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Abstract

In this paper, we investigate the investment behaviour of institutional investors in terms of their shareholdings in 2,938 companies listed on the Tokyo and Osaka Stock Exchanges at the end of June 2002. By doing so, we provide one of the first detailed empirical analyses of the involvement of institutional investors in the ownership structure of Japanese listed firms. At the same time, we compare this aspect of Japanese corporate governance with the shareholdings of banks in the same group of firms.

Our results show that the equity investments of financial investors – institutional investors and banks – in Japanese listed companies at the end of June 2002 were predominantly in the high-tech manufacturing, traditional manufacturing and communications industries. All financial investors combined held more than 60% of the equity capital of the firms listed on the Tokyo and Osaka Stock Exchanges, with banks being the largest group of these financial investors.

Further analysis shows that on average most financial investors were minority shareholders, holding up to 3% of a firm's total shares. Domestic financial investors tended to have higher levels of ownership than foreign institutions, and small and minority shareholdings were more common among foreign financial investors than among domestic banks and institutional investors.

Finally, the average shareholdings of six large Japanese financial groups in Japanese listed companies were considerable, representing an average ownership level of 3.3% of a firm's stock. However, they were not as high as to exert a significant degree of corporate control.

All in all, we conclude that as of end-June 2002, banks continued to be important shareholders of Japanese listed firms, owing around 34% of the market capitalisation of all listed firms on the Tokyo and Osaka Stock Exchanges. At the same time, institutional investors, predominantly investment firms and insurance companies, were important shareholders as well, accounting for around 27% of total market capitalisation. Moreover, we found that foreign investment funds were very important shareholders of Japanese listed firms, which confirms the general perception that foreign ownership of Japan's corporate sector has become a rather crucial characteristic of the system of corporate governance in Japan.

Keywords: banks, corporate governance, institutional investors, Japan.

JEL Classification: G21, G30, G34.

1 Introduction

It will be clear to any regular reader of the economic and financial press that interest in corporate governance issues has increased significantly over the past years in most countries around the world. This seems to have been driven largely by two parallel developments.

First, it has become increasingly evident, based on large numbers of both theoretical and empirical studies, that corporate governance mechanisms and their specific design and development may have important consequences for the growth potential of a country's economic system and its relative competitiveness (see for example: Emmons and Schmid, 1999; Carlin and Mayer, 2003; Morck et al., 2005). National differences in governance structures, both at the macro and micro level, may be responsible for differences in the development of financial structures, industries and firms across countries.

Second, major crises and scandals that developed during the past decade highlighted the importance of sound corporate governance practices. The East Asian crisis that started in 1997 brought several countries at the brink of economic collapse and revealed serious shortcomings in their governance structures (Woo et al., 2000; Claessens and Fan, 2002; OECD, 2003). This was more recently followed by accounting scandals and corporate failures involving some of the largest firms in the world, such as Enron and Worldcom in the US, the large retail agglomerate Ahold in the Netherlands and the global diary company Parmalat in Italy (Hopt, 2002; Holmstrom and Kaplan, 2003; Healy and Palepu, 2003; Maddaloni and Pain, 2004; ECB, 2005).

These developments have brought corporate governance to the full attention of both policymakers and researchers. As a result, there has been a surge in policy initiatives to strengthen corporate governance frameworks and in research output related to corporate governance issues (for the former see: ECB, 2005). Furthermore, in many countries so-called corporate governance codes have been introduced that advocate "best practices", which are often voluntary and remain rather national oriented initiatives (European Commission, 2002). These developments have evidenced the existence of both important similarities and differences between governance practices across countries, and stimulated discussions on the perceived benefits and drawbacks of various corporate governance systems.

In this discussion, Japan has been one of the most intensively debated countries. The conventional wisdom for many years has been that the Japanese system of corporate governance was "unique", and that it contributed importantly to Japan's post-war economic success story (Van Rixtel, 2002). However, the once "miracle" status of the Japanese economy disappeared rapidly in the course of the 1990s, when Japan experienced a major banking crisis and a prolonged economic recession, accompanied by a sharp increase in bankruptcies and financial scandals, which functioned as important catalysts for discussions about the adequacy of existing corporate governance systems and the need for reforms. The outcome of this process has been multi-facetted and has led to, among many other initiatives, the establishment of an almost completely new legal framework and the adoption of a non-legally binding set of corporate governance principles that aimed at establishing sound corporate governance practices in Japan (Corporate Governance Forum of Japan, 1999; Japan Corporate Governance Committee, 2001). All in all, at this juncture, consensus is building that important changes in the structure of corporate governance in Japan have been and are taking place (Patrick, 2004; Schulz, 2004; Schaede, 2006b).

In the discussion on the evolving structure of Japanese corporate governance, increased attention is being paid to the role of institutional investors, such as insurance companies, investment firms and pension funds (Suto et al., 2005; Miyajima and Kuroki, 2005; Schaede, 2006a). Anecdotal evidence is emerging that institutional investors may be engaging more actively in Japan in the governance of their investments. As a matter of fact, some observers have argued that Japan is moving towards a more market-based corporate governance system, consisting of a combination of cross-shareholdings by corporations and equity investments by institutional investors (Miyajima and Kuroki, 2005).

However, as far as we are aware of, no detailed empirical investigations have been conducted yet regarding the investment behaviour of institutional investors in Japan in terms of their ownership of Japanese firms. To this extent, we use a relatively new database, i.e. *Shareworld*, introduced by Thomson Financial in July 2002. We believe that our study is the first using the rich potential of this database to analyse the structure of corporate ownership in Japan in general and of institutional ownership in particular.

Specifically, this study aims to address two issues. First, we investigate where the institutional investor – both domestic and foreign – situates in Japanese-style corporate governance. Second, we assess the relative importance of various types of institutional investors – insurance companies, investment firms and pension funds – and provide analysis of the variety of their equity holdings in around 3,000 companies listed at the Tokyo and Osaka Stock Exchanges. We conduct a comparative analysis, in the sense that this investment behaviour of institutional investors is compared with that of another group of important large shareholders, i.e. banks.

The paper is organised as follows. Section 2 provides an overview of corporate governance theory and discusses the characteristics of the main corporate governance mechanisms. It presents also a detailed description of the conventional system of Japanese corporate governance and its recent evolvement. Section 3 first pays attention, following the main literature on the topic, to the importance of large shareholders in corporate ownership and corporate control and then focuses on the role of a specific group of large shareholders – institutional investors – in corporate governance. Furthermore, it discusses the role of institutional investors in Japanese corporate governance. Section 4 sets out the methodological framework of the empirical analysis and pays attention to some descriptive statistics of the dataset. Section 5 presents and analyses the empirical results on the equity stakes of institutional investors in our sample of Japanese listed companies. These investments are compared with the equity holdings of banks, which have been one of the pillars of corporate governance in Japan under the so-called "main bank" system. Section 6 concludes.

2 Corporate governance and Japan

2.1 Agency problems and corporate governance mechanisms

Given the broad and growing interest in corporate governance issues, it is not surprisingly that the topic has been studied from a wide range of angles and following different definitions. Generally, US focused studies tend to follow a more narrow view predominantly based on the protection of shareholder rights and interests, whereas a broad interpretation is pursued in studies oriented towards (Continental) Europe and Japan, which concentrate more on the rights and interests of various stakeholders in the firm versus those of the firm itself.

However, in both interpretations, the existence of potential conflicts of interest – or agency problems – between various groups of agents involved in the firm, such as shareholders, management and other stakeholders, is the central issue of discussion. Schleifer and Vishny (1997), p.737, put the more narrow interpretation of corporate governance forward that "… corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment". La Porta et al. (2000), p.4, describe corporate governance as "… a set of mechanisms through which outside investors protect themselves against expropriation by the insiders". The broader stakeholder view is presented for example from a Japanese perspective in Aoki (2001), p.281, as "… a set of self-enforceable rules (formal or informal) that regulates the contingent action choices of the stakeholders (investors, workers, and managers) in the corporate organisation domain".

The origin of modern corporate governance theory lies in the seminal work of Berle and Means, who raised the issue of the separation of ownership and control in the modern corporation (Berle and Means, 1932; Bolton and Scharfstein, 1998). Control is defined in terms of the power to exercise discretion over major company decisions, exercised through a vote in the shareholder general meetings, which includes the right to choose directors. Ownership of the firm is dispersed across a multitude of various categories of shareholders (principals), who consequently do not have the ability to control the firm by themselves, or shirk this responsibility ("free-rider" problem), and in fact have delegated this control to management (agents). It is this loss of power of shareholders, or the separation between control and ownership of the firm, which gives rise to agency problems between shareholders and management ("principal-agent" theory) (Jensen and Meckling, 1976; Milgrom and Roberts, 1992). In general, these agency problems stem from two main sources: shareholders and managers may have different goals and preferences, and in addition, they may have imperfect information about each others actions, knowledge, and preferences (Gillan and Starks, 2000).

Most studies of corporate governance address these agency problems by investigating which specific mechanisms are effective in disciplining management and consequently protecting the interests of owners from self-interested actions of management.

In general, a number of so-called corporate governance mechanisms are distinguished by which shareholders may protect their rights from management's self-interest driven opportunistic behaviour or expropriation (Manne, 1965; Shleifer and Vishny, 1997; Denis, 2001; Becht et al., 2003; Gillan and Starks, 2003).

First, a legal framework may be established which offers owners protection from expropriation by management, such as protection of minority rights and provisions against managerial self-dealing. Furthermore, incentive-oriented reward mechanisms for management may be adopted, which include stock-option schemes and performance based compensation systems. Third, managerial labour markets may be promoted in which well-performing managers are adequately and fairly rewarded, but where under-performing management will be penalised. Fourth, an active market for corporate control in the form of hostile takeovers is another mechanism to discipline management, which give small shareholders both power and protection commensurate with their interest in corporate affairs. Moreover, relationship banking, that is monitoring of management and, if needed, intervention by banks, called "main bank" system in Japan and *Hausbank* system in Germany, may be an effective corporate governance mechanism. Sixth, mechanisms which increase voting rights in excess of cash-flow rights may be used, such as multiple classes of shares, pyramidal structures, shareholdings through multiple control chains and cross-shareholdings. Finally, shareholdings may not be dispersed but concentrated at large shareholders (*concentrated ownership*) or *blockholders*, which monitor management and, if needed, intervene to ensure that management follows their preferences. An important group of large shareholders are *institutional investors*, which are the central focus of the analysis in this paper and which, from a theoretical perspective, will be discussed extensively in section 3.2.

2.2 Alternative systems of corporate governance: Anglo-Saxon versus Continental European and Japanese corporate governance

It is generally acknowledged that corporate governance mechanisms, although existing in basically all developed economies, differ substantially in importance and relevance across individual countries. For example, in the US, as formulated by Kang and Shivdasani (1995), p.30, "... internal and external governance mechanisms such as equity ownership by top executives, monitoring by institutional and large shareholders, outside directors on the board and the threat of external takeovers provide incentives for corporate managers to maximise shareholder wealth". However, in other countries, such as Japan and Germany, different structures of corporate governance developed, based on country specific legal, corporate, historical and cultural characteristics. The investigation of these differences is the central topic of the rapidly expanding field of comparative corporate governance studies.

Generally, conventional wisdom has put the so-called Anglo-Saxon system, comprising the US and UK, against the rest of the world, whereby the latter predominantly consists of Continental Europe, with a leading role for Germany, Japan and the emerging (Asian) economies (Renneboog, 1999; Dore, 2000; Yafeh, 2000; Gugler, 2001; Cernat, 2004). The US and UK corporate governance systems are characterised by low concentration of ownership and control, in which the size of single shareholdings is rather limited. Voting power is dispersed as well, due to the limited use of vote-enhancing mechanisms such as cross-shareholdings. The firms' goal is to maximise total firm value and therefore to maximise shareholders' equity. In the Anglo-Saxon system, agency problems basically arise between owners and management. The "free-rider" problem is of significant importance, as monitoring of management by shareholders is not sufficient, and thus the most apparent conflict is the possibility of shareholder expropriation by management, leading to significant attention for the design of governance mechanisms within the firm that aim at disciplining incumbent management. Furthermore, the Anglo-Saxon system is characterised by corporate governance exercised via the market in the form of hostile takeovers ("market for corporate control") which discipline management as well.

By contrast, the traditional description of the corporate governance systems of Continental Europe and Japan, in which much more explicit attention is paid to a multitude of stakeholders in the firm than in the Anglo-Saxon system, has been one of a relatively high concentration of both ownership and control. The concentration of control in the hands of a relatively small number of large shareholders ensures that the potential for management to pursue its own interests and expropriate the company's owners is reduced and that, overall, agency conflicts between the two parties are subdued. The costs of this system have been reduced liquidity and higher risks for large shareholders, due to the concentration of their investments in one specific company, a rather underdeveloped market for corporate control and the risk for small shareholders that large shareholders can extract private benefits from the company. In the exercise of corporate governance, direct control via debt through relationship banking has been important and traditionally banks have been one of the pillars of corporate governance.

It needs to be emphasized that the characterization of the various corporate governance systems presented here is rather "black-and-white", a mere random indication of generally accepted views. Of course, in different countries specific elements may be, or may have been, more or less important, also at different stages in their economic development. Furthermore, corporate governance mechanisms do not exist in a steady state, but are continuously affected by changing economic, financial and legal environments. As a matter of fact, it is currently fiercely debated whether national corporate convergence systems are converging towards a more uniform structure or that diversity will endure (Aoki, 2000; Dore, 2000; Holmstrom and Kaplan, 2003). In this respect, empirical research shows that globalisation may have induced the adoption of some common corporate governance standards, but that there is little evidence that these standards have been implemented and that this has not been driven by convergence to US standards (Khanna et al., 2006). Moreover, the prevalence of widely held firms in the Anglo-Saxon model is highly exceptional from a global perspective, as large corporate sectors in most countries are predominantly controlled by very wealthy families (Morck et al., 2005; see also: La Porta et al., 1998 and 1999).

2.3 Characteristics of the Japanese system of corporate governance

Investigations of the system of corporate governance in Japan traditionally have focused on the perceived “uniqueness” of this system in comparison with the corporate governance systems existing in the Anglo-Saxon countries. Many studies have argued that in Japan, governance mechanisms similar to those present in the US exist to a considerable less extent (Prowse, 1992 and 1994; Kang and Shivdasani, 1995; Morck and Nakamura, 1999a and 1999b; Van Rixtel, 2002; Anderson and Campbell, 2004). However, according to these studies, other institutions for monitoring and disciplining corporate management have been identified as existing in Japan, of which the most important ones are corporate groups (*keiretsu*), the “main bank” system and concentrated shareholdings. These mechanisms can be described as follows.

First, an important institution in post-WWII corporate governance in Japan has been the large informally organised business group or *keiretsu*. Most commonly, the definition of the financial *keiretsu* (*kinyū keiretsu*) is followed, which are also referred to as horizontal or intermarket *keiretsu* (Odagiri, 1991; Morck and Nakamura, 2003). In this sense, each *keiretsu* consists of a number of diversified corporations, clustered around a “main bank” and characterised by extensive reciprocal or cross-shareholdings (*kabushiki mochiai*) and intense information sharing among member firms. In these horizontal *keiretsu*, small individual equity stakes of member firms in each other collectively sum to controlling blocks and basically ensure a system of stable shareholdings. Managers are monitored by the groups’ firms, whereas member firms are monitored by other member firms and the *keiretsu*’s “main bank”, and thereby constituting an important governance mechanism (Berglöf and Perotti, 1994). The bank serves as the central organ in the group and plays the leading role in the financial activities within the group. In addition to horizontal *keiretsu*, vertical or industrial *keiretsu* are being distinguished which can be described as industrial groups that encompass the suppliers and customers of a single large firm (such as for example Toyota) and which are more classically pyramidal structures of inter-corporate equity holdings. During the late eighties and early nineties in particular, the *keiretsu* were heralded both by industrialists and academics as being major innovations of how countries could, or even should, organise their industrial structures and systems of corporate governance successfully. However, in more recent years, less positive interpretations have emerged that questioned the benefits of the *keiretsu*’s involvement in Japanese corporate governance (Weinstein and Yafeh, 1995; Porter et al., 2000; Yafeh, 2002; Morck and Nakamura, 2003; Shimotani, 2004). Some evidence of detrimental aspects of *keiretsu* governance relates to the possible existence of entrenchment effects resulting from cross-shareholdings: these mutual shareholdings can effectively protect the managers of the firms involved from hostile takeovers and proxy contests, especially when the total amount of mutual shareholdings by participating firms is high as in Japanese large firms in the *keiretsu* groups (Morck and Nakamura, 1999b).

Second, regarding the governance of Japanese firms, the conventional view has been, as expressed in many studies, that an important role has been played by the so-called “main banks” (Sheard, 1989; Aoki and Patrick, 1994; Aoki, 2001). That is, the major Japanese private banks have operated informally as delegated monitors – that is also on behalf of other lenders – of large numbers of commercial firms (Diamond, 1984; Krasa and Villamil, 1992). Even firms that do not belong to a *keiretsu* normally maintain an informally based relationship with a (large) commercial bank. Basically, the system can be interpreted as a more extreme version of relationship banking (Boot and Thakor, 2000). It is alleged that the main bank system, particularly during the period of high economic growth that ran from the early fifties to the mid-1970s, fulfilled various monitoring functions with respect to Japan's corporate sector (Sheard, 1994; Kaplan and Minton, 1994; Kang and Shivdasani, 1995; Morck and Nakamura, 1999b). Evidence on the existence and importance of "main bank" relationships, particularly on the role of "main banks" in disciplining incumbent management of poorly performing firms and in restructuring their operations, has been presented in a large number of empirical studies (Hoshi et al., 1990a, 1990b and 1991; Kaplan, 1994; Kaplan and Minton, 1994; Kang and Shivdasani, 1995, 1996 and 1997; Kang et al., 2000; Morck et al., 2000; Nakamura, 2002). However, since the end-1990s, more and more research has emerged showing that the Japanese "main bank" system may also have substantial costs, such as extracting rents from the "main banks'" client firms, and that concentrated ownership by banks does not necessarily lead to better performance of firms (Weinstein and Yafeh, 1998; Kang and Shivdasani, 1999; Miyajima and Arikawa, 1999; Morck and Nakamura, 1999b; Kang and Stulz, 2000; Pinkowitz and Williamson, 2001; Becht et al., 2003; Hanazaki and Horiuchi, 2003; Morck and Nakamura, 2003; Hanazaki et al., 2004; Luo and Hachiya, 2005; Miyajima and Kuroki, 2005; Morck and Yeung, 2006).

Third and finally, control in the Japanese corporate governance structure is said to be exercised by major shareholders (i.e. concentration of ownership), with an important role for financial institutions. Several studies have documented that Japanese firms with large shareholders were more likely to replace managers in response to poor performance than firms without them (Kaplan and Minton, 1994; Kang and Shivdasani, 1995). For example, increased ownership by blockholders increased the likelihood of management turnover and the appointment of outside directors to the board (Kang and Shivdasani, 1997). Empirical evidence has also shown that it is important to distinguish between types of large shareholders, such as financial versus non-financial or corporate blockholders, and that monitoring by the former is more likely than monitoring by the latter (Lichtenberg and Pushner, 1994; Pushner, 1995). At the same time, the governance by financial blockholders had a positive impact on firm performance compared with a negative effect of monitoring by corporate blockholders.[1] All in all, concentrated (intercorporate) shareholdings provided Japanese financial institutions with the incentives and the ability to monitor and influence managerial performance (Prowse, 1994; Kang and Shivdasani, 1995).

However, in parallel with the rather dismal performance of the Japanese economy during the past decade and important changes in the economic, financial and regulatory environment, both national and international, the traditional pillars of Japanese corporate governance – *keiretsu*, "main bank" and concentrated shareholdings – seem to have become

1. Another study finds a positive relationship between corporate blockholdings and firm value (Morck et al., 2000).

less relevant. The changing landscape of corporate governance in Japan will be discussed in the next section.

2.4 Recent developments in Japanese corporate governance

Observers have pointed at major changes in corporate practices that have been taking place in Japan in recent years and which have affected fundamentally the main characteristics of the Japanese system of corporate governance such as described in the previous section (Ahmadjian and Song, 2004; Patrick, 2004; Miyajima, 2005; Miyajima and Kuroki, 2005; Suto et al., 2005; Schaede, 2006a and 2006b). These are the erosion of the "main bank" system, the significant decrease in cross-shareholdings, in particular the unwinding of these positions by banks, and the declining role of the *keiretsu*.

All in all, the prolonged economic recession and severe banking crisis in Japan revealed very clearly structural deficiencies in Japanese corporate governance practices that increasingly are being debated by academics, policymakers and corporate leaders (Morck and Nakamura, 1999; Porter et al., 2000; Nakamura, 2002; Yamamura and Streeck, 2003; Schulz, 2004; Patrick, 2004; Morck and Yeung, 2006). These developments affected corporate governance in Japan in two important ways. First, the economic slowdown and banking problems changed the normative framework underlying the system of Japanese corporate governance significantly (Milhaupt and West, 2004). Second, they also contributed directly to important adjustments of the system of corporate governance in Japan. These changes can be summarized as follows.

First, the practice of cross-shareholdings involving various financial and non-financial firms has become less pronounced from the mid-1990s onwards. This process has been led by banks: partly because of necessary portfolio-adjustments instigated by risk-return considerations and bad loan developments and partly due to regulatory pressures, possibly in parallel with the looming introduction of the new Basel Capital Accord (Basel II), Japanese banks have reduced their shareholdings rather massively over the past few years (Van Rixtel et al., 2004b).[2] Overall, it has been shown very clearly that during the past decade, cross-shareholdings, not only by banks but also by non-financial firms, have been unwinded substantially (Baba et al., 2002; Miyajima and Kuroki, 2005; Schaede, 2006a).

Furthermore, the economic crisis forced many companies to re-organise and concentrate on their basic business, which often resulted in cross-*keiretsu* mergers and takeovers, a process in which the banking industry took the lead (see also Shimotani, 2004).[3] As matter of fact, the organisation of the *keiretsu* conglomerates around large commercial banks has been significantly undermined in recent years by a revolutionary merger process in the Japanese banking industry involving banks traditionally belonging to various *keiretsu*, thus

2. One of these regulatory pressures was the introduction of a law that stipulated that banks limited their stockholdings to the level of their equity capital by September 2006 (Schulz, 2004; Schaede, 2006a).

3. For more detailed analyses of the functioning of the keiretsu and their changing role in Japanese corporate governance practices see for example Morck and Nakamura (2003), Douthett, Jr. et al. (2004), Lin (2005) and Wu and Li Xu (2005).

effectively eliminating the historic barriers between these groups (Van Rixtel et al., 2004a). The result has been that the importance of the *keiretsu* system has been hollowed out, both as an important characteristic of Japan's industrial structure and as a corporate governance mechanism.

Regarding the importance of the "main bank" system, various studies emphasize that the processes of financial liberalisation and globalisation, structural changes in the flow of funds and the related diversification of the sources of corporate finance have undermined the foundation of the "main bank" system (Miyajima, 1998; Hoshi and Kashyap, 2001; Aoki, 2002). Deregulation of interest rates and bond issue requirements resulted in lesser opportunities for rent extraction by "main banks" and thus the costs of the "main bank" system became significantly higher for the banks involved. In addition, financial globalisation and diversification towards market financing gave banks less power. As a result, the role of "main banks" in fulfilling in an integrated fashion various monitoring functions has diminished. Moreover, the severe banking crisis in Japan and subsequent regulatory forbearance that emerged in the early nineties further eroded the effectiveness of the "main bank" system, as banks basically stopped operating as "main bank" and recalled loans from troubled borrowers (Van Rixtel, 2002). All in all, it is to be expected that the "main bank" system will become less significant as a result of the decreasing importance of cross-shareholdings in the Japanese economy in general and the reduction of stock-holdings by the major banks in particular, the ongoing diversification of the sources of financing of non-financial corporations, the advance of new, more market-based lending models in the Japanese banking industry and the lingering implementation of the new Basel Capital Accord. The "main bank" system as such still seems to be valued by firms, but the role of "main banks" is shifting more towards being a resource for knowledge and information, rather than providing long-term financial support in their traditional role (Schaede, 2006a; see also: Nakamura, 2002; Vogel, 2006: Morck and Yeung, 2006).

One of the most interesting changes in Japan during recent years related to corporate governance has been the growing importance of foreign shareholders. The sense of economic and financial crisis functioned as an important catalyst that facilitated the participation of foreign investors and companies in the Japanese economic system, which has increased significantly in recent years, establishing important equity stakes of foreign shareholders in increasing numbers of Japanese companies. As on a number of occasions in Japan's economic and financial history, foreign pressure (*gaiatsu*) has been instrumental in initiating major changes, several observers – examples are Milhaupt and West (2001) and Ahmadjian and Robbins (2002) – have expressed the view that increasing foreign ownership of Japanese firms could lead to important adjustments in Japanese corporate governance practices.

Another important development for the system of corporate governance in Japan has been the development of the market for corporate control, in the sense of takeover threats of underperforming corporations. This is reflected in the growing number of domestic mergers and acquisitions (M&As) which increased from 268 in 1990 to 1,352 in 2003 (see

Kruse et al., 2007). This development was partly promoted by the adoption of pro-M&A legislation at the end of the 1990s (Higgins and Beckman, 2006).

Finally, corporate governance practices in Japan also have been affected by important changes in the corporate legal framework over the past 10 years, which include the permission to establish holding companies and the introduction of stock options in 1997, and reforms addressing the basic functioning of corporate boards aiming to improve transparency and voting mechanisms and to establish a greater role for independent directors (Milhaupt and West, 2001; Ministry of Justice, 2002a and 2002b; Schulz, 2004; Milhaupt, 2005; Vogel, 2006). These legal changes included several revisions of the Commercial Code, the introduction of new bankruptcy legislation and the adoption of a new Corporation Law (*Kaisha Hō*) that shifted significant monitoring powers to shareholders (Van Rixtel, 2002; Schaede, 2006a; O'Melveny & Myers, 2006).

To sum up, the ownership structure of Japanese corporations has changed rather dramatically during the past 10 years or so and the importance of the traditional pillars of the corporate governance system in Japan has been reduced significantly. As has been pointed out by some observers, a hybrid system of corporate governance may be gradually emerging in Japan that lies somewhere between the Anglo-Saxon model and the "old" Japanese system, and that is more a refinement of the traditional model (Patrick, 2004; Hasegawa, 2005). Within this "refined" system, shareholder activism has been rising, as for example evidenced by the establishment of a non-profit corporate reform group "Shareholder (*Kabunushi*) Ombudsman" which has arguably become one of the most important corporate law enforcement agents in Japan (Milhaupt, 2003). In this changed environment, an enhanced role in corporate governance also may be granted to an important category of large shareholders, i.e. *institutional investors*. We shall discuss the specific role of these agents of governance in the next section.

3 Corporate ownership: The role of institutional investors in corporate governance

3.1 Corporate ownership, corporate control and large shareholders

As mentioned in section 2.1, one strategy to overcome the agency problem between owners and managers is to concentrate ownership and control in the hands of a few shareholders or *blockholders*. In this view, a high degree of concentration of ownership and control, the latter in terms of concentration of voting power, ensures effective monitoring by shareholders of management and, if needed, intervention to correct management's policies (so-called "shared benefits" hypothesis). For example, Stiglitz (1985) showed that firms can maximise value through the establishment of concentrated ownership of their shares.

This issue has been discussed extensively in the literature.[4] It has been argued that the ability of shareholders to monitor management depends on the type, size, and capability of a particular shareholding and that each type of shareholding has different monitoring abilities (Faccio and Lasfer, 2000; Crespi-Cladera and Renneboog, 2000). Large shareholders are believed to have shareholdings large enough to enable them to control or monitor the performance of the firm, which is in their own interest ("incentive" effect), and thus they may be the solution for the "free-rider" problem, as discussed in section 2.1 (Shleifer and Vishny, 1986; Holderness and Sheehan, 2000; Claessens et al., 2000 and 2002). In this respect, attention is paid in the literature to the existence of a positive "alignment" effect that is related to concentrated ownership, as increasing the controlling owner's cash flow rights improves the alignment of interests between this owner and the minority owners, and reduces the negative effects of the degree of entrenchment created by the controlling owner (Claessens and Fan, 2002).

In addition to its potential benefits, numerous studies have made the point that concentrated ownership – i.e. the presence of large shareholders or blockholders – may have potential costs as well (Coffee, Jr., 1991; Bolton and Von Thadden, 1998; Maug, 1998; La Porta et al., 1999; Holderness and Sheehan, 2000; Claessens et al., 2002; Claessens and Fan, 2002; Carlin and Mayer, 2003). First, large shareholders may attempt to expropriate private gains at the expense of small shareholders or of other stakeholders such as management, employees and other providers of capital such as bondholders. Thus, for example, high managerial ownership of the firm may lead to the entrenchment of management, as its goal becomes to maximize its own private benefits ("entrenchment" effect). This effect could also occur in case of an entrenched controlling owner, such as an *institutional investor*, who may deprive minority shareholders of their rights. Second, related to

4. For excellent literature overviews see: Shleifer and Vishny (1997), Renneboog (1999), Leech (2000), Becht and Mayer (2001), Gugler (2001), Bhagat and Jefferis (2002, Becht et al. (2003) and Gillan and Starks (2003).

the "entrenchment" effect, the considerable control enjoyed by large shareholders may also provide them with intangible benefits, such as status and political influence, which in the literature are classified as "private benefits" of control (Morck et al., 2005). The possible maximisation of these benefits may be in conflict with the goal of achieving optimal control of the firm. Third, large shareholders bear excessive risk on their investments by concentrating them in a limited number of companies, although, as has been demonstrated, the existence of a liquid stock market reduces the costs of holding large equity stakes (Maug, 1998). Thus, there is a trade-off between liquidity and control, i.e. investors that want liquidity of their investments may hesitate to accept control of the firms whose shares they posses (Coffee, Jr., 1991; Bolton and von Thadden, 1988). Furthermore, when large shareholders exist, small shareholders may shirk their monitoring responsibilities even more and engage completely in "free-riding" behaviour.

The effect of ownership structures on the performance or value of the firm in general and that of concentrated ownership in particular has been investigated by many, but has not yet resulted in clear empirical evidence (Bhagat and Jefferis, 2002). This is to a large extent due to the simultaneous presence of both the positive "incentive" and "alignment" effects and the negative "entrenchment" and "private benefits" effects, and related endogeneity problems (Claessens and Fan, 2002; Börsch-Supan and Köke, 2002). In general, two opposing views on the specific nature of the relationship between the ownership structure of the firm and its performance or value exist. On the one hand, various studies present evidence of the existence of a relationship between ownership structure and firm value, mostly measured in terms of Tobin's Q (Morck et al., 1988; McConnell and Servaes, 1990; Boubakri et al., 2005). On the other hand, other studies doubt the effectiveness of large shareholders in being effective agents of corporate governance. They claim that there is no significant evidence that there is a relationship between ownership structure and corporate performance, and that owner-controlled firms perform better than management controlled firms (Demsetz and Lehn, 1985; Holderness and Sheehan, 1988; Himmelberg et al., 1999; Demsetz and Villalonga, 2001).

In the next section, we shall discuss an important group of large shareholders, which often have concentrated shareholdings, i.e. *institutional investors*.

3.2 Corporate governance and the role of institutional investors

During the past decades, institutional investors, such as pension funds, insurance companies and mutual funds, have become increasingly important as shareholders: the combined financial assets of institutional investors in the major industrialised countries rose from 38% of GDP in 1981 to 90% in 1991 and to 144% in 1999 (OECD, 2003; see also Gompers and Metrick, 2001). Regarding the specific role played by institutional investors in monitoring the performance of firms, or in other words in the operation of corporate governance, different hypotheses exist (Romano, 2002; Gillan and Starks, 2003; Parrino et al., 2003). The so-called "active monitoring" hypothesis argues that institutional investors have incentives to monitor corporate performance, since they will enjoy greater benefits of it than smaller shareholders and because through their greater voting power they have the possibility to promote corrective action as well, if needed (Shleifer and Vishny, 1986; Bhojraj and Sengupta, 2003). This is in line with the perception that institutional investors are expected to take all necessary steps to protect the value of the assets in their possession, including monitoring the performance of the firms in which they invest (Monks and Minow, 2001). The opposite view is represented by the "passive monitoring" hypothesis, which states that institutional investors have rather limited incentives to actively monitor incumbent management, for example because of free-riding behaviour of certain institutional investors that could make it difficult to take collective action.

A large number of empirical studies have been conducted, which try to provide answers on the specific role of institutional investors in corporate governance. Some of the main ones can be summarised as follows. McConnell and Servaes (1990) find a strong positive relationship between the value of the firm and the fraction of shares held by institutional investors. Faccio and Lasfer (2000) argue that whether institutional investors are likely to monitor as a large shareholder depends on the size of their investment. Davis (2002) finds support for shareholder activism: institutional investors, particularly life insurers and pension funds, have a disciplining role on management in the Anglo-Saxon countries and thus contribute to firm performance. Moreover, this study provides claims that, overall, institutional investors have become more active in corporate governance in recent periods. A positive effect from institutional ownership on firm performance is also found by Han and Suk (1998). These authors find for a sample of US firms that stock returns are positively related to ownership by institutional investors, thus implying that these corporate owners are actively involved in the monitoring of incumbent management. Crutchley et al. (1999) provide evidence for a large sample of US firms that the impact of institutional ownership on corporate governance substantially improved from 1987 to 1993 and that in fact it became a substitute for internal monitoring devices. Gillan and Starks (2000) find that proposals sponsored by institutional investors receive significant amounts of votes and have a small but negative impact on stock prices. Furthermore, further evidence of the "active monitoring" hypothesis is presented in Parrino et al. (2003), where it is reported that selling by institutional investors has a positive effect on management turnover, implicating that corporate boards are sensitive to changes in institutional ownership in their firm. Hartzell and Starks (2003) show that institutional investors serve as corporate governance agents in mitigating the agency problem between shareholders and management, as they find a strong positive relationship between the ownership concentration of institutional investors and managerial compensation. Cremers and Nair (2005) show that the interaction between shareholder activism on behalf of institutional investors and the market for corporate control is important in explaining developments in abnormal equity returns and accounting measures of profitability.

On the other hand, David and Kochhar (1996), who investigate a large number of empirical studies on the role of institutional investors in corporate governance, find that the evidence regarding their impact on firm behaviour and performance is mixed and that no definite conclusions can be drawn. They argue that various institutional obstacles, such as barriers stemming from business relationships, the regulatory environment and information processing limitations, may prevent institutional investors from effectively exercising their corporate governance function. Coffee, Jr., (1991) explains the historic passivity of institutional investors in terms of the trade-off between liquidity and control, but finds evidence that this is declining. Leech (2002) is of the view that many institutional shareholders do not seek control of a company for a variety of reasons, which include the fear of obtaining price sensitive information, and that it is more likely that institutional investors seek only influence rather than complete control. Moreover, it has also been argued, in line with the "passive monitoring" view, that institutional investors may not be keen to "exit" on their investments (i.e. sell their equity stakes when the firm is not performing optimally), mainly because they hold large investments and thus selling may lower the price and further increase any potential loss. Also Romano (2002) argues, on the basis of an extensive literature review, that despite the general favourable assessment of shareholder activism, in particular by institutional investors, empirical studies suggest that shareholder proposals have had an insignificant effect on firm performance.

3.3 The role of institutional investors in Japanese corporate governance

Turning now to the position of institutional investors in the Japanese system of corporate governance, traditionally the role of these institutions has been rather minor, reflecting unfavourable tax policies and regulatory restrictions on investment behaviour. Moreover, institutional investors have had rather limited access to managerial decision-making, as most board members usually were selected from company insiders (Sakuma, 2001). In addition, shareholders with no credit relations to the firm, such as is mostly the case with Japanese institutional investors which generally do not provide corporate financing, have little influence on the replacement of board members in times of financial crisis, since bankruptcy laws in Japan give preferential treatment to creditors such as banks. From a more practical perspective, institutional investors experience difficulties in Japan in performing one of the most basic functions of corporate governance, which is attending the annual shareholders' meeting. This because most shareholders' meetings in Japan take place on the same day, in order to undermine the possibility of disturbances at these meetings by specialised criminals (so-called *sōkaiya*). All in all, it can be argued that the traditional behaviour of institutional investors in Japan has been in accordance with the "passive monitoring" hypothesis.

However, evidence is growing that an important change in the corporate governance role of institutional investors may be taking place in Japan, which is a shift from a rather passive role to considerably more active engagement. One source of information in support of this assertion is information obtained from surveys conducted among institutional investors which clearly show that these institutions, gradually but increasingly, are influencing the management of Japanese firms towards enhanced transparency and accountability by promoting disclosure and communication with shareholders (Suto et al., 2005). For example, a 2003 survey conducted by the Japan Securities Investment Advisers Association revealed that investment firms had become much more engaged in corporate governance activities. Survey data also reveal that certain types of institutional investors, i.e. so-called "trustee" organisations like trust banks, life insurance companies and investment advisers, have become actively involved in corporate governance activities of Japanese firms, in particular when compared with other institutional investors such as (corporate) pension funds (Omura et al., 2002).

In addition to survey data, many rather well-informed observers have recently pointed at the increasing involvement of institutional investors in corporate governance activities in Japan, partly due to regulatory reforms, for example affecting both pension and investment funds, and partly due to the apparent failure of the traditional pillars of the Japanese corporate governance system (Suto et al., 2005). For example, Becht et al. (2003), p.9, assert that Japanese institutional investors are "… becoming more demanding and they are one of the forces behind the rapid transformation of the Japanese corporate governance system". In the same vein, Schaede (2006a) asserts that banks are being replaced in their role of main corporate "monitors" by institutional investors. Moreover, also Schulz (2004) observes that institutional investors are showing a growing interest in the governance of Japanese firms. Regarding foreign influence, Learmount and Roberts (2002) describe that at the end of the nineties, international institutional investors were becoming increasingly pro-active in the management of their Japanese share portfolios and started to visit Japanese companies (see also: Ahmadjian and Song, 2004). It also needs to be taken into account that investment funds and other institutional investors fuelled the rapid development of the market for corporate control in Japan, i.e. the boom in M&A activity, and thereby contributed significantly to this dimension of the changing nature of Japanese corporate governance (Schaede, 2006b).

Most of these observers have emphasized the importance of the institutional investors' representative organizations in the actual implementation of these institutions' growing involvement in the corporate governance of Japanese firms. As a matter of fact, associations of pension funds and securities investment advisers have introduced codes of conduct, calling for more active voting policies of their members (OECD, 2003; Japan Securities Investment Advisers Association, 2002). The so-called Pension Fund Association, which is Japan's leading pension fund association representing corporate pension funds and manages more than yen 12 trillion in assets, has become active at shareholder meetings in recent years, often voting against motions put forward by companies' management. Furthermore, it has been reported that the largest public pension funds have formed the Council of Public Institutional Investors, which is active in shaping the overall institutional environment, including various issues related to corporate governance, and in discussing the management of their investment portfolios (Luo, 2007, p.49).

Finally, during the past few years, a small number of empirical studies have addressed the impact of institutional investors on the performance of Japanese firms and their involvement with the governance of these firms. The results of these studies, however, are not unequivocally clear. Suto et al. (2005), a study based on survey data, finds that the fund management of Japanese institutional investors has become more short-term oriented recently, due to competitive pressures in the Japanese fund management industry predominantly resulting from deregulatory measures. This may be at odds with the enhanced involvement of these institutions in corporate governance activities, which by nature has a more long-term orientation. In addition, the results of Seifert et al. (2005) on the impact of blockholders and institutional ownership on corporate performance in Japan are rather inconclusive. On the other hand, Miyajima and Kuroki (2005) find that shareholdings of both domestic and foreign institutional investors have positive and significant effects on firm performance in Japan, contrary to those of banks, suggesting the important and positive contribution of institutional investors to the governance of Japanese firms. Kim and Nofsinger (2005) find evidence of a considerable impact of specific investment behaviour ("herding") of institutional investors on the stock prices of Japanese firms, which shows that institutional investors may have an important enforcement mechanism in the context of the implementation of corporate governance.

All in all, it is clear that at this juncture the specific role of institutional investors in the current system of corporate governance in Japan and its future development is receiving considerable attention, and actually has become one of the most intensely debated issues in the Japanese corporate governance debate. However, so far, an important element in this discussion has been hardly investigated yet, namely the equity investments of institutional investors in Japanese listed firms. The remaining part of our study will be devoted to this important aspect.

4 Data and methodology

4.1 Data

The ownership of institutional investors in terms of their equity stakes in Japanese firms is examined using the ownership data of all companies listed on the Tokyo and Osaka Stock Exchanges. The data are obtained from the *Shareworld* database provided by Thomson Financial and show the ownership structure at the end of June 2002. A total of 2,938 companies listed on the Tokyo and Osaka Stock Exchanges are examined in the analysis. The companies are classified by both size and industrial sector affiliation.

The distribution of the Japanese companies in our sample by size and by industry as of end-June 2002 is presented in Tables 1 and 2.[5] Here, size is defined as a firm's total assets. The size-category that represented the largest number of firms was the one of $25-<$100 million, constituting around 32% of all firms in the sample. In terms of market capitalisation, the category of firms at or above $1 billion in size represented around 75% of the total market capitalisation of all listed firms. The total market capitalisation of all firms listed on the Tokyo and Osaka Stock Exchanges on 31 June 2002 was $1,245 billion.

Table 1: Distribution of Japanese listed companies by size (end-June 2002)

Firm size[*]	Number of firms	% of total	Market capitalisation[#]	% of total
$0-<5mln	183	6.23	478	0.04
$5-<10mln	266	9.05	2,006	0.16
$10-<25mln	582	19.81	9,879	0.79
$25-<100mln	936	31.86	47,530	3.82
$100-<250mln	383	13.04	60,801	4.88
$250mln-<1bln	372	12.66	188,730	15.16
≧$1bln	216	7.35	935,281	75.14
Total	2,938	100	1,244,705	100

[*] Firm size is defined as total assets and is in millions/billions of US dollars.
[#] Market capitalisation is in millions of US dollars.
Source: Authors' calculations.

Analyzing the firm data by industry affiliation reveals the specialization of the main entrepreneurial drivers of the Japanese economic system. The largest industrial sector listed on the Tokyo and Osaka Stock Exchanges by the end of June 2002 was high-tech manufacturing. This sector included 867 companies, constituting almost 30% of all listed companies, with a market capitalisation of around $335 billion. The second largest group was the traditional manufacturing sector representing around 20% of all firms. In terms of market capitalisation, communication firms constituted the second largest group of firms, although not being the second largest sector in terms of number of firms, with a total market

5. In order to make the description clearer, in the course of the analysis the seven size-categories will be often reduced to three, namely small (0-<$10 million), medium ($10-<100 million) and large ($100 million and more) companies (see also: Nyman and Silberston, 1978).

capitalisation of around $260 billion. As a matter of fact, more than 60% of all listed companies in Japan belonged to these three sectors.

Table 2: Distribution of Japanese listed companies by industry affiliation (end-June 2002)

	Number of firms	% of total	Market capitalisation*	% of total
Business services	138	4.7	22,620	1.82
Communication	111	3.78	260,004	20.89
Distribution	408	13.89	106,596	8.56
Financial	120	4.08	82,148	6.60
High-tech manufacturing	867	29.51	334,825	26.90
Other financial	67	2.28	73,554	5.91
Resource-based	131	4.46	45,423	3.65
Traditional manufacturing	580	19.74	221,885	17.83
Transportation and public services	218	7.42	37,878	3.04
Utilities and construction	298	10.14	59,772	4.80
Total	2,938	100	1,244,705	100

* Market capitalisation is in millions of US dollars.
Source: Authors' calculations.

The shareholding ranges of listed companies are presented in Table 3. They provide a detailed analysis of the ownership structures of the companies listed on the Tokyo and Osaka Stock Exchanges. For example, the category of "<1%" includes all shareholdings of a specific investor in a particular firm which represent less than 1% of the outstanding shares of that firm. La Porta et al. (1999) suggest that ownership of 10% of a company's shares provides a significant threshold of votes and that usually 20% is assumed to be just large enough to give effective control of the firm. The absolute control or the majority shareholding is defined as a shareholding of more than 50%. A widely held company is defined as having no single shareholder to control the firm. Minority shareholders are those with less than 1% of the company's share capital and large shareholders are those with at least 3% of the shares issued by the company. Several studies (Shleifer and Vishny, 1986; Agrawal and Knoeber, 1996; Faccio and Lasfer, 2000; Gillan and Starks, 2000) use stock exchange declarable shareholdings as a cut-off point for large shareholdings. We follow this approach.

Table 3:
Market capitalisation Japanese listed companies according to shareholding ranges (end-June 2002)

Size of shareholdings	Market capitalisation*	% of total
<1%	167,853	13.49
1%-<3%	273,427	21.97
3%-<5%	267,785	21.51
5%-<10%	150,925	12.13
10%-<20%	58,481	4.70
≧20%	326,234	26.21
Total	1,244,705	100

* Market capitalisation is in millions of US dollars.
Source: Authors' calculations.

Table 3 shows that by the end of June 2002 only around 13.5% worth of total market capitalisation of all shareholdings was hold by minority shareholders, while around 26% of the total market capitalisation of all shareholdings was hold by shareholders who owned more than 20% of all shares outstanding. Large shareholders (i.e. shareholders who possess more than 3% of the shares outstanding of a particular firm) owned more than 64% of the total market capitalisation of the firms listed. This shows clearly the high concentration of shareholdings in Japanese companies listed on the Tokyo and Osaka Stock Exchanges.

In the subsequent analysis, we shall concentrate on shareholdings by *institutional investors*. We define institutional investors here as consisting of *insurance companies*, *investment firms* and *pension funds*. Furthermore, they include both domestic and foreign institutional investors, according to the country of their origin. For reasons of comparison, we also show the shareholdings of *banks*, which, as we discussed, have fulfilled an important part of Japanese corporate governance under the "main bank" system. Thus, our analysis allows for making a comparative assessment between the shareholdings of the "new" agents of Japanese corporate governance (i.e. institutional investors) and those of the "old" governance institutions (i.e. banks). We define institutional investors and banks together as *financial investors*. Table 4 provides an overview of the number of the various institutional investors and banks occupying equity stakes in firms listed on the Tokyo and Osaka Stock Exchanges. A total of 3,154 institutional investors were registered as having shareholdings in Japanese listed firms, of which around 61% was of domestic origin and around 39% was foreign. The share of foreign institutional investors is particularly high and is a sign of the important position that foreign shareholders have obtained in the ownership structure of Japanese firms (see also section 2.4). As a matter of fact, at the end of June 2002, one out of three institutional investors holding equity stakes in Japanese listed firms was a foreign investment firm.

Turning to the specific components of the group of institutional investors, in terms of numbers pension funds were the largest category, accounting for around 52% of the total, while insurance companies were the smallest group at around 7%. Investment firms accounted for around 41% of all institutional investors. In terms of nationality, the smallest group of all were foreign pension funds, which comprised less than 1% of all institutional investors investing in Japanese firms. The most important group of domestic institutional investors were pension funds, which actually represented almost 84% of all Japanese institutional investors in our sample.

Table 4 shows further that the number of banks having shareholdings was 768 as of end-June 2002, indicating that there were around four times as many institutional investors as banks in the position of shareholder of Japanese listed firms. It is clear that by simply looking at the numbers involved, institutional investors represented a very important group of shareholders. Furthermore, of the total number of banks having shareholdings, around 60% was foreign. Thus, again, we find that foreign ownership is important: of the total number of 3,932 institutional investors and banks investing in the Japanese firms in our sample, 43% had a foreign nationality.

Table 4:
Number of financial investors holding equity in Japanese listed companies (end-June 2002)[*]

Institutional investors	Number of institutions	% of total	% of group total
Insurance companies	229	7.26	100
Domestic	*69*	*2.19*	*30.13*
Foreign	*160*	*5.07*	*69.87*
Investment firms	1,289	40.87	100
Domestic	*241*	*7.64*	*18.70*
Foreign	*1,048*	*33.23*	*81.30*
Pension funds	1,636	51.87	100
Domestic	*1,621*	*51.40*	*99.09*
Foreign	*15*	*0.47*	*0.91*
Total institutional investors	3,154	100	
Domestic	*1,931*	*61.22*	
Foreign	*1,223*	*38.78*	
Banks[#]	768		100
Domestic	*309*		*40.23*
Foreign	*459*		*59.77*

[*] Financial investors consist of both institutional investors and banks.
[#] The category “banks” includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors’ calculations.

4.2 Methodology

Our analysis of the ownership structure of institutional investors and banks in Japanese listed companies consists of two parts. First, the frequencies, both of the number of observations and of the market capitalisation of financial investors’ shareholdings according to different size and industry categories, are analyzed. The frequency of observations refers to the total number of shareholdings of the various types of financial investors according to the particular size or industry affiliation of the firms in which they invest.[6] This approach allows one to

6. Each observation of a shareholding where an institutional investor is owner is counted.

observe the investment behaviour and interest of institutional investors and banks in specific corporate sectors. In addition, analyzing the market capitalisation of the shareholdings of the various financial investors provides information on the financial significance of these shareholdings according to firm size and industry affiliation.

Second, using a method widely applied by other researchers for its simplicity (see for example: Demsetz and Lehn, 1985; La Porta et al., 1999; Faccio and Lasfer, 2000; Crespi-Cladera and Renneboog, 2003), a more detailed analysis of shareholdings in Japanese listed companies by different categories of financial investors according to various size and industry groups of the firms in which they invest is conducted as well. Empirical evidence is presented in the form of descriptive statistics that aims to establish the average level of shareholdings for all financial investor categories, and within these categories as well, according to various firm-size ranges and firm-industry affiliation. Moreover, institutional investors' and banks' shareholdings are determined following the classification of shareholdings that is used in Table 3. Here, we focus on the shareholdings of the financial investor categories under different ranges of ownership and, in addition, we measure shareholdings by size and industry affiliation within the specific ranges of shareholdings. The aim is to determine the level of minority, large and majority shareholdings for each category of financial investors, for listed Japanese firms of different size and of different industry affiliations.

5 Results and discussion

5.1 Distribution and share of shareholdings by company size

The distribution of the total equity capital of the firms listed on the Tokyo and Osaka Stock Exchanges by shareholder type is presented in Table 5. This information gives a rough indication of the involvement of institutional investors, and of banks as well, in the ownership structure of Japanese listed companies.

Table 5:
Market capitalisation of shareholdings in Japanese listed companies by shareholder type (end-June 2002)

Shareholder	Market capitalisation*	% of total	% of total institutional investors
Households	60,762	4.88	
Corporations (non-financial companies)	420,077	33.75	
Banks[#]	427,294	34.33	
Institutional investors	336,572	27.04	100
Total	1,244,705	100	
Breakdown institutional investors:			
Insurance companies	154,940	12.45	46.03
Investment firms	162,459	13.05	48.27
Pension funds	19,173	1.54	05.70

* Market capitalisation is in millions of US dollars.
[#] The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

The largest shareholders in Japanese listed companies in terms of market capitalisation of their investments were banks and corporations, which both held around 34% of the market value of the firms listed on the Tokyo and Osaka Stock Exchanges. They were closely followed by the group of institutional investors, which collectively accounted for around 27%. The shares of insurance companies and investment firms amounted to 12.5% and around 13% of total market capitalisation, respectively, and pension funds had minority holdings of only 1.5% of total market capitalisation. The latter finding is rather interesting, taking into account the large number of pension funds: although the number of pension funds was almost 52% of the total number of institutional investors holding shares in Japanese listed firms at the end of June 2002 (see Table 4), the market value of their holdings comprised only 5.7% of the market value of the total equity capital held by institutional investors. One other notable aspect of the ownership structure of Japanese listed companies is the low participation by Japanese households, which owned less than 5% of total market capitalisation.

Table 6:
Frequencies of shareholdings by financial investors among size ranges of Japanese listed companies (end-June 2002)[*]

Size[**]	Banks[#]	Insurance companies	Investment firms	Pension funds	Total
$0-<5mln	429	157	103	95	784
% of size range total	54.72	20.03	13.14	12.12	100
% of owner type total	1.56	1.54	0.26	3.66	0.98
$5-<10mln	693	242	160	152	1,247
% of size range total	55.57	19.41	12.83	12.19	100
% of owner type total	2.52	2.38	0.4	5.85	1.56
$10-<25mln	1,695	590	671	375	3,331
% of size range total	50.89	17.71	20.14	11.26	100
% of owner type total	6.16	5.79	1.69	14.44	4.16
$25-<100mln	3,819	1,344	3,083	511	8,757
% of size range total	43.61	15.35	35.21	5.84	100
% of owner type total	13.87	13.19	7.75	19.68	10.93
$100-<250mln	2,632	954	3,942	229	7,757
% of size range total	33.93	12.3	50.82	2.95	100
% of owner type total	9.56	9.36	9.9	8.82	9.68
$250-<1bln	5,997	2,356	10,130	457	18,940
% of size range total	31.66	12.44	53.48	2.41	100
% of owner type total	21.79	23.12	25.45	17.6	23.64
≧$1bln	12,263	4,546	21,711	778	39,298
% of size range total	31.21	11.57	55.25	1.98	100
% of owner type total	44.55	44.62	54.55	29.96	49.05
Total	27,528	10,189	39,800	2,597	80,114
% of size total	34.36	12.72	49.68	3.24	100
% of owner total	100	100	100	100	100

[*] Financial investors consist of both institutional investors and banks.
[**] Firm size is defined as total assets and is in millions/billions of US dollars.
[#] The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

In Table 6, the frequencies of shareholdings for each type of financial investor are presented according to the size ranges of the companies in which they invested. The frequencies are the number of times that a shareholding of institutional investors and banks in a company of a particular size was recorded. The results show that the frequencies of both institutional investors' and banks' shareholdings increase as the companies' size increases. As of end-June 2020, the choice of investment of both institutional investors and banks were large sized companies: as a matter of fact, around 82%[7] of their shareholdings were in large companies ($100 million or more in size). By looking at the subgroups of investors, it can be seen that more than two thirds of the shareholdings of banks (75.9%), insurance companies (77.1%) and investment companies (89.9%), and 56.4% of shareholdings of pension funds', were observed for large companies. The companies with the largest size ($1 billion or more) attracted overall the most institutional investors and banks as investors: 54.5% of all shareholdings by investment companies and 44.6% of all shareholdings by both banks and

7. For explanation: 82% is calculated as 9.68%+23.64%+49.05%.

insurance companies fell in this size range. On the other hand, the frequency of pension funds' investments in the highest range (companies of $1 billion in size or more) was relatively low, at only around 30.0%. However, it was still the highest in comparison to the investments by pension funds in companies located in the smaller size ranges. In fact, the shareholdings of pension funds, in comparison with those of other institutional investors and banks, were relatively concentrated in small and medium-sized companies: almost 21% of their shareholdings were in companies up to $25 million in size, the largest percentage of all institutional investors and banks.

A notable characteristic of the investment behaviour of institutional investors as a group and of banks was their apparent disinterest (with the exception, to some extent, of pension funds) in small companies, as their investments in companies of up to $10 million in size amounted to only 2.5% of their total investments. In the total frequency of shareholdings reported, investment companies dominated with a share of 49.7% of all observations, indicating that they had the largest number of shareholdings of all institutional investors and banks. They were followed by banks, insurance companies and pension funds, respectively.

Additional analysis of the investment behaviour of financial investors according to nationality of origin is presented in Table 15 of the Appendix, which provides information on the shareholdings of both domestic and foreign investors. While more than half (i.e. 58.8%)[8] of the total shareholdings by domestic financial investors were held in large sized companies, foreign financial investors almost entirely (93.2%) held shares in large companies.[9] As a matter of fact, the majority of shareholdings of foreign institutions fell in the largest size range of companies with a size of $1 billion or more. Furthermore, with only 15 observations and 0.03% of total shareholdings, foreign pension funds were playing a rather insignificant role as shareholders of Japanese listed companies. Table 15 also shows that domestic institutional investors slightly dominated domestic banks in terms of the total number of observations over all company size ranges: the combined number of observations for Japanese insurance companies, investment firms and pension funds was 12,666, whereas the similar number for Japanese banks was slightly lower at 12,644. Thus, we find another indication of the important position of institutional investors as shareholders of Japanese firms, relative to that of banks, since their shareholdings allowed them to exercise, to some extent at least, corporate governance functions in relation to Japanese listed firms. Finally, it is shown in Table 15 that foreign investment firms accounted for 62.7% of all observations of shareholdings of foreign institutional investors and banks. This percentage in terms of only foreign institutional investors was around 86%, thus indicating that by far foreign investment firms were the largest group of foreign investors in terms of the total number (or frequency) of shareholdings.

8. For explanation: 58.8% is calculated as 22.5%+22.0%+14.3%.
9. See the last column of Table 15 in the Appendix.

Table 7:
Market capitalisation of shareholdings according to size ranges of Japanese listed companies (end-June 2002)

Size*	Banks#	Insurance companies	Investment firms	Pension funds	Total
$0-<5mln					
% of size range total	56.45	18.13	11.69	13.74	100
% of owner type total	0.02	0.02	0.01	0.1	0.02
$5-<10mln					
% of size range total	57.52	20.4	8.81	13.27	100
% of owner type total	0.08	0.08	0.03	0.42	0.08
$10-<25mln					
% of size range total	56.96	19.54	8.78	14.72	100
% of owner type total	0.41	0.39	0.17	2.37	0.4
$25-<100mln					
% of size range total	58.59	21.42	11.84	8.15	100
% of owner type total	2.64	2.66	1.4	8.17	2.52
$100-<250mln					
% of size range total	58.72	20.48	15.01	5.79	100
% of owner type total	4.29	4.13	2.88	9.41	4.09
$250-<1,000mln					
% of size range total	61.27	19.23	16.79	2.71	100
% of owner type total	16.98	14.71	12.23	16.68	15.5
≧$1,000mln					
% of size range total	54.64	20.43	22.89	2.04	100
% of owner type total	75.58	78.01	83.27	62.85	77.39

* Firm size is defined as total assets and is in millions/billions of US dollars.
# The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

The market capitalisation of the equity stakes held by financial investors (i.e. institutional investors and banks) across different firm-size ranges is presented in Table 7. Shareholdings in large companies – companies of $100 million or more in size – listed on the Tokyo and Osaka Stock Exchanges constituted 97% of the market capitalisation of the total equity capital held by institutional investors and banks, with companies over $1 billion in size representing 77.4% of the total market capitalisation of these shareholdings. Of the various financial investors, banks were majority shareholders, with the market capitalisation of their shareholdings in any size of companies on average being 58%. The market capitalisation of the shareholdings of pension funds was at the minority level in almost all firm-size ranges, with the exception of small and medium-sized companies of up to $25 million in size. In the Appendix, Table 16, we show the distribution of the market capitalisation of shareholdings of domestic and foreign institutional investors and banks by different size ranges. In line with our findings from the analysis of the frequency of observations, domestic banks dominated their foreign counterparts in investing in Japanese companies and were overall the largest majority shareholders. Japanese banks were followed by domestic insurance companies, which were the second largest domestic majority shareholders of firms listed on the Tokyo and Osaka Stock Exchanges. At the same time, foreign investment firms dominated other foreign investors significantly, especially in larger size companies, and accounted for between 72% and 78% of the market capitalisation of shareholdings in firms larger than $10 million in size.

All in all, investments in large companies ($100 million or larger) accounted for 98.8% of the market capitalisation of all shares held by foreign investors.

5.2 Distribution and market share of shareholdings by industry sector

This section of the study carries out a similar analysis as above, being the only difference that we now analyse patterns of corporate ownership across industry sectors of the companies listed on the Tokyo and Osaka Stock Exchanges. In Table 8, the frequencies of shareholdings of institutional investor categories and banks are presented according to the industry affiliation of the companies they have invested in. Based on aggregated numbers, around 36% of institutional investors' and banks' shareholdings were concentrated in high-tech manufacturing companies, with the highest percentage of observations (37.0%) recorded for investment firms. The second most frequent shareholdings (18.7%) were observed for the traditional manufacturing industry. The sector business services was the least favoured sector by institutional investors and banks and accounted for only 3.1% of total observations.

Looking at the investment behaviour of various types of financial investors, it can be said that banks held the largest number of investments (i.e. largest frequencies) in the utilities and construction sector (37.95%), while investment companies' observations were particularly concentrated in the sector of other financial companies (55.4%). At the same time, insurance companies tended to hold shares in the financial sector (18.8%) and pension funds preferred the distribution sector.

The percentages in terms of total market capitalisation of the shareholdings of financial investors according to industry affiliation are presented in Table 9. Shareholdings by these financial institutions in the high-tech manufacturing sector were the largest in terms of market capitalisation (31.5%), followed by the traditional manufacturing sector (21.2%). The share of the business services sector, on the other hand, represented the lowest market capitalisation (1.64%) of all the shareholdings of institutional investors and banks. Again, banks were the most dominant in terms of owning market capitalisation by holding shares representing more than 50% of total market capitalisation in almost all industry sectors (the only exception being the financial sector). Insurance companies were much more dominant in the financial sector by having shareholdings constituting 52% of total market capitalisation of all shares held by institutional investors and banks in this sector. At the same time, investment firms were represented strongly in the other financial (33.9%) and communication sectors (31.1%), while, overall, pension funds owned shareholdings with the lowest market capitalisation in all industry sectors.

Table 8:
Frequencies of shareholdings in Japanese listed companies by industry affiliation (end-June 2002)

Industry	Banks*	Insurance companies	Investment firms	Pension funds	Total
Resource-based	1,243	428	1,663	112	3,446
% of industry sector total	36.07	12.42	48.26	3.25	100
% of owner type total	4.52	4.2	4.18	4.31	4.3
Traditional manufacturing	5,186	1,997	7,321	453	14,957
% of industry sector total	34.67	13.35	48.95	3.03	100
% of owner type total	18.84	19.6	18.39	17.44	18.67
High-tech manufacturing	9,684	3,496	14,727	852	28,759
% of industry sector total	33.67	12.16	51.21	2.96	100
% of owner type total	35.18	34.31	37	32.81	35.9
Utilities and construction	2,304	798	2,681	288	6,071
% of industry sector total	37.95	13.14	44.16	4.74	100
% of owner type total	8.37	7.83	6.74	11.09	7.58
Distribution	2,651	914	3,636	319	7,520
% of industry sector total	35.25	12.15	48.35	4.24	100
% of owner type total	9.63	8.97	9.14	12.28	9.39
Business services	852	266	1,254	97	2,469
% of industry sector total	34.51	10.77	50.79	3.93	100
% of owner type total	3.1	2.61	3.15	3.74	3.08
Financial	1,128	622	1,454	112	3,316
% of industry sector total	34.02	18.76	43.85	3.38	100
% of owner type total	4.1	6.1	3.65	4.31	4.14
Other financial	1,189	430	2,118	86	3,823
% of industry sector total	31.1	11.25	55.4	2.25	100
% of owner type total	4.32	4.22	5.32	3.31	4.77
Communication	1,785	619	3,070	114	5,588
% of industry sector total	31.94	11.08	54.94	2.04	100
% of owner type total	6.48	6.08	7.71	4.39	6.98
Transportation and public services	1,506	619	1,876	164	4,165
% of industry sector total	36.16	14.86	45.04	3.94	100
% of owner type total	5.47	6.08	4.71	6.31	5.2
Total	27,528	10,189	39,800	2597	80,114
% of industry total	34.36	12.72	49.68	3.24	100
% of owner total	100	100	100	100	100

* The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

Table 9:
Market capitalisation of shareholdings in Japanese listed companies by industry affiliation (end-June 2002, in percentages)

Industry	Banks*	Insurance companies	Investment firms	Pension funds	Total
Resource-based					
% of industry sector total	64.24	17.3	15.87	2.58	100
% of owner type total	3.54	2.63	2.3	3.17	3.08
Traditional manufacturing					
% of industry sector total	60.63	18.91	18.56	1.9	100
% of owner type total	22.95	19.76	18.47	16	21.17
High-tech manufacturing					
% of industry sector total	55.44	17.75	24.32	2.49	100
% of owner type total	31.17	27.54	35.96	31.16	31.45
Utilities and construction					
% of industry sector total	61.26	22.65	12.41	3.68	100
% of owner type total	6.32	6.45	3.37	8.46	5.77
Distribution					
% of industry sector total	56.07	20.85	20.66	2.42	100
% of owner type total	7.38	7.57	7.15	7.1	7.36
Business services					
% of industry sector total	56.29	13.89	27.27	2.55	100
% of owner type total	1.65	1.13	2.1	1.67	1.64
Financial					
% of industry sector total	40.45	52.02	5.54	1.99	100
% of owner type total	6.67	23.69	2.4	7.31	9.23
Other financial					
% of industry sector total	52.95	11.4	33.89	1.76	100
% of owner type total	5.88	3.5	9.9	4.35	6.22
Communication					
% of industry sector total	57.61	7.51	31.08	3.8	100
% of owner type total	11.29	4.06	16.02	16.58	10.97
Transportation and public services					
% of industry sector total	56.65	24	15.94	3.41	100
% of owner type total	3.14	3.68	2.33	4.21	3.1

* The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

In Table 17 of the Appendix, the distribution of domestic and foreign financial investors' shareholdings according to market capitalisation is presented. The dominance of domestic banks over domestic institutional investors is seen even more clearly. The value of their shareholdings was on average around 70% of total domestic shareholders' market capitalisation. More specific, the market value of the shareholdings of Japanese banks accounted for more than two thirds of the total equity capital held by domestic institutional investors and banks in all industrial sectors (with the exception of the financial sector). Moreover, domestic banks also surpassed considerably their foreign counterparts in terms of market capitalisation of shareholdings. Looking at specific industry sectors, both the domestic and foreign financial investors' shares in total market capitalisation were the highest in the high-tech manufacturing sector with 30.2% and 35.4%, respectively. Traditional manufacturing was the second most important sector attracting both domestic and foreign investors, with shareholdings in terms of market capitalisation of 21.9% and 18.8%, respectively. Foreign investment firms were by far the most important foreign shareholders, with absolute majority shareholdings in terms of market capitalisation of above 65% in all industry sectors, when compared to the other foreign financial investors investing in Japan. Foreign pension funds, once again, had rather limited investments in Japan and did not have equity holdings in the resource-based, traditional manufacturing, communication and other financial sectors and only small holdings in others. All in all, the distribution of market capitalisation across industrial sectors was similar to the ownership structure that we found overall in the previous section.

5.3 Ownership levels of financial investors in Japanese listed companies

The mean, median, standard deviation and maximum shareholdings of the average institutional investor or bank according to the listed companies' size are presented in Table 10. When the positions of the average financial investor are calculated, as of end-June 2002, the mean shareholdings of the average financial institution that invested in Japanese listed companies decreased as the size of the companies in which they held equity stakes increased. The size category with the highest mean value was the \$5-<\$10 million range, where an institutional investor or bank on average held 3.01% of the shares of the companies in this size category. Pension funds were the exception here; for all other individual investors, their investments in the \$5-<\$10 million range had the highest mean value of all their investments. A typical investor owned shareholdings in companies with a size of \$1 billion or more of on average only 0.18% of the listed firms' total shares. The total financial investors' mean shareholding, regardless of size ranges, was 0.7% of a firm's total listed shares, with the highest mean value of 3.0% for small companies (i.e. companies in the \$5-<\$10 million range) and the lowest mean value of 0.2% for the largest companies (companies with a size of \$1 billion or more). Mean shareholdings of pension funds were the highest among all (1.85% of the listed firms' total shares), while investment firms had the lowest mean value of shareholdings by possessing on average 0.21% of the shares of all firms listed on the Tokyo and Osaka Stock Exchanges (see the last column of Table 10).

Table 10:
Average shareholdings of financial investors according to size ranges[*] of Japanese listed companies (end-June 2002; in percentages)[**]

Shareholders	0-<5[*]	5-<10	10-<25	25-<100	100-<250	250-<1,000	≧1,000	Total
Banks[#]								
mean	3.05	3.08	2.89	2.5	1.92	1.09	0.33	1.22
median	3.05	2.75	2.66	2.26	1.46	0.04	0.01	0.05
std. dev.	1.47	3.5	2.35	2.33	2.56	2.69	1.47	2.35
max	8.49	68.48	58.13	48.07	51	73.9	95.98	95.98
Insurance companies								
mean	2.76	3.03	2.67	2.47	1.68	0.76	0.29	1.06
median	2.33	2.41	2.33	2.18	1.25	0.03	0.01	0.03
std. dev.	1.7	2.17	1.75	1.94	2	1.66	1.02	1.78
max	9.9	10	10.01	14.15	11.07	33.4	10.02	33.4
Investment firms								
mean	1.9	2.06	1.19	0.68	0.38	0.19	0.07	0.21
median	1.37	1.06	0.29	0.18	0.08	0.03	0.01	0.02
std. dev.	2.06	4.37	2.67	2.22	1.3	0.7	0.4	1.02
max	11.74	49.54	27.39	86.01	42.05	30.03	29.82	86.01
Pension funds								
mean	3.29	3.68	3.8	3.11	2.25	0.61	0.16	1.85
median	3	3.03	3.13	2.57	1.91	0.09	0.03	1.17
std. dev.	1.96	2.46	2.74	2.24	1.99	1.15	0.43	2.34
max	9.6	13.45	23.02	20.64	10.17	8.19	3.52	23.02
Total								
mean	2.87	3.01	2.61	1.89	1.12	0.56	0.18	0.72
median	2.59	2.57	2.24	1.39	0.18	0.03	0.01	0.03
std. dev.	1.71	3.32	2.5	2.4	2.06	1.76	0.95	1.81
max	11.74	68.48	58.13	86.01	51	73.9	95.98	95.98

[*] Firm size is defined as total assets and is in millions of US dollars.
[**] Financial investors consist of both institutional investors and banks.
[#] The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

Looking in more detail at the various investor categories, pension funds led in all firm size ranges up to $250 million by having the highest mean value of shareholdings. On the other hand, banks were the largest investor in the last two size ranges ($250mln-<$1bln and ≧$1bln). The shareholdings of the average investment firm were the smallest in all size ranges and the mean of their total shareholdings was just 0.2% of all listed companies' shares. The highest mean value among all average shareholdings of institutional investors and banks in Table 10 is that of pension funds' holdings in companies within the size range of $10-<$25 million (3.8%).

The median values, on the other hand, of the shareholdings of the various financial investors were smaller than the mean values for all size ranges of companies. This indicates the dominance of smaller shareholdings in a firm held by institutional investors and banks. Additionally, the divergence between mean and median values increases as the size of a firm increases. The standard deviations show a significant degree of dispersion around the mean holdings, indicating that there was considerable variation in shareholdings. Furthermore, they decrease in parallel with the increase in company size.

The distribution of the average shareholdings by nationality of the various shareholders, i.e. both domestic and foreign, is shown in Table 18 of the Appendix. In total, Japanese financial investors held on average larger stakes in the equity of Japanese listed firms than foreign investors, for all different size categories of Japanese firms listed on the Tokyo and Osaka Stock Exchanges. This was the most pronounced for the size category of firms with total assets of $1 billion or more: the average domestic institutional investor or bank held 0.93% of the shares of companies belonging to this size category, while the average foreign institutional investor or bank held only 0.05%. This argument also holds when the investment behaviour of the specific groups of domestic institutional investors and domestic banks is compared with that of their foreign counterparts, with the exception of pension funds. Regarding the latter investor group's shareholdings, foreign pension funds' average shareholdings were higher than those of domestic pension funds. Turning to the other categories of financial investors, domestic banks had the highest average shareholdings at 2.5% among domestic institutional investors, while the lowest at 0.46% was recorded for domestic investment firms. Alternatively, when foreign investors are considered, pension funds on average held the largest percentage of shares of all foreign investors in Japanese listed firms (1.97%), whereas the lowest percentage (0.07%) was held by foreign insurance companies. The investment behaviour of domestic financial investors showed a smaller degree of variation between the mean and median shareholdings than that of foreign and total shareholders, indicating the dominance of small and minority shareholdings predominantly among foreign investors.

The descriptive statistics of the shareholdings of financial investors in Japanese listed companies according to various ownership ranges are presented in Table 11. When the frequencies of the observations are counted, 73,016 observations out of a total of 80,114 were recorded at the minority and small ownership levels of up to 3% of a firm's stocks. This confirms our previous findings about the dominance of small shareholdings. As a matter of fact, the number of observations for minority shareholdings (below 1% of ownership) was 63,873, which accounted for around 80% of all observations. The mean value of these holdings was 0.08%, while the median value was 0.01%, indicating that the majority of the shareholdings of institutional investors and banks in Japanese listed companies was very small indeed and too insignificant for wielding corporate control. Furthermore, shareholdings from 3% up to 10% of the listed firm's shares accounted for 8.6% of total observations, whereas the frequency of shareholdings above 10% amounted only to 174 observations.

Table 11: Average shareholdings of financial investors according to shareholding ranges (end-June 2002)*

Shareholders	<1%	1%-< 3%	3%-<5%	5%-<10%	10%-<20%	≧20%	Total
Banks#							
freq. obs.	17,777	5,096	3,947	620	45	43	27,528
mean	0.07	2.02	4.07	5.95	12.89	37.23	1.22
median	0.01	2.03	4.04	5.34	12.17	32.63	0.05
std. dev.	0.17	0.55	0.65	1.27	2.31	17.57	2.35
Insurance companies							
freq. obs.	6,866	2,000	884	426	12	1	10,189
mean	0.06	2.02	3.76	6.62	10.49	33.4	1.06
median	0.01	2.02	3.62	6.11	10.03	33.4	0.03
std. dev.	0.17	0.54	0.56	1.45	1.19	-	1.78
Investment firms							
freq. obs.	37,982	1,307	335	128	37	11	39,800
mean	0.08	1.73	3.82	6.68	13.59	38.34	0.21
median	0.02	1.61	3.73	6.31	12.83	30.03	0.02
std. dev.	0.15	0.55	0.59	1.35	3	18.03	1.02
Pension funds							
freq. obs.	1,248	740	379	205	23	2	2,597
mean	0.13	2	3.84	6.72	12.19	21.83	1.85
median	0.04	1.98	3.77	6.58	11.94	21.83	1.17
std. dev.	0.21	0.56	0.59	1.39	1.57	1.69	2.34
Total							
freq. obs.	63,873	9,143	5545	1379	117	57	80,114
mean	0.08	1.98	3.99	6.34	12.73	36.83	0.72
median	0.01	1.98	3.93	5.85	11.95	30.03	0.03
std. dev.	0.16	0.56	0.65	1.4	2.5	17.28	1.81

* Financial investors consist of both institutional investors and banks.
# The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

According to the total frequency of their shareholdings, investment companies had the largest number of investments with 39,800 observations and pension funds the smallest with only 2,597 observations. Moreover, 37,982 observations for investment firms (or 95.4% of their total number of investments) were located in the ownership range of owning less than 1% of a firm's shares. At the other hand, banks registered the highest number of observations in almost all ownership ranges, except for the range of below 1%.

Finally, Table 19 in the Appendix examines similar characteristics of the investment behaviour of financial investors regarding Japanese listed firms as Table 11, but than by nationality. Of the total number of observations, i.e. the total number of investments by these institutions, a majority of 54,804 observations was recorded for foreign institutional investors and banks, which was almost 70% of all observations. We found this dominance for all categories of investors, with the only exception being pension funds. Thus, overall, this finding, based on just the number of investments recorded, is in line with the important position of foreign shareholders in Japanese firms, such as described in section 2.4.

However, at the same time, it needs to be acknowledged, when the mean and median values are taken into account, that a rather low level of average shareholdings was observed for foreign institutional investors and banks, with a mean value of only 0.14%, compared to a mean value of 1.96% for domestic institutional investors and banks. Therefore, on average, domestic investors invested in a smaller number of firms, but, at the same time, invested larger amounts of funds than their foreign counterparts. Moreover, the average foreign investor preferred to be a minority shareholder (owning less than 1% of a firm's listed shares) in Japanese listed companies, whereas domestic institutions on average revealed a preference for the ownership range of 1% to 5%. Domestic banks and insurance companies predominantly held equity stakes amounting to 3% to 5% of a company's outstanding shares, whereas domestic investment firms and pension funds preferred to be minority shareholders.

5.4 Ownership pattern of financial groups

As we discussed in section 2, the large and stable cross-shareholdings between companies belonging to the *keiretsu* groups have been examined rather extensively in the literature. However, the shareholdings of the various Japanese financial groups that exist nowadays have hardly been investigated at all. This is surprising, because most of these financial groups were formed as the result of mergers across the traditional boundaries existing between the *keiretsu*, which eroded the concept of the *keiretsu* significantly (Van Rixtel et al., 2004a). In other words, the establishment of these new financial groups has changed rather profoundly the financial services landscape in Japan and thus may have resulted in important changes in the structure of corporate ownership.

Hence, this section concentrates on the shareholdings of six large Japanese *financial groups* in the firms listed on the Tokyo and Osaka Stock Exchanges: the Mitsui Trust Financial Group, Mitsubishi Tokyo Financial Group, Sumitomo Trust and Banking Company, Resona Group, UFJ Group and Mizuho Financial Group.[10] We focus on these financial groups, because they were represented rather significantly among the institutional investors and banks holding shares in the Japanese listed companies in our sample. Furthermore, as was observed in the previous section, the majority of the shareholdings of institutional investors and banks were too small to exercise corporate control. Thus, it is interesting to determine the degree of corporate ownership at the financial group level, because it is assumed that with larger holdings in a firm, institutional investors and banks could have enhanced capability in exercising corporate governance. We have included the subsidiaries and affiliates that fall under the holding companies of the six financial groups mentioned before and which were found among the institutional investors and banks in our sample.

Table 12 provides an overview of the market capitalisation of the shareholdings of the various institutional investors and banks that belong to the six financial groups that we

10. As our analysis is based on data as of end-June 2002, we define the groups as of that moment. For example, in October 2005, the Mitsubishi UFJ (MUFJ) Financial Group was created, through the merger of the Mitsubishi Tokyo FG and the UFJ Group.

take into account. For reference purposes, we have also shown the market value of the combined shareholdings of the institutional investors and banks that do not belong to one of these groups. It is shown that 45.3% of the total market capitalisation of financial investors' holdings in Japanese listed companies was owned by the six financial groups at the end of June 2002. The highest market value (11.2%) owned among the groups was that by Mitsubishi Tokyo FG (FG refers to Financial Group in further descriptions), followed by the market share of Mizuho FG (10.6%). The market capitalisations of the other four groups were less than 10% of the market value of the total investors' shareholdings with the lowest market share of 3.2% recorded for the Resona Group. Among the six financial groups, Mitsubishi Tokyo FG and Mizuho FG held together almost half (48.1%) of the total market capitalisation of all six groups' shareholdings. They were followed by UFJ Group (18.9%) and Sumitomo Trust and Banking Company (15.7%), whereas the shares of Mitsui Trust FG and Resona Group in the six groups' total were 10.2% and 7.1%, respectively.

Table 12: Market capitalisation of shareholdings of financial investors* by financial group (end-June 2002)**

Financial groups	Market capitalisation	% of total instit. inv. and banks	% of financial groups' total
Non-group institutional investors and banks	417,663.70	54.67	
Institutional investors and banks belonging to six financial groups, of which:	346,348.80	45.33	100
- Mitsui Trust FG	35,445.40	4.64	10.23
- Mitsubishi Tokyo FG	85,453.70	11.18	24.67
- Sumitomo Trust & Banking	54,353.70	7.11	15.69
- Resona Group	24,574.50	3.22	7.1
- UFJ Group	65,346.60	8.55	18.87
- Mizuho FG	81,174.90	10.62	23.44
Total institutional investors and banks	764,012.40	100	

* Financial investors consist of both institutional investors and banks.
** Market capitalisation is in millions of US dollars.

Table 13 presents more detailed information on the distribution of the market capitalisation of the financial groups' shareholdings according to the size ranges of Japanese listed companies. Regarding the combined total of the six financial groups, their shareholdings accounted for around half of the market value held by all institutional investors and banks in medium and large-sized companies with a market capitalisation of up to $1 billion. Furthermore, their market share in the shareholdings in the largest companies ($1 billion or more) was the lowest (44.2%) in comparison to the other size ranges. The market shares of financial groups such as Mitsui Trust FG, Sumitomo Trust and Banking Company and UFJ Group were relatively evenly distributed among the size ranges. Moreover, as the size range of the listed firms increased, actually the market share of Resona Group declined, while that of Mitsubishi Tokyo FG increased rather constantly, with the highest percentage recorded (11.6%) in the largest size range (≧$1bln). This was actually the highest market share among all financial groups in the largest size category. In all other size ranges, the shareholdings of Mizuho FG were the largest in terms of market capitalisation.

Table 13: Market capitalisation of financial groups' shareholdings according to size ranges (end-June 2002; in percentages)*

Financial groups	0-<5	5-<10	10-<25	25-<100	100-<250	250-<1,000	≧1,000
Mitsui Trust FG	4.68	3.91	3.29	4.14	4.59	4.49	4.7
Mitsubishi Tokyo FG	6.15	5.8	6.17	7.88	10.71	10.14	11.56
Sumitomo T & B	8.73	8.31	9.53	8.69	7.77	7.05	7.03
Resona Group	7.54	6.19	6.59	5.71	5.2	4.41	2.77
UFJ Group	7.52	7.75	8.09	8.09	9.14	10.06	8.24
Mizuho FG	10	12.4	14.75	15.57	13.1	12.56	9.92
Total of groups	44.62	44.35	48.42	50.07	50.52	48.71	44.21

* As percentage of the total for all institutional investors and banks having shareholdings in Japanese listed firms.

Finally, the average shareholdings of the various financial groups in Japanese listed companies are presented in Table 14. It is shown that the most frequent observations of shareholdings among the financial groups were those of Mizuho FG. Moreover, the mean value of these shareholdings (4.2%) was the highest of all groups, indicating the importance of this financial group as a shareholder of Japanese listed firms. Mitsubishi Tokyo FG had the second highest number of shareholdings, and the remaining observations are rather evenly distributed among the other four groups. Besides Mizuho FG, groups such as Mitsubishi Tokyo FG, Sumitomo Trust and Banking Company and UFJ Group had on average large shareholdings, with mean values of above 3% on average of a firm's total outstanding shares. The smallest mean holding (2.0%) was that of Resona Group. Moreover, the median value (1.2%) shows that the majority of shareholdings held by this group was at a low level of ownership. Financial institutions belonging to Mitsubishi Tokyo FG held a maximum of 96.3% of a firm's shares, while the lowest value was recorded for Mitsui Trust FG, which had a maximum value of shareholdings of only 41.5%. Finally, inspection of the data showed that up to nine different financial investors, all belonging to the same financial group, invested in a single company. At the same time, a maximum of 31 different institutional investors and banks, all belonging to one of the six financial groups, held shares of one particular listed firm.

Table 14: Average shareholdings of financial groups in Japanese listed companies (end-June 2002)

Financial groups	Frequency (number of observations)	Mean	Median	Std. dev.	Max
Mitsui Trust FG	2,986	2.78	2.32	2.8	41.46
Mitsubishi Tokyo FG	3,631	3.53	2.81	4.1	96.29
Sumitomo T & B	2,924	3.64	3.14	3.17	52.04
Resona Group	3,201	2.04	1.17	2.89	61.46
UFJ Group	3,067	3.15	2.7	3.32	70.08
Mizuho FG	4,231	4.15	3.38	3.97	66.46
Total of groups	20,040	3.27	2.64	3.54	96.29

6 Conclusions

In this paper, we investigated the investment behaviour of institutional investors in terms of their shareholdings in 2,938 companies listed on the Tokyo and Osaka Stock Exchanges at the end of June 2002. By doing so, we provide one of the first detailed empirical analyses of the involvement of institutional investors in the ownership structure of Japanese listed firms. At the same time, we compare this aspect of Japanese corporate governance with the shareholdings of banks in the same group of firms.

Our results show that the equity investments of financial investors – institutional investors and banks – in Japanese listed companies at the end of June 2002 were predominantly in the high-tech manufacturing, traditional manufacturing and communications industries. All financial investors combined held more than 60% of the equity capital of the firms listed on the Tokyo and Osaka Stock Exchanges, with banks being the largest group of these financial investors. Domestic insurance companies invested heavily in the shares of financial companies, which overall increased the importance of the financial sector as a target industry for equity investments by financial investors. On the other hand, foreign investment firms invested almost exclusively in large companies in Japan. Furthermore, although pension funds were the majority investors by number of institutions, the market share of their shareholdings on the Tokyo and Osaka Stock Exchanges was very low. Moreover, the mean holdings of financial investors in Japanese listed companies were generally small and decreased as the market capitalisation of the companies' shares increased.

Further analysis showed that on average most of the financial investors' shareholdings in Japanese listed companies were at the minority and small ownership levels of up to 3% of a firm's total stock. This may be due to legal restrictions, as the Anti-Monopoly Law restricted the equity stakes of banks and insurance companies in a single firm to a maximum of 5% and 10% respectively (Van Rixtel, 2002). The mean shareholdings of investment firms tended to be higher in the large shareholding ranges when compared with those of other financial investors, while domestic pension funds owned relatively high and stable shareholdings of up to the 10% level of ownership in the companies listed on the Tokyo and Osaka Stock Exchanges. Domestic financial investors tended to have higher levels of ownership than foreign institutions, and small and minority shareholdings were mostly held by foreign financial investors.

Finally, the average shareholdings of six large Japanese financial groups in Japanese listed companies were relatively large, representing an average ownership level of 3.3% of a firm's stock. However, they were not as high as to exert a significant degree of corporate control. It is was also observed that the mean shareholding of the financial investors – institutional investors and banks – belonging to all six financial groups was 10.1% of a single company's shares, which shows that even the combined equity stakes of Japanese financial groups in a specific firm were on average not very large.

All in all, first, we may conclude that as of end-June 2002, banks continued to be important shareholders of Japanese listed firms, owing around 34% of the market capitalisation of all listed firms on the Tokyo and Osaka Stock Exchanges. Looking only at domestic banks, their dominance was particularly significant, as the value of their shareholdings was on average around 70% of the total market capitalisation of the shareholdings of all domestic financial investors. At the same time, institutional investors, predominantly investment firms and insurance companies, were important shareholders as well, accounting for around 27% of total market capitalisation. Second, the importance of banks was further highlighted by the fact that banks were majority shareholders, with the market capitalisation of their shareholdings in any size-range of companies being on average 58% of the total market capitalisation of all the firms belonging to these size-ranges. In this respect, insurance companies were also an important group of shareholders, although the market capitalisation of their shareholdings was only around 20% in all firm-size ranges. Third, we found that foreign investment funds were very important shareholders of Japanese listed firms at the end of June 2002, which confirms the general perception that foreign ownership of Japan's corporate sector has become a rather crucial characteristic of the system of corporate governance in Japan.

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APPENDIX

Table 15 Frequencies of shareholdings according to size ranges of Japanese listed companies (end-June 2002)

Size*	Banks#			Insurance companies			Investment firms			Pension funds			Total		
	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
0-<5	429	416	13	157	152	5	103	66	37	95	95	0	784	729	55
% of size range total	54.7	57.1	23.6	20.0	20.9	9.1	13.1	9.1	67.3	12.1	13.0	0.0	100.0	100.0	100.0
% of owner type total	1.6	3.3	0.1	1.5	3.3	0.1	0.3	1.2	0.1	3.7	3.7	0.0	1.0	2.9	0.1
5-<10	693	667	26	242	237	5	160	74	86	152	151	1	1,247	1,129	118
% of size range total	55.6	59.1	22.0	19.4	21.0	4.2	12.8	6.6	72.9	12.2	13.4	0.9	100.0	100.0	100.0
% of owner type total	2.5	5.3	0.2	2.4	5.1	0.1	0.4	1.4	0.3	5.9	5.9	6.7	1.6	4.5	0.2
10-<25	1,695	1,626	69	590	560	30	671	198	473	375	373	2	3,331	2,757	574
% of size range total	50.9	59.0	12.0	17.7	20.3	5.2	20.1	7.2	82.4	11.3	13.5	0.4	100.0	100.0	100.0
% of owner type total	6.2	12.9	0.5	5.8	12.1	0.5	1.7	3.6	1.4	14.4	14.5	13.3	4.2	10.9	1.1
25-<100	3,819	3,462	357	1,344	1,150	194	3,083	700	2,383	511	507	4	8,757	5,819	2,938
% of size range total	43.6	59.5	12.2	15.4	19.8	6.6	35.2	12.0	81.1	5.8	8.7	0.1	100.0	100.0	100.0
% of owner type total	13.9	27.4	2.4	13.2	24.8	3.5	7.8	12.8	6.9	19.7	19.6	26.7	10.9	23.0	5.4
100-<250	2,632	1,978	654	954	606	348	3,942	815	3,127	229	226	3	7,757	3,625	4,132
% of size range total	33.9	54.6	15.8	12.3	16.7	8.4	50.8	22.5	75.7	3.0	6.2	0.1	100.0	100.0	100.0
% of owner type total	9.6	15.6	4.4	9.4	13.1	6.3	9.9	15.0	9.1	8.8	8.8	20.0	9.7	14.3	7.5
250-<1,000	5,997	2,569	3,428	2,356	871	1,485	10,130	1,660	8,470	457	456	1	18,940	5,556	13,384
% of size range total	31.7	46.2	25.6	12.4	15.7	11.1	53.5	29.9	63.3	2.4	8.2	0.0	100.0	100.0	100.0
% of owner type total	21.8	20.3	23.0	23.1	18.8	26.7	25.5	30.4	24.7	17.6	17.7	6.7	23.6	22.0	24.4
≧1,000	12,263	1,926	10,337	4,546	1,055	3,491	21,711	1,940	19,771	778	774	4	39,298	5,695	33,603
% of size range total	31.2	33.8	30.8	11.6	18.5	10.4	55.3	34.1	58.8	2.0	13.6	0.0	100.0	100.0	100.0
% of owner type total	44.6	15.2	69.5	44.6	22.8	62.8	54.6	35.6	57.6	30.0	30.0	26.7	49.1	22.5	61.3
Total	27,528	12,644	14,884	10,189	4,631	5,558	39,800	5,453	34,347	2,597	2,582	15	80,114	25,310	54,804
% to size total	34.4	50.0	27.2	12.7	18.3	10.1	49.7	21.5	62.7	3.2	10.2	0.03	100.0	100.0	100.0
% to owner total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Firm size is defined as total assets and is in millions of US dollars.

The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.

Source: Authors' calculations.

Table 16 Market capitalisation of shareholdings according to size ranges of Japanese listed companies (end-June 2002)

Size*	Banks#			Insurance companies			Investment firms			Pension funds			Total		
	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign	Total	Domestic	Foreign
0-<5															
% of size range total	56.5	57.4	37.4	18.1	18.6	8.7	11.7	9.6	53.9	13.7	14.4	0.0	100.0	100.0	100.0
% of owner type total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
5-<10															
% of size range total	57.5	57.8	52.0	20.4	21.5	1.4	8.8	6.6	45.8	13.3	14.0	0.8	100.0	100.0	100.0
% of owner type total	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.4	0.4	0.4	0.1	0.1	0.0
10-<25															
% of size range total	57.0	59.1	22.9	19.5	20.5	4.3	8.8	4.8	71.8	14.7	15.6	1.0	100.0	100.0	100.0
% of owner type total	0.4	0.4	0.1	0.4	0.4	0.1	0.2	0.7	0.1	2.4	2.4	2.5	0.4	0.5	0.1
25-<100															
% of size range total	58.6	63.7	14.8	21.4	23.1	6.9	11.8	4.1	77.9	8.2	9.1	0.5	100.0	100.0	100.0
% of owner type total	2.6	2.8	0.9	2.7	2.7	1.8	1.4	3.4	1.1	8.2	8.2	12.4	2.5	3.0	1.1
100-<250															
% of size range total	58.7	66.0	16.6	20.5	23.3	4.3	15.0	4.2	77.9	5.8	6.6	1.2	100.0	100.0	100.0
% of owner type total	4.3	4.5	2.3	4.1	4.2	2.6	2.9	5.3	2.5	9.4	9.2	74.3	4.1	4.6	2.5
250-<1,000															
% of size range total	61.3	70.0	21.5	19.2	22.5	4.6	16.8	4.3	73.9	2.7	3.3	0.0	100.0	100.0	100.0
% of owner type total	17.0	17.2	13.9	14.7	14.8	12.8	12.2	19.8	11.1	16.7	16.7	6.7	15.5	16.7	11.7
≧1,000															
% of size range total	54.6	67.7	17.8	20.4	26.2	4.1	22.9	3.4	78.1	2.0	2.8	0.0	100.0	100.0	100.0
% of owner type total	75.6	75.0	82.7	78.0	77.8	82.7	83.3	70.6	85.1	62.9	63.1	3.7	77.4	75.1	84.6

* Firm size is defined as total assets and is in millions of US dollars.
# The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

Table 17 Market capitalisation of shareholdings by financial investors according to industry affiliation of Japanese listed companies (end-June 2002)*

Industry	Banks#		Insurance companies		Investment firms		Pension funds		Total	
	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign	Domestic	Foreign
Resource-based										
% of industry sector total	72.88	31.05	20.74	4.09	3.13	64.86	3.26	0	100	100
% of owner type total	3.45	4.56	2.63	2.6	2.8	2.23	3.18	0	3.21	2.66
Traditional manufacturing										
% of industry sector total	72.31	17.1	22.84	4.26	2.44	78.63	2.41	0	100	100
% of owner type total	23.39	17.68	19.8	19.01	14.93	18.99	16.06	1.6	21.93	18.75
High-tech manufacturing										
% of industry sector total	68.71	19.37	22.98	3.52	4.9	77.08	3.4	0.03	100	100
% of owner type total	30.61	37.83	27.43	29.67	41.28	35.17	31.19	23.3	30.21	35.42
Utilities and construction										
% of industry sector total	67.99	23.44	25.62	5.95	2.05	70.6	4.34	0.02	100	100
% of owner type total	6.45	4.72	6.52	5.17	3.68	3.32	8.48	1.51	6.44	3.65
Distribution										
% of industry sector total	67.28	16.98	25.66	4.07	4.05	78.57	3.01	0.37	100	100
% of owner type total	7.46	6.43	7.62	6.65	8.48	6.95	6.88	64.07	7.52	6.87
Business services										
% of industry sector total	73.51	15.9	17.93	4.42	4.96	79.57	3.59	0.11	100	100
% of owner type total	1.64	1.8	1.07	2.16	2.09	2.11	1.65	5.67	1.51	2.06
Financial										
% of industry sector total	42.02	20.8	55.21	12.2	0.62	66.99	2.15	0.01	100	100
% of owner type total	6.96	3.28	24.49	8.32	1.93	2.47	7.34	0.38	11.23	2.86
Other financial										
% of industry sector total	73.72	12.21	14.79	4.75	8.83	83.05	2.65	0	100	100
% of owner type total	5.88	5.91	3.16	9.93	13.31	9.4	4.36	0.29	5.41	8.79
Communication										
% of industry sector total	81.06	16.49	9.81	3.46	3.15	80.05	5.97	0	100	100
% of owner type total	10.97	15.15	3.56	13.73	8.06	17.19	16.64	1.53	9.17	16.67
Transportation and public services										
% of industry sector total	64.2	21.11	28.01	5.08	3.66	73.78	4.13	0.03	100	100
% of owner type total	3.19	2.65	3.72	2.75	3.43	2.16	4.22	1.65	3.36	2.28

* Market capitalisation is in millions of US dollars; financial investors consist of both institutional investors and banks.
# The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

Table 18 Average shareholdings of domestic and foreign financial investors according to size ranges of Japanese listed companies (end-June 2002)

Size[*]	0-<5mln		5-<10		10-<25		25-<100		100-<250		250-<1,000		≧1,000		Total	
Shareholder	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.
Banks[#]																
mean	3.06	2.57	2.98	5.44	2.93	1.87	2.69	0.73	2.43	0.36	2.39	0.12	1.91	0.03	2.53	0.10
median	3.05	1.99	2.83	1.45	2.75	0.59	2.41	0.12	2.25	0.04	2.07	0.01	1.60	0.01	2.30	0.01
standard deviation	1.46	1.95	2.30	13.87	2.19	4.75	2.29	1.92	2.36	2.51	3.35	1.44	3.20	0.32	2.68	1.19
max	8.49	5.48	49.28	68.48	58.13	37.81	48.07	22.49	37.47	51.00	70.08	73.90	95.98	29.79	95.98	73.90
Insurance companies																
mean	2.77	2.37	3.08	0.77	2.77	0.84	2.79	0.60	2.56	0.15	1.95	0.06	1.20	0.02	2.25	0.07
median	2.30	2.59	2.45	0.18	2.42	0.30	2.37	0.12	2.16	0.04	1.71	0.01	0.01	0.01	2.00	0.01
standard deviation	1.72	0.95	2.16	1.04	1.72	1.18	1.84	1.41	2.01	0.45	2.25	0.29	1.84	0.08	2.05	0.37
max	9.90	3.02	10.00	2.50	10.01	5.00	14.15	9.88	11.07	5.47	33.40	7.89	10.02	3.71	33.40	9.88
Investment firms																
mean	2.17	1.42	3.38	0.93	2.26	0.75	0.93	0.60	0.46	0.36	0.25	0.18	0.12	0.07	0.46	0.17
median	1.47	0.82	2.01	0.39	0.87	0.20	0.18	0.18	0.07	0.08	0.05	0.03	0.03	0.01	0.05	0.02
standard deviation	2.10	1.93	6.04	1.26	3.75	1.89	2.08	2.25	1.86	1.11	0.76	0.69	0.64	0.37	1.67	0.86
max	11.74	10.24	49.54	6.96	23.59	27.39	26.92	86.01	37.98	42.05	9.39	30.03	13.74	29.82	49.54	86.01
Pension funds																
mean	3.29	0.00	3.68	3.51	3.81	2.99	3.13	1.59	2.22	3.97	0.61	1.03	0.16	0.00	1.85	1.92
median	3.00	0.00	3.00	3.51	3.13	2.99	2.59	1.47	1.91	1.34	0.09	1.03	0.03	0.00	1.16	1.25
standard deviation	1.96	0.00	2.47	0.00	2.74	2.42	2.24	0.83	1.94	4.85	1.15	0.00	0.43	0.00	2.34	2.51
max	9.60	0.00	13.45	3.51	23.02	4.70	20.64	2.69	10.17	9.57	8.19	1.03	3.52	0.00	23.02	9.57
Total																
mean	2.95	1.78	3.12	1.94	2.97	0.90	2.53	0.62	2.00	0.34	1.54	0.15	0.93	0.05	1.96	0.14
median	2.70	1.34	2.71	0.53	2.62	0.23	2.23	0.17	1.62	0.06	0.31	0.02	0.05	0.01	1.55	0.01
standard deviation	1.67	1.91	2.70	6.77	2.36	2.42	2.26	2.16	2.33	1.40	2.68	0.92	2.21	0.33	2.49	0.93
max	11.74	10.24	49.54	68.48	58.13	37.81	48.07	86.01	37.98	51.00	70.08	73.90	95.98	29.82	95.98	86.01

[*] Firm size is defined as market capitalisation and is in millions of US dollars; financial investors consist of both institutional investors and banks.
[#] The category “banks” includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors’ calculations.

Table 19 Average shareholdings of domestic and foreign financial investors by ownership range (end-June 2002)*

Shareholder	<1%		1%-<3%		3%-<5%		5%-<10%		10%-<20%		≧20%		Total	
	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.	Dom.	For.
Banks#														
freq. obs.	3,117	14,660	4,955	141	3,893	54	608	12	39	6	32	11	12,644	14,884
mean	0.24	0.03	2.03	1.88	4.07	4.08	5.96	5.52	13.07	11.73	37.39	36.76	2.53	0.1
median	0.04	0.01	2.04	1.84	4.04	4.08	5.34	5.32	12.24	11.88	32.8	29.79	2.3	0.01
standard deviation	0.32	0.08	0.55	0.55	0.65	0.62	1.28	0.84	2.38	1.44	17.24	19.37	2.68	1.19
Insurance companies														
freq. obs.	1,374	5,492	1,952	48	874	10	418	8	12	-	1	-	4,631	5,558
mean	0.19	0.03	2.02	1.79	3.76	3.46	6.6	7.28	10.49	-	33.4	-	2.25	0.07
median	0.02	0.01	2.03	1.76	3.62	3.38	6.11	6.92	10.03	-	33.4	-	2	0.01
standard deviation	0.3	0.08	0.54	0.61	0.56	0.48	1.43	2.07	1.19	-	-	-	2.05	0.37
Investment firms														
freq. obs.	4,919	33,063	350	957	90	245	62	66	28	9	4	7	5,453	34,347
mean	0.12	0.07	1.73	1.74	3.89	3.79	6.96	6.43	13.41	14.15	34.51	40.53	0.46	0.17
median	0.04	0.01	1.57	1.62	3.88	3.67	6.85	5.99	12.72	14.79	32.45	30.03	0.05	0.02
standard deviation	0.19	0.15	0.57	0.54	0.63	0.58	1.36	1.3	3.01	3.05	11.76	21.39	1.67	0.86
Pension funds														
freq. obs.	1,243	5	733	7	377	2	204	1	23	-	2	-	2,582	15
mean	0.13	0.15	2.01	1.47	3.84	4.1	6.71	9.57	12.19	-	21.83	-	1.85	1.92
median	0.04	0	1.99	1.28	3.77	4.1	6.57	9.57	11.94	-	21.83	-	1.16	1.25
standard deviation	0.21	0.33	0.56	0.59	0.59	0.84	1.38	-	1.57	-	1.69	-	2.34	2.51
Total														
freq. obs.	10,653	53,220	7,990	1,153	5234	311	1292	87	102	15	39	18	25,310	54,804
mean	0.17	0.06	2.01	1.75	4	3.83	6.33	6.42	12.66	13.18	36.19	38.22	1.96	0.14
median	0.04	0.01	2.01	1.65	3.94	3.74	5.85	5.88	11.94	12.53	32.63	29.92	1.55	0.01
standard deviation	0.26	0.13	0.55	0.55	0.65	0.59	1.4	1.42	2.47	2.75	16.31	19.64	2.49	0.93

* Financial investors consist of both institutional investors and banks.
# The category "banks" includes a small number of other financial institutions which are included by *Shareworld* in the group of banks.
Source: Authors' calculations.

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