

**Fund Governance and Collusion with Controlling Shareholders:  
Evidence from Reform of Nontradable Shares in China**

Jin, Q., Yu, V.<sup>1</sup>

Assistant Professors, School of Accounting, Shanghai Univ. of Finance and Economics

---

<sup>1</sup> Correspondence author, e-mail: [yuwzh@sem.tsinghua.edu.cn](mailto:yuwzh@sem.tsinghua.edu.cn)

## Fund Governance and Collusion with Controlling Shareholders: Evidence from Reform of Nontradable Shares in China

### **Abstract**

In the reform of nontradable shares, institutional investors may have an incentive to collude with nontradable shareholders (controlling shareholders) to help them settle a lower compensation offered to tradable shareholders (minority shareholders). Focusing on mutual funds, we are interested in whether fund governance helps mitigate such collusion.

Due to rigorous entry qualifications, and worldwide reputation as hostage, a foreign background fund is expected to have better governance quality than a domestic fund. Our empirical evidence shows that, relative to domestic funds, foreign background funds are less inclined to collude with nontradable shareholders. Introducing foreign institutional investors into domestic markets is Chinese government's consistent policy. Our evidence indicates that this policy may be beneficial to the sound development of Chinese stock markets.

It is also found that mutual funds with a lower institutional ownership are less inclined to collude with nontradable shareholders. Fund governance seems to deteriorate as institutional ownership increases. Providing an implication for policy making, our evidence suggests that restricting the proportion of fund shares held by institutions may help improve fund governance.

Meanwhile, we find no sufficient evidence that an open-end fund is less inclined to collude with nontradable shareholders, although an open-end fund is expected to have better governance quality than a closed-end fund due to the redemption mechanism.

### *Keywords:*

Institutional Investor, Fund Governance, Compensation Ratio, Nontradable Shares Reform

JEL classification codes: G23, G34

---

### **1. Introduction**

The existence of nontradable shares is a distinct phenomenon of Chinese capital markets. Although there are restricted shares in other countries<sup>2</sup>, their dates to become tradable in open markets are well known in advance. Meanwhile, the timetable for nontradable shares in China to become liquid was not specified until the Nontradable Shares Reform began. The existence of nontradable shares is detrimental to the development of Chinese stock markets. It not only weakens the price discovery function, but also causes the interests of nontradable shareholders to deviate from those of tradable shareholders. Attempts have been made to solve this historical problem. For instance, to raise funds for the state pension system, China's State

---

<sup>2</sup> According to the Rule 144 of SEC, certain stocks are restricted for sale in the post-IPO period.

Council<sup>3</sup> announced on June 13, 2001 a plan to sell state shares in the open market. According to the plan, whenever a firm issues new shares to the market, her holders of state shares can at the same time sell their shares up to 10% value of the proceeds raised. The selling price of state shares is the same as that of the tradable shares issued, and the state shares sold become tradable thereafter. Although this amounts to only a gradual release of state shares to the market, it triggers investors' fear of value dilution. In one year following this government announcement, the stock market value fell by almost 30%. In June 2002, the government was forced to call off this plan, and pledged not to issue any alternative plans.

The failure to sell down state shares turned the government's attention to the solution of the segregation of tradable and nontradable shares. Three years later, CSRC<sup>4</sup> promulgated the Notice on Pilot Project of Nontradable Shares Reform on April 30, 2005. This guideline provides a mechanism for a firm's nontradable and tradable shareholders to negotiate with each other to settle the acceptable compensation which the former has to pay to the latter before nontradable shares can become tradable. According to the rules<sup>5</sup>, a firm's preliminary project is first proposed by the nontradable shareholders. The blockholders of tradable shares are then consulted for whether this draft needs amended. After being preliminarily settled, the project is submitted to the shareholders meeting. The project will not become final, unless approved by at least two-thirds of all shareholders with voting rights, and at the same time approved by at least two-thirds of tradable shareholders with voting rights (Wu 2005).

However, the new guideline has not brought about an immediate conversion of nontradable shares, because it stipulates that, once a firm's reform project is approved, the nontradable shareholders must pledge not to sell their shares for at least 12 months. It is also required that, after the 12-month period, they will not sell more than 10% of their shares in the next 24 months. Thus, despite of the initiation of Nontradable Shares Reform in April 2005, the prospect for nontradable shares to become liquid was still remote.

As for the role of institutional investors in the Reform, blockholders of a firm's tradable shares are primarily institutional investors. Their attitudes toward the project proposed by nontradable shareholders are apparently critical. In repeated communications and negotiations, nontradable shareholders may promise a favor to institutional investors to exchange for their supports.

Jin and Yuan (2006), Chen *et al.* (2006), and Wu *et al.* (2006) find that, the higher the proportion of tradable shares held by institutional investors, the lower is the compensation ratio offered to tradable shareholders. It may be rational for institutional investors to collude with controlling shareholders<sup>6</sup>. An interesting question is left to be answered. What kind of favor can institutional investors expect from controlling

---

<sup>3</sup> Most nontradables shares in China are state-owned.

<sup>4</sup> an abbreviation for Chinese Securities Regulatory Committee

<sup>5</sup> 《Notice on Pilot Project of Nontradable Shares Reform》promulgated by CSRC, and 《Guidelines on Nontradable Shares Reform of Listed Companies》promulgated by CSRC, State-owned Assets Regulatory Commission, Ministry of Finance, People's Bank and Department of Commerce in 2005

<sup>6</sup> A Chinese listed firm's nontradable shares are mostly held by the largest shareholder. In this paper, the term "controlling shareholder" is sometimes used in place of "nontradable shareholder".

shareholders?

In addition to scale economies, what makes institutional investors distinct from individual ones is information advantage. In order for information channels and sources, institutional investors need to build up a stable “friendship” with the management<sup>7</sup> of listed firms. Besides information advantage, there exist other benefits for such a friendship. For instance, a fund management company’s affiliate may have the opportunity to do business with the corresponding listed firm, *e.g.*, securities underwriting.

Williams and Ryan (2007) mention that the management of listed firms may reveal information to specific shareholders to exchange for their supports. As for institutional investors, Pound (1988) and Roe (1990) mention that institutional investors sometimes act like affiliated blockholders. Barclay and Holderness (1989) also find that the voting influence brings private benefits to large shareholders. Zingales (1994) further shows that the private benefits from voting influence are more evident in the countries with weaker investor protection.

As for the way to realize private benefits, Shleifer and Vishny (1997) mention that one way for a blockholder to seize his private benefits is to do business with the listed firm. Harris and Raviv (1990) also point out that stakeholders may cater to managers in order to do business with listed firms. The literatures cited above indicate that an institutional investor does not lack an economics incentive to collude with a listed firm’s insiders.

It should be noted that collusion represents an implicit contract primarily built on mutual trusts. It is more than a one-time game, and the induced benefits are not necessarily firm-specific. As a side-benefit, building up a reputation of “good partner” also helps an institutional investor to interact with other firms in the long run.

As indicated in prior researches, in the Nontradable Shares Reform, institutional investors collude with controlling shareholders to help them settle a lower compensation ratio. This paper presents a further research upon whether fund governance helps mitigate such collusion. We focus on mutual funds because the data of other institutional investors are not publicly available.<sup>8</sup> The Nontradable Shares Reform in China provides us a unique scenario to understand the effect of fund governance.

Our paper’s contributions are as follows: (1) Introducing foreign institutional investors into domestic markets is Chinese government’s consistent policy. One of the objectives is to help discipline the market behaviors. Our empirical evidence shows that this policy may be beneficial to the sound development of Chinese markets. (2) From a new perspective, this paper provides new evidence that a high institutional ownership has a negative effect to fund governance, and further enriches related literatures of mutual funds.

The remaining parts of the paper are organized as follows. The research hypotheses are proposed in Part II. The sampling procedure and variable selection are described in Part III. The empirical results are shown and discussed in Part IV. The conclusion is at the end of the paper.

---

<sup>7</sup> Normally the nominees of controlling shareholder

<sup>8</sup> *e.g.*, their own shareholder structure

## 2. Hypotheses Development

The objective of fund governance is to mitigate the agency problem of mutual funds, and to protect the interests of fund holders. Because of interest conflict and information asymmetry, a fund manager may have an incentive and an opportunity to take advantage of fund holders.

For instance, the mutual fund industry in the United States broke out a series of scandals in 2003. After being investigated by the Department of Justice, the Canary Capital Partners was accused of dishonest transactions. Triggered with this accusation, a variety of lawsuits against fund managers came out one after another. In China, “the inside story of mutual funds” reported in 2000 also uncovered the professional misconducts of fund managers.<sup>9</sup>

Fund holders may rely on official regulation to uphold justice for them. But in most cases, it is difficult to acknowledge solid proof in order for official regulation to be executed. Alternatively, it relies on fund governance to mitigate the implicit infringement upon fund holders. Therefore, empirical researches on fund governance are meaningful not only for scholars, but also for practitioners.

Before we start our researches, the first problem to cope with is to appropriately identify the proxy for the extent of agency problem, and that for governance quality.

One of the candidates to proxy for the extent of agency problem is the management fee rate. For instance, Tufano and Sevick (1997) on U.S. incorporated open-end funds shows that, the higher the proportion of independent directors in the board, the lower is the fund management fee rate. Similar findings are shown in Guercio *et al.* (2003) and Chen (2001). The independence of directors helps reduce the agency cost of mutual funds. But, a fund management company in China is prohibited from being compensated for fund performance<sup>10</sup>. Instead, the compensation received from fund holders is the management fee based on a fixed proportion of net assets. Therefore, in China, the management fee rate is not an applicable proxy.

Another candidate to proxy for the extent of agency problem is the fund performance. But, a mutual fund’s agency problem refers primarily to her fund manager’s motive rather than his capability. Meanwhile, a mutual fund’s performance depends not only on her fund manager’s motive, but also on his capability to make money for fund holders. Therefore, the fund performance is not an appropriate proxy, either.

Luckily, the Nontradable Shares Reform in China gives us an opportunity to examine the agency problem of mutual funds from a new point of view. Existing literatures show that, in the Nontradable Shares Reform, institutional investors collude with controlling shareholders to help them settle a lower compensation ratio. The extent of a mutual fund’s agency problem can be proxied by the propensity of collusion. Then, the scenario is whether the mutual funds with better governance quality are less inclined to collude with controlling shareholders.

To proxy for a mutual fund’s governance quality, one of the candidates is the independence of directors as in Tufano and Sevick (1997), Guercio *et al.* (2003) and

<sup>9</sup> Please refer to Mahoney (2004) and Zhang (2006) for the details of mutual fund scandals.

<sup>10</sup> according to the “Notice on Mutual Fund Compensation” promulgated by CSRC in 2001

Chen (2001). But unlike those in the United States, mutual funds in China are all contractual funds with no board of directors. Therefore, in China, the independence of directors is not an applicable proxy for a mutual fund's governance quality.<sup>11</sup>

As for fund governance, the redemption mechanism is expected to mitigate the agency problem of mutual funds. Qian ( 2006 ) finds that the incidence of scandals is lower for the mutual funds with redemption mechanism. Fama and Jensen (1983a, 1983b, and 1985) also point out that the option for investors to redeem their assets is a critical governance mechanism. These literatures reveal the importance of redemption mechanism for fund governance.

If unsatisfied with fund management, holders of a closed-end fund can sell their shares in the secondary market. To do so may give rise to a deep fall in share price,<sup>12</sup> but will not change the amount of fund assets at all. Meanwhile, voting with feet for an open-end fund will substantially reduce the amount of fund assets, and hence the management fees. Furthermore, an open-end fund perceived to be well managed not only keeps her original capital, but also attracts new capital. Sirri and Tufano (1998) show that fund investors rush to open-end funds with good performance records. The enormous inflow of new capital serves as a bonus to their fund managers.

The redemption mechanism of open-end funds may cause a fund manager to discriminate between the mutual funds under his management. The multi-task principal-agent model of Holmstrom and Milgrom (1991) suggests that a fund manager with multiple funds tend to allocate more resources to the ones which provide more rewards to him.

The Rules for Mutual Funds in China request that a fund management company not discriminate between the mutual funds under her management.<sup>13</sup> But MacKay and Wu (2007) show that, through cross subsidization and human resources reallocation<sup>14</sup>, a fund management company in China tends to favor her open-end funds.

Based on the prior literatures mentioned above, the first hypothesis in our paper is proposed as follows.

**H1** : Relative to closed-end funds, open-end funds are less inclined to collude with nontradable shareholders.

Introducing foreign institutional investors into domestic markets is Chinese government's consistent policy. The objective is to increase the extent of

---

<sup>11</sup> A fund management company in China has her own board of directors, and independent directors in the board. But, shareholders of a fund management company are not necessarily equivalent to fundholders. Independent directors of a fund management company are intended to protect the interests of shareholders, rather than the interests of fundholders.

<sup>12</sup> In the duration of a closed-end fund, a fund management company is required to hold at least 0.5% of fund shares. Unless her holdings are far beyond 0.5%, the deep fall in share price is practically harmless to a fund management company.

<sup>13</sup> This rule is practically non-binding, since it is difficult to acknowledge solid proof for "unfairness".

<sup>14</sup> Yu ( 2005 ) also points out that it is likely for a fund management company to reallocate a fund manager who recently performs well from a closed-end fund to an open-end fund.

internationalization, and to promote the sound development of Chinese markets.

Due to the rigorous entry qualification, those who are allowed to enter Chinese markets are internationally renowned institutional investors. On average, the governance structures of foreign background funds are inherently better than that of domestic funds. Especially, their worldwide reputation also serves as hostage.

Besides, collusion represents an implicit contract unlikely to be legally binding. The agreement upon and the exertion of such an implicit contract are built on mutual trust only. Foreign institutional investors are still too new in domestic markets to build up a long-term “friendship” with controlling shareholders of listed firms. The mutual trust may not be solid enough for both parties to favorably reach collusion. Yu (2006) finds that Chinese individual investors favor the listed companies with a higher proportion of foreign shares. Foreign institutional investors are perceived to be less likely to collude with controlling shareholders.

Based on the discussions above, the second hypothesis in our paper is proposed as follows.

**H2** : Relative to domestic funds, foreign background funds are less inclined to collude with nontradable shareholders.

The next empirical question is whether an ownership structure affects fund governance. No matter open-end or closed-end funds, all mutual funds in China are contractual funds. Because there is no board of directors, the only way for fund holders to exert their power is through a fund holders meeting. According to the Clause No.72 of Securities Investment Fund Legislation in China, a provisional fund holders meeting is convoked by fund manager or fund trustee. If both of them fail to do so for a specific matter, fund holders with more than 10% of total shares can spontaneously convoke a provisional fund holders meeting.

If well motivated, the institutions as blockholders of a mutual fund are able to hold back the wrongdoings of fund manager (at least to a certain extent). The issue is that these institutions may have their own agency problems (Shleifer and Vishny, 1997).

A point of view is that institutional ownership improves governance quality.

McConnell and Servaes (1990) find that the institutional ownership is positively associated with Tobin’s Q, and that the institutional ownership reinforces the positive impact of managerial ownership upon firm performance. Brickley, Lease and Smith (1988) find that the opposition by institutional shareholders to anti-takeover is greater when the proposals reduce the wealth of stockholders. Smith (1996) also finds evidence of relevant monitoring activism by large institutional investors. Jiambalvo et al. (2002) show that the absolute value of discretionary accruals is relatively low for a firm with high institutional ownership.

A competing point of view is that institutional ownership may deteriorate governance quality. For instance, existing literatures show that the institutional ownership of a mutual fund tends to intensify her agency problem.

Barclay, Holderness and Pontiff (1993) upon closed-end funds in the United States show that, the higher the ownership concentration, the higher is the price discount. This phenomenon is evident especially when the large shareholders of mutual funds are non-profit organizations.

Barclay, Holderness and Pontiff (1993) interpret this phenomenon as the interest conflict between the large and the small shareholders of mutual fund. Through interest exchange, a fund manager and large fund holders enter into an alliance with each other. This nuisance in fund governance is reflected in the extent of price discount. Their further investigation confirms that, through alliance with fund manager, each fund's large shareholders catch private benefits to a certain extent.

It should be noted that the primary institutions investing in Chinese mutual funds are insurance companies (Zhang, 2006). It is unlikely for an insurance company to resist the pressure from her investee's managers. As a matter of fact, an insurance company tends to act like an affiliated blockholder (Brickley, Lease, and Smith, 1988). Other important institutions investing in Chinese mutual funds include pension funds<sup>15</sup>. Owing to interest conflicts, political pressure and regulation, the effect of pension funds as blockholders is similar to that of insurance companies (Brooks, 1975, Romano, 1993).

Based on the literatures mentioned above, two competing hypotheses are proposed as follows.

**H3a** : Mutual funds with a lower institutional ownership are more inclined to collude with nontradable shareholders.

**H3b** : Mutual funds with a higher institutional ownership are more inclined to collude with nontradable shareholders.

### **3. Sample and Variable Description**

#### *3.1. Sample Description*

At the time the Nontradable Shares Reform started, 1,338 A-share firms were listed at Shenzhen and Shanghai Stock Exchanges. Since 5 firms had no nontradable shares, there were 1,333 firms left for the reform. Up to July 2007, 1,229 of them have successfully implemented the reform.<sup>16</sup> Among these 1,229 firms, (1) 4 firms lack the data of compensation ratio, (2) 16 firms lack the data of stock return volatility, (3) 566 firms have no mutual funds among their ten largest tradable shareholders<sup>17</sup>, (4) for 56 firms, the data of ownership structure for the mutual funds among their ten largest tradable shareholders are missing. The final sample consists of 587 firms<sup>18</sup>. The details of sample selection are summarized in Table 1.

---

<sup>15</sup> e.g., Pension Fund Portfolio 109, Pension Fund Portfolio 602

<sup>16</sup> the website of nontradable shares reform in China (<http://gqfz.p5w.net/gqfz/index.html>)

<sup>17</sup> the ten largest tradable shareholders entitled to vote in the Nontradable Shares Reform

<sup>18</sup> The data in our researches are collected from the *WIND* Database.

《Table 1 inserted here》

### 3.2. Variable Definition

#### 3.2.1. Independent variable: compensation ratio (*CR*)

*CR* is a comprehensive compensation offered by nontradable shareholders in exchange for the trading rights. Directly giving additional shares to tradable shareholders is the most usual way. Other ways to offer compensation include warrants, asset restructuring, stock repurchase, asset injection and cash payouts, *etc.* In this paper, different types of compensation are aggregated into a single measure, *i.e.*, the additional shares offered to tradable shareholders per ten tradable shares. For the examples of compensation ratio calculation, please refer to Appendix 1.

#### 3.2.2. Explanatory variables

(1) interacted variable of *OPEN* and *FUND* (*OPEN\_FUND*) to test H1 :

The interacted variable is (*OPEN*, whether the mutual funds among the firm's ten largest tradable shareholders are dominated by open-end funds or not)\*(*FUND*, the proportion of the firm's tradable shares held by mutual funds). If the shares held by open-end funds are larger than those held by closed-end funds among the firm's ten largest tradable shareholders, the mutual funds are regarded as dominated by open-end funds (*OPEN*). We give it the value of 1, and 0 if otherwise.

(2) interacted variable of *FOREIGN* and *FUND* (*FOREIGN\_FUND*) to test H2 :

The interacted variable is (*FOREIGN*, whether the mutual funds among the firm's ten largest tradable shareholders are dominated by foreign background funds or not)\*(*FUND*, the proportion of the firm's tradable shares held by mutual funds). If the shares held by foreign background funds are larger than those held by domestic funds among the firm's ten largest tradable shareholders, the mutual funds are regarded as dominated by foreign background funds (*FOREIGN*). We give it the value of 1, and 0 if otherwise.

(3) interacted variable of *FIS* and *FUND* (*FIS\_FUND*) to test H3:

The interacted variable is (*FIS*, the average institutional ownership of mutual funds among the firm's ten largest tradable shareholders)\*(*FUND*, the proportion of the firm's tradable shares held by mutual funds). The average institutional ownership of mutual funds (*FIS*) is calculated as follows. For instance, there are four mutual funds – Fund A, B, C and D among the firm X's ten largest tradable shareholders entitled to vote in the reform. The proportion of fund shares held by institutions is 46% for Fund A, 27% for Fund B, 38% for Fund C and 25% for Fund D. Then, the average institutional ownership will be calculated as the average of 46%, 27%, 38% and 25%, *i.e.*, 34%.

#### 3.2.2. Control variables

The control variables include return on assets, stock returns volatility, length of lockup period, proportion of nontradable shares, proportion of tradable shares held by

mutual funds, proportion of tradable shares held by other institutional investors, state-controlled or not, promise items, industry and reform batch. The reasons for these variables to be included are discussed as follows.

(1) return on assets (*ROA*): Jin and Yuan (2006) find that, the higher the firm's profitability, the lower is the compensation ratio. Meanwhile, Wu *et.al.* (2006) show opposite evidence. The variable value is taken as the latest annual returns on total assets preceding the beginning of the reform process.

(2) stock returns volatility (*VOL*): The difference between tradable and nontradable shares is the right to sell in open markets. The higher the stock returns volatility, the more valuable is the right to sell in open markets. Longstaff (1995, 2001, 2005), Finnerty (2003) and Bajaj *et. al.* (2003) find that, the higher the stock returns volatility, the higher is the discount of restricted shares. Chen and Xiong (2001), Jin and Yuan (2006) also find similar results for nontradable shares in China. The variable value is taken as the variance of annual stock returns based on historical data.

(3) length of lockup period (*LIM\_YR*): The shorter the lockup period, the earlier can the nontradable shares become tradable. Other things being equal, nontradable shareholders are willing to offer a higher compensation ratio for a shorter lockup period. The variable value is taken as the length of lockup period (number of years).

(4) proportion of nontradable shares in total shares (*NPROP*): The higher the proportion of nontradable shares, the higher is the potential supply increase once the lockup period ends. A higher proportion of nontradable shares may lead to a higher compensation required by tradable shareholders.

(5) proportion of tradable shares held by mutual funds, and by other institutional investors (*FUND* and *NONFUND*): Jin and Yuan (2006), Chen *et. al.* (2006 ) and Wu *et.*

*al.* ( 2006 ) find that the higher the proportion of the firm's tradable shares held by institutional investors, the lower is the compensation ratio. They point out that the collusion between institutional investors and controlling shareholders is a possible explanation. We further classified institutional investors into mutual funds and other institutional investors: proportion of tradable shares held by mutual funds (*FUND*), and proportion of tradable shares held by other institutional investors (*NONFUND*).

(6) state-controlled or not (*STATE*): The agency problem of a state-controlled firm is expected to be more serious than that of a non-state controlled firm.<sup>19</sup> Furthermore, a state-controlled firm also faces a higher political pressure. Therefore, relative to those of a non-state controlled firm, tradable shareholders of a state-controlled firm may receive a higher compensation ratio. This dummy variable is set equal to one if the firm is state-controlled, and zero if otherwise.

(7) promise items (*SP*, *IHP*, *INJECT* and *DP*): A promise item can be regarded as a supplement to a compensation ratio, or potential cost borne by nontradable shareholders.<sup>20</sup> In the reforms, the promise items include the promise to conditionally

---

<sup>19</sup> A state-owned firm's controlling shareholder is a government nominee, rather than a direct owner.

<sup>20</sup> Because it is difficult to apply a universal standard to quantify these promise items, they are treated as dummy variables in our paper.

distribute additional shares or cash, the promise to increase holdings, the promise to inject capital and the promise to pay future dividend.

The dummy variable of promise to conditionally distribute additional shares or cash (*SP*) is set equal to one if the nontradable shareholders promise to distribute additional shares or cash to the tradable shareholders once the stock performance or stock price falls below the target in the next few years, and zero if otherwise.

The dummy variable of promise to increase holdings (*IHP*) is set equal to one if the nontradable shareholders promise to purchase the firm's shares in the secondary market to stabilize the stock price, and promise to retain the increased holdings for at least six months, and zero if otherwise.

The dummy variable of promise to inject capital (*INJECT*) is set equal to one if the nontradable shareholders promise to inject capital into the firm after completing the reform, and zero if otherwise.

The dummy variable of promise to pay future dividend (*DP*) is set equal to one if the nontradable shareholders promise a future cash dividend payout, and zero if otherwise.

(8) industry control (*INDUSTRY*): In order to control the effect of industry difference, twelve dummy variables are assigned, based on CSRC's industry classification of listed firms.

(9) reform batch control (*SEQ*): In order to control the effect of batch difference, a dummy variable is assigned for two different batches – pilot reform and ordinary reform. This dummy variable is set equal to one if the firm belongs to the batch of pilot reform, and zero if otherwise.

The symbols of variables are summarized in Table 2.

《Table 2 inserted here》

### 3.3. Descriptive Statistics

The descriptive statistics of each variable are shown in Table 3. Firstly, the mean and median of *CR* is 2.9 and 3.0 respectively. The maximum and minimum of *CR* is 7 and 0.22 respectively. The range of compensation ratios in our sample is relatively wide. Later in this paper, we will investigate in details the factors which help explain the variation of compensation ratios.

The mean of *STATE* is 0.74. Only 26% of firms in our sample are controlled by non-state entities. The mean of *SP*, *IHP*, *DP* and *INJECT* is 0.14, 0.11, 0.31 and 0.07 respectively. Among all promise items, the promise to pay future dividends is most commonly used. It is probably because the other three are unilateral protections to tradable shareholders.

The mean of *FUND* and *NON\_FUND* is 0.109 and 0.051 respectively. The median of *FUND* and *NON\_FUND* is 0.084 and 0.035 respectively. Mutual funds are primary institutional investors of Chinese listed firms.

The mean and median of *FIS* is 0.47 and 0.48 respectively. The 75% percentile value and maximum of *FIS* is 0.55 and 0.84 respectively. The shares of most mutual funds in our sample are heavily held by institutions.

The mean of *OPEN* and *FOREIGN* is 0.67 and 0.37 respectively. Open-end funds and mutual funds with no foreign background are still main streams in Chinese mutual fund industry.

《Table 3 inserted here》

### 3.4. Correlations between Variables

The correlations between variables are shown in the Panel A of Table 4.

Since the highest Pearson correlation (the absolute value) between independent variables is 0.35, there is no significant problem of multi-collinearity in our study.

As a univariable analysis, the correlation between *CR* and certain variables are discussed as follows.

*CR* is significantly negatively correlated with *SP*, *IHP*, *DP* and *INJECT*. As mentioned earlier in this paper, a promise item can be regarded as a supplement to a compensation ratio, or potential cost borne by nontradable shareholders.

*CR* is significantly negatively correlated with *FUND* and *NON\_FUND*. Consistent with existing literatures, the proportion of tradable shares held by institutional investors is negatively correlated with the compensation ratio. *CR* is also significantly negatively correlated with *NPROP*. It is probably because the higher the proportion of nontradable shares, the higher is the potential supply increase once the lockup period ends. Therefore, a higher compensation is required by tradable shareholders.

*CR* is significantly positively correlated with *STATE*. Because of agency problem and political pressure inherent with a state-controlled firm, nontradable shareholders of state-controlled firms tend to offer a higher compensation ratio.

As for the correlation between independent variables, the proportion of nontradable shares is negatively correlated with the promise to increase holdings at less than 1% significant level. The lower the proportion of nontradable shares, the more important is the nontradable shareholders' promise to increase their holdings.

The future dividend promise is significantly positively correlated with the return on total assets. A firm's current profitability is the proxy of her future profitability. The future dividend promise makes sense only when the firm is expected to have the ability to pay dividend in the future. The future dividend promise is also significantly positively correlated with the institutional investor holdings. It means, relative to individual investors, institutional investors are more concerned with a firm's dividend payout.

The correlations between *OPEN*, *FOREIGN* and *FIS* are presented in the Panel B of Table 4. *FOREIGN* is positively correlated with *OPEN*, and negatively correlated with *FIS*, although both of the correlation coefficients are not significantly different from zero.

It should be noted that *OPEN* is negatively correlated with *FIS*. Relative to closed-end funds, open-end funds seem to be more favored by individual investors. The option to redeem one's assets is a possible explanation, since the self protection power of individual investors is weaker than that of institutional investors. This factor

will be taken into account, later in our robustness test.

«Table 4 inserted here»

#### 4. Empirical Results

##### 4.1 Test of Hypotheses

The regression model to test Hypothesis 1 is as follows:

$$CR = \alpha_0 + \alpha_1 ROA + \alpha_2 VOL + \alpha_3 LIM\_YR + \alpha_4 NPROP + \alpha_5 FUND + \alpha_6 NONFUND + \alpha_7 OPEN\_FUND + \alpha_8 STATE + \alpha_9 SP + \alpha_{10} IHP + \alpha_{11} DP + \alpha_{12} INJECT + \alpha_{13} SEQ + \sum INDUSTRY + \varepsilon$$

Model I

The regression model to test Hypothesis 2 is as follows:

$$CR = \alpha_0 + \alpha_1 ROA + \alpha_2 VOL + \alpha_3 LIM\_YR + \alpha_4 NPROP + \alpha_5 FUND + \alpha_6 NONFUND + \alpha_7 FOREIGN\_FUND + \alpha_8 STATE + \alpha_9 SP + \alpha_{10} IHP + \alpha_{11} DP + \alpha_{12} INJECT + \alpha_{13} SEQ + \sum INDUSTRY + \varepsilon$$

Model II

The regression model to test Hypothesis 3 is as follows:

$$CR = \alpha_0 + \alpha_1 ROA + \alpha_2 VOL + \alpha_3 LIM\_YR + \alpha_4 NPROP + \alpha_5 FUND + \alpha_6 NONFUND + \alpha_7 FIS\_FUND + \alpha_8 STATE + \alpha_9 SP + \alpha_{10} IHP + \alpha_{11} DP + \alpha_{12} INJECT + \alpha_{13} SEQ + \sum INDUSTRY + \varepsilon$$

Model III

*OPEN\_FUND* is the interacted variable of *OPEN* and *FUND*, similarly for *FOREIGN\_FUND* and *FIS\_FUND*.

Based on Hypothesis 1 and 2, the coefficients of *OPEN\_FUND* and *FOREIGN\_FUND* are expected to be significantly positive. Based on Hypothesis 3a and 3b, the coefficient of *FIS\_FUND* is expected to be significantly positive or significantly negative, respectively.

The multiple regression results are shown in Table 5, 6 and 7. The coefficient of *OPEN\_FUND* in Model I is positive but not significantly different from zero. We find no sufficient evidence that, relative to those dominated by closed-end funds, mutual funds dominated by open-end funds are less inclined to collude with nontradable shareholders (less inclined to help nontradable shareholders settle a lower compensation ratio).

The coefficient of *FOREIGN\_FUND* in Model II is significantly positive at the level of 10%. Meanwhile, the coefficient of *FUND* is significantly negative at less than 1% significance level. The empirical results corroborate the Hypothesis 2 proposed in this paper. Relative to those dominated by domestic funds, mutual funds dominated by foreign background funds are less inclined to collude with nontradable shareholders (less inclined to help nontradable shareholders settle a lower compensation ratio).

The coefficient of *FIS\_FUND* in Model III is significantly negative at less than 1% significance level. Meanwhile, the coefficient of *FUND* is significantly positive at less than 10% significance level. The empirical results corroborate the Hypothesis 3b, and reject the Hypothesis 3a proposed in this paper. It is found that mutual funds with a higher institutional ownership are more inclined to collude with nontradable shareholders (more inclined to help nontradable shareholders settle a lower compensation ratio).

As for the relationship between control variables and compensation ratios, consistent with Jin and Yuan (2006), the coefficient of return on total assets (*ROA*) is significantly negative. The higher the profitability of a listed firm, the lower is the compensation ratio which nontradable shareholders are willing to offer. The coefficient of lockup period (*LIM\_YR*) is significantly negative. The shorter the lockup period, the earlier can nontradable shares gain liquidity. Therefore, nontradable shareholders are willing to offer a higher compensation ratio for a shorter lockup period. The coefficient of nontradable shares proportion (*NPROP*) is significantly positive. It is probably because that, the higher the nontradable shares proportion, the higher is the potential supply increase to the open market once the lockup period ends. The coefficient of controlling shareholders type (*STATE*) is significantly positive. The agency problem of a state-controlled firm is expected to be more serious. Furthermore, a state-controlled firm also faces a higher political pressure than a non-state controlled firm does. Therefore, on average, a state-controlled firm pays a higher compensation ratio than a non-state controlled firm does.

The regression results also show that the promise items *SP*, *IHP*, *INJECT* are significantly negatively correlated to compensation ratios. The coefficient of *DP* is negative either, but not significantly different from zero. *SP*, *IHP* and *INJECT* have stronger impacts on compensation ratios than *DP* does. It is probably because that those three are unilateral protections for tradable shareholders. Meanwhile, the promise to pay future dividend is related to the interests of all shareholders, including tradable and nontradable shareholders.

#### 4.2 Additional test

Considering the possible effect of fund characteristics overlapping, we put all three cross variables *OPEN\_FUND*, *FOREIGN\_FUND* and *FIS\_FUND* in one regression to make sure whether the empirical results in separate regressions still hold.

As shown in Table 8, the coefficient of *OPEN\_FUND* is positive but not significantly different from zero. The coefficient of *FOREIGN\_FUND* is significantly positive at less than 10% significance level. The coefficient of *FIS\_IS* is significantly negative at less than 1% significance level. The primary results in Table 8 remain fundamentally the same as those in Table 5, Table 6 and Table 7.

In our previous tests of hypotheses, the proportion of a firm's tradable shares held by institutional investors was separated into (1) the proportion of tradable shares held by mutual funds and (2) the proportion of tradable shares held by non-mutual funds. The corresponding interacted variables *OPEN\_FUND*, *FOREIGN\_FUND* and *FIS\_FUND* were used in the regression.

We now take the institutional holdings as a whole. The proportion of tradable shares held by institutional investors (*IS*) and the corresponding interacted variables *OPEN\_IS*, *FOREIGN\_IS* and *FIS\_IS* are used instead in the regression.

As shown in Table 9, the coefficient of *OPEN\_IS* is positive but not significantly different from zero. The coefficient of *FOREIGN\_IS* is significantly positive at less than 10% significance level. The coefficient of *FIS\_IS* is significantly negative at less

than 10% significant level. Apparently, the significance of *FIS\_IS* coefficient is worse than that of *FIS\_FUND* coefficient. Anyway, the primary results in Table 9 remain fundamentally the same as those in Table 8.

## **5. Conclusion**

In the reform of nontradable shares, institutional investors tend to collude with nontradable shareholders (controlling shareholders) to help them settle a lower compensation ratio. Classifying institutional investors into mutual funds and non-mutual funds, this paper focuses upon whether fund governance helps mitigate collusion.

Due to rigorous entry qualifications, and worldwide reputation as hostage, a foreign background fund is expected to have better governance quality than a domestic fund. Our empirical evidence shows that, relative to domestic funds, foreign background funds are less inclined to collude with nontradable shareholders.

Meanwhile, we find no sufficient evidence that open-end funds are less inclined to collude with nontradable shareholders, although an open-end fund is expected to have better governance quality than a closed-end fund due to the redemption mechanism.

As for the effect of ownership structure, it is found that mutual funds with a lower institutional ownership are less inclined to collude with nontradable shareholders. Fund governance seems to deteriorate as institutional ownership increases.

Our paper's contributions are as follows: (1) Introducing foreign institutional investors into domestic markets is Chinese government's consistent policy. One of the objectives is to help discipline the market behaviors. Our empirical evidence shows that this policy may be beneficial to the sound development of Chinese markets. (2) From a new perspective, this paper provides evidence that a high institutional ownership has a negative effect on fund governance, and further enriches related literatures of mutual funds. As for policy implication, it suggests that restricting the proportion of fund shares held by institutions may help improve fund governance.

In sum, based on the reform of nontradable shares reform in China, our paper not only enriches from a new perspective the literatures of institutional investors, but also gives a deeper insight to the researches on collusion issues in corporate governance.

## References

- Barclay, M., and C. Holderness, (1989), "Private Benefits from Control of Public Corporations", *Journal of Financial Economics* 25.
- Bajaj, M., D. J., Denis, S. P., Ferris, and A., Sarin, (2003), "Firm Value and Marketability Discounts", Working Paper.
- Barclay, M., C. Holderness, and J. Pontiff, (1993), "Private Benefits from Block Ownership and Discounts on Closed-end Funds", *Journal of Financial Economics* 33.
- Brickley, J., R. Lease, and C. Smith, (1988), "Ownership Structure and Voting on Anti-takeover Amendments", *Journal of Financial Economics* 20.
- Brooks J. (1975). "Conflicts of Interest: Corporate Pension Fund Asset Management: Report to the Twentieth Century Fund Steering Committee on Conflicts of Interest in the Securities Markets". New York: Twentieth Century Fund.
- Chen, K. C. W, and H. Yuan, (2005), "Government Involvement, Market Forces, and the Pricing of Earnings: A Comparison of China's Tradable and Nontradable Shares", Working Paper, Hong Kong University of Science and Technology.
- Chen, K. C. W, Q. Jin and H. Yuan, (2006), "Institutional Investors, State Identity and Compensation Ratio: Evidences from China's Split Share Structure Reform", Working Paper, Hong Kong University of Science and Technology.
- Chen, S., (2001), "Researches on Governance Structure of Incorporated Mutual Funds", *Ph.D. dissertation (Chinese), the Graduate School, Institute of Social Science*.
- Guercio, D., L. Dann, and M. Partch, (2003), "Governance and Boards of Directors in Closed-end Investment Companies", *Journal of Financial Economics* 69.
- Sirri, E., and P. Tufano, (1998), "Costly Search and Mutual Fund Flows", *Journal of Finance*, Vol. 53.
- Fama, E. and M. Jensen, (1983), "Agency Problems and Residual Claims", *Journal of Law and Economics* 26.
- Fama, E. and M. Jensen, (1983), "Separation of Ownership and Control", *Journal of Law and Economics* 26.
- Fama, E. and M. Jensen, (1985), "Organizational Forms and Investment Decisions", *Journal of Financial Economics* 14.
- Finnerty, J. D., (2003), "Impact of Transfer Restrictions on Stock Prices", Working Paper.
- Chen, Z., and P. Xiong, (2001), "Discounts on Illiquid Stocks: Evidences from China", Working Paper.
- Harris, M., and A. Raviv, (1990), "Capital Structure and the Informational Role of Debt", *Journal of Finance*, Vol. 45.
- Holmstrom, B., and Milgrom, P., (1991), "Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership and Job Design", *Journal of Law, Economics and Organization*, 7, Special Issue.
- Jiambalvo, J., S. Rajgopal, and M. Venkatachalam, (2002), "Institutional Ownership and the Extent to Which Stock Prices Reflect Future Earnings", *Contemporary Accounting Research*, Vol. 19.
- Jin Q., and H., Yuan, (2006), "Does the Compensation Ratio Reflect a Firm's Profitability and Risk?", *China Accounting and Finance Research (Chinese)*, Vol. 8, Iss. 4.

Longstaff, F. A., (1995), "How Much Can Marketability Affect Security Values?", *Journal of Finance*, Vol. 50.

Longstaff, F. A., (2001), "Optimal Portfolio Choice and the Valuation of Illiquid Securities", *Review of Finance Studies* 14.

Longstaff, F. A., (2005), "Asset Pricing in Illiquid Markets", Working Paper.

Mahoney, P., (2004), "Manager-Investor Conflicts in Mutual Funds", *The Journal of Economic Perspectives*, Vol. 18, No. 2.

McConnell, J., Servaes, H., (1990), "Additional Evidence on Equity Ownership and Corporate Value", *Journal of Financial Economics* 27.

Pound, J. (1988), "Proxy Contests and the Efficiency of Shareholder Oversight", *Journal of Financial Economics* 20.

Roe, M., (1990), "Political and Legal Restraints on Ownership and Control of Public Companies", *Journal of Financial Economics* 27.

Romano R., (1993), "Public Pension Fund Activism in Corporate Governance Reconsidered". *Columbia Law Review*, 93.

MacKay, P., and D. Wu, (2007), "Redeemability as Governance Mechanism: A Study of Closed-end and Open-end Funds under Common Management", Working Paper, Hong Kong University of Science and Technology.

Qian, M., (2006), "Whom Can You Trust?: A Study of Mutual Fund Governance", Working Paper, National University of Singapore.

Shleifer, A., and R., Vishny, (1997), "A Survey of Corporate Governance", *Journal of Finance*, Vol. 52.

Smith, M., (2006), "Shareholder Activism by Institutional Investors: Evidence from CalPERS", *Journal of Finance*, Vol. 51.

Tufano, P., and M. Sevick., (1997), "Board Structure and Fee-Setting in the U.S. Mutual Fund Industry", *Journal of Financial Economics* 46.

Williams, C., and L., Ryan, (2007), "Courting Shareholders: the Ethical Implications of Altering Corporate Ownership Structures", *Business Ethics Quarterly*, Vol. 17, Iss. 4.

Wu C., F., Zheng, Z., Lin, W., Li and S., Wu, (2006), "Theoretical and Empirical Researches on Factors Affecting Compensation Ratio", *Economics Research (Chinese)*, Iss.8.

Wu, J. R., (2005), "China Shows Caution in Nontradable Shares Reform", *Dow Jones Newswires*, April 30, 2005.

Yu, V., (2005), "No Need to Chase the Stars to Pick the Right Funds", *New Fortune (Chinese)*, Iss.4.

Yu, V., (2007), "How do Chinese Investors Value the Shareholding Structure of Foreign Shares?", *Sun Yat-Sen University Accounting and Governance International Conference* , Guangzhou, 2007.

Zhang, M., (2006), "Fund Governance, Fund Performance and Manager Turnover in China", *Ph.D. dissertation (Chinese)*, Shanghai University of Finance and Economics.

Zingales, L., (1994), "The Value of the Voting Right: A Study of the Milan Stock Exchange Experience", *Review of Financial Studies*, Spring.

## Appendix I

### *Examples of Compensation Ratio Calculation under Several Representative Schemes*

The compensation ratio scheme of G Agricultural Products (000061): In the last five trading days of the twelfth month after reform implementation, all tradable shareholders have the rights to sell their tradable shares at the price of RMB 4.25 Yuan per share to Shenzhen State-owned Assets Supervision Commission. Obviously, this is a European warrant with a deposit period of 360 days and a strike price of 4.25. Based on one-year deposit interest of 2.25% announced by China People's Bank, and the latest closing price of RMB 3.4 Yuan before the announcement of Nontradable Shares Reform and annual volatility of stock return of 0.2946, this warrant's value equals to 0.916 according to Black-Scholes option pricing model. Therefore, the compensation ratio of G Agricultural Products is 2.69 ( $0.916 \times 10 / 3.4$ ).

The compensation ratio scheme of G Aodong (000623): The nontradable shares reverse split-up with the proportion of 1: 0.6074, and at the same time cash dividends are paid to all the shareholders. The nontradable shareholders pay all their cash dividends to tradable shareholders. The actual pre-tax cash received by tradable shareholders per 10 shares is RMB 4 Yuan. Based on the latest proportion of tradable shares (0.5355) before the announcement of Nontradable Shares Reform, and the proportion (1: 0.6074) of nontradable shares reverse split-up, the compensation ratio of G Aodong is equivalent to 2.23. The detailed calculation is as follows: It is first assumed that there are 100 G Aodong shares as a total. Because 53.55% of total shares are tradable shares before Nontradable Shares Reform, there are 53.55 tradable shares and 46.45 nontradable shares. If the nontradable shares reverse split-up as 1: 0.6074, after that, this firm has 53.55 tradable shares and 28.21 (*i.e.*,  $46.45 \times 0.6074$ ) non-tradable shares. Thus the proportion of tradable shares will be 0.6549 ( $53.55 / (53.55 + 28.21)$ ). The equivalent compensation ratio due to non-tradable shares reverse split-up is 2.23 ( $((0.6549 - 0.5355) \times 10) / 0.5355$ ). Based on the latest closing price of RMB 5.9 Yuan before the announcement of Nontradable Shares Reform, and the corresponding compensation ratio after non-tradable shares reverse split-up, the actual pre-tax cash received by tradable shareholders is RMB 4 Yuan per 10 shares. It means that the equivalent compensation ratio is 0.66 ( $4 \times (1 - 0.2) \times 1.223 / 5.9$ , 0.2 here is the tax rate). As a result, the total compensation ratio after nontradable shares reverse split-up and cash dividends payout, will be 2.89 (*i.e.*,  $2.23 + 0.66$ ).

The compensation ratio scheme of G Zhongfu (000659): The tradable shareholders get 2.5 shares and 0.772 cash per 10 shares. The compensation ratio of G Zhongfu is equivalent to 2.73 (*i.e.*,  $2.5 + 0.772 \times 0.8 \times 1.25 / 3.39$ ), based on the latest closing price of RMB 3.39 Yuan before the announcement of Nontradable Shares Reform and the shares paid by nontradable shareholders.

The compensation ratio scheme of G Wugang (600005): The tradable shareholders get 2.5 shares, 2.5 copies of call option and 2.5 copies of put option per

10 shares. For the put option, the tradable shareholders can sell one share to Wugang at the exercise price of RMB 3.13 Yuan. As for the call option, the tradable shareholders can buy 1 share from Wugang at the exercise price of RMB 2.9 Yuan. Both warrants are European options with a deposit period of 12 months. The price of put option is calculated as RMB 0.153 Yuan, based on one-year deposit interest of 2.25%, the exercise price of RMB 3.13 Yuan, the latest closing price of RMB 3.45 Yuan before the announcement of Nontradable Shares Reform and the annual volatility of 0.2397. The price of call option is calculated as RMB 0.701 Yuan, based on the exercise price of RMB 2.9 Yuan. Finally, the compensation ratio of Wugang is equivalent to 3.27 (*i.e.*,  $0.153 \times 2.5 \times 1.25 / 3.45 + 0.701 \times 2.5 \times 1.25 / 3.45 + 2.5$ ).

**Table 1 Sample Selection Procedure (April 29, 2005-July 31, 2007)**

Selection Procedure	No. of Firms
A-share listed firms in China at the time the nontradable shares reform started	1338
Excluding the firms without nontradable shares	5
Excluding the firms which have not finished the reform by July 31, 2007	104
Excluding the firms of which the data of compensation ratio are missing	4
Excluding the firms of which the data of stock returns volatility are missing	16
Excluding the firms without mutual funds among their ten largest tradable shareholders	566
Excluding the firms of which the mutual funds, as their blockholders, lack the data of ownership structure	56
Firms in the final sample	587

**Table 2 Symbols of Variables**

Variable Type	Variable	Symbol
Dependent Variable	Compensation ratio	<i>CR</i>
Explanatory Variables	Interacted variable to test H1	<i>OPEN_FUND</i>
	Interacted variable to test H2	<i>FOREIGN_FUND</i>
	Interacted variable to test H3	<i>FIS_FUND</i>
Control Variables	Return on assets	<i>ROA</i>
	Stock returns volatility	<i>VOL</i>
	Length of lockup period	<i>LIM_YR</i>
	Proportion of a firm's tradable shares in total shares	<i>NPROP</i>
	Proportion of a firm's tradable shares held by mutual funds, and by other institutional investors	<i>FUND, NONFUND</i>
	State-controlled firm or not	<i>STATE</i>
	Promise to conditionally distribute additional shares or cash	<i>SP</i>
	Promise to increase holdings	<i>IHP</i>
	Promise to infuse capital	<i>INJECT</i>
	Promise to pay future dividend	<i>DP</i>
Industry control	<i>INDUSTRY</i>	
Reform batch control	<i>SEQ</i>	

**Table 3 Descriptive Statistics**

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Std.De</b>	<b>Min</b>	<b>Q1</b>	<b>Q3</b>	<b>Max</b>
				<b>v</b>				
<b>CR</b>	587	2.90	3	0.76	0.22	2.5	3.3	7
<b>ROA</b>	587	0.044	0.038	0.051	-0.196	0.018	0.071	0.237
<b>VOL</b>	587	0.39	0.39	0.21	0.02	0.29	0.43	2.20
<b>LIM_YR</b>	587	3.41	3	1.08	1	3	4	10.33
<b>NPROP</b>	587	0.619	0.636	0.124	0.146	0.55	0.70	0.97
<b>FUND</b>	587	0.109	0.084	0.096	0.001	0.026	0.172	0.543
<b>NON_FUN</b>	587	0.051	0.035	0.056	0	0.012	0.073	0.532
<b>D</b>								
<b>STATE</b>	587	0.74						
<b>SP</b>	587	0.14						
<b>IHP</b>	587	0.11						
<b>DP</b>	587	0.31						
<b>INJECT</b>	587	0.07						
<b>OPEN</b>	587	0.67						
<b>FOREIGN</b>	587	0.37						
<b>FIS</b>	587	0.47	0.48	0.11	0.07	0.41	0.55	0.84

**Table 4 Pearson Correlations**

Panel A

	<i>ROA</i>	<i>VOL</i>	<i>LIM_YR</i>	<i>NPROP</i>	<i>FUND</i>	<i>NON_FUN D</i>	<i>STATE</i>	<i>SP</i>	<i>IHP</i>	<i>DP</i>	<i>INJECT</i>
<i>CR</i>	-0.07*	-0.05	-0.05	0.38***	-0.12***	-0.17***	0.17***	-0.36***	-0.19***	-0.10***	-0.14***
<i>ROA</i>		-0.05	0.13***	0.21***	0.35***	0.13***	0.04	-0.06	0.04	0.19***	-0.06
<i>VOL</i>			-0.08**	-0.12***	-0.05	-0.06	0.05	-0.08**	-0.03	-0.03	0.07
<i>LIM_YR</i>				-0.02	0.01	0.03	-0.01	0.01	0.04	0.14***	-0.01
<i>NPROP</i>					0.11***	0.01	0.06	-0.16***	-0.12***	-0.02	-0.03
<i>FUND</i>						0.11***	-0.03	0.16***	-0.03	0.03	0.03
<i>NON_FUN D</i>							-0.004	0.12***	0.05	0.13***	-0.02
<i>STATE</i>								-0.30***	-0.18***	0.09**	0.04
<i>SP</i>									0.08*	0.01	0.02
<i>IHP</i>										0.07	-0.01
<i>DP</i>											0.01

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)

Panel B

<b>Variable</b>	<i>OPEN</i>	<i>FIS</i>
<i>FOREIGN</i>	0.032	-0.028
<i>OPEN</i>		-0.140***

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)

**Table 5 Multiple Regression Results:  
Open-end Funds vs. Closed-end Funds**

	COEFFICIENTS	T-STATISTICS	VIF
<b>INTERCEPT</b>	2.428***	13.119	
<i>ROA</i>	-2.877***	-5.27	1.358
<i>VOL</i>	-0.205*	-1.756	1.046
<i>LIM_YR</i>	-0.051**	-2.112	1.058
<i>NPROP</i>	2.125***	10.432	1.137
<i>FUND</i>	-0.891**	-2.35	2.334
<i>NON_FUND</i>	-1.493***	-3.365	1.069
<i>OPEN_FUND</i>	1.331	1.303	2.169
<i>STATE</i>	0.198***	3.389	1.167
<i>SP</i>	-0.516***	-6.741	1.208
<i>IHP</i>	-0.361***	-4.502	1.092
<i>DP</i>	-0.072	-1.327	1.091
<i>INJECT</i>	-0.188*	-1.902	1.062
<i>INDUSTRY</i>		Included	
<i>SEQ</i>		Included	
N		587	
adj-R <sup>2</sup>		40.65%	

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)

**Table 6 Multiple Regression Results:  
Foreign Background Funds vs. Domestic Funds**

	COEFFICIENTS	T-STATISTICS	VIF
<b>INTERCEPT</b>	2.446***	13.209	
<i>ROA</i>	-2.859***	-5.245	1.356
<i>VOL</i>	-0.193*	-1.66	1.048
<i>LIM_YR</i>	-0.054**	-2.252	1.064
<i>NPROP</i>	2.111***	10.393	1.133
<i>FUND</i>	-0.851***	-2.643	1.687
<i>NON_FUND</i>	-1.419***	-3.218	1.059
<i>FOREIGN_FUN</i>	1.753*	1.768	1.478
<i>D</i>			
<i>STATE</i>	0.199***	3.404	1.167
<i>SP</i>	-0.514***	-6.718	1.209
<i>IHP</i>	-0.365***	-4.554	1.094
<i>DP</i>	-0.073	-1.338	1.09
<i>INJECT</i>	-0.182*	-1.842	1.064
<i>INDUSTRY</i>		Included	
<i>SEQ</i>		Included	
N		587	
adj-R <sup>2</sup>		40.79%	

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)

**Table 7 Multiple Regression Results:  
Ownership Structure of Mutual Funds**

	COEFFICIENTS	T-STATISTICS	VIF
--	--------------	--------------	-----

<b>INTERCEPT</b>	2.433***	12.843	
<b>ROA</b>	-2.902***	-5.303	1.329
<b>VOL</b>	-0.186	-1.596	1.043
<b>LIM_YR</b>	-0.046*	-1.865	1.067
<b>NPROP</b>	2.047***	9.908	1.123
<b>FUND</b>	1.64*	1.748	14.036
<b>NON_FUND</b>	-1.397***	-3.153	1.055
<b>FIS_FUND</b>	-4.468***	-2.45	13.645
<b>STATE</b>	0.176***	2.949	1.182
<b>SP</b>	-0.543***	-7.078	1.216
<b>IHP</b>	-0.368***	-4.531	1.092
<b>DP</b>	-0.079	-1.435	1.083
<b>INJECT</b>	-0.207**	-2.11	1.067
<b>INDUSTRY</b>		Included	
<b>SEQ</b>		Included	
<b>N</b>		587	
<b>adj-R<sup>2</sup></b>		39.75%	

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)

**Table 8 Multiple Regression Results:  
All Three Interacted Variables in One Regression**

	<b>COEFFICIENTS</b>	<b>T-STATISTICS</b>	<b>VIF</b>
<b>INTERCEPT</b>	2.454***	12.96	
<b>ROA</b>	-2.925***	-5.35	1.331

<i>VOL</i>	-0.179	-1.53	1.046
<i>LIM_YR</i>	-0.049**	-1.99	1.074
<i>NPROP</i>	2.058***	9.97	1.126
<i>FUND</i>	1.063	1.07	15.787
<i>NON_FUND</i>	-1.421***	-3.20	1.066
<i>OPEN_FUND</i>	0.975	0.95	2.214
<i>FOREIGN_FUN</i>	1.636*	1.65	1.510
<i>D</i>			
<i>FIS_FUND</i>	-4.392***	-2.41	13.679
<i>STATE</i>	0.182***	3.05	1.185
<i>SP</i>	-0.534***	-6.96	1.220
<i>IHP</i>	-0.375***	-4.61	1.094
<i>DP</i>	-0.074	-1.36	1.085
<i>INJECT</i>	-0.199**	-2.03	1.068
<i>INDUSTRY</i>		Included	
<i>SEQ</i>		Included	
<i>N</i>		587	
<i>adj-R<sup>2</sup></i>		39.99%	

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)

**Table 9 Multiple Regression Results:  
Institutional Holdings as a Whole**

	COEFFICIENTS	T-STATISTICS	VIF
<b>INTERCEPT</b>	2.451***	12.92	
<i>ROA</i>	-2.884***	-5.29	1.323
<i>VOL</i>	-0.17	-1.46	1.045

<i>LIM_YR</i>	-0.049**	-2.02	1.074
<i>NPROP</i>	2.07***	10.00	1.129
<i>IS</i>	-0.084	-0.13	10.209
<i>OPEN_IS</i>	1.212	1.25	1.974
<i>FOREIGN_IS</i>	1.805*	1.87	1.418
<i>FIS_IS</i>	-2.407*	-1.94	9.137
<i>STATE</i>	0.185***	3.09	1.184
<i>SP</i>	-0.529***	-6.90	1.218
<i>IHP</i>	-0.379***	-4.67	1.091
<i>DP</i>	-0.077	-1.41	1.081
<i>INJECT</i>	-0.193**	-1.97	1.065
<i>INDUSTRY</i>		Included	
<i>SEQ</i>		Included	
<i>N</i>		587	
<i>adj-R<sup>2</sup></i>		39.86%	

---

\* 10% significance level, \*\* 5% significance level, \*\*\* 1% significance level (two-tailed)