to the impact of cultural effects on IFRS adoption.

In terms of the educational antecedents, very few studies have examined the effect of the educational factors, including the educational attainment level in a country on IFRS adoption (Judge et al., 2010; Lasmin, 2011a; Zehria & Chouaibi, 2013) and the influence of literacy rates in a country on IFRS adoption (Zeghal & Mhedhbi, 2006; Zehri & Chouaibi, 2013; Shima & Yang, 2012; Archambault & Archambault, 2009; Kolsi & Zehri, 2009; Masoud, 2014). In contrast, examining the influence of the quality of the education system of a country on IFRS adoption has not yet been empirically studied. Therefore, unlike most previous IFRS studies that applied a single educational proxy to address the relationship between the educational antecedents and IFRS adoption, this study makes a significant

contribution to the current IFRS literature by examining the effects of three educational antecedents on IFRS adoption, including educational attainment, literacy rates and education system quality.

With reference to the economic consequences of IFRS, prior IFRS studies have mainly focused on using a few economic indicators to examine the relationship between IFRS adoption and the economic consequences, by including a small number of economic factors, such as economic growth rate (Zaidi & Huerta, 2014; Zeghal & Mhedhbi, 2006; Larson & Kenny, 1995; Ramanna & Sletten, 2014; Zehri & Abdelbaki, 2013; Zehri & Chouaibi, 2013), FDI inflows (Gordon et al., 2012; Akpomi & Nnadi, 2017; Pricope, 2017; Marquez-Ramos, 2011; Louis & Urcan, 2012; Chen et al., 2014; Nnadia & Soobaroyen, 2015; Zehri & Chouaibi, 2013; Lasmin, 2012), gross domestic product (Gordon et al., 2012; Clements et al., 2010; Ramanna & Sletten, 2014; Masoud, 2014; Akpomi & Nnadi, 2017; Zeghal & Mhedhbi, 2006; Lasmin, 2011), exports level (Marquez-Ramos, 2011; Ramanna & Sletten, 2009; Neel, 2017; Lasmin, 2012; Pricope, 2017), imports level (Pricope, 2016; Shima & Yang, 2012; Gordon et al., 2012; Judge et al., 2010; Archambault & Archambault, 2009), and inflation rates (Agustini, 2016; Archambault & Archambault, 2009; Arsoy & Gucenme, 2009; Khurana & Michas, 2011; Shima & Yang, 2012; Felski, 2015; Choi & Meek, 2008). Therefore, distinct from prior IFRS studies that limited their research to a few economic indicators, this study contributes to the existing literature by examining the effect of IFRS adoption on a wide range of economic indicators of the adopting countries.

Furthermore, prior studies have concentrated on studying the association between the exchange rate changes under the IAS 21 and the equity market value at the micro-firm level (Ashbaugh & Pincus, 2001; Goodwin et al., 2008; Heidrich, 2005; Sarea & Al Nesuf, 2013; Pinto, 2005; Tereshchenko, 2016; Ashbaugh, 2001; Pinto, 2005; Bonetti et al., 2012). Additionally, there has been very little research on studying the relationship between IFRS adoption and interest rates (Chen et al., 2015; Zhang, 2008; Bischof, 2009; Kim et al., 2011; Palea, 2007; Gordon et al., 2012; Choi & Lee, 2015). Therefore, this study adds a great contribution to the existing IFRS studies by filling the gaps of examining the association between IFRS adoption and the following economic indicators, namely foreign exchange rates and interest rates at the macro-country level, which have not been sufficiently studied yet.

Additionally, this study makes a significant empirical contribution to the current literature regarding the economic consequences of IFRS adoption, by examining the effects of additional classifications related to the IFRS adoption status, which are different from those proposed by DOI theory. These new classifications include the IFRS adoption status for listed firms, the IFRS adoption status for unlisted firms, the IFRS status for foreign firms, and the IFRS adoption status for SMEs firms. These classifications of the IFRS status have provided empirical results regarding the economic effects for each category individually and have led to great contributions to the existing IFRS studies.

10.2.5 Methodological Contributions Relating to the Antecedents and Consequences of ISAs Adoption

Regarding the methodological contributions related to the antecedents of the ISAs, two prior studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017) have used both parametric and non-parametric data analysis techniques to analyse categorical dependent variables, which are in fact incorrect. This is because the linear regression model can only be applied if the nature of the dependent variable is continuous (Williams et al., 2013). Specifically, the dependent variables of the study conducted by Boolaky and Omoteso (2016) were classified into four groups, namely the ISAs are mandatory by law, ISAs are adopted voluntarily, ISAs are adopted with modification, and non-adopters of the ISAs. Their study employed the linear regression as the main regression model for the study, while they applied two further regression techniques, namely multinomial regression and binary logistic regression to check the robustness of the linear regression, which is in fact inaccurate. Likewise, the outcome variables of the study implemented by Boolaky and Soobaroyen (2017) were divided into the following five groups, namely ISAs are required by law, ISAs are the national standards, ISAs are adopted with modification, no information relating to ISAs adoption, and non-adopters of ISAs. They have also applied the pooled linear regression as the main model to examine the association between categorical dependent variables and explanatory variables, which is in fact inaccurate, in addition to employing multinomial regression and binary logistic regression as additional analyses.

However, this study has applied ordered logistic regression and a series of cumulative binary logit and probit regression models upon the dependent variable, which was divided into five main groups as suggested by the DOI theory. These five adopter groups of the ISAs include experimenters (*EXPRA*), early adopters' group (*ERADA*), early majority group (*ERMJA*), late majority group (*LTMJA*), and laggards group (*LGGRA*). Therefore, this study contributes to the existing previous studies that examined the ISAs adoption, by using different non-parametric data analysis techniques, which in fact can be used to analyse categorical dependent variables.

In terms of the sample size, the maximum number of countries included in the study conducted by Boolaky and Soobaroyen (2017) was 89 countries, while the number of countries involved in the other empirical study conducted by Boolaky and Omoteso (2016) was 50 countries. However, this study provides a great contribution by including a large number of countries as a sample for this study, wherein 162 countries were involved to investigate the impact of the key national antecedents, including legal, political, cultural, and educational factors on ISAs adoption.

Regarding the methodological contributions relating to the consequences of ISAs adoption, very few studies (Boolaky & Omoteso, 2016; Boolaky & Soobaroyen, 2017) have included some of the economic factors as independent variables, such as GDP growth and market capitalization. However, this study examines the impact of ISAs adoption on the economic consequences of the adopting countries and it uses these consequences as dependent variables, while utilizing the ISAs adopter categories suggested

by DOI theory as independent variables. Additionally, the current research has also used another classification used by the previous ISAs studies as the second main independent variables, which refer to nine groups of the ISAs adoption status, including ISAs are adopted with amendments (*WIAM*), ISAs are adopted without amendments (*WOAM*), ISAs are adopted with translations (*WITR*), ISAs are adopted without translations (*WOTR*), ISAs are adopted with amendments and translations (*WAMT*), ISAs are adopted by the country law (*BLAW*), ISAs are adopted in gap matters (*GMAT*), ISAs are adopted for statements prepared in accordance with IFRS (*IFRSS*) and non-adopters of ISAs (*NOAD*).

10.2.6 Methodological Contributions Relating to the Antecedents and Consequences of IFRS Adoption

With respect to the methodological contributions relating to the antecedents of IFRS adoption, this study contributes significantly to the existing literature in many ways. Firstly, this study employs a series of cumulative binary logistic regression models, since the parallel lines assumption of the ordered logit regression model has been violated, while most prior studies applied either linear or binary logit regression models. Secondly, most previous IFRS studies have collected data relating to the legal origins from the La-Porta website, which includes data about five common legal origins, namely English, French, German, Scandinavian, and Socialist, for a limited number of countries. This study relied on the World Factbook website, which provides additional classifications regarding the legal origins of a large number of countries. Thirdly, some of the previous studies have been restricted by using an aggregate governance index, rather than using individual indexes to examine the impact of the political antecedents on IFRS adoption (Alon & Dwyer, 2014; Houqe et al., 2012). However, this study extends the existing research by including four individual governance indicators to examine their impact on IFRS adoption. Finally, most current IFRS research have mixed some of the antecedents and the effects into one model, while this study helps in filling the gaps by providing evidence of the influence of the key national antecedents, including legal, political, cultural and educational factors on the adoption of IFRS in one regression model and the economic consequences of IFRS in different regression models.

With respect to the methodological contributions related to consequences of the IFRS, the present study seeks to address the research gaps existing in the current IFRS studies and to contribute to knowledge in several ways. Distinct from most previous IFRS studies that applied linear regression models with ordinal IFRS dependent variables, which are deemed as misleading statistical tests that can lead to inaccurate results (Ramanna & Sletten, 2014; Shima & Yang, 2012; Kossentini & Ben Othman, 2014; Judge et al., 2010), this study therefore investigates the impact of IFRS adoption on a wide range of economic consequences of the adopting countries by employing multiple linear regression models, since the dependent variables of this study (the economic indicators), are continuous in nature.

Unlike most prior IFRS studies that have mixed the national antecedents and the consequences of IFRS adoption in one single regression model (Zeghal & Mhedhbi, 2006; Pricope, 2017; Shima & Yang, 2012; Judge et al., 2010; Zehri & Abdelbaki, 2013; Alon & Dwyer, 2014), the current study applied two

separate statistical techniques to examine the antecedents and the consequences of IFRS adoption. Specifically, the initial regression models are a series of cumulative binary logit regression models for studying the antecedents of IFRS adoption, while the second regression models present multiple linear regression models applied to examine the economic consequences of IFRS adoption. Additionally, as opposed to most prior studies, this study has employed fixed effects models to check the robustness of the empirical results obtained from the main regressions in addition to 2SLS estimation to address the potential endogeneity in the main regressions applied to examine the economic consequences of IFRS.

Different from most prior IFRS studies that measured the level of IFRS adoption as a dichotomous variable (Pricope, 2015; Kolsi & Zehri, 2009; Zeghal & Mhedhbi, 2006; Hope et al., 2006; Lungu et al., 2017), this study has measured IFRS adoption as ordinal dependent variables, since it happens at various times. Hence, this study uses the suggestion offered by DOI theory, which proposed that adopter groups can be classified into five main groups based on their adoption-time, including experiments, early adopters, early majority, late majority and the laggards' group.

Distinct from most prior IFRS studies that have investigated the benefits of adopting the IFRS for SMEs either in one single country or within few number of countries (Chand et al., 2015; Perera & Chand, 2015; Rudzani & Manda, 2016; Carini et al., 2011), this study provides a great contribution to the existing studies by using IFRS adoption as a dichotomous independent variable to examine the effects of IFRS adoption for SMEs on the economic consequences for 185 adopting countries.

The methodological contribution of this study can also be seen through using multiple data sources to collect information about the secondary data needed for conducting this study. The data related to the legal factors have been gathered from the World Factbook website. The data related to the cultural values have been collected from the Hofstede website. Most of the data relevant to political, educational antecedents in addition to the economic indicators have been gathered from the World Bank Data Website. This confirms that the secondary data sources used in this study are reliable and can yield more accurate findings. Moreover, the data relevant to the economic indicators has been collected from the World Bank website (WB) and the International Monetary Fund (IMF) website.

10.3 Research Implications and Recommendations

The findings of this study have several implications regarding the potential advantages and possible benefits of adopting the international accounting and auditing standards. Accordingly, this section presents some implementable implications that might be important for several parties, including government communities, policymakers, practice, theory, standards setting bodies and academics.

Firstly, the findings of this research have shown that the main reason for adopting the international accounting and auditing standards is to satisfy the needs of local and foreign investors. Therefore, government communities and policymakers in the emerging economies that adopted the international

accounting innovations are required to identify areas that need to be addressed to strengthen their law enforcement capacity and enhance their international cooperation, with a view to provide better shareholder protection and please the desires of their investors, thus increasing the benefits resulting from adopting the IAIs. This implication is consistent with the theoretical prediction suggested by LLSV legal origins theory, which assumes that countries with strong enforcement regimes for satisfying the needs of shareholders are more likely to benefit from adopting the international accounting innovations (La Porta et al., 1998; Filip et al., 2015).

Secondly, the results of this research have reported that countries with weak governance indicators have adopted the IAIs during the initial stages to gain more legitimacy. However, political legitimacy requires strong governance regimes that can make political authorities globally legitimate. Therefore, political authorities in countries with weak governance need to acquire political power to control the behaviour of organizations and to gain political legitimacy and sovereignty. This cannot be achieved only by adopting the accounting innovations, it needs more political power to strengthen their political institutions and acquire political legitimacy. This implication is in line with the suggestion offered by the institutional theory, which assumes that countries with strong political institutions are more likely to benefit from adopting the IAIs as a response to the coercive pressures arising from their political groups towards gaining more political legitimacy (Kossentini & Ben Othman, 2014; Irvine, 2008).

Thirdly, the findings of this research have indicated that countries with an Anglo-Saxon culture are most able to benefit from adopting the international accounting innovations, since their accounting values are consistent with the needs of implementing the international accounting innovations, including professionalism, confidence, flexibility, and transparency. This result can provide good implications to policymakers in many non-Anglo-Saxon countries, with a view to start establishing new accounting policies and procedures that would motivate their organizations to accept the accounting values required to conform to single sets of accounting and auditing standards. This would certainly lead to changing their confidence and beliefs about the necessity and usefulness of adopting the IAIs. This result provides theoretical support to the Hofstede-Gray cultural theory, which assumes that countries with an Anglo-Saxon culture are more prone to benefit from adopting the international accounting innovations, since their accounting values are in line with values needed for implementing the international accounting innovations (Zeghal & Mhedhbi, 2006; Borker, 2012; Perera & Mathews, 1990, Borker, 2013).

Fourthly, the results of this study have shown that countries with higher levels of accounting education are more susceptible to benefiting from adopting the IAIs by promoting their professionalism level. This result can yield implications for academics and policymakers in countries with lower levels of education, with a view to develop their accounting education by revisiting their current accounting curricula and textbooks to include the application of IAIs. In addition, universities should either train their existing faculty members about the application of the IAIs, or recruit experts from professional

accounting organizations and accounting firms for teaching the application of IAIs. This finding supports the expectation suggested by the institutional theory, which assumes that countries with a higher level of education are more prone to benefiting from adopting the IAIs, than countries with lower levels of education, as a response to the normative pressure arising from their educational institutions to obtain higher level of professionalism (Judge et al., 2010; Lasmin, 2011; Shima & Yang, 2012).

Fifthly, the findings of this study have reported that economic performance has significantly improved, especially for those countries that adopted the ISAs during the initial stages. This result provides implications for governments and policymakers in countries with lower levels of economic development to promote their economic performance by strengthening their legal enforcement to enforce the adoption of the ISAs. This finding is in line with the predictions offered by the institutional theory, which assumes that Anglo-Saxon countries with strong enforcement laws are more prone to benefit from the early adoption of the international accounting innovations, as a result of the coercive pressures emerging from their legal and political institutions, with a view to acquire higher levels of economic benefits (Zehri & Chouaibi, 2013; Soderstrom & Sun, 2007).

Sixthly, the results of this research have displayed that Anglo-Saxon countries that adopted the IFRS during the initial stages have obtained a relevant increase only in the economic indicators associated with the shareholders' value, including economic growth, FDI and real interest rate. This result has implications for policymakers in countries with lower levels of shareholder protection rights to issue new regulation for protecting foreign investors, thus gaining economic advantages by adopting the IFRS. This finding is consistent with the expectation suggested by institutional theory, which assumes that Anglo-Saxon countries with strong laws for shareholder protection rights are more prone to benefiting from the early adoption of the IFRS as a result of the coercive pressures emerging from their legal institutions to acquire higher economic benefits (Zehri & Chouaibi, 2013; Shima & Yang 2012; Daude & Stein, 2007).

Finally, this study has shown that countries that delayed their decision for adopting the IFRS up to the late stages have solely experienced relevant rapid growth in the economic indicators associated with the international trade, including GDP, exports level, and imports level. This finding yields implication for policymakers in countries with lower levels of international trades to strengthen their IFRS network-related value by converting from voluntary to mandatory IFRS adoption. This result is in line with theoretical predictions assumed by network economic theory, which suggests that emerging economies with lower levels of international trade tend to adopt IFRS voluntarily, with a view to strengthen their network effects and promote their economic performance. Moreover, developed economies have received a relevant increase in their international trade level post the mandatory IFRS adoption, as a result of the strong network effects between the nations (Ramanna & Sletten, 2014).

10.4 Research Limitations

Although this study has several strengths and contributions, it also has some weaknesses and several limitations that must be acknowledged. Firstly, although this study has employed multiple theoretical frameworks, including DOI theory, LLSV legal origin theory, institutional theory, Hofstede-Gray cultural theory, economic network theory, resource-based theory, and signalling theory, there are a number of other theories that have not yet been applied to examine the antecedents and consequences of the worldwide adoption of IAIs, such as legitimacy theory, stakeholder theory, and contingency theory.

Secondly, this research has merely examined the effects of four key national antecedents, including legal, political, cultural and educational factors on the adoption of IAIs. However, there are many other national antecedents that might impact the adoption of international accounting innovations, which have not been included in the current study, such as social beliefs, technological development, environmental factors, religious beliefs, and ethical factors.

Thirdly, the current study has examined the antecedents and consequences of the worldwide adoption of only two international accounting innovations (IAIs), namely the international standards on auditing (ISAs), and the international financial reporting standards (IFRS). However, there is further accounting innovation, which requires more research, namely the worldwide adoption of codes of good governance (CGGs), which has not yet been sufficiently examined so far.

Fourthly, this research has included only four out of six of the Worldwide Governance Indicators (WGI) provided by the World Bank Group, as a result of the perfect multicollinearity problem between the four governance indicators are involved in this research, including voice and accountability index, political stability index, regulatory quality index, and control of corruption index, whereas there are two further governance indicators that were excluded from the current study, due to the presence of multicollinartiy among these indexes, namely the rule of law index and government effectiveness index.

Fifthly, this study has been limited by only examining the impact of adopting the international accounting innovations on the economic consequences of adopting countries. However, investigating the influence of adopting the international accounting innovations on the financial performance of the stock exchanges of adopting countries has not yet been studied so far.

Sixthly, the current study is also limited with the presence of missing data in certain variables, which were replaced by its mean. Specifically, some national cultural values have some missing data, namely the long-term orientation index and the indulgence index, which were replaced with the means of the variables related to their neighbour countries, since the cultural values of the neighbour countries are often similar across countries. Nevertheless, this may cast doubt on the accuracy of the results regarding the variables with missing data replaced with substituted values estimated with a statistical method.

Likewise, the other economic and financial indicators also have some missing data which were also replaced by the main of the variable itself over time.

Seventhly, due to data availability, the target sample size has been reduced from 196 countries to 162 countries over the period from 1995-2014, which were used to address the relationship between the national antecedents and the adoption of IAIs. Similarly, the current study has only covered 185 countries over the period from 1995-2014 to examine the association among the economic consequences of adopting the international accounting innovations.

Eighthly, the ordinal 1-5 coding scheme has been applied to code the dependent variable of this study which represents the five adopter groups of the IAIs, suggested by DOI theory based on their adoption-time. Yet, the results may change if a new coding scheme is generated. This is because the coding technique used in this study has been defined based on the occurrence times of some international economic events and global financial scandals that happened in the world over the period from 1995 to 2014. Additionally, the ordinal scale adopted in this study might impede the comparison with the findings of prior studies that applied binary coding (Pricope, 2015; Kolsi & Zehri, 2009).

Ninthly, this study has examined the antecedents and consequences of adopting the IAIs at the macro-country level. However, the consequences of adopting the IAIs can be also examined at the micro-firm level as well, such as the cost of equity capital, liquidity, profitability, and share price and returns.

Finally, this study has only concentrated on the acceptance level of adopting the IAIs, while it did not include whether or not a country has in fact implemented these accounting innovations to prepare and audit their financial reportings.

10.5 Suggestions for Future Research

Although this study has provided several important theoretical and empirical findings concerning the national antecedents and the consequences of the worldwide adoption of the IAIs, there are many unanswered questions raised by this study, which can be explored by conducting further research. Therefore, this section suggests some avenues for future research.

Firstly, this study has employed multiple theoretical frameworks, with the DOI theory as the main theory, in addition to employing several supplementary theories, including LLSV legal origin theory, institutional theory, Hofstede-Gray cultural theory, economic network theory, resource-based theory, and signalling theory. Future research should be conducted to extend this study by applying new theories that have not been sufficiently tested by the existing empirical literature. These theoretical underpinnings that can be applied to explain the determinants and motivations of adopting the international accounting innovations might include, but are not limited to, the following theoretical frameworks: legitimacy theory, stakeholder theory, and contingency theory.

Secondly, although this research has investigated the influence of four key national antecedents (legal, cultural, political and educational factors) on the adoption of the IAIs, there are many other national antecedents that might affect the adoption level of the IAIs, which have not been included in this research, and they might be examined either quantitatively or qualitatively based on the availability of the required data. These further institutional factors might include, but are not restricted to, social, technological, environmental, religious beliefs, and ethical factors.

Thirdly, the current study has examined the national antecedents and the economic consequences of the worldwide adoption of two international accounting innovations (IAIs), namely the international standards on auditing (ISAs), and the international financial reporting standards (IFRS). Nevertheless, this research might be extended by examining the national antecedents and the economic consequences of the worldwide adoption of the codes of good governance (*CGGs*).

Fourthly, due to the presence of perfect multicollinearity between the Worldwide Governance Indicators (WGI), this study has merely included four governance indicators: voice and accountability, political stability, regulatory quality and control of corruption. Therefore, future studies might be conducted to examine the impact of two further governance indicators that were excluded from this study (the rule of law index and the government effectiveness index) on the worldwide adoption of the international accounting innovations.

Fifthly, the present study has examined the impact of adopting the IAIs on the economic consequences of the adopting countries. Future research might investigate the influence of adopting the international accounting innovations on the financial performance of the stock markets in the adopting countries at the macro-country level.

Sixthly, since some variables included in this study suffer from missing data, it might be better to find some reliable sources that can provide more information about the data needed to examine the antecedents and consequences of adopting the IAIs, with a view to obtain more accurate empirical results, rather than replacing missing data with substituted values estimated with a statistical method or by using the average of a variable over a specific period of time.

Seventhly, the target sample size applied in this study covered 162 countries, which were used to examine the antecedents of adopting the IAIs over the period from 1995-2014. Therefore, future research might be done to include more countries, which could involve 196 countries by searching for other reliable sources that can provide publicly secondary data that can be used to investigate the national antecedents of adopting the IAIs for more recent times rather than collecting data up to 2014.

Eighthly, the present study has applied the ordinal 1-5 coding scheme to code the dependent variable of this study, which represents the five adopter groups of IAI, suggested by DOI theory based on their

adoption-time, which were defined based on the occurrence times of some international economic events and global financial scandals that happened in the world over the period from 1995 to 2014. Therefore, future research might be done by using a new coding scheme, such as classifying countries into developed and developing countries by using a binary coding scheme.

Ninthly, future research can also be done to examine how the adoption of IAIs can lead to obtaining certain financial outcomes at the micro-country level, such as the cost of equity capital, liquidity, profitability, investments, and share price and returns.

Finally, this study focused on the acceptance level of adopting the IAIs, and it does not include whether or not a country has implemented these accounting innovations. Hence, further research should also examine the implementation of the IAIs to ensure if listed firms on the stock markets and audit firms are truly implementing the international accounting and auditing standards.

10.6 Chapter Summary

This chapter has discussed the main findings, outlined conclusions and provided recommendations and implications for future research based on the data analysed to examine the national antecedents and the economic consequences of the worldwide adoption of the IAIs. Although some of the findings contradict the salient predictions, most of the obtained results confirmed their hypotheses and provided significant contributions to the current empirical research relating to the antecedents and the consequences of the worldwide adoption of the international accounting innovations.

Regarding the antecedents of adopting the IAIs, this study has indicated that English common law countries with higher levels of shareholder protection rights, judicial efficiency, judicial independence and legal system integrity are more likely to adopt the international accounting innovations during the initial stages, with a view to increase their legal legitimacy. Additionally, the current study has also found that only countries with a civil legal origin, namely the Socialist civil law, are more prone to adopting the international accounting and auditing standardsduring the initial stages, to support the weakness of their local auditing standards. Moreover, this study has shown that countries with lower levels of education system quality, and higher levels of educational attainment and literacy rates are more prone to adopting the IAIs during the early times to increase their professionalism level.

Furthermore, this study has shown that countries with strong levels of regulatory quality index and voice and accountability index, along with weak levels of political stability index and control of corruption index are more likely to embrace the ISAs during the initial stages. This study has indicated that countries with weak levels of the four governance indicators (voice and accountability index, political stability index, regulatory quality index, and control of corruption index) are more susceptible to becoming early IFRS adopters, with a view to acquire greater political legitimacy. Besides, this research has reported that countries with higher levels of cultural values, namely individualism index

and indulgence index, alongside lower levels of uncertainty avoidance index, power distance index and masculinity index are more likely to become early adopters of the IAIs. However, the level of long-term orientation index is found to be higher in countries that adopted the ISAs during the initial stages, while it is found to be lower in countries that adopted the IFRS during the initial stages.

With respect to the economic effects of adopting the IAIs, this study has reported that countries that adopted the ISAs during the initial stages have experienced higher levels across most of the economic indicators, including economic growth, FDI inflows, GDP, exports, imports, inflation rates, and real interest rates, whilst, the level of foreign exchange rate has insignificantly decreased after the early adoption of the ISAs. In return, the current study has suggested that only three economic factors have significantly improved following the early adoption of the IFRS, including economic growth, FDI inflows and real interest rates, while the following economic factors involving GDP, exports and imports level, have significantly improved, but only in developed countries that made adopting the IFRS mandatory.

Additionally, this study has also shown that the findings relevant to the national legal antecedents of the IAI adoption have provided theoretical contributions consistent with the predictions offered by LLSV legal origin theory. Furthermore, this research found that the results relating to the national political and educational antecedents of IAIs adoption have substantially contributed to the expectations proposed by the institutional theory, except for two national political factors related to ISAs adoption, namely strong levels of voice and accountability index and regulatory quality index. Additionally, the current research has reported that the results relating to the national cultural dimensions of ISAs and IFRS adoption have added great contributions, which are in line with the suggestions offered by the Hofstede cultural theory, except for countries with higher levels of long-term orientation index that adopted the ISAs, which disagrees with the theoretical prediction of Hofstede cultural theory.

This study has indicated that the results relating to the economic growth of the early adoption of the ISAs have offered significant contributions to the predictions suggested by the institutional theory, while the results relating to other economic indicators, namely GDP and export levels provided support to the network economic theory. The findings relevant to foreign exchange rates and real interest rates offered support to the predictions suggested by signalling theory. However, the results relating to the inflation rates contradicted the suggestion proposed by signalling theory. Moreover, this research has also reported that the findings relevant to the following economic benefits, namely FDI inflows and import levels of the early adoption of ISAs have greatly contributed to the expectations proposed by resource-based theory and network economic theory respectively.

Regarding IFRS adoption, this study has indicated that the results relating to the economic growth of the early adoption of IFRS have offered significant contributions to institutional theory, while the results

relating to FDI inflows of the early adoption of IFRS have greatly contributed to the expectations proposed by the resource-based theory. Moreover, the findings relevant to real interest rates offered support to the predictions suggested by signalling theory. Whereas, the results relating to international trade of the mandatory adoption of IFRS, including GDP, export levels and import levels provide support for the network economic theory.

Furthermore, unlike most prior studies, this research has not mixed the national antecedents and the consequences of IFRS adoption in one single regression model. Specifically, this study has provided significant methodological contributions by applying a series of cumulative binary logistic regression models to examine the antecedents of IAIs adoption, since the outcome variables are categorical. Furthermore, this study has also investigated the consequences of IAIs adoption by employing multiple linear regression models, since the dependent variables relating to the economic indicators are continuous. Moreover, distinct from most prior studies, this study has measured the adoption level by using the ordinal coding scheme suggested by DOI theory, which involves five adopter groups rather than using a dichotomous dependent variable.

Finally, based on the results of this research, although this research has some limitations, it has provided some implementable implications for several parties, including theories, practice and policymakers, in addition to suggesting new avenues for further research.

Appendices

Appendix 1: The classification of 162 countries selected to examine the national antecedents of adopting the international standards on auditing (ISAs) based on their first-time adoption

Experimenters (1991-1995)	Early adopters (1996-2000)	Early majority (2001-2006)		Late majority (2007-2014)		Laggards (non-adopters up to 2014)
Jordan	Armenia	Azerbaijan	Papua New Guinea	Argentina	Malaysia	Afghanistan
Malta	Bangladesh	Bahrain	Philippines	Albania	Mexico	Algeria
Netherland	Dominican Republic	Bosnia and Herzegovina	Russia	Australia	Morocco	Angola
Peru	Denmark	Bolivia	Serbia	Austria	Namibia	Burkina Faso
Slovenia	El Salvador	Bulgaria	Singapore	Barbados	Nigeria	Burundi
Sri Lanka	Fiji	Cambodia	South Africa	Belgium	Pakistan	Cape Verde
	France	Cameroon	Tanzania	Belize	Portugal	Central African Republic
	Georgia	Canada	Turkey	Benin	Rwanda	Chad
	Kenya	Chile	Ukraine	Botswana	Saudi Arabia	Colombia
	Latvia	China	UK	Brazil	Senegal	Congo, Democratic Republic of the
	Lesotho	Costa Rica	Vietnam	Brunei Darussalam	Sierra Leone	Congo, Republic
	Macedonia	Czech Republic	Zambia	Burma (Myanmar)	Slovakia	Cuba
	Moldova	Ecuador		Cote d'Ivoire	Spain	Ethiopia
	Mongolia	Guyana		Croatia	Swaziland	Gabon
	Paraguay	Haiti		Cyprus	Sweden	Gambia, The
	Poland	Hong Kong		Dominica	Switzerland	Germany
	Romania	Hungary		Egypt	Taiwan	Guinea
	South Korea	Iraq		Estonia	Tajikistan	Guinea-Bissau
	Trinidad & Tobago	Ireland		Finland	Thailand	Laos
	Uganda	Jamaica		Ghana	Togo	Libya
	Uruguay	Kazakhstan		Greece	Tunisia	Maldives
		Kyrgyzstan		Guatemala	UAE	Mali
		Lebanon		Honduras	Venezuela	Mauritania
		Lithuania		Iceland	Zimbabwe	Mozambique
		Luxembourg		India		Niger
		Malawi		Indonesia		Oman
		Mauritius		Iran		Qatar
		Montenegro		Israel		Sudan
		Nepal		Italy		Suriname
		New Zealand		Japan		Syria
		Nicaragua		Kuwait		Tonga
		Norway		Liberia		USA
		Panama		Madagascar		Yemen

Appendix 2: The classification of 185 countries selected to examine the economic consequences of adopting the international standards on auditing (ISAs) based on their first-time adoption

Experimenters (1991-1995)	Early adopters (1996-2000)	Early majority (2001-2006)		Late majority (2007-2014)		Laggards (non-adopters up to 2014)	
Jordan	Armenia	Azerbaijan	Papua New Guinea	Argentina	Kuwait	Afghanistan	Samoa
Malta	Bangladesh	Bahrain	Philippines	Albania	Liberia	Algeria	Sao Tome & Principe
Netherland	Belarus	Bosnia & Herzegovina	Russia	Antigua & Barbuda	Madagascar	Angola	Seychelles
Peru	Denmark	Bolivia	Serbia	Australia	Malaysia	Bhutan	Somalia
Slovenia	Dominican Republic	Bulgaria	Singapore	Austria	Mexico	Burkina Faso	Sudan
Sri Lanka	El Salvador	Cambodia	South Africa	Bahamas	Morocco	Burundi	Suriname
	Fiji	Cameroon	Tanzania	Barbados	Namibia	Cape Verde	Syria
	France	Canada	Turkey	Belgium	Nigeria	Central African Republic	Tonga
	Georgia	Chile	Ukraine	Belize	Pakistan	Chad	USA
	Kenya	China	UK	Benin	Portugal	Colombia	Yemen
	Latvia	Costa Rica	Vietnam	Botswana	Puerto Rico	Congo, Democratic	
	Lesotho	Czech Republic	Zambia	Brazil	Rwanda	Congo, Republic	
	Macedonia	Ecuador		Brunei Darussalam	Saint Kitts & Nevis	Cuba	
	Moldova	Djibouti		Burma	Saint Lucia	Equatorial Guinea	
	Mongolia	Guyana		Cote d'Ivoire	Saint Vincent & Grenadines	Eritrea	
	Paraguay	Haiti		Croatia	Saudi Arabia	Ethiopia	
	Poland	Hong Kong		Cyprus	Senegal	Gabon	
	Romania	Hungary		Dominica	Sierra Leone	Gambia, The	
	South Korea	Iraq		Egypt	Slovakia	Germany	
	Trinidad & Tobago	Ireland		Estonia	Spain	Guinea	
	Turkmenistan	Jamaica		Finland	Swaziland	Guinea-Bissau	
	Uganda	Kazakhstan		Ghana	Sweden	Kiribati	
	Uruguay	Kyrgyzstan		Greece	Switzerland	Laos	
		Lebanon		Grenada	Tajikistan	Libya	
		Lithuania		Guatemala	Togo	Maldives	
		Luxembourg		Honduras	Thailand	Mali	
		Malawi		Iceland	Tunisia	Marshall Islands	
		Mauritius		India	UAE	Mauritania	
		Montenegro		Indonesia	Uzbekistan	Micronesia	
		Nepal		Iran	Venezuela	Mozambique	
		New Zealand		Israel	Zimbabwe	Niger	
		Nicaragua		Italy		North Korea	
		Norway		Japan		Oman	
		Panama		Kazakhstan		Qatar	

Appendix 3: The classification of 162 countries selected to examine the national antecedents of adopting the international financial reporting standards (IFRS) based on their first-time adoption

Experimenters (1991-1995)	Early adopters (1996-2000)	Early majority (2001-2004)	Late majority (2005-2014)			Non-Adopters up to 2014
Bangladesh	Bahrain	Albania	Afghanistan	India	Romania	Algeria
Barbados	Bolivia	Armenia	Argentina	Ireland	Russian Federation	Angola
Gambia, The	El Salvador	Azerbaijan	Australia	Israel	Rwanda	Benin
	Georgia	Bosnia and Herzegovina	Austria	Italy	Serbia	Burkina Faso
	Guyana	Botswana	Belgium	Japan	Sierra Leone	Burundi
	Jamaica	Burma (Myanmar)	Belize	Latvia	Slovakia	Cameroon
	Jordan	Costa Rica	Brazil	Liberia	Slovenia	Cape Verde
	Kenya	Dominica	Brunei Darussalam	Libya	South Africa	Central African Republic
	Kuwait	Dominican Republic	Bulgaria	Lithuania	South Korea	Chad
	Lebanon	Guatemala	Cambodia	Luxembourg	Spain	Colombia
	Macedonia	Haiti	Canada	Madagascar	Suriname	Congo, Democratic
	Mongolia	Honduras	Chile	Malaysia	Swaziland	Congo, Republic of the
	Nepal	Iraq	China	Maldives	Sweden	Cote d'Ivoire
	Oman	Kazakhstan	Croatia	Malta	Switzerland	Cuba
	Panama	Kyrgyzstan	Cyprus	Mexico	Syria	Ethiopia
	Papua New Guinea	Laos	Czech Republic	Moldova	Taiwan	Gabon
	Peru	Lesotho	Denmark	Montenegro	Ukraine	Guinea
	Qatar	Malawi	Ecuador	Morocco	United Kingdom	Indonesia
	Tajikistan	Mauritius	Egypt	Mozambique	Uruguay	Iran
	Trinidad and Tobago	Saudi Arabia	Estonia	Namibia	Venezuela	Mali
	Uganda	Singapore	Fiji	Netherlands	Yemen	Mauritania
	United Arab Emirates	Sri Lanka	Finland	New Zealand	Zambia	Niger
	Zimbabwe	Tanzania	France	Nicaragua		Senegal
		Turkey	Germany	Nigeria		Sudan
			Ghana	Norway		Thailand
			Greece	Pakistan		Togo
			Guinea-Bissau	Paraguay		Tonga
			Hong Kong	Philippines		Tunisia
			Hungary	Poland		USA
			Iceland	Portugal		Vietnam

Appendix 4: The classification of 185 countries selected to examine the economic consequences of adopting the international financial reporting standards (IFRS) based on their first-time adoption

Experimenters (1991-1995)	Early adopters (1996-2000)	Early majority (2001-2004)	Late majority (2005-2014)			Laggards (non-adopters up to 2014)	
Bahamas, The	Bahrain	Albania	Afghanistan	Hong Kong	Philippines	Algeria	Senegal
Bangladesh	Bolivia	Antigua & Barbuda	Argentina	Hungary	Poland	Angola	Solomon Islands
Barbados	El Salvador	Armenia	Australia	Iceland	Portugal	Benin	Sudan
Gambia, The	Georgia	Azerbaijan	Austria	India	Romania	Burkina Faso	Thailand
	Guyana	Bosnia & Herzegovina	Belarus	Ireland	Russian Federation	Burundi	Timor-Leste
	Jamaica	Botswana	Belgium	Israel	Rwanda	Cameroon	Togo
	Jordan	Costa Rica	Belize	Italy	Samoa	Cape Verde	Tonga
	Kenya	Dominica	Bhutan	Japan	Seychelles	Central African Republic	Tunisia
	Kuwait	Dominican Republic	Brazil	Latvia	Serbia	Chad	USA
	Lebanon	Grenada	Brunei Darussalam	Liberia	Sierra Leone	Colombia	Vietnam
	Macedonia	Guatemala	Bulgaria	Libya	Slovakia	Comoros	
	Mongolia	Haiti	Cambodia	Lithuania	Slovenia	Congo, Democratic Republic	
	Nepal	Honduras	Canada	Luxembourg	South Africa	Congo, Republic of the	
	Oman	Iraq	Chile	Madagascar	South Korea	Cote d'Ivoire	
	Panama	Kazakhstan	China	Malaysia	Spain	Djibouti	
	Papua New Guinea	Kyrgyzstan	Croatia	Maldives	Suriname	Equatorial Guinea	
	Peru	Laos	Cyprus	Malta	Swaziland	Ethiopia	
	Qatar	Lesotho	Czech Republic	Mexico	Sweden	Gabon	
	Tajikistan	Malawi	Denmark	Moldova	Switzerland	Guinea	
	Trinidad & Tobago	Mauritius	Ecuador	Montenegro	Syria	Indonesia	
	Uganda	Myanmar	Egypt	Morocco	Turkmenistan	Iran	
	United Arab Emirates	Saint Kitts & Nevis	Eritrea	Mozambique	Ukraine	Kiribati	
	Uzbekistan	Saint Lucia	Estonia	Namibia	United Kingdom	Mali	
	Zimbabwe	Saint Vincent & Grenadines	Fiji	Netherlands	Uruguay	Marshall Islands	
		Saudi Arabia	Finland	New Zealand	Vanuatu	Mauritania	
		Singapore	France	Nicaragua	Venezuela	Micronesia	
		Sri Lanka	Germany	Nigeria	Yemen	Niger	
		Tanzania	Ghana	Norway	Zambia	Palau	
		Turkey	Greece	Pakistan		Puerto Rico	
			Guinea-Bissau	Paraguay		Sao Tome & Principe	

Appendix 5: Summary of the descriptive statistics of the average annual values for the continuous dependent variables that represent the economic consequences of ISAs adoption for 185 countries over the period from 1995 to 2014

Dep Var	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ECGR %																				
EXPRA	5.44	3.17	5.1	3.35	3.95	4.71	1.23	3.64	2.92	4.11	5.1	5.83	6.49	5.27	-0.64	4.23	3.49	1.97	2.84	3.21
ERADA	2.98	4.21	3.55	3.14	3.83	3.35	3.22	3.73	4.96	5.82	6.16	7.27	6.64	4.79	-1.46	4.91	5.18	3.33	4.55	3.86
ERMIA	3.62	5.95	5.19	3.68	3.16	4.75	3.37	3.53	3.88	7.06	5.51	6.06	6.76	4.22	0.04	4.28	4.71	3.31	4.08	3.17
LTMIA	3.73	4.38	5.73	3.67	3.56	4.77	2.54	2.71	3.69	5.53	4.4	5.44	5.13	2.93	-0.75	3.23	3.24	2.86	2.58	2.75
LGGRA	4.67	5.51	7.71	4.31	2.87	3.32	5.54	3.42	3.86	6.08	5.61	5.48	6.25	4.58	2.25	5.35	3.13	6.51	2.07	3.28
FDI %																				
EXPRA	2.1	3.34	3.02	4.21	6.45	8.03	5.26	1.56	5.34	27.95	10.92	18.42	20.86	36.11	7.45	23.45	22.38	13.06	9.59	4.58
ERADA	3.48	3.28	4.36	5.45	4.1	4.53	3.37	3.13	2.95	3.91	3.92	5.37	6.21	5.53	4.32	4.23	6	4.94	3.55	3.53
ERMIA	4.01	4.61	4.76	4.94	5.73	5.54	4.84	4.87	5.39	5.54	6.55	9.11	8.16	8.16	6.6	6.75	6.12	11.08	6.02	6.44
LTMIA	2.36	0.69	4.09	4.38	4.34	3.64	2.93	3.03	4.66	3.82	4.45	6.01	6.55	6.43	4.49	7.3	4.73	5.07	2.59	3.77
LGGRA	2.65	4.19	3.65	3.79	3.51	4.71	8.72	2.15	6.05	3.13	3.64	4.63	5.49	5.02	4.34	4.36	5	5.57	4.54	4.64
GDP $																				
EXPRA	90.23	90.43	85.56	89.22	89.95	85.58	87.87	95.58	115.64	130.82	137.78	149.43	173.4	196.62	183.92	186.18	202.14	193.55	202.39	207.04
ERADA	116.5	120.2	111.5	107.12	110.79	108.31	108.72	118.37	140.29	160.85	175.77	191.19	220.93	237.7	215.09	225.31	245.93	237.9	252.27	261.41
ERMIA	96.48	103.4	108.9	109.43	110.39	116.16	118.24	128.68	150.4	179.29	204	233.29	281.76	320.76	298.51	345.13	405.15	433.15	463.37	480.62
LTMIA	190.8	189.1	182.2	173.95	181.16	187.35	177.83	178.31	203.08	230.79	246.86	264.43	298.08	335.75	322.1	362.75	403.88	401.21	392.28	390.11
LGGRA	228.6	236.6	241.8	252.47	263.98	273.3	280.33	290.85	312.43	337.64	358.76	380.37	406.6	423.12	407.04	422.45	443.8	456.02	474.2	491.28
EXPO $																				
EXPRA	47.77	48.47	47.68	49.28	50.09	51.63	51.21	53.49	64	76.82	84.54	95.41	113.37	128.56	105.66	117.2	135.68	133	138.36	141.17
ERADA	28.87	29.72	30.33	31.3	31.68	33.48	32.79	34.97	41.28	49.8	55.21	62.36	72.86	83.57	68.52	78.18	93.77	93.03	97.07	98.52
ERMIA	35.07	36.99	39.55	38.33	40	45.74	45.18	48.29	56.78	70.26	82.94	97.89	113.95	130.23	104.1	127.2	151.55	157.31	163.42	167.59
LTMIA	36.1	37.73	38.31	37.11	38.68	43.26	41.04	43	50.26	60.79	68.57	78.07	90.49	103.73	82.94	99.65	118.1	118.34	119.33	119.61
LGGRA	31.51	33	34.73	35.07	36.23	39.35	38.05	38.84	43.18	51.14	57.12	65.42	76.12	85.9	69.73	81.04	93.83	95.86	98.36	98.84
IMPO $																				
EXPRA	44.15	45.15	44.28	45.96	47.26	48.12	47.33	48.89	58.38	69.52	76	85.77	102.05	117.81	95.36	106.2	124.26	122.27	126.09	127.87
ERADA	27.95	29.54	29.2	28.53	29.47	32.9	32.1	33.83	40.04	48.48	55.1	63.93	76.12	89.05	69.44	80.02	97.53	95.1	96.67	97.52
ERMIA	33.45	35.31	37.82	36.49	37.55	42.51	42.16	45.49	53.76	66.73	76.61	88.84	103.86	118.63	95.92	118.92	141.56	147.08	153.76	154.16
LTMIA	34.11	36.1	36.49	35.4	36.48	40.34	39.24	39.97	46.49	56.16	63.97	73.09	86.44	101.19	81.42	95.87	113.84	114.45	116.11	117.57
LGGRA	33.39	34.76	36.44	38.31	41.41	46.77	45.03	45.91	51.8	60.87	68.19	76.82	84.75	93.71	74.39	86.43	99.47	100.35	102.76	103.35

Continuation: Appendix 5

Dep Var	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
INFR %																				
EXPRA	6.83	7.97	5.82	5.33	3.2	4.05	5.58	4.1	3.2	3.72	3.98	4.13	4.92	9.3	1.65	2.88	3.55	3.92	3.48	1.8
ERADA	100.3	58.64	21.07	11.7	21.43	14.99	8.86	6.67	8.25	8.28	5.99	6.16	6.45	10.69	4.08	4.92	9.17	7.39	4.48	4.28
ERMJA	51.7	21.36	33.79	11.35	11.84	11.55	9.71	6.48	6.25	5.69	6.62	6.82	5.86	11.03	4.33	4.4	6.08	4.87	4.29	4.01
LTMJA	27.79	16.86	9.38	8.55	6.34	5.84	5.16	5.54	5.27	6.35	4.9	5.87	4.49	11.32	4.31	4.9	5.52	4.77	4.54	4.08
LGGRA	87.59	112.6	16.97	10.82	19.55	23.94	16.35	7.53	8.1	5.79	7.06	6.53	6.37	12.59	5.08	4.47	7.68	7.48	5.25	4.57
EXCR $																				
EXPRA	29.11	32.64	37.4	39.43	43.15	51.07	56.5	57.11	51.69	49.96	49.89	50.17	48.03	45.57	48.73	50.06	47.95	52.63	52.71	52.98
ERADA	211.7	362.7	429.7	516.72	566.4	619.01	682.22	771.56	820.2	835.83	847.78	846.31	836.32	1028.8	1119.6	1116	1188.5	1350.6	1379.5	1456.2
ERMJA	437.5	456	498.6	586.12	747.14	1048.2	1068.1	1082.9	1135.1	1124.8	1130.1	1136.3	1130.8	1131.8	1157.5	1192.8	1233	1243.8	1249.2	1260.8
LTMJA	165.4	170.1	193	317.47	294.7	321.79	356.65	426.2	428.36	451.55	475.2	475.35	616.57	622.19	657.34	659.71	664.11	718.27	840.24	987.73
LGGRA	208.3	239.1	322	431.16	538.83	615.7	678.97	711.91	717.03	718.22	759.16	820.95	797.85	806.58	856.08	922.61	913.56	963.7	946.36	956.5
INTR %																				
EXPRA	8.87	9.59	9.92	9.48	11.43	9.95	8.15	6.58	6.22	5.71	6.43	3.71	5.55	3.56	6.75	1.53	3.76	4.71	5.14	4.65
ERADA	9.05	14.86	13.8	14.87	12.22	11.19	12.67	15.79	10	7.24	7.89	6.64	5.2	4.98	12.69	6.13	3.37	5.49	8	7.66
ERMJA	14.15	16.68	13.06	15.2	12.89	7.56	11.08	8.62	8.23	6.19	4.35	3.1	3.82	3.12	9.07	4.76	3.76	6.32	6.54	6.11
LTMJA	11.63	8.93	9.97	11.08	9.98	7.88	9.38	8.58	8.9	9.72	8.89	13.5	15.32	9.49	11.97	8.92	5.29	6.87	6.99	6.98
LGGRA	5.58	7.82	11.45	13.95	4.91	4.22	11.07	9.24	9.3	8.22	6.52	6.99	7.87	4.49	13.13	7.56	5.87	7.71	9.87	9.82

Note: Variables defined as the following: the dependent variables which include the economic consequences namely the average annual percentage of economic growth (*ECGR*); the average annual percentage of foreign direct investment (*FDI*); the average annual values of gross domestic product (*GDP*); the average annual values of exports of goods and services (*EXPO*); the average annual values of imports of goods and services *(IMPO*); the average annual percentage of inflation rates measured by the consumer price index (*INFR*); the average annual values of official exchange rate (*EXCR*); the average annual percentage of real interest rate (*INTR*). The main independent variable is the ISAs adoption categories which comprises five groups suggested by the diffusion of innovation theory namely experimenters (*EXPRA*); early adopters group (*ERADA*); early majority group (*ERMJA*); late majority group (*LTMJA*) and laggards (non-adopters) group (*LGGRA*).

Appendix 6: Summary of the descriptive statistics of the average annual values for the continuous dependent variables that represent the economic consequences of IFRS adoption for 185 countries over the period from 1995 to 2014

Dep Var	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ECGR %																				
EXPRF	2.97	3.20	4.46	4.38	5.20	4.31	2.74	0.99	3.08	3.65	3.25	4.01	3.45	2.44	0.80	3.47	0.88	3.65	-1.11	1.79
ERADF	3.25	3.54	4.70	3.27	2.68	3.32	2.84	3.06	4.37	6.15	5.01	6.57	7.02	5.10	2.40	5.28	6.19	5.35	4.68	4.27
ERMJF	4.22	8.02	6.42	5.80	4.99	5.18	2.58	3.90	4.54	7.45	6.53	7.78	7.42	4.82	0.36	3.82	4.38	3.19	4.37	3.38
LTMJF	3.19	4.14	5.30	3.08	2.98	4.71	3.06	3.04	3.60	5.77	4.89	5.74	5.88	3.30	-1.30	3.96	3.11	3.66	2.67	2.34
LGGRF	5.72	5.72	7.22	3.97	3.11	2.99	5.78	3.57	3.95	5.77	5.30	4.42	5.09	4.28	1.56	4.70	3.87	4.13	2.49	4.18
FDI %																				
EXPRF	1.16	1.07	1.64	1.28	2.24	2.67	1.87	2.56	2.18	3.45	5.78	7.50	7.28	7.52	5.93	7.77	5.58	5.35	2.56	4.73
ERADF	3.01	4.03	3.82	4.31	3.44	3.84	3.40	3.09	3.78	4.37	4.60	6.76	6.76	6.09	4.34	4.25	5.34	4.93	3.82	3.45
ERMJF	5.26	5.05	6.25	6.38	6.06	4.31	4.88	4.95	7.33	7.37	6.24	8.27	9.13	7.58	6.17	5.77	6.01	5.43	6.05	5.96
LTMJF	2.42	1.51	3.74	4.28	4.76	4.79	3.53	3.20	3.95	5.01	5.38	7.39	7.48	8.52	5.37	8.37	6.54	9.29	4.03	4.67
LGGRF	2.79	4.32	3.76	3.81	3.69	5.25	9.71	2.27	6.77	3.33	3.73	4.57	5.63	5.34	3.97	4.00	4.72	4.20	4.29	4.58
GDP $																				
EXPRF	1.11	1.33	1.41	1.48	1.53	1.59	1.61	1.64	1.77	1.91	2.04	2.12	2.33	2.64	2.90	3.21	3.54	3.67	4.09	4.69
ERADF	1.17	1.29	1.36	1.33	1.39	1.56	1.54	1.62	1.81	2.11	2.54	3.07	3.61	4.50	3.97	4.57	5.50	6.07	6.44	6.60
ERMJF	2.15	2.31	2.41	2.60	2.58	2.80	2.54	2.73	3.13	3.75	4.56	5.20	6.18	7.32	6.44	7.68	8.95	9.49	9.89	9.84
LTMJF	23.88	23.95	23.15	22.63	23.19	23.43	22.95	23.82	27.67	31.83	34.33	37.27	43.05	48.03	45.14	49.91	55.97	56.42	57.79	58.98
LGGRF	21.06	22.34	23.54	24.33	25.89	27.60	28.45	29.50	31.12	33.39	35.83	38.30	40.58	41.95	41.15	43.63	46.16	48.02	49.55	51.01
EXPO $																				
EXPRF	1.76	1.89	2.14	2.36	2.51	2.73	2.81	2.77	2.83	3.00	3.83	4.34	4.90	5.56	5.65	6.00	7.77	8.16	8.74	10.00
ERADF	5.11	5.91	6.33	5.49	5.89	7.52	6.25	6.43	7.88	10.42	13.69	17.03	20.07	26.56	20.61	24.66	34.09	38.62	39.72	40.02
ERMJF	10.57	11.53	11.98	10.75	11.32	13.68	12.81	13.49	15.88	20.00	24.65	29.33	33.86	41.64	31.52	39.18	49.78	52.42	52.61	51.91
LTMJF	54.95	56.81	58.31	58.22	59.96	65.50	64.19	68.15	80.28	97.68	109.99	126.22	147.43	166.49	133.29	158.14	185.17	185.75	191.06	194.31
LGGRF	26.29	28.14	30.32	29.78	31.38	35.27	33.38	33.29	35.56	41.07	46.76	53.28	60.85	68.89	58.84	69.74	80.74	83.29	85.37	85.48
IMPO $																				
EXPRF	2.44	2.75	2.86	3.05	3.20	3.43	3.62	3.33	3.55	3.82	4.98	5.62	6.33	7.54	7.47	7.91	10.65	11.23	11.86	12.91
ERADF	5.30	5.94	6.43	6.29	5.83	6.21	5.69	6.07	6.95	8.90	10.59	12.63	16.90	21.67	18.41	20.73	25.68	28.87	30.70	32.26
ERMJF	9.55	10.43	10.97	9.92	10.26	12.36	11.22	11.80	13.86	17.55	20.91	24.95	29.38	35.53	29.12	35.14	42.08	44.66	46.41	46.93
LTMJF	52.25	54.50	55.56	55.10	56.83	62.21	61.34	63.74	75.36	91.34	103.12	118.53	139.20	159.33	127.23	150.88	179.15	178.62	183.32	184.52
LGGRF	28.84	30.81	32.89	33.45	36.92	43.46	41.76	43.08	47.20	55.52	63.09	70.09	75.96	84.92	67.56	80.83	92.95	96.89	98.72	98.87

Continuation: Appendix 6

Dep Var	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
INFR %																				
EXPRF	5.33	1.83	4.08	2.38	3.20	1.75	2.78	3.55	6.83	6.05	4.88	4.65	5.25	6.48	3.93	5.05	7.03	4.25	3.83	4.08
ERADF	51.90	29.93	12.38	8.27	8.60	8.41	3.83	2.39	4.50	9.10	4.34	7.61	3.90	18.72	4.66	4.65	6.64	5.57	4.38	4.14
ERMJF	54.96	14.21	14.03	14.58	13.64	8.40	8.77	8.81	9.37	8.36	7.50	8.62	7.16	11.53	3.46	5.04	6.38	5.00	4.73	4.04
LTMJF	45.14	27.81	23.14	9.03	12.17	10.62	8.20	6.28	5.89	5.33	5.39	5.10	5.32	9.68	4.56	4.57	6.39	5.56	4.50	4.31
LGGRF	92.53	126.34	17.45	11.06	16.90	24.72	17.20	7.44	7.02	4.85	7.23	6.40	5.92	11.30	4.59	4.30	7.11	7.05	5.00	3.82
EXCR $																				
EXPRF	13.21	13.65	14.27	15.14	15.87	16.98	18.63	20.20	22.42	23.14	23.98	25.00	24.19	23.45	24.67	25.17	26.65	29.24	29.27	30.59
ERADF	142.56	148.86	160.68	170.73	190.08	206.06	224.43	236.43	253.77	251.21	255.20	266.79	660.13	662.28	694.00	701.71	717.90	728.71	748.32	761.97
ERMJF	79.10	85.55	104.23	178.86	317.25	349.53	391.61	435.21	530.99	509.23	512.20	499.54	470.15	435.51	436.80	430.28	427.24	453.90	464.03	479.12
LTMJF	154.69	205.47	241.13	297.26	386.42	558.43	576.44	600.68	607.70	621.87	629.80	630.79	623.53	670.56	699.51	707.70	723.55	769.31	774.64	797.66
LGGRF	648.74	680.13	801.19	1093.25	1086.78	1184.70	1291.92	1417.23	1418.30	1439.66	1515.52	1593.10	1581.38	1632.27	1743.96	1844.94	1886.68	2010.66	2177.82	2413.13
INTR %																				
EXPRF	9.83	6.14	7.83	8.08	10.79	12.43	11.68	8.38	9.06	8.42	10.53	11.60	10.18	11.42	9.83	11.49	11.31	10.13	9.94	10.14
ERADF	24.72	15.58	17.99	19.65	14.52	11.98	14.13	12.09	11.46	17.18	14.32	24.04	28.75	11.83	23.81	12.68	3.84	7.00	8.94	8.32
ERMJF	14.50	13.03	15.13	14.68	12.78	9.97	16.28	11.53	11.89	8.72	7.78	7.14	7.22	5.90	12.90	6.95	5.97	8.62	8.74	8.78
LTMJF	6.26	11.11	8.89	10.91	8.14	5.89	7.01	7.73	6.42	4.41	4.20	3.90	4.24	3.86	7.96	4.73	3.34	5.03	5.98	5.75
LGGRF	7.73	8.59	11.44	13.98	8.22	5.45	12.12	10.88	10.55	9.95	7.68	8.25	8.95	6.33	10.86	7.99	6.94	8.47	9.58	9.56

Note: Variables defined as the following: the dependent variables which include the economic consequences of the IFRS adoption namely the average annual percentage of economic growth (*ECGR*); the average annual percentage of foreign direct investment (*FDI*); the average annual values of gross domestic product (*GDP*); the average annual values of exports of goods and services (*EXPO*); the average annual values of imports of goods and services (*IMPO*); the average annual percentage of inflation rates measured by the consumer price index (*INFR*); the average annual values of official exchange rate (*EXCR*); the average annual percentage of real interest rate (*INTR*). The main independent variable is the IFRS adoption categories which comprises five groups namely experimenters (*EXPRF*); early adopters group (*ERADF*); early majority group (*ERMJF*); late majority group (*LTMJF*) and laggards group (*LGGRF*).

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