



Waseda University  
Institute of Finance

*Working Paper Series*

WIF-05-006 : November 2005

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# **Behavioural biases of institutional investors under pressure from customers: Japan and Germany vs the US**

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# Behavioural biases of institutional investors under pressure from customers: Japan and Germany vs the US

WIF-05006, Institute of Finance, Waseda University, Japan, November 2005

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## **Abstract**

This research is a challenge for corporate governance studies by presenting a comparative analysis of the behaviour of institutional investors, based on a questionnaire survey of fund managers in different financial systems. We find some interesting facts from statistical tests and multivariate regressions on the survey data. First, both Japanese and German fund managers are more short-sighted, herd more and are more risk averse than US fund managers. Second, all these biases are most conspicuously observed in Japan. These facts are consistent with the idea that Japanese fund managers are very sensitive to pressure from customers in the enhanced competition. The biases are inconsistent with expected corporate governance activities of institutional investors. Third, based on the pooling data, experience in the business makes fund managers more confident as professionals. We should consider solutions to these behavioural problems such as incentives systems in fund management, education and training to enhance consciousness and information access of fund managers. In Germany, bank ownership of the large fund management companies and the underdevelopment of corporate pension funds undermine performance-based competition in the fund management industry. There are different issues to be tackled in the Japanese and the German corporate governance systems in transition.

**Key Words** Fund Management, Corporate Governance, Institutional Investors, Behavioural bias, Short-termism, Herding, Risk Averse Bias

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This study is supported by Waseda University Grant for 2004 Special Research Projects. We would like to thank the Daiwa Research Institute for its help to carry on the questionnaire survey. The first draft of this paper was presented at Corporate Finance and Governance: Europe and Japan Comparisons Joint Conference with CEPR and REITI September 13-14 2005, Tokyo. I am grateful for constructive comments from Dr. Vikas Mehrotra and other participants of the conference.

## 1 Introduction

Since the late 1990s, both Japanese and German financial systems have experienced a series of financial reforms towards more market-oriented systems away from conventional bank-based systems or relationship-oriented systems. In the process, institutional investors have been increasingly expected to play a key role in corporate governance in step with the retreat of banks as monitors of corporate customers.

Japanese and German corporate governance systems used to be categorized into insider-control systems and stakeholder-oriented systems, in contrast to the Anglo-Saxon model with outsider-control and shareholder-oriented systems. However, financial liberalization and globalization has loosened the Japanese and German traditional insider-control systems, shifting them towards more outsider control. . In addition, shareholders' activism by institutional investors has become increasingly common in developed countries. Moreover, this trend seems obvious in the countries which are confronted with rapid aging population, which would enhance demand for passive asset management of long-term funds.

Thus, even in bank-based financial systems such as Japan and Germany, increasing public concern with asset management has enhanced the demand for institutional investors to behave as agents and delegated shareholders for their customers. On the other hand, fund managers in Japan and Germany might be still less conscious and less skilled as agents or as delegated monitors than their US and UK counterparts, both of which have a longer history of capital markets. In relationship-oriented systems in less developed markets, fund management might be insufficiently mature and could be easily skewed or biased under pressure from customers or sponsors. On the other hand, corporate governance structures as well as financial systems might differ between countries due to differences in the institutional and legal framework. These different corporate governance structures could lead to a different behaviour of fund managers based on relationship with customers or sponsors.

This paper aims to investigate behavioural biases in fund management of Japanese and German institutional investors in comparison to the US and to consider the implications for the role of institutional investors in corporate governance. Then, we focus on the influence of pressure from customers on fund managers in a behavioural finance approach. The major contributions of this study are two-folds. Firstly, it sheds light on the relationship between fund management and corporate governance during the transition from relationship-oriented financial systems toward

more market-oriented systems. Secondly, it tests the hypotheses on behavioural biases using data from questionnaire surveys which were conducted in parallel in each of the three countries.

We found some interesting facts. First, both Japanese and German fund managers are more short-sighted, more herding and more risk averse than US fund managers. Second, these biases are most conspicuous in Japan. Third, according to the multivariate regressions by the pooling data, experience in the business makes fund managers more confident as professional. These facts are consistent with the idea that Japanese fund managers are very pressure-sensitive and reputation-sensitive for demands from customers. The circumstances surrounding German institutional investors are significantly different. The strong biases observed in Japan are inconsistent with the corporate governance activities of institutional investors as delegated shareholders. We discuss the factors behind the similarities and differences between Japan and Germany.

This study is organized into six sections. Section 2 reviews the new circumstances surrounding institutional investors and the fund management industry in Japan and Germany since the 1990s. In section 3 we develop hypotheses on the behavioural biases of fund managers under pressure from customers in terms of short-sightedness, herding, and risk aversion. Section 4 describes the data and examines the hypothesis on differences in behavioural biases from a comparative viewpoint using statistical tests and multivariable estimations. Section 5 discusses the findings and summarizes the implications for corporate governance.

## **2 Financial reform and institutional investors: background**

### **2.1 Institutionalization of corporate ownership**

The growth of the fund management industry is one of the most remarkable phenomenon common to the financial systems of developed countries since the late 1970s. Rapid information technology progress and the development of cross-border financial transactions caused changes in the risk and cost structures of investments. Allen and Santamero (1998) argue that the recent development of financial technology has considerably reduced trading costs, while it has increased participation costs significantly. As a consequence, ordinary individual investors can no longer carry out sophisticated financial transactions alone, but require the help of professionals or

institutional investors.<sup>1</sup> Moreover, ageing societies have brought about an increase in the demand for life time asset management.

Institutional investors are defined here as companies or institutions which supply fund management services in a broad sense, including investment funds, pension funds, insurance companies, investment advisory companies and so on but excluding financial intermediaries. In other words, institutional investors are defined as agents who work to achieve the investment targets of their customers using their professional skills and knowledge. In the new environments mentioned above, institutional investors could become major players in the markets as well as in the financial systems. These series of changes are accompanied by the institutionalization of corporate ownership. In this context, long-term institutional investors would be expected to behave as delegated shareholders on behalf of their customers to fulfill their fiduciary responsibility to increase the investment value of the assets they manage.

In Japan, the corporate ownership structure has changed significantly with the reduction of cross-shareholding. **(Table 1)** Relationship-based shareholdings by banks and business corporations have decreased from 46 % in 1990 to 29% in 2002, while non bank institutional investors have become major players which held 31% in 2002.

In Germany, however, the resolution of relationship-shareholdings is not so clear from the available data. The corporate ownership structure changed in the 1990s because of the privatization of public financial institutions and the entrance of foreign investors. However, domestic financial institutions held 28% and business corporations still held about one third of shares in 2002. We can observe emerging institutional investors starting to increase their shareholdings of insurance companies thanks to the lifting of the ban on asset allocation of insurance companies since 1986.

Thus, the institutionalization of corporate ownership is a phenomenon commonly observed in Japan and Germany since the beginning of the 1990s, but relationship-based shareholdings might remain more important in Germany.

## **2.2 The fund management industry in Japan**

The traditional Japanese financial system is very much similar to the German system in terms of bank domination, relatively immature capital markets, stakeholder-oriented corporate governance systems, generous defined benefit corporate pension schemes, which were complementary to each other and codetermined in the

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<sup>1</sup> Actually, participation costs (what are participation costs?) related to securities analysis and the financial services industry in GNP increased following the sharp decrease in broker commissions since the 1980s in both Japan and US. (Kitamura, Suto and Teranishi, 2004)

financial system. However, in Japan, the situation changed dramatically after the end of the bubble in 1989.

Since then, the Japanese economy experienced a prolonged hovering at low growth for over a decade. In 1996, the government broke away from a gradualism approach and directed the financial reform towards a US style market-based system, under the name of the “Japanese Financial Big Bang”. However, the pace and range of reform were still not satisfactory.

Investment trust funds in Japan have shrunk since the end of 1989 as they lost credibility after their rapid expansion strategies of churning and pumping during the bubble economy. Most investment trust companies were under the influence of related securities companies and sales-based portfolio management was dominant in the industry. In the early 2000s, investment funds were reformed several times, focusing on enhancing competition in the investment business by deregulating new entrance and improving disclosure of portfolio management in order to establish confidence in the industry. The investment fund business has become gradually more competitive by new comers through these reforms, but the pace of growth is still slow.<sup>2</sup>

Regarding pension funds, there was strict government regulation on asset allocation of pension funds for long time. The ban on assets allocation of corporate pension funds was partially lifted in 1996 and was abolished in 1998. The Pension fund trustee business was also opened to investment advisory companies. Instead, pension funds and their trustee bodies<sup>3</sup> were required to fulfill fiduciary responsibilities to improve investment performance. At the same time, in 2000, the disclosure of pension liabilities of corporations was launched as part of the accounting reform, aiming at increasing the transparency of corporate management. Consequently, corporate pension funds have been confronted with further demand from their sponsor companies to improve the pension budget.

Thus, fund managers of pension funds have been thrown in performance competition although they had only short history of asset management business

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<sup>2</sup> The membership of The Investment Trust Association Japan increased from 86 to 106 during the period between 2000 and 2005. The average share of investment trust funds in personal assets was 2.3% in December 2001 and 2.4% in September 2004. (*Flow of funds*, Bank of Japan) This figure is especially low compared to other developed countries. According to research by the Nomura Securities Institute, the share of investment trust funds or mutual funds in household assets at the end of 2003 was 21.7% in the US, 7.8% in the UK, 5.9% in Germany and only 2.7% in Japan.

<sup>3</sup> In the Japanese pension fund scheme, trust banks, life insurance companies and investment advisory companies can be qualified to become outside fund managers of pension funds.

actually. In the competition, they face greater pressure from customers to improve their performance in the short-term. They have to struggle to keep their customers in the increasingly competitive environment.

### **2.3 The fund management industry in Germany**

In Germany, investment trust funds grew swiftly in step with capital market reforms in the 1990s. The government tax-exemption policy for household asset formation since the 1970s supported the high growth after the reforms. The share of investment funds in household assets increased remarkably in the 1990s, but it does not necessarily mean that the fund management industry was competing against banking institutions. Investment companies are mostly held by banks, which serve as marketing channels for investment funds supplied by their related investment companies. This dual role of sponsoring banks gives them a great deal of influence on investment companies and may create a conflict of interests between the banks as shareholders in the investment companies and conflicts in the funds. (Schmidt and Tyrell, 2004)

The German pension system is composed of a large and generous statutory pension system and company pension schemes are still limited.<sup>4</sup> Therefore, German pension funds might not be motivated to behave as normal investors or shareholders, even if they function to smooth intertemporal risks as intermediaries in the long run. (Tyrell and Schmidt, 2001, p.16)

### **2.4 Institutional investors and corporate governance in Japan**

Many studies show that a bank-based corporate governance system named the “main bank system” functioned more or less in Japan during the high growth era, or at least during the 1960s, although some studies question the role of the “main bank” in monitoring corporate management as a lender-shareholder.<sup>5</sup> After the economic

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<sup>4</sup> In 1997, nearly 85% of the income of the average pensioner household was paid by the statutory pension system which is a pay-as-you-go system and only 5% came from company pension schemes, most of which are financed through pension reserves retained within companies. The remaining approximately 10% of income is accounted for by private life insurance policies. (Tyrell and Schmidt, 2001, p.10-11)

<sup>5</sup> Aoki and Patrick (1994) contains studies on the conventional view of the Japanese governance system based on monitoring by banks through their relationship with business companies. Hoshi, Kashap and Scharfstein (1990)(1991) show that banks play an active role in restructuring their corporate borrowers in distress. Hanazaki and Horiuchi (2000) question the conventional view and insists that competition in product markets contributed to discipline Japanese companies since the high economic growth era.



bubble burst in 1989, there might have been a vacuum of corporate governance mechanisms because banks were in distress and the securities market lost public confidence on price formation.

In this situation, the role of long-term institutional investors including pension funds and their trustee bodies have been spotlighted as delegated shareholders to monitor corporate management they invest in.<sup>6</sup> Since the beginning of the 2000s, institutional investors have gradually but steadily influenced Japanese corporate management towards enhanced transparency and accountability through disclosure and communication with shareholders.<sup>7</sup>

On the other hand, under these new circumstances, institutional investors have had to face myopic demands from customers to secure short-term gains. Under pressure, they were motivated to choose positive feedback-trading strategies. Iihara, Kato and Tokugawa (2001) examine whether Japanese institutional investors followed positive feedback trading strategies and herded during the period 1975-1996. Suto and Toshino (2005) are concerned with the influence of behavioural biases of Japanese fund managers on corporate governance and find they are so pressure-sensitive and reputation-sensitive that actual fund management could be contradictory to their activities as shareholders.<sup>8</sup>

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<sup>6</sup> This new development of Japanese corporate governance was supported by the government, which intended to introduce a new pension fund scheme with defined contribution plans in 2001. In 1997, The Ministry of Welfare published guidelines for exercising voting rights so as to encourage pension funds to act as shareholders.

<sup>7</sup> According to a survey research, these institutional investors actually changed their attitude from “silent partners” of corporations to a more active role in corporate governance on behalf of their customers. (Omura, Suto and Masuko, 2001) In 1998, for the first time, a trust bank voted against the management of some of the companies they had invested in as competition increased among pension trustee bodies which are outside fund managers (Suto, 2002, p.226) Among Japanese institutional investors, the Pension Fund Association (PFA) has been the most active investor. In 2000, the PFA requested its trustees to exercise voting rights on its behalf and in 2003 the PFA started to exercise its voting rights directly in companies included in its in-house-portfolio

<sup>8</sup> A number of recent studies examine the relationship between sensitiveness to reputation and the herding behaviour of agents (Bikhchandani and Sharma, 2001). Scharfsten and Stein (1990) imply that institutional investors will herd to avoid reputation risk in competition. Chevalier and Ellison (1999) examine the relationship between career concern and herding of mutual fund managers. Finally, Hong et.al (2000) examines the relation between security analysts’ reputational career concerns and herding in the labour market.

Japanese corporate governance seems to have gradually developed towards a more shareholders-oriented system and market-oriented system. The internal governance system with committees controlled by outside directors, based on the US model, was introduced in 2002 and it has led to a trend away from the conventional insider-system. However, it is questionable whether the new internal governance system actually functions properly or satisfactorily.

## **2.5 Institutional investors in corporate governance in Germany**

The traditional German corporate governance system relied to a large extent on compatible mutual expectation, on long-term cooperation and on implicit deals with give and take between parties that know each other and to certain extent trust each other. (Schmidt, 2004, p.419) In the 1990s, major German banks withdrew from the traditional universal banking business based on relationship, to expand their investment banking business in capital markets. This new business development motivated banks to reduce their active involvement in corporate governance. (Hackethal, Schmidt and Tyrell, 2005, pp.11-12)

However, German banks and insurance companies still hold large shares of corporate ownership and maintained business relationships with their corporate customers even after the 1990s as shown in Table 1. Additionally, most individual investors buy shares at the counter of banks and deposit them in the banks, a specificity of the German banking business. In this deposit system, banks are delegated shareholders to exercise voting rights and large banks actually vote at the general meetings of the companies. But it does not necessarily mean that they monitor the companies for the sake of individuals, especially when they have a close relationship with the companies.

On the other hand, as mentioned above, pension funds and investment trust funds are probably not motivated to appear as new players in corporate governance in Germany. Life insurance companies are not active shareholders in general because they have business relationship with the companies in which they invested. The capital market development policy changed the conventional role of banks based on relationship with their corporate customers and made the banks enter investment banking. As a result, the financial system has lost its former consistency, but it didn't shift towards the Anglo-Saxon system swiftly in the early 2000s. (Lane, 2003)

### **3 Hypotheses development and questionnaire surveys**

#### **3.1 Behavioral biases in fund managers.**

In both Japan and Germany, the conventional types of bank-based financial systems were transformed, but the capital markets still do not function appropriately or satisfactorily. However, there could be significant differences between Japan and Germany as to the tension between institutional investors and their customers. The pressure from customers could influence the investment behaviour of fund managers especially in relationship-based systems in transition.

Next, we would like to examine differences in the behaviour of fund managers between Japan and Germany, focusing on the effect of pressure from customers. Examining the behavioural biases in fund management from a comparative viewpoint, we use a two-step approach. Firstly, we compare the fund managers' behaviour of the two countries with that of the US in order to detect the differences caused by the different types of financial systems. Secondly, we highlight the differences between Japanese and German fund management. In each step, we will test the following three hypotheses on behavioural biases of professional fund managers.

#### **3.2 Hypotheses to examine**

##### **(1)Short-termism**

H1: Fund managers are more short-sighted under stronger pressures from their customers concerned with short-term performance.

##### **(2)Herding**

H2: Fund managers are more motivated to behave homogeneously or to herd under stronger pressure from their customers in order to avoid reputation risk of their management.

##### **(3)Risk aversion**

H3: Fund managers are more risk-averse under stronger pressure from their customers in order to moderate negative assessments of their ability in loss at least.

#### **3.3 Questionnaire surveys: data and samples:**

To examine the hypotheses, we use data from questionnaire surveys of fund managers working for institutional investors. The surveys were conducted between April 2003 and February 2004 in Japan, Germany and the US in parallel, using an

identical format.<sup>9</sup>

In Japan, we contacted 78 fund management companies, including trust banks, life insurance companies, investment advisory companies and investment trust companies, during the period between October and December 2003. The questionnaires were returned by 48 companies, which represents a response rate of 61.5%. The total number of valid responses was 488.<sup>10</sup> The German data was collected in April and June 2003, and all German investment trust fund companies and pension fund management companies that manage securities portfolios were contacted. 51 out of 66 contacted investment companies responded, yielding a rate of 77.3%, which represents the views of 263 professional fund managers.<sup>11</sup> We collected 148 responses from fund managers in the United States between September 2003 and February 2004. We sent our questionnaire to the top 250 US firms ranked by worldwide assets under management and we received responses from fund managers of 74 different firms (participation rate of US firms: 29.6%)<sup>12</sup>

The questions in the survey were classified into four parts: personal profile of fund managers; performance incentives; their opinions on behaviour in asset managers in general; and their personal investment behaviours and information processing. The fund managers were requested to answer the questions by choosing a ranking between 1 and 6 or writing the figures requested. In this study, we are concerned with the responses related to personal decision-making.

The fund managers' profiles are summarized in **Table 2** and **Table 3**. **Table 2** compares the types of funds they manage. There is a high similarity in the structure among the three countries. 40-50% of respondents are engaged in pension fund management and 20-30% of them are in investment fund management. Concerning the major investment segment, equities is the largest in Germany and the smallest in

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<sup>9</sup> We considered carrying out the survey in the United Kingdom which has a market-oriented system, however we could not find satisfactory survey data.

<sup>10</sup> We were able to successfully conduct the survey in Japan thanks to the kind assistance of Daiwa Institute of Securities Research Institute.

<sup>11</sup> We received a supporting letter from the German investment association "BVI", which encouraged member companies to participate.

<sup>12</sup> The cover rate of the US is less than Japan and Germany but the representativeness of the collected data sample in the US is confirmed by the fact that the null hypothesis of no difference between the structure of the data set and that of the national asset management industry cannot be rejected.

Japan.

**Table 3** shows the personal profiles of respondents. Some interesting features of professional fund managers are found for each country. Concerning gender, the fund management industry is a male-dominated society in general and this feature is the most conspicuous in Japan. The age structure of the US fund managers is well-balanced but those of Japan and Germany are more concentrated in the younger generations. Professional careers in fund management in the US are the longest. Among the US respondents, about 50% have more than 15 years experience in the fund management business, compared to 16.7% in Japan and 9.4% in Germany. Further, their current position in the company is relatively higher in the US. 17.9% of the US respondents are CIO/CEO but it is only 2.2 % in Japan and 5.5% in Germany.

These differences in profiles suggest the Japanese and German fund managers are less mature or less experienced than those in the US.

## **4 Methodology and results**

### **4.1 Statistical tests on differences: T test and non-parametric test**

In this study, we focus on questions related to the investment time horizon, demands from customers, information sources and information processing for decision-making in order to examine three behavioural biases. We use statistical tests on the differences between each set of two countries by T test and a non-parametric test (Mann-Whitney-U test).

#### **(1) Short-termism**

In the questionnaire, we asked about the respondent's personal forecasting time horizon when making an investment decision. **Table 4** summarizes the responses by country. Regarding Japan and Germany, more than 70% of respondents have investment time horizons of less than six months, on the other hand, more than 75% of respondents in the US choose longer than six months. This difference in the investment time horizon could be contradictory to the fact that the share of pension fund managers in the US respondents is lower than in Japan or Germany, because pension funds should have intrinsically long-sightedness. It is also contrary to the conventional view that the investment time horizon in market-based systems is shorter than in relationship-based systems.

Are institutional investors really inclined to have a myopic bias under pressure from their customers who demand short-term performance? The respondents are requested to describe their personal responses to the statement "I often trade too much,

as my clients demand short-term performance” by choosing a rating between 1 (complete approval) and 6 (complete contradiction). In **Table 4**, the answers concentrate on 4 - 6 in all three countries. That means they deny sensibility for pressures from customers in general. However, it is interesting that 31.9 % of Japanese fund managers approve (1 to 3), twice as high than in the US (14.3%) or in Germany (17.2%).

To confirm the observed facts, we conduct statistical tests on the two questions. **Table 5** summarizes the results of difference tests. It is statistically significant that both Japanese and German fund managers are more myopic than those of the US. Concerning the forecasting time horizon, there is no difference between Japan and Germany. As for “trading for client’s demand” is concerned, responses differ significantly between Japan and Germany, while there is no significant difference between German and the US. The result suggests that Japanese fund managers are conspicuously pressure-sensitive.

Thus, Japan and German fund managers have shorter investment time horizons than US fund managers. It might be partly because of their limited knowledge and lower skill level and partly because of unsatisfactory levels of consciousness and self-confidence as professionals in the transitional financial systems. Japanese fund managers are particularly sensitive to customers’ demands of short-term performance. This suggests that they want to avoid reputation risk in competition caused by the pension fund reforms and investment trust reforms.

## **(2) Herding**

Next, we examine the herding hypothesis. Fund managers were asked about their personal attitude relative to the market. The first statement was (1) I generally follow the trend. The distribution of the answers is in **Table 6**. Japanese fund managers tend to agree with the statement and US fund managers tend to disagree, Germany is in-between. According to the results of the statistical tests in **Table 7**, there are significant differences not only between the US and its counterparts but also between Japan and Germany. Both Japanese and German fund managers are inclined to follow the trend, but Japanese fund managers even more so.<sup>13</sup>

We asked three other questions related to herding: (2) most of public news does not surprise me (self-confidence); (3)-(4) major sources of information in decision making of investment; statement of economic opinion leaders; investment decisions of other market participants. In **Table 7**, Japanese fund managers are most easily influenced by

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<sup>13</sup> Lutje(2004) focuses on herding of the German fund managers and finds herding is triggered by asset managers’ reputational and career concerns in Germany based on the same questionnaire survey data.

public news and most easily moved by statements by opinion leaders and decisions of other market participants. Indeed, they are inclined to herd.

When comparing the US and Germany, the results are more complicated. Concerning response to public news and statements of opinion leaders, the US respondents are less moved. It could be due to their ability or skill to analyze information. But concerning decisions of other market participants, German fund managers are less influenced than their US counterparts. It could be due to differences in resiliency of the markets but this is a puzzle to be solved.

Thus, the statistical analyses suggest that both Japan and German fund managers are less confident and more likely to behave homogeneously or to herd than US fund managers. Especially, Japanese fund managers are inclined to behave homogeneously. It might be explained by differences in professional experiences or the information ability of fund managers. We refer to this point in section 4.2.

### **(3) Risk aversion**

Lastly, we examine the risk-aversion bias in fund management. **Table 8** and **Table 9** summarize the dispersions of responses and the results of the statistical tests. Concerning self-assessment of personal risk aversion in question (1), there is no significant difference among the three countries. However, the picture is different when we ask the next two questions: (2) how actively can you manage your portfolio? (possible risk-taking); (3) how actively do you manage your portfolio? (actual risk-taking).

According to the distribution of responses in **Table 8**, there is a slight tendency towards risk aversion in fund management in general because the mean of possible risk-taking is larger than that of actual risk-taking in each country. The gap is the largest in Japan and the smallest in the US. German is in between, although the fund managers prefer indexing most in both possibility and actual. Japanese fund managers choose active investment in the case of possible risk-taking but it is greatly reduced in actual portfolio management. We can say that Japanese fund managers are most risk averse or conservative in actual portfolio management than their US or German counterparts.

## **4.2 Multivariate regressions: types of funds and personal features**

Differences in fund management could depend on the purpose of portfolio management and the personal profile of fund managers. By purpose of portfolio management, pension funds are categorized as long-term investors, while investment funds are categorized as relatively short-term investors. Suto and Toshino (2005) find

that fund managers of pension funds are more sensitive to clients' demands than investment trust fund managers in Japan. They conclude that this is because pension fund managers have to face their customers directly, whereas investment fund managers do not. In other words, the distance between fund managers and their customers are wider for investment trust funds than for pension funds.

In addition, as referred to in Section 2, the profiles of respondents are different in terms of age, career, gender and hierarchical position. Therefore, we should control for the personal profiles of the respondents as well as types of funds they manage. So, we estimate the following Ordered Probit regression models, aiming to identify the effects of these variables based on pooling the data of the three countries.

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_kX_k + e$$

Dependent variable Y:

Responses to questions on short-termism, herding and risk aversion

Independent variable  $X_i$  ( $i=1\dots k$ )

Personal profile: age, career, position, gender

Fund type dummies: investment funds (1, 0), pension funds (1,0)

Country dummies: Japan (1, 0), Germany (1, 0)

Controlling for both fund types and the personal profile of fund managers, we confirm the results of the statistical tests in Section 4.1: The Japanese respondents are most biased in actual fund management in terms of short-termism, herding and risk aversion. The estimation results of the Ordered Probit regressions are summarized in Table 10-12.<sup>14</sup>

With regard to the influence of the type of fund, it is interesting that pension fund managers have shorter investment time horizons than investment trust fund managers (Table 10), although the former prefer more indexing in both possible and actual fund management as expected. It might be suggested that pension fund managers face more frequent investment performance checks by customers or have a shorter distance to the customer than other fund managers.

Influences of personal profile of fund managers on their behaviour are complicated. The more experienced fund management fund manager is less moved by myopic

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<sup>14</sup> We also estimated Ordered Logit regressions but we exclude the results for they are similar to those of the Probit regressions.



demand from customers and less follow trend.(Table 10, Table 11) Thus, experience in the business makes fund managers more confident as professional. However, the older the fund manager, the more he inclined to follow trend, in other words, more conservative. Concerning gender, female less follow trend but seem less self-confident on decision-making. Personal risk aversion in general is likely to link with age and position in the company. The older and the lower position in the company, the more indexing they are. While there are no significant influences of fund managers' profile on the actual risk taking.

## **5 Behavioural biases and corporate governance: conclusions and implications**

According to the statistical tests, Japanese and German fund managers have more biases than US fund managers in terms of short-sightedness, herding and risk-aversion. Biases in Japanese fund management are most conspicuous, and those in the US fund management are least.. Concerning the short-sightedness of investment decisions, our finding that fund managers in the relationship-oriented financial systems are more myopic than in the market-oriented system was very much unexpected.

The empirical results suggest that Japanese fund managers are especially pressure-sensitive and reputation-sensitive. They might not take efficient fund management decisions in order to mitigate pressure from their customers or to avoid reputation risk as competition increases. Consequently, these biases strengthen the agency problems between fund managers and their customers. As for the Japanese corporate governance structure, we should be more concerned with behavioural aspects of fund management of institutional investors, including incentives compensation, education and training to enhance the consciousness and skills of professionals, and institutional devices to extend the access to information.

In Germany, in general, institutional investors still do not act as active shareholders, although capital market reform has been implemented and banks shrunk their role as corporate monitors. Bank ownership of large fund management companies and the underdevelopment of corporate pension funds undermine performance-based competition. Thus, different issues still remain to be tackled in Germany in terms of pension fund management schemes and business relationship between investment fund companies and their mother banks.

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Table 1 Corporate Ownership Structure

	(%)						
Japan	Financial Sector	(Banks)	(Non banks)	Business Corporations	Individuals Sector	Foreigners	Others
1970	31.6	15.8	15.8	23.9	37.7	4.9	1.9
1980	38.2	19.9	18.3	26.2	27.9	5.8	1.9
1990	43.0	15.7	27.3	30.1	20.4	4.7	1.8
2000	39.1	10.1	29.0	21.8	19.4	18.8	0.9
2002	39.1	7.7	31.4	21.5	20.6	17.7	1.1

  

Germany	Financial Sector	(Financial Institutions)	(Insurance companies)	Business Corporations	Individuals Sector	Foreigners	Public Institutions
1970	11.5	7.3	4.2	41.8	27.4	7.9	11.5
1980	15.6	9.7	5.9	45.0	19.0	10.5	10.0
1990	21.5	10.3	11.2	41.6	16.9	16.4	3.6
2000	42.9	27.2	15.7	31.8	13.8	14.5	1.1
2002	44.1	27.9	16.2	33.7	8.6	18.1	1.0

Sources: DBB, Tokyo Stock Exchange Factbook 2005

Table 2 Types of Funds

	Japan N=488 03/10-03/11	Germany N=263 03/4-03/6	USA N=148 03/9-04/2
Type of managed funds (%)			
Mutual funds	19.1	32.5	30.9
Pension funds	49.2	50.6	42.6
Both	22.5	16.9	26.5
Others	0.8	0.0	0.0
	100.0	100.0	100.0
Major investment segments (%)			
Equities	58.1	71.7	62.7
Bonds	35.9	26.7	33.2
Money market	2.4	1.6	4.1
	100.0	100.0	100.0

Table 3 Personal Profile of Respondents

	Japan N=488 03/10-03/12	Germany N=263 03/4-03/6	USA N=148 03/9-04/2
<b>Age (%)</b>			
<31	7.2	21.0	9.4
31-35	24.0	35.5	15.4
36-40	44.1	22.9	19.5
41-45	18.2	14.9	19.5
46-50	3.9	3.8	13.4
	100.0	100.0	100.0
<b>Gender (%)</b>			
Male	96.7	88.6	90.0
Female	3.3	11.4	10.0
	100.0	100.0	100.0
<b>Professional experience in asset management (years)</b>			
<4 years	4.8	32.0	10.9
7-9	19.0	19.1	9.5
13-15	24.0	7.8	10.9
>15	16.7	9.4	49.7
	100.0	100.0	100.0
<b>Current position within your company (%)</b>			
Junior AM	59.5	32.0	15.2
Senior AM	17.9	46.1	46.9
Head of AM	17.5	16.4	20.0
CIO/CEO	2.3	5.5	17.9
	100.0	100.0	100.0

Table 4 Distribution of Responses: Short-termism

		Japan	Germany	USA
<b>(1) Forecasting Time Horizon</b>				
		%	%	%
Days		6.7	0.8	2.0
Weeks		16.8	13.2	0.7
2-6 months		49.2	59.3	20.8
6-12 months		19.1	21.3	38.9
Years		8.2	5.4	37.6
Total		100.0	100.0	100.0
mean				
<b>(2) Trading too much for client's demand</b>				
complete approval	1	%	%	%
	2	2.3	0.4	0.0
	3	11.6	4.2	6.1
	4	18.0	12.6	8.2
	5	13.6	18.0	15.0
	6	25.8	31.8	29.9
complete contradiction	6	28.7	33.0	40.8
Total		100.0	100.0	100.0
mean		4.350	4.755	4.912

Table 5 Test of Mean Differences : Short-termism

	Mean Differences	T Test T	Significance P		U Test Z	Significance P	
(1)Forecasting time horizon							
Japan-US	-1.034	-11.561	0.000 ***		-11.041	0.000 ***	
Germany-US	-0.920	-11.115	0.000 ***		-10.162	0.000 ***	
Japan-Germany	-0.114	-1.608	0.108		-2.035	0.042 **	
(2)Trading too much for client's demand							
Japan-US	-0.562	-4.247	0.000 ***		-4.026	0.000 ***	
Germany-US	-0.157	-1.278	0.202		-1.532	0.126	
Japan-Germany	-0.405	-3.848	0.000 ***		-3.260	0.001 ***	

Notes: \*\* 5% of significance. \*\*\*1% significance.

Table 6 Distribution of Responses: Herding

		Japan	Germany	USA
(1) I generally follow the trend		%	%	%
complete approval	1	2.3	2.3	1.4
	2	27.2	13.5	4.1
	3	32.8	34.4	15.5
	4	17.3	24.3	27.0
	5	15.3	17.0	35.1
complete contradiction	6	5.2	8.5	16.9
Total		100.0	100.0	100.0
mean		3.320	3.656	4.412
(2) Public news does not surprise me		%	%	%
complete approval	1	4.9	1.9	8.1
	2	10.1	21.0	23.0
	3	21.9	39.9	31.8
	4	22.5	28.2	24.3
	5	23.5	8.0	10.8
complete contradiction	6	17.1	1.5	2.0
Total		100.0	100.0	100.0
mean		4.010	3.240	3.128
(3) Statement of economic opinion leader		%	%	%
complete approval	1	9.7	2.3	4.1
	2	22.7	14.8	12.2
	3	28.9	26.2	16.9
	4	16.7	20.5	19.6
	5	11.6	25.1	27.0
complete contradiction	6	10.3	11.0	20.3
Total		100.0	100.0	100.0
mean		3.290	3.844	4.142
(4) Decisions of other market participants		%	%	%
complete approval	1	4.1	1.1	0.0
	2	19.3	7.6	11.5
	3	37.3	22.4	29.7
	4	19.9	25.1	27.7
	5	12.8	29.3	23.0
complete contradiction	6	6.6	14.4	8.1
Total		100.0	100.0	100.0
mean		3.380	4.171	3.865

Table 7 Test of Mean Differences : Herding

	Mean Differences	T Test T	Significance P	U Test Z	Significance P
(1) I generally follow the trend					
Japan-US	-1.092	-9.648	0.000 ***	-9.098	0.000 ***
Germany-US	-0.756	-6.149	0.000 ***	-6.109	0.000 ***
Japan-Germany	-0.336	-3.619	0.000 ***	-3.843	0.000 ***
(2)Public news does not surprise me					
Japan-US	0.882	6.879	0.000 ***	-6.697	0.000 ***
Germany-US	0.112	1.026	0.305	-0.970	0.332
Japan-Germany	0.770	7.832	0.000 ***	-7.737	0.000 ***
(3)Statement of economic opinion leader					
Japan-US	-0.852	-6.278	0.000 ***	-6.112	0.000 ***
Germany-US	-0.298	-2.122	0.034 **	-2.287	0.022 **
Japan-Germany	-0.554	-5.170	0.000 ***	-5.255	0.000 ***
(4)Decisions of other market participants					
Japan-US	-0.485	-4.561	0.000 ***	-4.360	0.000 ***
Germany-US	0.618	2.506	0.013 **	-2.623	0.009 ***
Japan-Germany	-0.791	-8.415	0.000 ***	-8.203	0.000 ***

Notes: \*\* 5% of significance. \*\*\*1% significance.



Table 8 Distribution of Responses: Risk Aversion

		Japan	Germany	USA
(1) Personal risk averse as a professional		%	%	%
very averse	1	2.3	1.5	2.0
	2	13.2	9.2	17.7
	3	36.3	36.9	24.5
	4	28.2	42.7	36.7
	5	16.2	8.5	17.0
little averse	6	3.2	1.2	2.0
Total		100.0	100.0	100.0
mean		3.530	3.508	3.551
(2) How actively can you manage your portfolio		%	%	%
High tracking error	1	24.6	11.7	12.9
	2	39.1	35.5	38.8
	3	23.1	31.5	23.8
	4	7.8	13.3	15.6
	5	2.7	6.5	7.5
Indexing	6	2.7	1.6	1.4
Total		100.0	100.0	100.0
mean		2.330	2.722	2.701
(3) How actively do you manage your portfolio		%	%	%
High tracking error	1	6.3	2.4	11.6
	2	23.0	19.4	33.3
	3	43.9	45.2	31.3
	4	17.7	23.8	14.3
	5	6.3	7.7	8.2
Indexing	6	2.7	1.6	1.4
Total		100.0	100.0	100.0
mean		3.030	3.192	2.782

Table 9 Test of Mean Differences : Risk aversion

	Mean Differences	T Test T	Significance P	U Test Z	Significance P
(1) Personal risk averse as a professional					
Japan-US	-0.043	-0.437	0.662	-0.618	0.537
Germany-US	-0.021	-0.221	0.825	-0.465	0.642
Japan-Germany	0.022	0.265	0.791	-0.052	0.958
(2) How actively can you manage your portfolio?					
Japan-US	-0.371	-3.336	0.001 ***	-3.539	0.000 ***
Germany-US	0.021	0.176	0.861	-0.360	0.719
Japan-Germany	-0.392	-4.305	0.000 ***	-4.850	0.000 ***
(3) How actively do you manage your portfolio?					
Japan-US	0.248	2.384	0.017 **	-2.653	0.008 ***
Germany-US	0.410	3.812	0.000 ***	-4.043	0.000 ***
Japan-Germany	-0.162	-2.056	0.040 **	-2.337	0.019 **

Notes: \*\* 5% of significance. \*\*\*1% significance.

Table 10 Ordered Probit Regressions: Short-termism

Dependent Variables	(1) Forecasting Time Horizon		(2) Trading too much for demand			
	1=days, 2=weeks, 3=2-6months 4=6-12months, 4=years		1=complete agree 6=complete disagree			
	Coefficient	Prob.	Coefficient	Prob.		
AGE	0.021262	0.6470	-0.072386	0.1134		
EXPERIENCE	0.050403	0.1520	0.064379	0.0629	**	
POSITION	-0.044411	0.3929	0.065842	0.2004		
GENDER	-0.083844	0.2749	0.028387	0.7141		
DUMMY_FTYPE_IF	0.198143	0.0576	**	0.177235	0.0886	
DUMMY_FTYPE_PF	-0.060943	0.4886		-0.154911	0.0750	
DUMMY_JP	-1,198,863	0.0000	***	-0.377939	0.0008	***
DUMMY_GER	-1,043,985	0.0000	***	-0.081337	0.5076	
Log likelihood	-1,059,180			-1,309,202		
Restr. log likelihood	-1,132,599			-1,330,114		
LR statistic (8 df)	1,468,372			4,182,376		
Probability(LR stat)	0.000000			1.46E-06		
(Pseudo-R <sup>2</sup> )	0.064823			0.015722		
Included observations	845		851			

Age 1=young, 6=old : Experience 1=inexperience, 6=experience: Position 1=junior, 4=CEO/CIO  
Gender 1=male, 3=female: Fund type investment fund=1,0= other or any combination  
Fund type 1=pension fund, =other or any combination: Japan =1, o= other, Germany =1, 0= other  
\*\* 5% level of significance, \*\*\* 1% level of significance.

Table 11 Ordered Probit Regressions: Herding

Dependent Variable	(1) Follow Trend			(2) Not Surprised by Public News		
	1=complete agree 6=complete disagree			1=complete agree 6=complete disagree		
	Coefficient	Prob.		Coefficient	Prob.	
AGE	-0.131542	0.0032	**	-0.086375	0.0513	**
EXPERIENCE	0.115738	0.0007	***	-0.041838	0.2162	
POSITION	0.038693	0.4394		0.006603	0.8941	
GENDER	0.153493	0.0408	**	0.025093	0.7343	
DUMMY_FTYPE_IF	0.039000	0.6986		0.056382	0.5724	
DUMMY_FTYPE_PF	0.071118	0.4034		0.120777	0.1529	
DUMMY_JP	-0.911115	0.0000	***	0.600388	0.0000	***
DUMMY_GER	-0.537658	0.0000	***	-0.115536	0.3257	
Log likelihood	-1,321,237			-1,376,025		
Restr. log likelihood	-1,371,026			-1,425,251		
LR statistic (8 df)	9,957,685			9,845,172		
Probability(LR stat)	0.000000			0.000000		
(Pseudo-R2)	0.036315			0.034538		
Included observations	852			855		
Dependent Variables	(3) Statement of Opion Leaders			(4) Decision of Other Market		
	1=highest relevant 6=lowest relevant			1=highest relevant 6=lowest relevant		
	Coefficient	Prob.		Coefficient	Prob.	
AGE	0.055292	0.2108		0.042660	0.3361	
EXPERIENCE	-0.046350	0.1699		0.027461	0.4185	
POSITION	0.043664	0.3789		-0.007708	0.8771	
GENDER	-0.177501	0.0154	**	-0.167253	0.0231	**
DUMMY_FTYPE_IF	-0.035642	0.7200		0.029534	0.7680	
DUMMY_FTYPE_PF	-0.107568	0.2032		-0.140421	0.0984	
DUMMY_JP	-0.601383	0.0000	***	-0.410983	0.0001	***
DUMMY_GER	-0.213662	0.0705		0.346748	0.0034	***
Log likelihood	-1,443,324			-1,335,829		
Restr. log likelihood	-1,473,515			-1,378,500		
LR statistic (8 df)	6,038,254			8,534,136		
Probability(LR stat)	3.92E-10			4.11E-15		
(Pseudo-R2)	0.020489			0.030954		
Included observations	855			853		

Age 1=young, 6=old : Experience 1=inexperience, 6=experience: Position 1=junior, 4=CEO/CIO  
Gender 1=male, 3=female: Fund type investment fund=1,0= other or any combination  
Fund type 1=pension fund, =other or any combination: Japan =1, o= other, Germany =1, 0= other  
\*\* 5% level of significance, \*\*\* 1% level of significance.

Table 12 Ordered Probit Regressions: Risk aversion

Dependent Variable	(1) Personal Risk Aversion		(2) Possible Risk-taking		(3) Actual Risk Taking	
	1=Very risk averse 6=little risk averse		1=high tracking 6=indexing		1=high tracking 6=indexing	
	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
AGE	-0.100754	0.0251 **	0.102328	0.0239 **	0.050510	0.2646
EXPERIENCE	0.060697	0.0764	-0.075081	0.0304 **	-0.014761	0.6681
POSITION	0.117332	0.0202 **	-0.064058	0.2132	-0.067009	0.1902
GENDER	-0.043145	0.5637	-0.045885	0.5515	-0.086858	0.2634
DUMMY_FTYPE_IF	0.090644	0.3695	0.182044	0.0804	0.200990	0.0517 **
DUMMY_FTYPE_PF	-0.021642	0.8013	0.284088	0.0013 ***	0.294573	0.0008 ***
DUMMY_JP	0.011568	0.9153	-0.354175	0.0012 ***	0.262688	0.0166 **
DUMMY_GER	-0.022809	0.8488	0.017217	0.8866	0.471689	0.0001 ***
Log likelihood	-1,204,087		-1,219,289		-1,195,854	
Restr. log likelihood	-1,210,610		-1,242,570		-1,213,844	
LR statistic (8 df)	1,304,605		4,656,170		3,598,124	
Probability(LR stat)	0.110275		1.86E-07		1.77E-05	
(Pseudo-R2)	0.005388		0.018736		0.014821	
Included observations	842		834		832	

Age 1=young, 6=old : Experience 1=inexperience, 6=experience: Position 1=junior, 4=CEO/CIO  
 Gender 1=male, 3=female: Fund type investment fund=1,0= other or any combination  
 Fund type 1=pension fund, =other or any combination: Japan =1, o= other, Germany =1, 0= other  
 \*\* 5% level of significance, \*\*\* 1% level of significance.