

# Market for Corporate Control in Emerging Economy: Disciplining Mechanism or Tunneling Device?

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## Abstract

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*JEL Classifications:* K42, G34

*Keywords:* Market for Corporate Control, Embezzlement, Breach of Duty, Investor Protection, Korea

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## **Abstract**

This paper examines how market for corporate control can be misused by malicious corporate raiders to expropriate minority shareholders and creditors in target firms when investor protection is poor. Our perspective differs from conventional free cash flow theory that focuses on conflicts of interest between management and shareholders of the bidder. Using a large sample of publicly traded firms in Korea, we find that although less profitable firms are likely to be targeted, changes in subsequent performance are at best similar to those observed around no control transfers. Moreover, forced delisting as well as explicit looting through embezzlement or breach of fiduciary duty is much more likely to occur in firms that recently went through a change in control even after controlling for factors that induced the control change. Such misbehaviors are more likely in firms with more liquid assets and stable performance. Market reactions to changes in control are significantly negative for those firms that later become subject to embezzlement, breach of duty or forced delisting. These findings strongly suggest that market for corporate control in poor investor protection environment may not function as a disciplining mechanism but rather as a potential tunneling channel which raiders take advantage of.

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## **1. Introduction**

Traditional perspective on market for corporate control is that it constitutes an essential component in external corporate governance mechanisms. If a firm does not perform well or cater to shareholders' interests, it will simply become a takeover target and the incompetent incumbent management will be replaced with a more efficient team of new managers. (Manne, 1965). Although subsequent research notes that such argument needs to overcome free riding incentives of the target's shareholders one way or another (Grossman and Hart, 1980), there is a general consensus among academics and practitioners that market for corporate serves the role of disciplining inefficient incumbent management.. (Jensen and Ruback, 1983). In fact, Jensen (1993) favors market for corporate control as the most efficient mode of corporate governance over internal control systems such as board of directors, legal procedures and regulatory systems, or even product market competition. A related but slightly different perspective is that mergers may improve efficiency in a neoclassical sense by responding to changes in industry shocks such as deregulation (Mitchell and Mulherin (1996), and Andrade, Mitchell, and Stafford (2001)). Regardless of the detailed mechanism, numerous empirical studies document that takeovers create value which mostly accrues to the target shareholders.

On the other hand, there is also a possibility that takeovers may serve the self interests of bidder's management in value reducing activities such as empire building as outlined in free cash flow theory of takeovers (Jensen, 1986). This view suggests that conflicts of interest between management and shareholders over payout policy could induce the management to spend the corporate resources on acquisitions allowing them to avoid cash disgorgement and retain their managerial influence. While the theory focuses on the potential misuse of bidders' free cash flows, it is relatively silent on how the target's free cash flows could be expropriated. This is presumably due to the fact that expropriating targets' resources

could easily constitute embezzlement or breach of fiduciary and would be subject to judicial penalty in countries with adequate level of investor protection such as in U.S.

Unfortunately, there is a growing literature on law and finance that documents that legal protection of investor rights and the quality of enforcing such rights is far less than homogeneous around the world. (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV) (1998), Djankov, La Porta, Lopez-de-Silanes, and Shleifer (DLS) (2008)). If the judiciary system generally fails to protect investors' property rights, then there is a possibility that corporate raiders may be tempted to expropriate the target's resources by taking over control. Although this can be understood within the broad context of agency framework, it does not rely on the existence of free cash flow in the bidder to generate agency costs.

In this paper, we examine the extent to which market for corporate control can be expected to serve the disciplinary function as prescribed in the standard context in an economy where the level of investor protection is less than ideal. Under legal environment that does not fully honor explicit contractual details or respect formal regulations, various internal or external governance mechanisms that have emerged to reduce agency costs may not function in accordance with its original purpose. For example, a recent study by Doidge, Karolyi, and Stulz (2007) show that country-level characteristics, including legal protection for minority investors, are more important than firm-level characteristics in explaining corporate governance, particularly in less-developed countries. Rossi and Volpin (2004) provide a cross-country analysis and find that the size of market for corporate control is significantly smaller in countries with weaker shareholder protection.

Our approach is distinct from conventional free cash flow theory in at least three respects. First, we focus on conflicts of interest between the raider and the target's minority shareholders rather than between management and shareholders within the bidder. Under free cash flow theory, bidder shareholders may experience a value loss but not necessarily for

target shareholders. In fact, target shareholders may benefit from free cash flow in the bidder if the bidder management overpays. Second, takeovers are only one of many possible manifestations of management's abuse of free cash flow. In contrast, we suggest that raiders may engage in takeovers with an explicit intention of expropriating target's corporate resources. Third, the source of agency problem in free cash flow theory is too much resource in the bidder. In our context, bidder need not have much free cash flow since they can borrow from loan sharks and repay them with the embezzled cash after taking over control.

We focus on takeovers or changes in control in Korea which is widely known for a high level of private benefits, particularly the expropriation of minority shareholders or *tunneling*.<sup>1</sup> Korea also exhibits relatively low level of investor protection despite its rapid economic growth during the past few decades (LLSV (1998), DLLS (2008)). The following news article highlights the dark side of market for corporate control in Korea.<sup>2</sup>

*“...The prosecution Monday indicted two fraudulent corporate raiders...on charges of embezzling company funds and manipulating stock prices after acquiring a Kosdaq-listed company.....The accused took over CTC, an air cleaner manufacturing company, in 2007 after borrowing money from loan sharks. They embezzled 31 billion won of company funds and spent it on entertainment and overseas trips until April last year, and delayed paying salaries to employees of the firm.... As financial authorities were likely to monitor CTC for impaired capital, they cooked accounting books by borrowing money from loan sharks and entering it as company assets. Following the mismanagement, CTC, once a promising venture firm that had seen 10 billion won in sales yearly since the Kosdaq listing in 2002,*

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<sup>1</sup> Nenova (2003) shows that the control block premium in Korea is among the highest around the world. Bae, Kang, and Kim (2002) show that controlling shareholders of Korean business groups ‘tunnel’ through mergers of member firms at non-market prices. Baek, Kang, and Lee (2006) find similar results in private security offerings.

<sup>2</sup> The article is from the Korea Times, December 27, 2010.

*was delisted this March. Minor shareholders suffered estimated losses of 600 billion won....”*

This paper attempts to test whether the above incident is an extreme outlier or reflects a genuine systematic pattern. We first explore the characteristics of the target firms that attract potential raiders to examine whether Korean targets are systemically different from those reported in previous studies. The findings suggest that our targets exhibit similar characteristics as those reported in the previous literature. For example, firms with low profitability are more likely to be targeted.

Then, we move on to test whether there is a general improvement in performance following takeovers, as is reported in previous research focusing on U.S. data. We find that changes in various measures of profitability are not much different between those that go through changes in control and those that do not. This contrasts with the findings in previous literature that reports positive impact of control changes in firm performance, and suggests that motivations for takeovers in Korea may be something other than value maximization.

Having established that changes in control do not particularly improve performance, we further investigate whether other explicit agency problems occur in the target subsequent to takeovers. We focus on rather extreme forms of agency costs such as looting through embezzlement or breach of fiduciary duty. These are very direct measures that are relatively easier to identify than other subtle forms of tunneling such as those implemented through non-market price transactions. We also examine the probability of the forced delisting conditional on changes in control. Forced delistings are disciplinary actions imposed by the stock exchange or regulatory authorities when the firm cannot meet the minimum standards to continue to be traded as public firm in terms of performance or capital structure. Hence, forced delistings can also be used as a proxy for agency costs within the target. We find that such explicit forms of agency costs as embezzlement, breach of fiduciary duty and forced

delistings are much more likely to occur conditional on a recent change in control in both univariate and multivariate contexts.

Some may raise concerns that there may be a 3<sup>rd</sup> factor that simultaneously influences decisions to take over and decisions to misbehave, and hence the correlation that we observe between misbehaviors and control changes is spurious. To address such concerns, we next implement a two-stage estimation where we use an instrumental variable approach. The results suggest that predicted or instrumented value of changes in control is still highly significant. The results also show that profitability negatively affects changes in control only in the first stage, while the proportion of liquid assets positively affects likelihood of misbehaviors only in the second stage.

Finally, we examine announcement returns around disclosure of changes in control. If investors are able to predict future occurrences of corporate misbehaviors such as embezzlement or breach of fiduciary duty, then it should be reflected in announcement returns around control changes. Our findings suggest that announcement returns for all takeovers are initially positive, but quickly revert back. This finding is in strict contrast to those reported in Keown and Pinkerton (1981) and Barclay and Holderness (1990), where they document a sharp increase in target market value that persists over time following announcement of a merger or a block trade. We also find that the reversion in value is mostly being driven by those that later become subject to embezzlement or breach of fiduciary duty in both univariate and multivariate contexts. This suggests that investors are generally able to distinguish malicious raiders from normal raiders at the time of the change in control announcement.

Overall, these results suggest that market for corporate control serves a very limited role, if any, as a corporate governance mechanism. In environments where investor protection is not adequate, target minority shareholders are fully exposed to asset stripping by

raiders with malicious intent,

This paper is organized as follows. Section 2 reviews the relevant literature on control changes and section 3 describes our data sources and sample construction. Section 4 provides empirical results on control changes and section 5 reports its subsequent impact on corporate misbehaviors. Section 6 presents analysis of announcement returns. Section 7 provides a brief conclusion.

## **2. Related Literature**

In this section, we outline how our research is related with and expands the previous research on market for corporate control and corporate frauds. Many alternative motivations for engaging in takeovers have been suggested in the literature. While neo-classical perspective that focuses on the efficiency improvement through some form of ‘synergies’ or corporate governance perspective that emphasizes the disciplinary function have been more or less the mainstream explanations, other studies have noted that agency problems due to free cash flow in the bidding firm could be motivations behind takeovers. (Jensen, 1986) For example, the very fact that bidder announcement returns are typically slightly negative is taken as evidence consistent with management seeking their own interest such as empire building. (Shleifer and Vishny, 1997). Our research is related with this stream of literature in that we consider pursuit of private benefits of control as the key motivation behind takeovers. But we extend this research by considering implications of weak investor protection on possible occurrences of more extreme form of agency costs such as embezzlement or breach of fiduciary duty in the target rather than value reduction in the bidder due to misuse of free cash flows.

Barclay and Holderness (1990) examine target announcement returns and management turnover subsequent to block trades made in U.S. and find that target returns are



significantly positive and substantial portion of top management are replaced within one year. Our results are similar to theirs in that most of our sample consists of block trades rather than mergers and the new largest shareholder typically sits herself as the CEO. However, our result on target announcement returns shows a clear contrast. That is, initial positive returns around the change in control disclosures are quickly reverted, and this reversion is mostly being driven by firms that subsequently become subject to embezzlement or breach of fiduciary duty.

Bae, Kang, and Kim (2002) examine how mergers implemented at non-market prices among member firms in Korean chaebols could harm minority shareholders. Their work is related to ours, but their test setting or research question is completely different since most of their sample involves mergers among member firms within the same business group. Hence, their analyses focus on the effect of consolidation, amalgamation or reorganization rather than takeovers in the conventional sense. In contrast, our sample specifically excludes deals made within groups and focus on arm's length control transactions between independent business entities.

A few studies examine corporate frauds and their implications on subsequent stock returns and management turnover. For example, Karpoff, Lee, and Vondracik (1999) find that firms investigated for procurement frauds in U.S. suffer large losses in market value, while Karpoff, Lee, and Martin (2008) document that more than 90% of managers responsible for financial misrepresentation lose their jobs by the end of regulatory enforcement period. Our study is closely related with this research in that we specifically focus on corporate misbehaviors such as embezzlement or breach of fiduciary duty. But we consider corporate misbehavior more as a dependent variable rather than an exogenous event as a function of changes in control. In this sense, our approach is similar to Dimmock and Gerken (2011) where they try to identify a set of factors that predict future frauds by asset

managers. We extend this work by focusing on frauds at corporations and providing an additional potential factor, namely changes in control.

### **3. Data and Sample**

Our sample firms are all publicly traded non-financial firms listed in Korea Stock Exchange (KSE) and Korea Securities Dealers Automated Quotation (KOSDAQ) from 2005 to 2008. We obtain financial data from TS2000, a dataset compiled by the Korea Listed Companies Association (KLCA), and stock return data from Fn-Guide. Corporate governance index is provided by the Korean Corporate Governance Services (KCGS), a non-profit organization under KSE that has compiled the governance information for all Korean companies listed in KSE and KOSDAQ at annual frequency. They provide firm-level corporate governance information with a particular score attached. As of 2006, they had a total of 130 assessment items with total score of 300 points, which we convert to 100 points scale. 60% of items are evaluated by various disclosures while the remaining 40% are filled in through questionnaires. Our final sample consists of 1,777 unique firms with 7,120 firm-years from 2005 to 2008. We set our sample period from 2005 since our key corporate misbehavior variable is available only after October 2004.

The data for changes in control are collected from Korea Investor's Network for Disclosure System (KINDS). This database provides detailed information for changes in largest shareholder including ownership of old largest shareholder, ownership of new largest shareholder, acquisition date, and relationship between new largest shareholder and target firms. From 2005 to 2008, we initially collected 1,838 disclosures of changes in the largest shareholder. To ensure that these changes are indeed contracts made between independent business entities and are not amalgamation or consolidation of businesses within a business group, we carefully exclude cases where: (i) new largest shareholders are related parties of

the old largest shareholders (135 cases), (ii) new largest shareholders are affiliated firms in the same business group (143 cases), and (iii) control transfer is a result of either inheritance or gift from a related party (37 cases). Next, to ensure that these events are not portfolio investments that do not intend to influence management, we further exclude cases where (iv) the ownership of the new largest shareholders is less than 5%, and (v) the ownership of old largest shareholder increase after the event (420 cases). After applying these filters, we end up with 1,103 disclosures that reflect genuine change in control. Slightly less than 10% of them reflect changes in control due to a merger, but the remaining 90% of control changes do not involve a merger. This suggests that control change events mostly reflect block trades as in Barclay and Holderness (1991) rather than conventional mergers typical in U.S.

We obtain our data on embezzlement or breach of fiduciary duty by the management from relevant disclosures on KINDS. Since October 2004, Korean regulatory authorities require all publicly traded firms to disclose all accusations of embezzlement or breach of fiduciary duty by the management if the damage incurred through these misbehaviors exceeds a certain threshold, which was adopted for the purpose of protecting minority shareholders.<sup>3</sup> The information provided includes event confirming dates, event occurrence dates, and the amount of damage incurred.<sup>4</sup> From 2005 to 2009, we obtain 277 disclosures of accusations of either embezzlement or breach of fiduciary duty.

Our data on forced delistings are also obtained from KINDS.. There are initially 124 delisted firms from 2005 to 2009 in KSE and KOSDAQ. To focus on forced delistings as a result of regulatory sanctions, we exclude delistings such as those due to voluntary withdrawal, mergers & acquisitions, listing on other stock exchange, and the expiration of the

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<sup>3</sup> The cutoff damage level for KSE firms is 5% (2.5% for large-sized corporations) of the firm's equity capital. Corresponding numbers for KOSDAQ are 5% (3% for large-sized corporations). Large-sized corporations are those with total assets greater than KRW 2 trillion (KRW 1 trillion for KOSDAQ) at the latest fiscal year end.

<sup>4</sup> Although event occurrence date would be more appropriate in terms of identifying when the event actually occurred, this information is often missing.

duration. After this filter, we have 103 forced delistings that reflect refusal of audit opinion, impaired capital (negative book equity), or other corporate governance issues.

Table 1 contains summary statistics for control change events occurring from 2005 to 2008. The first column presents the number of identified changes in control for each year during the sample period. There are a total of 1,103 unique disclosures that reflect changes in control. Columns two to four report the corresponding numbers for sub-groups based on the identities of the new largest shareholder.<sup>5</sup> The new largest shareholders are corporations in roughly half of the cases (49.2%), but the proportion of those where individuals are the new largest shareholders is almost as large. (44%). This is quite different from Barclay and Holderness (1991) where 80% of block purchases are made by corporations and the remaining 20% are by individuals. The fact that close to a half of control changes are made by individuals rather than corporations suggests that it is less likely that our control change events are being driven by free cash flow in the bidding firm.

The next six columns of the table present the average block holdings of the largest shareholder before and after the announcement of changes in control. As expected, we find significant differences in ownership of the largest shareholder around control changes. The average percentage ownership of the old largest shareholder drops from 16.84% to 4.92% following the disclosure of changes in control. On the other hand, the average percentage ownership of the new largest shareholder increases from below 2% to roughly 20% following changes in control. Although the percentage acquired is less than 50%, previous literature on international corporate ownership suggests that 20% may be sufficient to exercise effective control for publicly traded firms. (La Porta, Lopez-de-Silanes, and Shleifer (1999), and Burkart, Gromb, and Panunzi (2000)). Moreover, these numbers are largely similar to

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<sup>5</sup> Others' refer to cases where the new largest shareholder is either a fund or a partnership.

those reported in Barclay and Holderness (1991).<sup>6</sup>. This suggests that the events we identified indeed reflect genuine control transfers.

#### **4. Which target characteristics attract potential raiders?**

In this section, we examine the characteristics of target firms that induces changes in control. We first implement a univariate comparison of the characteristics of firms that went through a change in control against those that did not in table 2. Since a given firm may have been subject to multiple control changes within a fiscal year, the total number of firm-years with control changes drops to 797 from 1,103.

Overall, firms that experience a change in control seem to be quite different from those without changes in control. For example, firm with changes in control are generally smaller, less profitable, has higher leverage and lower governance index than firms without changes in control. These results are generally consistent with Palepu (1986) who finds that target firms are underperformers and smaller than non-targets.

The average governance index in firms with changes in control is 31.35 which is statistically significantly lower than 35.71 in those with no changes in control. The degree of agency problems that exist between managers and shareholders in the target could affect the likelihood of control-related events. Since the effectiveness of monitoring activities which alleviates these agency problems depends on the existence of corporate governance mechanisms (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000), control changes could serve as a substitute governance mechanism. Consistent with this perspective, a firm with weak corporate governance is indeed more likely induce a change in control

To formally test which factors affect the likelihood of a control change in multivariate context, we next estimate a probit model where the dependent variable is set to

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<sup>6</sup> Average block size in Barclay and Holderness (1991) is 27%.

one if there is at least one control change during that fiscal year and zero otherwise. Right-hand side variables include financial and governance variables that may influence the probability of a control change. Specifically, we estimate the following specification:

$$Z = \Phi(\alpha + \beta_1 \textit{Profit} + \beta_2 \textit{Governance} + \beta_3 \textit{Profit} * G\_dummy + \beta_4 G\_dummy + \beta_5 \textit{Fraud} + \beta_6 \textit{Size} + \beta_7 \textit{Leverage} + \beta_8 \textit{Liquidity} + \beta_9 \textit{Cash} + \beta_{10} \textit{Risk} + \beta_{11} \textit{Growth} + \beta_{12} M / B + \beta_{13} \textit{Own} + \varepsilon) \quad (1)$$

where  $Z$  is the probability that firms will go through a change in control and  $\Phi$  is the cumulative distribution function of the standard normal distribution. *Profit* is the return on assets and is defined as earnings before interest and taxes scaled by total assets, *Governance* is the corporate governance index provided by the Korea Corporate Governance Services (KCGS) converted into 100 point scale. *G\_dummy* equals one if *Governance* exceeds the sample median and zero otherwise. We also construct an interaction term (*Profit\*G\_dummy*) between firm performance and corporate governance. In addition we include *Fraud before this year* which is a dummy variable that equals one if the firm was accused of either embezzlement or breach of fiduciary duty during the previous year. *Size* is natural log of total assets, *Leverage* is total liabilities scaled by total assets, *Liquidity* is current assets minus inventory scaled by total assets, *Cash* is cash plus cash equivalents scaled by shareholders' equity, *Risk* is standard deviation of ROA during the past 5 years, and *Growth* is average sales growth during the past 5 years. *M/B* is the market value of common equity scaled by book value of common equity. *Own* is the ownership of largest shareholder.

Table 3 presents marginal effects from probit regressions that examine the relationship between the likelihood of a control changes and target characteristics. In columns (1) and (3), marginal effect of *profit* is significantly negative, which suggests that firms with low profitability are more likely to be targeted, consistent with the univariates results reported in table 2 and also with findings in Palepu (1986). In regression (2) we observe that the marginal effect of corporate governance on the likelihood of a control change

is negative (-0.0097) and significant. This suggests that potential bidders are more willing to bid for firms with weak corporate governance. When we interact profitability with governance in column (3), we note that the effect of negative profitability is much stronger in targets with good governance. In fact, negative performance affects probability of a control changes only in firms with good governance after we controls for firm size, leverage ratio, and other firm characteristics in columns (7) and (8),. The coefficients on *fraud before this year* dummy are all significantly positive in columns (4) (6) and (8), which suggests that firms that have previously been victims of embezzlement or breach of duty are more likely to be targeted.

In table 4, we report the accounting performance of firms that go through changes in control. Panel A reports the results for all firms, and panel B reports the results separately for those that experience a change in control and those that do not. In panel C, we report the difference-in-difference results between the two groups. The results from table 4 indicate that changes in performance are not significantly different between those that go through control changes and those that do not. This result is quite different from those reported in the previous research based on U.S. data that firm typically perform better after being taken over.

## **5. Corporate Misbehaviors subsequent to Changes in Control**

In this section, we investigate whether more extreme forms of agency problems occur in the target firms subsequent to takeovers. We focus on explicit looting through embezzlement or breach of fiduciary duty which is an outright form of tunneling that are less controversial than other subtle forms of tunneling in terms of the damage incurred to minority investors. We also consider forced delisting as a result of regulatory sanction as another potential explicit manifestation of agency problems in the target.

Table 5 presents the likelihood of a fraud<sup>7</sup> or a forced delisting for all non-financial publicly traded firms in Korea for each year during the sample period. We find that 2.47% of the sample firms experience explicit looting through embezzlement or breach of fiduciary duty and there are 103 (1.45%) forced delistings from 2005 to 2009. However, there is a clear difference between firms that go through changes in control and those that do not. Firms that experience a change in control are much more likely to be subject to embezzlement or breach of fiduciary duty. For example, the probability of embezzlement or breach of duty conditional on change in control is 11.92%, which is almost 10 times as large as the corresponding probability conditional on no changes in control. These results strongly suggest that changes in control may aggravate agency problems in the target rather than discipline the target management.

Table 6 provides characteristics of firms that experienced frauds or forced delistings against those that did not. The results indicate that firms that experience frauds are generally larger, have higher leverage, and lower profitability and governance index. For example, average *Governance* for firms with fraud is 30.48, which is statistically significantly lower than 35.32 for firms without frauds.

More importantly, change in control is much more likely in firms that experience frauds than no frauds. For example, within fraud group, more than 50% of firms have experienced a change in control, while the corresponding probability is only 10% for no-fraud group. This strongly suggests that change in control may lead to extreme forms of agency costs in the target rather than improve its performance through discipline. The results for forced delistings are similar to those reported for frauds.

We next implement multivariate analysis in Table 7 to provide a deeper insight into the relationship between the likelihood of a fraud or a forced delisting and firm characteristics.

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<sup>7</sup> Fraud refers to either embezzlement or breach of fiduciary duty.



Table 7 reports the results from probit and tobit specifications where the dependent variables are occurrences of frauds or forced delistings. The dependent variable in the first two columns is a dummy that equals one if the firm experiences a fraud during the fiscal year. In the next two columns, the dependent variable is a dummy that equals one if the firm is delisted as a result of regulatory sanction during the fiscal year. In the last two columns, the dependent variable is the total amount of damage incurred by fraud scaled by total assets.

We find that such explicit forms of agency costs as embezzlement, breach of fiduciary duty and forced delistings are much more likely to occur when there is a recent change in control even after controlling for other firm characteristics that could potentially affect corporate misbehaviors. We also note that higher operating risk is positively correlated with the likelihood of a fraud or a forced delisting, while firm size and profitability are negatively correlated. Tobit results reported in columns (5) and (6) are generally similar to probit reported in columns (1) and (2).

Although the previous analysis suggests that changes in control are strongly correlated with subsequent corporate misbehaviors, it is possible that this correlation is driven by some unknown 3<sup>rd</sup> factor that simultaneously affects both the likelihood of a control change and corporate misbehaviors. To address this issue, we employ a two-stage specification where the predicted value of change in control in the first stage is used to predict frauds or forced delistings in the second stage. The key instrument variable we use is the percentage ownership of the largest shareholder before the control change. The idea is that it would be more difficult to inflict a change control if the incumbent largest shareholder holds large voting rights. We report the results of this two-stage estimation in table 8.

The results suggested that predicted values of control changes are still positively correlated with subsequent corporate misbehaviors. One interesting finding is that profitability is significantly negatively related with control changes in the first stage while

liquidity is significantly positively correlated with frauds or delisting in the second stage. This suggests that profitability is not directly related with frauds, but liquidity is. That is, embezzlement or breach of fiduciary duty occurs in firms with relatively more liquid assets which are easier to siphon off than fixed assets.

## **6. Announcement Returns around Changes in Control**

Previous research documents that changes in control, whether through mergers or block trades, typically induce a sharp increase in target returns around the announcement. (For example, Keown and Pinkerton (1981) and Barclay and Holderness (1990)). In this section, we examine announcement returns around disclosure of changes in control to test whether similar results hold in our sample as well. Abnormal returns are based on market model where the parameters are estimated using 210 daily returns from day -451 to day -242 of the disclosure date. Figure 1 and table 9 summarize the cumulative abnormal returns (CARs) around each control change event.

Both panels A and B in figure 1 suggest that target returns start increasing around 60 trading days prior to the control change announcement. This pattern is similar to those reported in Keown and Pinkerton (1981) and Barclay and Holderness (1990), although the magnitude is slightly smaller. However, the patterns in announcement returns subsequent to control changes are strikingly different in our sample. Unlike previous studies that document a permanent increase in stock price, our sample exhibits a quick reversion in subsequent returns. In fact, most of the pre-announcement gains are lost by 120 trading days after the announcement. When we partition the sample into those that subsequently become subject to frauds or forced delistings and those that do not, however, we find that the reversion in announcement returns are mainly being driven by those that later become subject to frauds or forced delistings.

Table 9 reports statistical significance of the announcement returns for various event windows. For all sample firms, the mean CAR (-40, 0) is positive (0.1439) and significant, which is consistent with previous literature. In contrast, the mean CAR (0, 40) for all sample firms is significantly negative (-0.0687), which is inconsistent with the result from Barclay and Holderness (1991) who find a permanent increase in target market value following a block trade. Overall, our results suggest that announcement returns for all takeovers are initially positive, but quickly revert back.

The next three rows of Table 9 report the results separately for changes in control followed by frauds against those that were not followed as well as the difference between the two groups. The mean CAR (-40, 40) for firms with a fraud is -0.2154 and those for firms with no-fraud 0.1076. Tests for differences in the mean CAR (-40, 40) between fraud and no-fraud groups are strongly rejected at 0.01 level. Similarly, the mean CAR (-40, 40) is -0.2704 for firms with forced delistings and 0.0921 for those with no forced delistings, the difference of which is statistically significant. These results indicate that average abnormal returns around disclosure of changes in control are significantly negative for firms that experience a fraud later on.

The last three rows of Table 9 report the results for forced delisting against those that were not. Similar to the results on subsequent frauds, the mean CAR (-40, 40) for firms followed by forced delisting is significantly negative while it is significantly positive for those that were not. The differences between the two subgroups are statistically significant. Based upon these results, we conjecture that investors are generally able to distinguish malicious raiders from normal raiders at the time of the change in control announcement.

To examine the cross-sectional variation in announcement returns, we estimate multivariate regressions using the CAR (-40, 40) and CAR (-240, 240) as dependent variables. All regressions are estimated using ordinary least squares (OLS) and Whites's (1980)

standard errors adjusted for heteroskedasticity. The results are shown in Table 10. In regression (1), we regress CARs (-40, 40) on fraud dummy and delisted dummy. The results indicate that the coefficients on these variables are all significant and negative at the conventional level. The significance of the coefficients on frauds and forced delistings do not disappear when we add control variables, as in regression (3). Similar results are obtained when we replace the CARs (-40, 40) by the CARs (-240, 240) in regressions (4), (5), and (6). These results suggest that frauds and forced delistings after the announcement of changes in control adversely affect the value of target firms.

## **7. Conclusion**

Market for corporate control is widely viewed as an explicit mode of external governance mechanism in corporate finance literature. In this paper, we challenge this view by providing implications of control changes for target shareholders in an environment where investor protection is weak.

Using a large sample of publicly traded firms in Korea, we first find that less profitable firms are more likely to be targeted, consistent with the previous literature. However, change in control does not necessarily lead to performance improvement in our sample of taken over targets. Rather, explicit forms of agency problems such as embezzlement, breach of fiduciary duty or forced delistings are all more likely to occur in the target following a change in control. This finding is robust to accounting for first-stage decision to engage in a takeover in the first place. Moreover, we find that the announcement returns following changes in control are initially positive, but revert back fairly quickly and this reversion is mostly being driven by huge negative returns for those that later become subject to embezzlement or breach of duty.

How are these malicious corporate raiders able to pull this scheme off so often? We

conjecture that the level of legal sanctions on these behaviors is not strict enough in Korea. For one, Korean legal system has yet to adopt a punitive damage system employed in U.S courts. where the defendants may be subject to additional monetary liability as a form of punishment. Moreover, Korean judiciary tends to be too lenient on white collar crimes.<sup>8</sup> Under such environment, it could be positive NPV from malicious raiders' perspective, even if they get caught since they will still have access to most of corporate assets that they have siphoned off once they endure serving a few years of sentenced terms in prison.

In a classic survey of market for corporate control, Jensen and Ruback (1983) argue that "...it is difficult to find managerial actions related to corporate control that harm shareholders..... market for corporate control is best viewed as an arena in which managerial teams compete for the rights to manage corporate resources." The findings provided in this paper raise a challenge against this view. That is, we need to be careful in understanding the economic role of not just market for corporate control but also of any other corporate governance mechanisms in economies where investor protection is poor. As the theory of second best in welfare economics suggests, satisfying one efficiency condition without satisfying the other simultaneously may actually result in a worse outcome.

One potentially puzzling related research question is how these firms are able to continue to attract minority investors to invest in these firms, even though market participants can generally distinguish those firms that will later become exposed to tunneling civilities. Our conjecture is that many emerging market investors are subject to preferences for skewness and behave more like a gambler than a mean-variance optimizer. Examining the extent to which the behaviors of emerging market investors affect corporate (mis)behaviors would be an interesting topic for future research.

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<sup>8</sup> Kim and Park (2010) show that the probability of actually serving the prison term or being physically confined during indictment process is much lower if the accused are from member firms of large business groups or chaebols.

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Table 1  
Largest Shareholder's Ownership around Control Changes

This table presents the summary statistics of the control change events in the sample. Control changes are identified through disclosures of changes in the largest shareholder filed by all non-financial publicly traded firms in Korea excluding cases where the change reflects a transfer among related parties, inheritance or gift. The first column presents the number of identified changes in control for each year during the sample period while columns two to four report the corresponding numbers for sub-groups based on the identities of the new largest shareholder. 'Others' refer to cases where the new largest shareholder is either a fund or a partnership. The next six columns report the average percentage ownership of the old largest shareholder as well as the new largest shareholder around changes in control. Numbers in parentheses are the p-values from testing the differences in ownership before and after the control change disclosure for both old and new largest shareholder. \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|       | N     |            |             |        | Ownership of the Largest Shareholder around Changes in Control |        |                        |                         |         |                         |
|-------|-------|------------|-------------|--------|--|--------|------------------------|-------------------------|---------|-------------------------|
|       | ALL   | Individual | Corporation | Others | OLD largest shareholder  |        |                        | NEW largest shareholder |         |                         |
|       |       |            |             |        | Before   | After  | Difference             | Before                  | After   | Difference              |
| 2005  | 222   | 90         | 115         | 17     | 18.6673  | 4.6656 | 14.0016***<br>(0.0000) | 2.1057                  | 20.8372 | -18.7315***<br>(0.0000) |
| 2006  | 259   | 117        | 123         | 19     | 17.9603  | 5.5880 | 12.3723***<br>(0.0000) | 2.2074                  | 20.2242 | -18.0169***<br>(0.0000) |
| 2007  | 326   | 151        | 149         | 26     | 15.6547  | 4.9317 | 10.7230***<br>(0.0000) | 2.0855                  | 18.0048 | -15.9193***<br>(0.0000) |
| 2008  | 296   | 127        | 156         | 13     | 15.8058  | 4.5106 | 11.2952***<br>(0.0000) | 1.6160                  | 19.0575 | -17.4415***<br>(0.0000) |
| Total | 1,103 | 485        | 543         | 75     | 16.8430  | 4.9193 | 11.9237***<br>(0.0000) | 1.9922                  | 19.3785 | -17.3863***<br>(0.0000) |



Table 2

## Firm Characteristics: Changes in Control vs. No Changes in Control

This table presents average characteristics of firms that experienced a change in control during a given fiscal year vs. those that did not. The differences between the two group as well as the p-values from testing the equality of means are presented in the last column. \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. *Size* is the logarithm of total assets (in KRW). *Leverage* is total liabilities scaled by total assets. *Liquidity* is current assets minus inventory scaled by total assets. *Cash* is cash plus cash equivalents scaled by shareholders' equity. *Risk* is the standard deviation of ROA during the past 5 years. *Growth* is the average of sales growth during the past 5 years. *Profit* is the net income scaled by total assets. *M/B* is the stock price multiplied by the number of common stock divided by capital stock minus preferred capital stock. *Blockholder* is the ownership of largest shareholder, and in case of change in control defined as ownership of the old largest shareholder. *Governance* is the index provided by Korea Corporate Governance Services (KCGS) converted into 100 point scale. *Fraud before this year* equals one if there was accusations of either embezzlement or breach of fiduciary duty prior to a given fiscal year. The sample period is from 2005 to 2008.

|                                   |                  | Change in Control vs. No Change in Control |                                      |                         |
|-----------------------------------|------------------|--|--------------------------------------|-------------------------|
|                                   | All<br>(N=7,120) | Change in<br>Control<br>(N=797)            | No Change in<br>Control<br>(N=6,322) | Difference              |
| <i>Size</i>                       | 25.3356          | 24.4148                                    | 25.4517                              | -1.0369***<br>(0.0000)  |
| <i>Leverage</i>                   | 0.4507           | 0.5332                                     | 0.4403                               | 0.0929***<br>(0.0000)   |
| <i>Liquidity</i>                  | 0.3774           | 0.3925                                     | 0.3755                               | 0.0170**<br>(0.0346)    |
| <i>Cash</i>                       | 0.1466           | 0.1616                                     | 0.1447                               | 0.0169<br>(0.5193)      |
| <i>Risk</i>                       | 0.1247           | 0.3171                                     | 0.1004                               | 0.2168***<br>(0.0000)   |
| <i>Growth</i>                     | 0.0031           | 0.0020                                     | 0.0033                               | -0.0012<br>(0.1790)     |
| <i>Profit</i>                     | -0.0547          | -0.4390                                    | -0.0061                              | -0.4329***<br>(0.0000)  |
| <i>M/B</i>                        | 1.4580           | 2.3450                                     | 1.3467                               | 0.9983***<br>(0.0000)   |
| <i>Blockholder</i>                | 36.9103          | 17.7660                                    | 39.5105                              | -21.7445***<br>(0.0000) |
| <i>Governance</i>                 | 35.1921          | 31.3489                                    | 35.7112                              | -4.3623***<br>(0.0000)  |
| <i>Fraud<br/>before this year</i> | 0.0149           | 0.0826                                     | 0.0052                               | 0.0773***<br>(0.0000)   |

Table 3  
Determinant of Changes in Control: Probit Model

This table reports the marginal effects (dF/dx) from probit estimation where the dependent variables is a dummy that equals one if there was a change in control during a given fiscal year and zero otherwise (*change in control*). *Profit* is the net income scaled by total assets. *Governance* is the index provided by Korea Corporate Governance Services (KCGS) converted into 100 point scale. *G\_dummy* equals one if *governance* is greater than the sample median (roughly 40 points) and zero otherwise. *Fraud before this year* equals one if there was accusations of either embezzlement or breach of fiduciary duty prior to a given fiscal year. *Size* is the logarithm of total assets (in KRW). *Leverage* is total liabilities scaled by total assets. *Liquidity* is current assets minus inventory scaled by total assets. *Cash* is cash plus cash equivalents scaled by shareholders' equity. *Risk* is the standard deviation of ROA during the past 5 years. *Growth* is the average of sales growth during the past 5 years. *M/B* is the stock price multiplied by the number of common stock divided by capital stock minus preferred capital stock. *Own* is the ownership of largest shareholder, and in case of change in control defined as ownership of the old largest shareholder. Standard errors are clustered at firm and z-statistics are presented in parentheses \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|                               | (1)                    | (2)                   | (3)                    | (4)                 | (5)                    | (6)                    | (7)                    | (8)                    |
|-------------------------------|------------------------|-----------------------|------------------------|---------------------|------------------------|------------------------|------------------------|------------------------|
| <i>Profit</i>                 | -0.1554***<br>(-20.92) |                       | -0.1097***<br>(-18.56) |                     | -0.0116<br>(-1.05)     | -0.0023<br>(-0.26)     | -0.0083<br>(-0.84)     | -0.0002<br>(-0.02)     |
| <i>Governance</i>             |                        | -0.0097***<br>(-7.77) |                        |                     | -0.0026***<br>(-4.47)  | -0.0029***<br>(-3.69)  |                        |                        |
| <i>Profit*</i>                |                        |                       | -0.2001***<br>(-3.22)  |                     |                        |                        | -0.0635***<br>(-3.16)  | -0.0730**<br>(-2.17)   |
| <i>G_dummy</i>                |                        |                       | -0.0923***<br>(-10.98) |                     |                        |                        | -0.0328***<br>(-5.51)  | -0.0359***<br>(-4.41)  |
| <i>Fraud before this year</i> |                        |                       |                        | 0.5809***<br>(9.83) |                        | 0.0637**<br>(2.33)     |                        | 0.0706***<br>(2.60)    |
| <i>Size</i>                   |                        |                       |                        |                     | -0.0124***<br>(-4.10)  | -0.0148***<br>(-3.91)  | -0.0154***<br>(-5.86)  | -0.0182***<br>(-5.52)  |
| <i>Leverage</i>               |                        |                       |                        |                     | -0.0036<br>(-0.50)     | 0.0124<br>(1.16)       | -0.0037<br>(-0.53)     | 0.0121<br>(1.19)       |
| <i>Liquidity</i>              |                        |                       |                        |                     | -0.0354**<br>(2.40)    | -0.0426**<br>(-2.33)   | -0.0301**<br>(-2.05)   | -0.0367**<br>(-2.00)   |
| <i>Cash</i>                   |                        |                       |                        |                     | 0.0006<br>(0.16)       | 0.0379**<br>(2.38)     | 0.0004<br>(0.10)       | 0.0343**<br>(2.20)     |
| <i>Risk</i>                   |                        |                       |                        |                     | 0.0453***<br>(3.62)    | 0.0337**<br>(2.29)     | 0.0455***<br>(3.54)    | 0.0325**<br>(2.12)     |
| <i>Growth</i>                 |                        |                       |                        |                     | -0.3066<br>(-0.75)     | -0.6582<br>(-1.46)     | -0.3571<br>(-0.88)     | -0.6692<br>(-1.55)     |
| <i>M/B</i>                    |                        |                       |                        |                     | 0.0092***<br>(5.67)    | 0.0048**<br>(2.10)     | 0.0079***<br>(4.86)    | 0.0040*<br>(1.73)      |
| <i>Own</i>                    |                        |                       |                        |                     | -0.0043***<br>(-15.74) | -0.0043***<br>(-11.43) | -0.0041***<br>(-15.80) | -0.0041***<br>(-11.31) |
| Year dummy                    | Yes                    | Yes                   | Yes                    | Yes                 | Yes                    | Yes                    | Yes                    | Yes                    |
| N                             | 7,045                  | 6,656                 | 6,614                  | 3,493               | 6,582                  | 3,374                  | 6,582                  | 3,374                  |
| Pseudo R <sup>2</sup>         | 0.1212                 | 0.0584                | 0.1392                 | 0.0359              | 0.3254                 | 0.3668                 | 0.3277                 | 0.3692                 |

Table 4  
Firms Performance around Changes in Control: Univariate Analysis

This table presents the averages of ROA, operating income scaled by total assets and income before taxed scaled by total assets for various fiscal years around changes in control. Extreme values are winsorized at 2 and -2, which roughly correspond to top 1% and bottom 1% of the sample distribution. Panel A reports the results for all firms, while panel B compares those with changes in control against those without. Panel C reports changes in performance measures from -1 to +1 fiscal year and reports the differences between the two groups in difference-in-difference framework. In panels A and B, the analysis is based on all firms that have accounting information from year -3 to +1, while is panel C, the information requirement is for year -1 and +1. Numbers in parentheses are the p-values from testing the differences between the two groups and \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

Panel A: Pairwise comparison

|                   | All                  |                      |                      |                        |                      |
|-------------------|----------------------|----------------------|----------------------|------------------------|----------------------|
|                   | -3 year<br>(N=5,008) | -2 year<br>(N=5,008) | -1 year<br>(N=5,008) | This year<br>(N=5,008) | +1 year<br>(N=5,008) |
| ROA               | 0.0000               | -0.0076              | -0.0202              | -0.0526                | -0.0697              |
| Operating income  | 0.0382               | 0.0326               | 0.0237               | 0.0132                 | 0.0088               |
| Income before tax | 0.0130               | 0.0050               | -0.0082              | -0.0414                | -0.0578              |

|                   | Change in Control (a) |                    |                    |                      |                    | No Change in Control (b) |                      |                      |                        |                      | Difference (a)-(b)     |                        |                        |                        |                        |
|-------------------|-----------------------|--------------------|--------------------|----------------------|--------------------|--------------------------|----------------------|----------------------|------------------------|----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                   | -3 year<br>(N=494)    | -2 year<br>(N=494) | -1 year<br>(N=494) | This year<br>(N=494) | +1 year<br>(N=494) | -3 year<br>(N=4,514)     | -2 year<br>(N=4,514) | -1 year<br>(N=4,514) | This year<br>(N=4,514) | +1 year<br>(N=4,514) | -3 year                | -2 year                | -1 year                | This year              | +1 year                |
| ROA               | -0.2023               | -0.2857            | -0.3120            | -0.3764              | -0.3487            | 0.0221                   | 0.0229               | 0.0117               | -0.0172                | -0.0392              | -0.2245***<br>(0.0000) | -0.3085***<br>(0.0000) | -0.3237***<br>(0.0000) | -0.3592***<br>(0.0000) | -0.3095***<br>(0.0000) |
| Operating income  | -0.0902               | -0.1282            | -0.1100            | -0.1226              | -0.1110            | 0.0522                   | 0.0502               | 0.0383               | 0.0281                 | 0.0220               | -0.1424***<br>(0.0000) | -0.1784***<br>(0.0000) | -0.1484***<br>(0.0000) | -0.1507***<br>(0.0000) | -0.1330***<br>(0.0000) |
| Income before tax | -0.1956               | -0.2792            | -0.3069            | -0.3635              | -0.3375            | 0.0358                   | 0.0361               | 0.0245               | -0.0062                | -0.0272              | -0.2315***<br>(0.0000) | -0.3152***<br>(0.0000) | -0.3313***<br>(0.0000) | -0.3573***<br>(0.0000) | -0.3103***<br>(0.0000) |

Panel B: Difference in Difference

|                   | Change in Control  |                    |                | No Change in Control |                      |                | Difference in Difference (a)-(b) |
|-------------------|--------------------|--------------------|----------------|----------------------|----------------------|----------------|----------------------------------|
|                   | -1 year<br>(N=507) | +1 year<br>(N=507) | Difference (a) | -1 year<br>(N=4,711) | +1 year<br>(N=4,711) | Difference (b) |                                  |
| ROA               | -0.3173            | -0.3501            | 0.0328         | 0.0157               | -0.0356              | 0.0513         | 0.0185<br>(0.5323)               |
| Operating income  | -0.1133            | -0.1117            | -0.0015        | 0.0425               | 0.0245               | 0.0179         | 0.0195<br>(0.1417)               |
| Income before tax | -0.3122            | -0.3992            | 0.0270         | 0.0289               | -0.0234              | 0.0523         | 0.0253<br>(0.3909)               |

Table 5

## Probabilities of Fraud or Forced Delisting: Unconditional vs. Conditional on Changes in Control

This table reports the likelihood of a fraud or a forced delisting for all non-financial publicly traded firms in Korea for each year during the sample period. We define fraud event as disclosures of management being accused of either embezzlement or breach of fiduciary duty. Forced delistings are due to disclaimer of opinion issued by outside auditors or negative book equities. We report the results separately for all firm-years, firm-years with changes in and control, firm-years with no changes in control. The first column in each group reports the number of firm-years in each group while the second and third columns report probabilities of fraud or forced delisting in percentages, either unconditional or conditional on changes in control and no changes in control during a given fiscal year, The last two columns report the differences between two conditional probabilities, where the numbers in parentheses are the p-values from testing these differences. \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|       | All   |          |             | Change in Control (a) |          |             | No Changes Control (b) |          |             | Difference (a)-(b)   |                      |
|-------|-------|----------|-------------|-----------------------|----------|-------------|------------------------|----------|-------------|----------------------|----------------------|
|       | N     | Fraud(%) | Delisted(%) | N                     | Fraud(%) | Delisted(%) | N                      | Fraud(%) | Delisted(%) | Fraud(%)             | Delisted(%)          |
| 2005  | 1,777 | 1.24     | 0.39        | 170                   | 7.06     | 2.35        | 1,607                  | 0.62     | 0.19        | 6.44***<br>(0.0014)  | 2.16*<br>(0.0660)    |
| 2006  | 1,790 | 2.23     | 0.56        | 187                   | 8.56     | 1.60        | 1,603                  | 1.50     | 0.44        | 7.06***<br>(0.0008)  | 1.16<br>(0.2136)     |
| 2007  | 1,781 | 4.10     | 1.01        | 230                   | 19.57    | 3.91        | 1,551                  | 1.81     | 0.58        | 17.76***<br>(0.0000) | 3.33**<br>(0.0107)   |
| 2008  | 1,772 | 2.31     | 3.84        | 210                   | 10.48    | 20.48       | 1,562                  | 1.22     | 1.60        | 9.26***<br>(0.0000)  | 18.88***<br>(0.0000) |
| Total | 7,120 | 2.47     | 1.45        | 797                   | 11.92    | 7.40        | 6,323                  | 1.28     | 0.70        | 10.64***<br>(0.0000) | 6.70***<br>(0.0000)  |

Table 6

## Firm Characteristics: Fraud vs. No-Fraud Group and Forced Delisting vs. No-Forced Delisting Group

This table reports the differences in firm characteristics between firms that experienced a fraud against those that did not as well as between those that experienced a forced delisting against those that did not. We define fraud event as disclosures of management being accused of either embezzlement or breach of fiduciary duty. Forced delistings are due to disclaimer of opinion issued by outside auditors or negative book equities. *Change in control* is a dummy variable that equals one if there is a disclosure of change in control during a given fiscal year and zero otherwise. *Size* is the logarithm of total assets (in KRW). *Leverage* is total liabilities scaled by total assets. *Liquidity* is current assets minus inventory scaled by total assets. *Cash* is cash plus cash equivalents scaled by shareholders' equity. *Risk* is the standard deviation of ROA during the past 5 years. *Growth* is the average of sales growth during the past 5 years. *Governance* is the index provided by Korea Corporate Governance Services (KCGS) converted into 100 point scale. *Profit* is the net income scaled by total assets. Numbers in parentheses are the p-values from testing the differences between the two groups and \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|                          | Fraud vs. No-Fraud Group |                  |                       |                        | Forced Delisting vs. No-Forced Delisting Group |                           |                        |
|--------------------------|--------------------------|------------------|-----------------------|------------------------|--|---------------------------|------------------------|
|                          | All<br>(N=7,120)         | Fraud<br>(N=176) | No-fraud<br>(N=6,944) | Difference             | Delisted<br>(N=103)                            | Non-delisted<br>(N=7,017) | Difference             |
| <i>Change in Control</i> | 0.1119                   | 0.5398           | 0.1011                | 0.4387***<br>(0.0000)  | 0.5728   | 0.1052                    | 0.4676***<br>(0.0000)  |
| <i>Size</i>              | 25.3356                  | 24.0897          | 25.3672               | -1.2776***<br>(0.0000) | 24.1393  | 25.3532                   | -1.2139***<br>(0.0000) |
| <i>Leverage</i>          | 0.4507                   | 0.6900           | 0.4446                | 0.2454***<br>(0.0000)  | 1.2086   | 0.4395                    | 0.7690***<br>(0.0000)  |
| <i>Liquidity</i>         | 0.3774                   | 0.4204           | 0.3763                | 0.0441***<br>(0.0035)  | 0.4024   | 0.3770                    | 0.0253<br>(0.2779)     |
| <i>Cash</i>              | 0.1466                   | 0.1298           | 0.1470                | -0.0172<br>(0.7463)    | 0.0287   | 0.1483                    | -0.1196*<br>(0.0839)   |
| <i>Risk</i>              | 0.1247                   | 0.3638           | 0.1186                | 0.2453***<br>(0.0003)  | 0.3658   | 0.1211                    | 0.2447***<br>(0.0000)  |
| <i>Growth</i>            | 0.0031                   | 0.0012           | 0.0032                | -0.0019**<br>(0.0200)  | 0.0022   | 0.0031                    | -0.0010<br>(0.4449)    |
| <i>Profit</i>            | -0.0547                  | -0.8883          | -0.0333               | -0.8550***<br>(0.0000) | -1.2918  | -0.0363                   | -1.2555***<br>(0.0000) |
| <i>Governance</i>        | 35.1921                  | 30.4838          | 35.3192               | -4.8354***<br>(0.0000) | 28.3502  | 35.2954                   | -6.9452***<br>(0.0000) |

Table 7

## Impact of Changes in Control on Subsequent Fraud and Forced Delisting: Multivariate Analysis

This table reports the results from probit and tobit specifications where the dependent variables are proxies for occurrence of frauds or forced delistings. We define fraud event as disclosures of management being accused of either embezzlement or breach of fiduciary duty. Forced delistings are due to disclaimer of opinion issued by outside auditors or negative book equities. In columns (1) and (2), the dependent variable is a dummy variable that equals one if the firm experiences a fraud during the fiscal year. In columns (3) and (4), the dependent variable is a dummy variable that equals one if the firm experiences a forced delisting during the fiscal year. In columns (5) and (6) the dependent variable is the total amount of damage incurred by fraud scaled by total assets (in KRW). Columns (1) through (4) reports the marginal effects (dF/dx) from probit specifications, while columns (5) and (6) report coefficient estimates from tobit specification. *Change in control* is a dummy variable that equals one if there is a disclosure of change in control during a given fiscal year and zero otherwise. *Size* is the logarithm of total assets (in KRW). *Leverage* is total liabilities scaled by total assets. *Liquidity* is current assets minus inventory scaled by total assets. *Cash* is cash plus cash equivalents scaled by shareholders' equity. *Risk* is the standard deviation of ROA during the past 5 years. *Growth* is the average of sales growth during the past 5 years. *Governance* is the index provided by Korea Corporate Governance Services (KCGS) converted into 100 point scale. *Profit* is the net income scaled by total assets. Standard errors are clustered at firm and z-statistics are presented in parentheses \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|                          | Probit (dF/dx)       |                       |                      |                       | Tobit                |                       |
|--------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
|                          | Fraud                |                       | Delisted             |                       | Damage Amount        |                       |
|                          | (1)                  | (2)                   | (3)                  | (4)                   | (5)                  | (6)                   |
| <i>Change in Control</i> | 0.1000***<br>(13.87) | 0.0257***<br>(6.17)   | 0.0527***<br>(11.19) | 0.0073***<br>(4.28)   | 1.0563***<br>(10.68) | 0.5234***<br>(6.95)   |
| <i>Governance</i>        |                      | -0.0003<br>(-1.30)    |                      | -0.0005***<br>(-4.52) |                      | -0.0116<br>(-1.62)    |
| <i>Size</i>              |                      | -0.0052***<br>(-3.96) |                      | 0.0003<br>(0.57)      |                      | -0.2477***<br>(-5.76) |
| <i>Leverage</i>          |                      | -0.0010<br>(-0.57)    |                      | 0.0017**<br>(2.13)    |                      | 0.0844*<br>(1.75)     |
| <i>Liquidity</i>         |                      | 0.0052<br>(1.03)      |                      | 0.0027<br>(1.28)      |                      | 0.1647<br>(1.03)      |
| <i>Cash</i>              |                      | -0.0005<br>(-0.35)    |                      | -0.0007<br>(-1.39)    |                      | -0.0236<br>(-0.42)    |
| <i>Risk</i>              |                      | 0.0036***<br>(2.89)   |                      | 0.0007<br>(1.16)      |                      | 0.1071**<br>(2.03)    |
| <i>Growth</i>            |                      | -0.3516<br>(-1.44)    |                      | 0.0007<br>(0.34)      |                      | -11.6916<br>(-1.37)   |
| <i>Profit</i>            |                      | -0.0130***<br>(-5.98) |                      | -0.0039***<br>(-4.77) |                      | -0.2037***<br>(-6.03) |
| Year dummy               | Yes                  | Yes                   | Yes                  | Yes                   | Yes                  | Yes                   |
| N                        | 7,120                | 6,614                 | 7,120                | 6,614                 | 7,120                | 6,614                 |
| Pseudo R <sup>2</sup>    | 0.1358               | 0.2521                | 0.1917               | 0.3816                | 0.1280               | 0.2525                |

Table 8

## Impact of Changes in Control on Subsequent Fraud and Forced Delisting: Two Stage Instrument Variable-approach

This table reports the coefficient estimates from two-stage specification where the predicted value of *change in control* in the first stage is used to predict fraud or forced delisting in the second stage. Columns (1) through (3) report the second stage results while column (4) reports those for the first stage. Dependent variable in the first stage, *change in control*, equals one if there is a disclosure of change in control during a given fiscal year and zero otherwise. The instrument used in the first stage is *Own* defined as ownership of the old largest shareholder before the change in control. The dependent variables in the second stage are a dummy for fraud in column (1), dummy for forced delisting in column (2), and the total amount of damage incurred by fraud scaled by total assets in column (3), respectively. We define fraud event as disclosures of management being accused of either embezzlement or breach of fiduciary duty. Forced delistings are due to disclaimer of opinion issued by outside auditors or negative book equities. *Governance* is the index provided by Korea Corporate Governance Services (KCGS) converted into 100 point scale. *Size* is the logarithm of total assets (in KRW). *Leverage* is total liabilities scaled by total assets. *Liquidity* is current assets minus inventory scaled by total assets. *Cash* is cash plus cash equivalents scaled by shareholders' equity. *Risk* is the standard deviation of ROA during the past 5 years. *Growth* is the average of sales growth during the past 5 years. *Profit* is the net income scaled by total assets. Standard errors are clustered at firm and z-statistics are presented in parentheses \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

| Dependent Variables                 | 2 <sup>nd</sup> stage |                       |                       | 1 <sup>st</sup> stage     |
|-------------------------------------|-----------------------|-----------------------|-----------------------|---------------------------|
|                                     | Probit                | Tobit                 | Probit                | Probit                    |
|                                     | Fraud                 | Delisted              | Damage Amount         | <i>Changes in Control</i> |
|                                     | (1)                   | (2)                   | (3)                   | (4)                       |
| <i>Change in Control(estimated)</i> | 2.5133***<br>(11.38)  | 2.6446***<br>(10.37)  | 1.4407***<br>(6.81)   |                           |
| <i>Own</i>                          |                       |                       |                       | -0.0443***<br>(-23.06)    |
| <i>Governance</i>                   | 0.0005<br>(0.07)      | -0.0387***<br>(-3.58) | -0.0034<br>(-0.47)    | -0.0246***<br>(-5.09)     |
| <i>Size</i>                         | -0.0870**<br>(-2.01)  | 0.1192***<br>(2.66)   | -0.1784***<br>(-4.08) | -0.1544***<br>(-5.69)     |
| <i>Leverage</i>                     | 0.0232<br>(0.37)      | 0.1912***<br>(3.36)   | 0.0708<br>(1.43)      | -0.0346<br>(-0.61)        |
| <i>Liquidity</i>                    | 0.2788*<br>(1.70)     | 0.3694*<br>(1.83)     | 0.2432<br>(1.46)      | -0.3144**<br>(-2.42)      |
| <i>Cash</i>                         | -0.0323<br>(-0.59)    | -0.0749<br>(-1.42)    | -0.0458<br>(-0.80)    | 0.0371<br>(1.33)          |
| <i>Risk</i>                         | -0.1695**<br>(-2.45)  | -0.2242***<br>(-2.91) | -0.0089<br>(-0.16)    | 0.5256***<br>(4.95)       |
| <i>Growth</i>                       | -9.7139<br>(-1.27)    | 0.1472<br>(0.17)      | -8.5689<br>(-1.11)    | -2.8193<br>(-0.85)        |
| <i>Profit</i>                       | -0.0995<br>(-1.14)    | -0.1123<br>(-1.11)    | -0.1472***<br>(-4.23) | -0.1266***<br>(-3.30)     |
| Year dummy                          | Yes                   | Yes                   | Yes                   | Yes                       |
| N                                   | 6,587                 | 6,587                 | 6,587                 | 6,587                     |
| Log likelihood                      | -1647.0789            | -1370.8380            | -610.5305             | -1646.0303                |

Table 9

## Announcement Return around Changes in Control: Univariate Analysis

This table presents cumulative abnormal returns (CAR) for various windows around the disclosure of changes in control for all non-financial publicly traded firms in Korea during the sample period. Abnormal returns are based on market model where the parameters are estimated using 210 daily returns from day -451 to day -242 of the disclosure date. The first row reports the results for all changes in control. The next three rows report the results separately for those followed by fraud against those that were not followed as well as the difference between the two. We define fraud event as disclosures of management being accused of either embezzlement or breach of fiduciary duty. The last three rows present corresponding results for those followed by forced delisting vs. those that were not. Forced delistings are due to disclaimer of opinion issued by outside auditors or negative book equities. Numbers in parentheses are the p-values from testing the null that (differences in) returns are zero, and \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|                           | CAR(-40,0)             | CAR(0,40)              | CAR(-40,40)            | CAR(-240,240)          |
|---------------------------|------------------------|------------------------|------------------------|------------------------|
| All Sample(n=1086)        | 0.1439***<br>(0.0000)  | -0.0687***<br>(0.0000) | 0.0651***<br>(0.0031)  | -0.1119<br>(0.1301)    |
| Fraud<br>(n=143)          | 0.0086<br>(0.8271)     | -0.2184***<br>(0.0000) | -0.2154***<br>(0.0003) | -1.2967***<br>(0.0000) |
| No-Fraud<br>(n=943)       | 0.1645***<br>(0.0000)  | -0.0460***<br>(0.0014) | 0.1076***<br>(0.0000)  | 0.0678<br>(0.3886)     |
| Difference                | -0.1559***<br>(0.0003) | -0.1723***<br>(0.0000) | -0.3231***<br>(0.0000) | -1.3645***<br>(0.0000) |
| Delisted<br>(n=81)        | -0.0292<br>(0.6585)    | -0.2350***<br>(0.0000) | -0.2704***<br>(0.0027) | -1.4087***<br>(0.0000) |
| Non-Delisted<br>(n=1,005) | 0.1579***<br>(0.0000)  | -0.0553***<br>(0.0000) | 0.0921***<br>(0.0000)  | -0.0074<br>(0.9237)    |
| Difference                | -0.1871***<br>(0.0068) | -0.1797***<br>(0.0005) | -0.3626***<br>(0.0000) | -1.4013***<br>(0.0000) |



Table 10

## Announcement Return around Changes in Control: Cross-Sectional Analysis

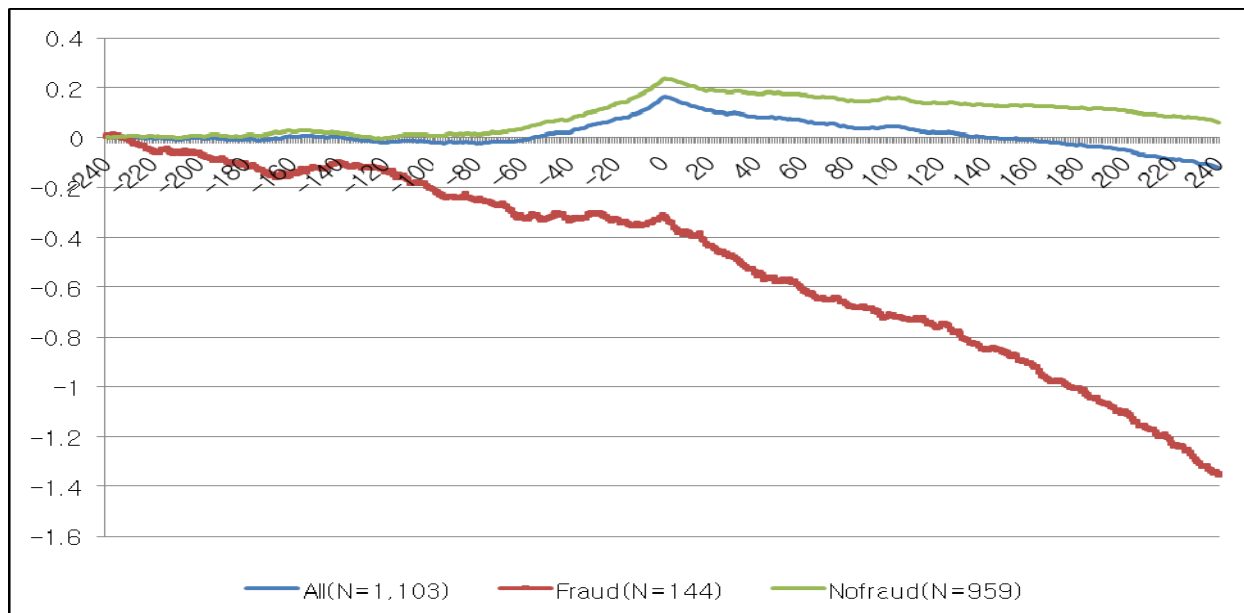
This table presents the results from OLS regressions where the dependent variable is cumulative abnormal returns (CAR) for various windows around the disclosure of changes in control for all non-financial publicly traded firms in Korea during the sample period. The CARs are estimated for days -40 through +40 in columns (1) through (3) and from -240 to +240 in columns (4) through (6). Abnormal returns are based on market model where the parameters are estimated using 210 daily returns from day -451 to day -242 of the disclosure date. Fraud equals one if there was an accusation of either embezzlement or breach of fiduciary duty during the fiscal year and zero otherwise. Delisted equals one if the firm is subject to a forced delisting due to disclaimer of opinion or negative book equity during the fiscal year and zero otherwise. *Old\_After* equals one if the old largest shareholder has non-zero ownership after the change in control. *New\_Before* equals one if the new largest shareholder has non-zero ownership before the change in control. *New\_Smaller* equals one if the new largest shareholder's ownership after the changes in control is smaller than the old largest shareholders ownership before the changes in control. *New\_Large* equals one if the new largest shareholder's ownership is larger than the sample median (15%). Other variables are as defined in tables 3 and 4. Standard errors are clustered at firm and z-statistics are presented in parentheses \*\*\*, \*\*, \* correspond to statistical significance at 1, 5, and 10%, respectively. The sample period is from 2005 to 2008.

|                    | (-40,40)              |                    |                       | (-240,240)            |                     |                       |
|--------------------|-----------------------|--------------------|-----------------------|-----------------------|---------------------|-----------------------|
|                    | (1)                   | (2)                | (3)                   | (4)                   | (5)                 | (6)                   |
| <i>Intercept</i>   | 0.1281***<br>(5.11)   | 0.0763*<br>(1.82)  | 1.5134**<br>(2.57)    | 0.1487*<br>(1.73)     | -0.1959<br>(-1.60)  | 4.3576**<br>(2.13)    |
| <i>Fraud</i>       | -0.2963***<br>(-4.37) |                    | -0.2328***<br>(-3.36) | -1.2623***<br>(-5.24) |                     | -0.9589***<br>(-3.94) |
| <i>Delisted</i>    | -0.3217***<br>(-3.02) |                    | -0.2778**<br>(-2.11)  | -1.2273***<br>(-4.05) |                     | -0.8876**<br>(-2.30)  |
| <i>Old_After</i>   |                       | -0.0565<br>(-1.17) | -0.0479<br>(-0.97)    |                       | -0.0717<br>(-0.47)  | -0.0734<br>(-0.47)    |
| <i>New_Before</i>  |                       | 0.1033*<br>(1.89)  | 0.0642<br>(1.14)      |                       | 0.5939***<br>(2.76) | 0.4327**<br>(1.97)    |
| <i>New_Smaller</i> |                       | -0.0067<br>(-0.14) | -0.0349<br>(-0.73)    |                       | -0.0506<br>(-0.36)  | -0.1789<br>(-1.25)    |
| <i>New_Large</i>   |                       | 0.0666<br>(0.55)   | 0.0233<br>(0.19)      |                       | -0.2585<br>(-0.67)  | -0.4716<br>(-1.17)    |
| <i>Governance</i>  |                       |                    | -0.0017<br>(-0.41)    |                       |                     | 0.0076<br>(0.53)      |
| <i>Size</i>        |                       |                    | -0.0521**<br>(-1.99)  |                       |                     | -0.1803**<br>(-1.97)  |
| <i>Leverage</i>    |                       |                    | -0.0537<br>(-0.88)    |                       |                     | -0.1251<br>(-0.62)    |
| <i>Liquidity</i>   |                       |                    | 0.1111<br>(1.03)      |                       |                     | 0.5478<br>(1.58)      |
| <i>Cash</i>        |                       |                    | 0.0152<br>(0.30)      |                       |                     | -0.0562<br>(-0.60)    |
| <i>Risk</i>        |                       |                    | -0.0444***<br>(-2.82) |                       |                     | 0.0160<br>(0.23)      |
| <i>Growth</i>      |                       |                    | 0.4658<br>(0.25)      |                       |                     | 6.9912<br>(1.37)      |
| <i>profit</i>      |                       |                    | 0.1038**<br>(2.41)    |                       |                     | 0.5331***<br>(3.71)   |
| N                  | 1,086                 | 1,086              | 1,055                 | 1,086                 | 1,086               | 1,055                 |
| ADJ-R <sup>2</sup> | 0.0345                | 0.0018             | 0.0404                | 0.0516                | 0.0074              | 0.0677                |

Figure 1  
 Cumulative Abnormal Returns (CARs) around the Disclosure of Changes in Control

This figure presents the averages of the cumulative abnormal returns during the 481 trading days around the disclosure of changes in control. In panel A, we report the results separately for those followed by embezzlement or breach of duty against those that were not followed. In panel B, we report the corresponding results for those followed by forced delisting vs. those that were not. Abnormal returns are based on market model where the parameters are estimated using 210 daily returns from day -451 to day -242 of the disclosure date. The sample period is from 2005 to 2008.

Panel A: Fraud vs. No-Fraud



Panel B: Forced Delisting vs. No-Forced Delisting

