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AN EMPIRICAL INVESTIGATION OF THE EFFECT OF FINANCIAL LIBERALIZATION ON THE ECONOMIC GROWTH OF LIBYA: A CASE STUDY

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Financial liberalization; economic growth, Libya; GATS

ABSTRACT

Given the significance of financial liberalization and the key role of financial development in the economic growth, this paper sets to investigate the impact of financial services liberalization on the Libyan economy from 1978 to 2011. In order to ascertain and to quantify this impact, the study uses unit root test, Johansen Co-integration test and the Vector Error Correction Model (ECM). The results obtained show that there is a negative relationship between financial liberalization in Libya and economic growth during this period, which goes against Mckinon (1973) and Shaw (1973) hypothesis which have reported positive results regarding the impacts of financial liberalization on economic growth. As for the relationship between labour force and economic growth within of financial liberalization in this study, the result of our finding shows on a positive relation in the case of Libya (which supports the economic theory which has reported a positive relationship between labour and economic growth). However, our findings show that trade openness has not had any impact on economic growth in the short term. The results of the forecasting test show that the quality of the estimated regression model is very satisfactory.

1. INTRODUCTION

The liberalization of global trade in financial services has brought many changes to the economies of countries such as Libya. At the forefront of these trends is the GATS agreement which provides the framework for multilateral negotiations on improved market access for foreign services and service suppliers. Also, increased trade resulting from the liberalization of domestic markets together with technological advances have made economic activities more globalized. Consequently, the demand for financial services have grown all over the world. Liberalization under the GATS and WTO framework means more domestic market access by foreign firms providing financial services. The key issue and challenge facing many developing and emerging economies nowadays is how to ensure effective economic management and financial stability in a global market place where liberalization has become the dominant policy feature.

Liberalization of international trade in financial services is one of the important aspects of negotiations on GATS, which mainly depends on the multilateral negotiations with WTO members. The key issue and challenge facing many developing and emerging economies is how to manage economic growth and financial stability in a globalized economy where capital flows and financial markets are increasingly liberalized in line with the WTO and GATS regime. The financial sector plays a crucial role in the economy, and evidence shows that liberalization can improve financial sector performance, with potential benefits for the rest of the economic sectors. However, there are also risks associated with liberalization - for example, in relation to subsequent financial instability resulting in limited access to financial services. Careful sequencing of reform, appropriate regulation and other complementary policies are required to ensure liberalization delivers the expected benefits (Cali, Ellis, & te Velde, 2008).

The financial services sector has undergone important structural changes in recent years with growing numbers of worldwide cross border mergers and acquisitions and increased competition among different types of financial institutions (McKinnon, 1993). The financial liberalization process seeks to eliminate discrimination between foreign and domestic providers of financial services and the removal of barriers to entry and establishment in the provision of the cross-border financial services. The main objective of liberalization is to promote competition, efficiency and diversification of the domestic financial system (Chanda, 2005). Since 1980 there has been a revolution in the global economy due to the creation of an unprecedented demand for world-wide financial services. Evidence of this can be seen in ever increasing cross-border trade and foreign investment flows into the financial services sector. This in turn has provided great opportunities for financial institutions to expand globally, especially within the framework of the GATS and WTO regimes.

Given the potential economic benefits of liberalization there have been many developed and developing countries which have adopted policies aimed at liberalizing their financial services sector. For example, the United States and the United Kingdom began to liberalize their financial sector in the mid-1970s, Latin American countries (such as Argentina, Chile and Uruguay) towards the end of the 1970s, and the southern Asian countries (such as South Korea and Taiwan) at the beginning of the 1980s. At the start of the 1990s onwards, some Arab countries such as Egypt, Jordan, Tunisia Saudi Arabia and United Arab Emirates continued to reform and to liberalize their economies, including modernization of their financial infrastructure and reform of their banking system. Also, they reduced government intervention in credit allocation decisions, lifted bank interest rates ceilings, lowered the reserve requirement and entry barriers, and privatized many banks and insurance companies (Bashar, Lau, & Sim, 2008).

In recent years the relationship between financial development and economic growth has attracted a great deal of attention and scholarly debate in the economic literature, in particular with regard to financial services liberalization under the GATS and WTO regimes. It has been argued that financial liberalization policies increase economic efficiency which in turn positively influences economic growth (Zaim, 1995). An increasing openness is expected to have positive impacts on economic growth – i.e. it is an essential determinant of growth and development. There is evidence to indicate that GDP increases in the countries which are opening their financial markets in comparison with those whose markets are less open (Mattoo, Rathindran, & Subramanian, 2006). The main objective of this paper is to test this evidence against data analysis on financial services liberalization in Libya.

In the next section of this paper a review of the key literature is presented in order to provide a theoretical background and develop an understanding of the significance and role of financial services liberalization in economic development in developing countries in general and Libya in particular.

2. LITERATURE REVIEW

The literature review in the first part of this section focuses mainly on research conducted on the relationship between financial liberalization and economic growth. The second part of the review includes a brief overview on studies which demonstrate a link between financial liberalization, FDI and economic growth. Numerous studies have attempted to explain the relationship between financial development and economic growth (Levine (1997), King and Levine (1993), Eid (2007) and Omar, Callie and Chia (2008)). The latter has indeed become an object of extensive analysis and debate, the question being whether or not financial liberalization under the GATS is critical in influencing economic growth. Economists have found empirical evidence that the liberalization of the financial sector together with other reforms can boost income and growth. For instance, (Levine, 1997) indicated that both developed and developing countries with open financial sectors have typically achieved a faster rate of economic growth than those with closed financial sectors. Also, (King & Levine, 1993) found that growth is positively related to the level of financial development. Looking at evidence from 80 countries from 1960 to 1989, the authors show that the relative size of the financial sector had a positive correlation to economic growth over this period (however, positive correlation may simply reflect the fact that faster growing countries have larger financial sectors because of the increase in the number of financial transactions conducted).

(Eid, 2007) studied financial integration in Egypt in the period 1993-2005. The aim of his study was to investigate the impact of financial liberalization in Egypt, and the author came to the conclusion that increased competition in the financial sector and domestic investments is the main generator of economic growth and that financial integration is an accelerator of the economic fundamentals of growth. A similar study by Bashar, Callie, & Sim (2008) sought to evaluate the impact of liberalization on Malaysia's economic growth by using annual data for a period covering 34 years from 1970 to 2003. To conduct this a study, the authors used cointegration analysis, error correction methods and Granger causality test. The findings suggest that in the long run, trade liberalization has had significant positive impacts on economic growth in Malaysia while the effects of financial and capital account liberalization openness in the short run is not affected. A possible reason for the latter could be explained by a lack of credibility of the reform programme (McKinnon & Pill, 1997).

In addition, other studies, such as those of Mattoo, Rathindran, & Subramanian (2001) have argued that countries with fully open financial sectors benefit from improved economic

growth by mobilizing savings and facilitating investment growth faster than other countries with restrictions on access by foreign firms to the domestic financial sector. Kargbo & Adamu (2009) examined the relationship between financial development and economic growth for 159 countries over the period 1960-1999 using the least squares (LS) method. The study found that financial development has a positive and effect on economic growth. As a result, the authors believe that financial liberalization is one of the key drivers of economic growth.

A review of the economic literature identifies a large number of empirical studies which have been carried out on the question of whether financial liberalization affects economic growth. Overall, the conclusion that emerges from the review supports the existence of a positive relationship or correlation between market openness, financial liberalization and economic growth. For instance, studies by Klein & Olivei (1999), McKinnon (1973), and Shaw (1973) all show a positive correlation between the financial intermediation and economic growth. There is also a large body of economic research which has found that an efficiency of the financial sector, including opening the financial sector to foreign participation, is important for economic growth (Edison, Levine, Ricci, & Sløk, 2002). Sulaiman, Oke & Azeez (2012) have tested the effect of financial liberalization on economic growth in developing countries, with their assessment focusing on the Nigerian economy by using econometric techniques such as Ordinary Least Square (OLS) method, Augmented Dickey-Fuller (ADF) Unit Root test and Johansen Co-integration. Their study, which covered the period from 1987 to 2009, concluded that financial liberalization has a growth-stimulating effect in Nigeria. (Banam, 2010a), investigated the impact of financial liberalization on economic growth in Iran by using time series data from 1965 to 2005 and found that financial intermediation, capital, research and development, and financial liberalization have positive and statistically significant impact on economic growth. Furthermore, policies that impede competition, such as entry restrictions and restrictions on foreign banks, has been shown to raise the cost of financial services and hurt economic performance (Winters, 2004).

At the other end of the scale, it has been argued in some of the economic literature that financial liberalization has no positive effect on domestic growth and that it may lead to negative consequences. For instance, Achy (2001) investigated the relationship between financial development and economic growth for five MENA countries (Egypt, Jordan, Morocco, Tunisia and Turkey) for the period 1970–1997. By analysing fundamental variables such as private investment, human capital, and policy related variables in terms of trade openness, inflation rate and the burden of external debt, the empirical results show that the relationship between financial development and private investment on the one hand and financial development and economic growth on the other produce negative effect in these countries. Other authors such as Hali, Riccia and Sloka (2002) studied the relationship between international financial integration and economic growth in the period 1976-2000 in 57 countries and they came to conclusion that the empirical evidence does not support the idea that international financial integration or liberalization motivates economic growth. Kraay (1998) has equally argued that financial liberalization does not affect growth. There are even some authors who have sought to establish a link between financial liberalization and subsequent poor economic performance by arguing that financial liberalization increases a country's exposure to international financial crises. Singh and Weisse (1998) have pointed to the risks of financial collapse and consequent economic recession that may result from rapid liberalization of once repressed financial systems. Kabir and Hoque (2007) examined the impact of financial liberalization on financial development and economic growth in Bangladesh. The results of their study revealed that despite the extensive financial

development in the post-liberalization period, financial and monetary variables have not fully contributed to economic growth.

Recent studies also indicate that positive growth impact of FDI is dependent on the extent of financial sector development in host countries. A study by Bengoa and Robles (2002) investigated the relationship between economic freedom, FDI and economic growth analysis using a sample of 18 countries in Latin America for the period from 1970-1999. The results show that there is a significant positive correlation between FDI and economic growth in these countries. They also found that economic freedom in the host country is a positive determinant of FDI inflows. In a similar study Yen Li Chee et al. (2010), using a sample of 44 Asia and Oceania countries for the period 1996-2005, found a positive correlation between the impact of FDI and financial sector development on economic growth - leading to an enhancement of the contribution of FDI to economic growth in the region.

On the other hand, empirical research conducted by Carkovic and Levine (2002), showed that there was no impact from FDI to economic growth. The study covered 72 sample countries, some of which were developing countries like India, Indonesia, Malaysia, the Philippines and Thailand. The authors found that FDI seemed to boost growth only in economies that had appropriate initial conditions, including high levels of human capital, financial sector development and policies that promoted international trade.

What the literature review seems to demonstrate is that financial liberalization can either have a positive or a negative effect on growth, but that on the whole the process is generally believed to enhance economic growth through its effect in promoting the development of the financial system. There is considerable evidence from the literature to suggest that weak and inefficient financial systems can be a significant obstacle to economic growth. It is clearly the case that an inefficient banking and financial sector impedes investment and consequently economic growth.

3. METHODOLOGY

As seen above, the main aim of this article is to empirically analyze and assess the effect of financial liberalization on economic growth in Libya in the light the ongoing economic reform and liberalization programme. In pursuit of this aim the study gathered time series annual economic data from the period 1978 to 2011. The study adopts an econometric model which allows some variables to be used as secondary data sources. In order to ensure the reliability and the validity of the data, the data employed in this study are collected from official sources including the Central Bank of Libya, World Bank and three ministries in Libya (i.e. Planning, Economy, and Finance). Data used for the study has also been collected by the National Board of Information and Documentation. The methodology involves econometric techniques such as Augmented Dickey-Fuller (ADF), Unit Root test, Johansen Co-integration test and Error Correction Mechanism (ECM).

3.1 MODEL SPECIFICATION

There are many theoretical and empirical frameworks in the recent literature on the impact of financial liberalization on economic growth, such as the hypothesis of McKinnon (1973) and Shaw (1973). These authors have shown that there is a positive correlation between financial liberalization and higher economic growth. They also argue that a repressed financial sector has a negative impact on economic development, where the growth rate of per capita income is regressed on financial development in case of increased financial repression. Jin (2000) argued that trade liberalization and openness provides an important

base of economic activity. Thus, an increasing openness is expected to have a positive impact on economic growth. Also, Sachs and Warner (1995) have argued that open economies have grown about 2.5% faster than closed economies and the difference is larger between developing countries. The model employed in this study is based on the modification of the models discussed in many recent studies (Banam, 2010b; O. K. M. R. Bashar, Lau, & Sim, 2008; Bilel & Mouldi, 2011; Okpara, 2010; L. a. Sulaiman, M. O. Oke, & B. A. Azeez, 2012; Yen Li & Nair, 2010)). The model specifies the endogenous variable, Gross Domestic Product (GDP) as a function of foreign direct investment, inflation rate, real rate of interest, trade openness (amount of exports and import), exchange rate, labour force, FL Dummy variable. It specifies 0 before FL and 1 after FL. All variables are expected to have positive coefficients. In the other words, the expectation is that financial liberalization will have a positive impact on economic growth. The model is specified as follows:

$$GDP = f(FDI, INF, RI, L, TO, EXR, FL, \dots) \dots \dots \dots (1)$$

Where;

- GDP= Gross Domestic Product.
- FDI= foreign direct investment .
- INF= Inflation rate
- RI= real rate of interest
- TO= trade openness (amount of exports and import)
- EXR= exchange rate.
- L= labour force.
- F= functional relationship
- Financial Liberalization (FL), Dummy variable, with 0 before FL and 1 after FL - i.e., dummy variable that is equal to 1 when the capital account is liberalized and which is equal to 0 when the capital account is not liberalized. FL is included within the regression in order to study the effect of capital account liberalization on GDP and on the other variables of the regression. The main objective is to estimate the FL coefficient, which will indicate by its significant positive or negative value the GDP evolution consequent to liberalization.

In order to examine the relationship between financial liberalization and economic growth in Libya, the growth rate of real GDP will be studied as an indicator of growth.

Form of equation 1 (above): the dependent variable is GDP; GDP depends on a large set of explanatory variables which are independent variables. In other words, the most important characteristics of this design of the equation are that the researcher can investigate the impact of one independent variable on a dependent variable, provided that all other variables which might influence the relationship between the two variables are kept neutral. The general framework of the multiple regression model has the following form:

$$\text{GDP} = \beta_0 + \beta_1 \text{FDI} + \beta_2 \text{INF} + \beta_3 \text{RI} + \beta_4 \text{L} + \beta_5 \text{TO} + \beta_6 \text{EXR} + \beta_7 \text{FL} + \varepsilon \dots \dots \dots (2)$$

Where:

ε is an error term of the equation

($\alpha, \beta_0, \beta_1, \beta_2, \beta_3$) are the coefficients of independent variables that are determined by the calibration of the equation.

By logging linearizing, the model becomes;

$$\text{LnGDP} = \beta_0 + \beta_1 \text{LnFDI} + \beta_2 \text{Ln INF} + \beta_3 \text{Ln RI} + \beta_4 \text{Ln L} + \beta_5 \text{Ln TO} + \beta_6 \text{LnEXR} + \beta_7 \text{Ln FL} + \varepsilon \dots \dots \dots (3)$$

By specifying the error correction model (ECM) from equation (4), the model becomes:

$$\Sigma D(\text{LNGDP}) = C1 \Sigma (\text{LNGDP}(-1) + \text{LNTO}(-1) + \text{LNL}(-1) + \text{D02}(-1) + C2 \Sigma D(\text{LNGDP}(-1)) + C3 \Sigma D(\text{LNGDP}(-2)) + C4 \Sigma D(\text{LNTO}(-1)) + C5 \Sigma D(\text{LNTO}(-2)) + C6 \Sigma D(\text{LNL}(-1)) + C7 \Sigma D(\text{LNL}(-2)) + C8 \Sigma D(\text{D02}(-1)) + C9 \Sigma D(\text{D02}(-2)) + C10 \dots \dots \dots (4)$$

In the equation (4), $D(\text{LNGDP})$ is the dependent variable and the coefficients of $C1$ indicates variables of the study in the long run - i.e., $C1$ explains all the variables of the study (dependent and independent variables) in the long term. $C1$ is the coefficients of the error correction model while the coefficients from $C2$ to $C9$ indicate the variables of the study in short run. However, there is a need to use estimation equation test to get the coefficient of the error correction term in the short run. Also, there is a need for awareness of the variables which have an effect on the study and other variables which do not have an effect. Finally, $C10$ is the constant of the error correction model.

4. DATA ANALYSIS AND INTERPRETATION OF FINDINGS

The study investigates the quantitative effect of financial liberalization on economic growth in Libya. The data have been analyzed following a methodological approach that allows for short and long run relationships existing between the dependent and independent variables.

4.1 JOHANSEN CO-INTEGRATION TEST

There are two tests suggested by Johansen: the Cointegration Trace Test and the Maximum Eigenvalue Test. Under Null hypothesis, there is no cointegration among these variables. In other word, there is no cointegrated equation. Whereas, the alternative hypothesis indicate there is a cointegration relationship among the variables in the long run.

Figure 1 (Table): The results of Co-integration Test

Unrestricted Co-integration Rank Test (Trace)			
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	P-value
None *	169.2628	125.6154	0.0000
At most 1 *	117.7201	95.75366	0.0007
At most 2 *	78.99936	69.81889	0.0077
At most 3 *	49.17603	47.85613	0.0374
At most 4	25.19871	29.79707	
At most 5	8.819426	15.49471	0.3823
At most 6	1.252670	3.841466	0.2630
Unrestricted Co-integration Rank Test (Maximum Eigenvalue)			
Hypothesized No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value	P-value
None *	51.54271	46.23142	0.0124
At most 1	38.72070	40.07757	0.0705
At most 2	29.82332	33.87687	0.1413
At most 3	23.97733	27.58434	0.1355
At most 4	16.37928	21.13162	0.2035
At most 5	7.566756	14.26460	0.4245
At most 6	1.252670	3.841466	0.2630

***Trace test indicates 4 co-integrating eqn(s) at the 0.05 level**

**Max-eigenvalue test indicates 1 co-integrating eqn(s) at the 0.05 level
denotes rejection of the hypothesis at the 0.05 level.**

From the table above, it could be concluded from the Trace Test and the Maximum Eigenvalue Tests that estimating equation of the study is one of the most important steps of the analysis - i.e. the outcomes of estimation of long term relation in Trace Test show that there are at most three variables cointegrating in that the equations are positively signed at the 5% level in the long term. Also, Maximum Eigenvalue Test confirms the same results and there is cointegration, but there is at most one cointegration among variables in the long run, meaning that there is no difference between results in both tests and data are cointegrated. In short, the results according to the Johansen test statistics confirm the null hypothesis of cointegration vectors under both tests, the trace and Maximum Eigenvalue Tests. This indicates that variables in the model move together towards a long-run equilibrium stationary relationship defined by the cointegration vector. According to the guideline of the co-integration test if the research data are non-stationary at a level, when converted to the first or second difference, they become stationary. Also, these data are integrated and there is a relation between variables in the long term that will lead to the use of the vector error correction model.

4.2 ERROR CORRECTION MECHANISM (ECM)

The Error Correction Mechanism (ECM) is the degree of adjustment - i.e. the rate at which the dependent variable adjusts to changes in the independent variables. A long term relationship among variables has been established in this study. Therefore the next step is a test of the speed of adjustment using the short run dynamism of error ECM. The error-correction term (ECT_{t-1}) represents the speed of adjustment between the short and the long-run periods - i.e., it measures the long-run equilibrium relationship while the coefficients on lagged difference terms indicate the short-run dynamic terms by testing the null hypothesis (H₀) (Harris & Sollis, 2003).

By estimating the equation, we get the schedule of the error correction model in the short term as we can see in the Figure 2 (below).

Figure 2 (Table): result of the short run Vector Error Correction Estimates

Variables	Coefficient	Standard. Error	T-Statistic	Probability Value
D(LnGDP ₋₁)	-0.743167	0.184840	-4.020600	0.0007**
D(LnGDP ₋₂)	-0.171528	0.061982	-2.767370	0.0119**
D(LnTO ₋₁)	-0.071712	0.170616	-0.420310	0.6787
D(LnTO ₋₂)	0.172863	0.103268	1.673923	0.1097
D(LnL ₋₁)	0.393751	0.203366	1.936169	0.0671*
D(LnL ₋₂)	0.242705	0.143651	1.689539	0.1066
D(D02 ₋₁)	-0.224411	0.162643	-1.379780	0.1829
D(D02 ₋₂)	-0.325327	0.156686	-2.076294	0.0510*
C ₁₀	0.022160	0.014451	1.533469	0.1408

Note: $R^2 = 0.738868$, **F-statistic** = 6.287745, **Prob. (F-statistic)** = 0.000314, **D.W test** = 2.523477

*** and ** denote the significance at the 10% and 5% levels respectively.**

Source: Author's Computation

From the results of Table 2 (above), it could be deduced that D (LnGDP₋₁) and GDP is negatively related. D (LnGDP₋₁) has a coefficient of -0.743167. This implies that if —D (LnGDP₋₁) should increase by a unit, GDP will decline by -0.743167 units. Also, after two lag observations of D (LnGDP₋₂) when it increases by a unit, that will lead to a decrease of GDP by -0.171528 because they have an inverse relationship. Furthermore, from Table (2), it can be deduced that D (LnGDP₋₁) and D (LnGDP₋₂) do not have any relationship with GDP. In other words, there is no evidence to suggest a relationship between these variables and GDP in the short term. On the other hand, the estimated coefficient of D (LnL₋₁) is 0.393751. This indicates that there is a positive relationship among D (LnL₋₁) and GDP. It has been found that P-Value is 0.0671 and statistically significant at 10%, implying that a unit change in D (LnL₋₁) will lead to an increase in GDP by 0.393751 units. The D (LnL₋₂) coefficient is 0.242705. It is more than 5%. This mean D(LnL₋₂) variable has no impact on GDP.

As mentioned before, a dummy variable serves an an indicator of financial liberalization in this study. Consequently, from the Table (3), D(D02₋₁) and D(D02₋₂) do not have an impact on GDP, because the D (D02₋₁) coefficient is -0.224411 and the D (D02₋₂) coefficient is -0.325327 (i.e., they are more than 5%). This is an indicator for dummy variables representing other factors that affect GDP levels in some cases, such as culture, religion and economic sanctions. This takes the value of zero or one. In this case it has been put to obtain better model and then better results. Therefore, it could deduce that financial liberalization has not a direct relationship with GDP in Libya, because they are negatively related .

The table above is illustrative of the many important issues which should be taken into account when considering the quality of the model. This include (R^2) = 0.738868 = 0.74 which indicates that 74% of total variations or changes in the present value of GDP is

explained by changes of past value in the explanatory variables. The F-Statistic (6.287745) indicates that the explanatory variables are jointly significant and are capable of explaining changes between dependent and independent variables. Also, Prob (F-statistic) = 0.000314 is less than 5%. The Durbin Watson (D.W) statistic test (2.523) illustrates the absence of auto (serial) correlation. D. W is always between 0-4 whenever they are in the middle or close to it; that means there is no problem with correlation. Consequently, the results reveal that with D. W there is no serial correlation because it is close to 2 (i.e. 2.5). Thus, this model in short run indicates an absence of a serial correlation problem in the residuals.

4.3. FORECASTING

In summary, the results in general from 2005 to 2010 indicate that the actual variables of LNGDP and the forecasting LNGDPF are moving together or moving close to each other. This can clearly be seen in the graph below (3).

Figure 3 (Graph) Results of forecasting model

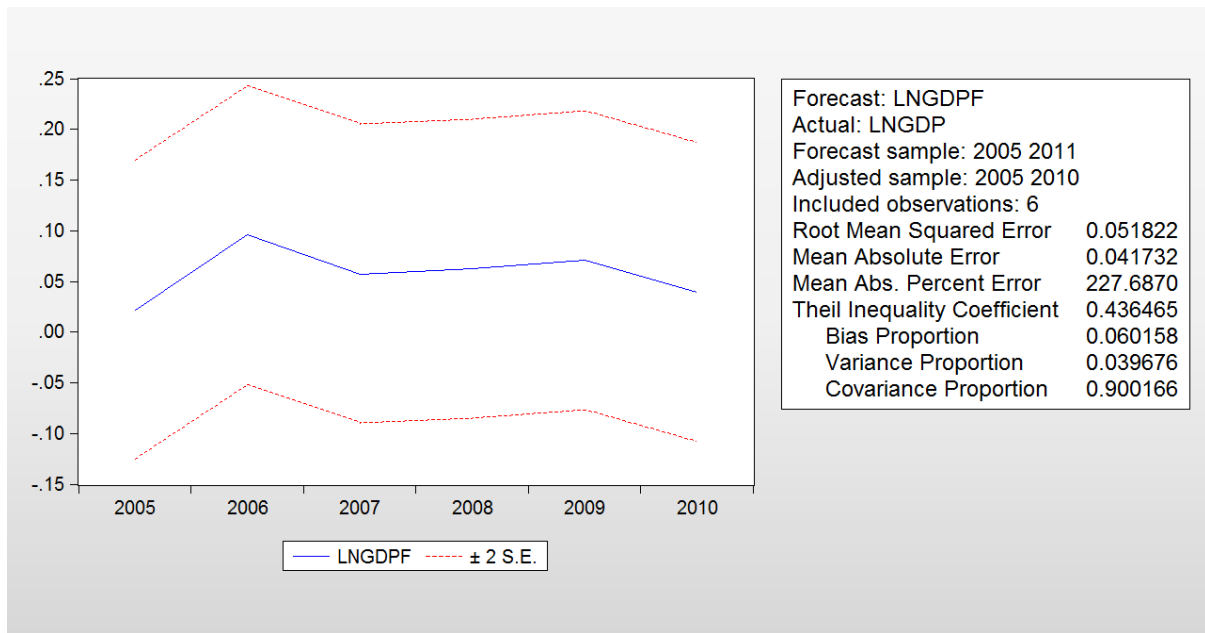
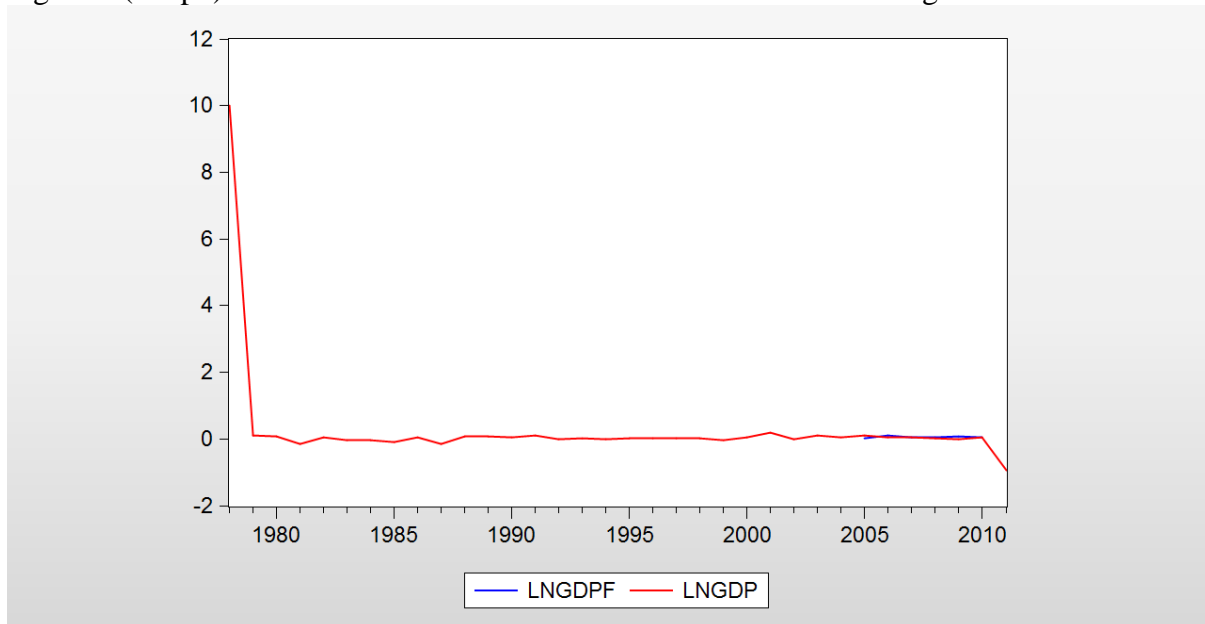


Figure 4 (Graph) The results between actual LNGDP and the forecasting LNGDP



From the graph above, it could be inferred that red line is the actual LNGDP from 1978 to 2011, while the blue line is forecasting LNGDP since 2005 to 2011. It is clear that, both lines are moving very close and the forecasting error is small. This also means that the gap between LNGDP and LNGDPF is small - i.e., the ability to forecast the estimated regression model is very satisfactory in this study. According to this result, the study model can be relied upon to predict the policies of the government in the future - i.e., through this study the Libyan government can make economic decisions and formulate appropriate economic policies based on the predicted effects of financial services liberalization on economic growth in Libya in the future.

5. CONCLUSION

The main aim of this article has been to examine the effect of financial liberalization on economic growth with Libya as a case study. The results of the empirical analysis provide evidence which goes against the McKinnon (1973) and Shaw (1973) hypothesis or theory of a positive relationship between financial liberalization and economic growth. The results from examining the short term period from 1978-2011 indicate that the coefficient of financial liberalization in Libya has been negative - i.e. that financial liberalization $D(D02-2)$ has a negative impact on GDP. The study further shows that $LnTO-1$ does not have any impact of the overall output of the economy. Therefore, it can be concluded that financial liberalization should not in the short term be considered as one of key aspects of policies aimed at promoting economic growth in Libya. The studies show that there is, on the other hand, a positive relationship between $D(LnL-1)$ and GDP.

The findings of the research can this be summarized as follows:

1. Financial liberalization $D(D02-2)$ has a negative impact on GDP in the short term.
2. There is a positive relationship between labour force $D(LnL-1)$ and GDP.

The forecasting test provides us with strong evidence on the quality of the model and the results acquired from the study. This means that these results are expected to be useful for policy and decision makers in Libya and can contribute to the formulation of their future economic plans.

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