

**Is There Penalty For Crime? Corporate Scandal and
Management Turnover in China***

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ABSTRACT

Corporate fraud scandals have plagued the emerging markets such as China. This paper studies the cost to Chinese firms and their management for committing fraud. We find that the enforcement actions on firms with violation of securities laws from the regulation authorities are not severe. The stock price reactions to revelation of scandals are negative and statistically significant. We particularly examine the management turnover associated with the scandals. We find that fraud firms have higher management turnover than the matching non-fraud firms. However, we track down where the Chairman and CEO land after the turnover, and find a large portion of those leaving the fraud firms move to management positions in other firms and many of them actually even get promotion. Only a very small portion of CEOs and Chairmen receive legal or administrative penalty. We further find that Chairman and CEO with certain political background are less likely to receive legal or administrative penalties. We argue that the low effectiveness of law and lack of reputation mechanism on managerial labor market leads to the rampancy of corporate frauds and stagnancy of stock market development in China. Our findings provide direct evidence that legal system affects the stock market development.

JEL classification codes: G30, K22, M51

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1. Introduction

During 2001-2002, many eminent firms, such as Enron, Worldcom, Xerox, and Parmalat, have been condemned for an amazing variety of scandals. To an overwhelming extent, the series of scandals reduce investors' confidence and hurt the image of the integrity of corporate management. In response to these scandals, in 2002 US president George W. Bush signed the Sarbanes-Oxley Act. Many managers from those scandal firms were punished by law or subjected to other disciplines. To date, in the Enron case 34 defendants have been charged, including 25 former Enron executives, and 16 defendants have so far been convicted. The Enron Task Force has obtained more than \$163 million in forfeiture for restitution to victims.¹ Former Enron Vice Chairmen suicided in 2002 when the investigation started. There are many executives in Worldcom and other cases convicted and punished. With the strict new laws and uncompromising enforcement of laws, from 2003 corporate scandals have been curbed and investors regained confidence. US stock market has been in recovery.

On the other hand, the emerging markets have been experiencing a booming of corporate scandals. For example, about 20 percent public listed firms in China have been convicted by China Securities Regulations Committee (CSRC) for serious frauds and scandals since the Chinese stock market was established in early 1990s. On average there were over two dozens of scandals revealed each year and there has been no signs that the trend will diminish. The ratio of firms committed scandals in China is much higher than that in US and other developed markets. Chinese stock market

¹ From US Department of Justice For Immediate Release, July 14, 2005

has lost half of its total value from early 2001 to 2005. While China's economy has been growing at a remarkable high rate for the past two decades, the stock market return was not supported by that achievement in economic growth. Though there are other reasons that China stock market has been in depression, the lost of investor confidence resulting from endless corporate frauds and scandals is an important factor. Why are there numerous corporate fraud and scandals in an emerging market such as China? Why has China not been able to stop the high-frequency incidence of scandals as US market and other developed markets? In this paper we take a step in that direction and investigate the cost to corporate criminals in committing frauds and scandals.

What are the costs to management for frauds? Are there penalties on those top managers and directors accused of fraud? In some cases, such fraud events led to punishment of the top management. For example, Zhengzhou Baiwen Co., Ltd. (Group) Chairman Fuqian Li and chief executive officer (CEO) Yide Lu were fired soon after the revelation of the firm's fraud in accounting statements by CSRC in 2001. In 2002, Fuqian Li and Yide Lu were sentenced to imprisonment for three and two years respectively.

However there are many other cases that the occurrences of fraud do not have an impact on management compositions. **L** and **H**, who are chairman and CEO of firm **A** respectively, kept their jobs though being convicted by CSRC of announcing false profit and concealing large guarantee contracts in 2002. Furthermore, although some managers were removed following the frauds, they do not received serious

punishments fitting their crimes. For instance, **Z** announced his resignation as chairman of firm **B**. in March 2000, which was convicted by SZSE for its notorious corporate scandals in inappropriately lending to large shareholders from 1994 to 2000. After that **Z** became a senior official in the government of City **Y** in Province **H**.²

As those examples illustrate, there are various consequences faced by the senior officials of firms that have committed frauds. In this paper, we empirically study the effects of scandals on changes to top managers and board of directors.

There are several reasons that frauds may increase turnover. Several prior studies have found that criminal frauds are costly to those firms. Karpoff and Lott (1993) find evidence that the reputation cost of corporate fraud is large and the initial publicity of actual fraud incurs a statistically significant loss in the value of the common stock of affected companies. Warner, Watts, and Wruck (1988) find that poor stock price results in an increase of management changes. Additionally, Fraud may prompt unusual high turnover if it results from or leads to financial distress. Maskimovic and Titman (1991) argue that firms near financial distress are more likely than other firms to commit fraud. Gilson and Vetsuypens (1993) find that firms which are experiencing financial distress tend to have higher management turnover.

There are also reasons that frauds do not have significant impact on management turnover. Jensen (1993) argues the typical corporation's internal controls frequently are insufficient to prompt changes in management. Thus even frauds that result from poor management might not trigger a change in corporate leadership. Agrawal, Jaffe and

² The two examples referenced are real cases that received enforcement actions of CSRC.

Karpoff (1999) find that the revelation of fraud has little influence on managerial turnover or on the firm's governance structure. They study US firms that were suspected or charged with fraud between 1981 and 1992. They point out that there is no evidence of higher turnover rates among top managers and directors than the control firms. Similarly Beneish (1999) does not find a significant difference in the managerial turnover rate between a sample of 64 firms with GAAP violations and size-, age- and industry- matched control firms. Such findings are rather surprising, for fraud scandals especially accounting scandals, will be certainly harmful to shareholders' interests.

In their paper, Agrawal et al. examine managerial turnover in the period following the revelation of fraud. Jayaraman, Mulford, and Wedge (2004) argue that more top managers are replaced before the revelation and find evidence that firms replace the management and board members during the investigation period. Consequently, Jayaraman et al. find a significant higher managerial turnover for fraud firms than control firms when they study managerial turnover in the period before the revelation of fraud and the period following the revelation of fraud together.

Desai, Hogan and Wilkins (2006) study managerial turnover in firms announcing earnings restatement during 1997-1998, and find higher managerial turnover for restating firms than control firms. In addition Desai et al. find the rehire rate for restatement firm managers is approximately half that of control firm managers. They argue that the external labor market impose stiff penalties on the displaced managers. An earlier study by Gerety and Lehn (1997) find that the managerial labor market

penalizes directors who serve on boards of firms charged with accounting fraud.

Our empirical results show that the frauds result in a statistically significant higher turnover rate in top managers and board members in Chinese listed firms. In univariate tests, we find that the firms committing fraud are more likely than control firms to replace their top managers, board directors, CEOs and Chairmen. When control for other firm characteristics in multivariate tests, fraud also has an influence on both managerial and director turnover. These findings are consistent with Jayaraman et al.'s (2004) and Desai et al.'s (2006) study, but are inconsistent with Agrawal et al.'s (1999) study on US firms. It seems that Chinese managers are subject to strict managerial labor market disciplines for fraud. This is somewhat surprising in that emerging markets actually should have less developed legal system, credit system and managerial labor markets.

With these doubts we further investigate the outcomes for all the Chairmen and CEO after the fraud. The results are astonishing. 41 percent of the CEOs and 33 percent of the Chairmen keep their positions or move to positions at similar level in the same firm. 11 percent of CEOs and 10 percent of Chairmen leave the firm and take same level top management positions in other comparable firms. More surprising 14 percent of the CEOs and 27 percent of Chairmen get promoted to higher-level positions in larger firms or their parent firms or higher-level positions in government administrations. Only 6 percent of CEOs and 5 percent of Chairmen received severe administrative penalty or legal penalty. We analyze the factors affect the CEOs and Chairmen's conditions after fraud. We find that Chairmen and CEOs with Party

membership are less likely to receive severe administrative or legal penalty.

We argue that the insignificant penalty for corporate frauds leads to the high frequency of incidence of frauds in Chinese firms since the 1990. The frauds have been flush in China and trust of investors diminishes. Consequently the function of capital market has been distorted. To reestablish the trust, the effectiveness of law must be improved and frauds must be penalized by the legal system, administration, credit system, or the managerial labor markets. Our study provides direct evidence of the weak legal system in China, the largest emerging market, and its effects on stock market development. Among a few studies on law and economic in China, Allen, Qian, and Qian (2002) study the Chinese legal system by using the La Porta et al's (1998) legal indices and find that the Chinese legal system is incomplete compared to La Porta et al's sample countries. However as Alford (2000) and Lu and Yao (2004) point out, it is insufficient to just look at China's formal laws when one evaluates the Chinese legal system; instead the effectiveness of law enforcement is more important. This paper examines the potential penalties on corporate crimes and provides evidence on the effectiveness of law in China.

Though our study is based on Chinese emerging market, our conclusion can be extended to other areas in the world. Our findings support the argument that the law affects the financial development in a country. More specifically, the effectiveness of law, not only the written law, affects the stock market development. Our findings also suggest that political influence may weaken the effectiveness of law.

The remainder of this paper is organized as follows. Section 2 describes our data

and sample of fraud firms and control firms. Section 3 describes the enforcement action by CSRC, SHZE and SZSE and the market price reactions to the revelation of fraud. Section 4 and Section 5 conduct univariate and multivariate analysis to examine the impact of fraud on management and board changes respectively. Section 6 examines the final outcomes for CEO and Chairman in fraud firms. Then Section 7 concludes.

2. Data on the fraud firms and control firms sample

2.1 Data Description

In order to investigate what types of penalty there are for committing frauds, we collect the “scandal firms”. We identify all the firms in the enforcement action release of China Security Regulation Committee (CSRC), Shanghai Stock Exchange (SHSE) and Shenzhen Stock Exchange (SZSE) from 1990 through 2002. We collect the releases from the web sites of CSRC, SHSE and SZSE. These enforcements are required to publish in the three major Chinese financial newspapers.³ We also check the release on the newspapers. There are 189 releases in total. In these cases revealed by CSRC, SHSE and SZSE, the violation of law is clear with no doubt. These are outright frauds. Given the weak regulation system, in China only those severe and clear violations are released by CSRC, SHSE and SZSE. Thus our sample is somewhat different with previous studies based on US data in that overall our Chinese frauds are more severe and clear violations of law.

Observing that there are some firms subject to enforcement action from CSRC

³ The three major financial newspapers for information release are Shanghai Securities News, China Securities News and Securities Times.

more than once for different offenses during the period 1990 to 2002, we keep the frauds revealed in the first enforcement action. We focus on the first enforcement because the previous events may have a residual carryover effect and multiple events may bias the financials, the management turnovers and stock returns. There are 165 firms involved these scandals in total. We eliminate 7 firms whose financial scandal took place before the initial public offering (IPO), 2 firms listed on B-Share market of China, and 1 firm listed on H-Share market in Hong Kong. The B-Share market and H-Share market are for Foreign and Hong Kong investors, thus may have stricter regulations than the A-share market in mainland China. As a result, the sample size is reduced to 155.

We key on the year the fraud occurs as detailed by the CSRC, SHSE, SZSE and news reports. If the fraud lasts more than one year, we key on the last year the fraud exists. We use the last year the fraud lasts as the event year, i.e. year 0, instead of the year of enforcement release by the regulation authorities. Because firms may replace the management and directors before the frauds are released by the regulation authorities. The firms may replace managers or the management may resign before the investigation in order to avoid liabilities. Agarawal et al. (1999) study the management turnover after the revelation of frauds and do not find evidence of high turnover among top management and directors. On the contrary Jayaraman et al. (2004) find that the fraud firms have higher management turnover than control firms when they study a longer event window including the two years before the fraud revelation. Thus we choose the last year the fraud occurs as year 0 and study

management turnover in the window of year [0, +2].

In order to explain why we focus on the last year of fraud, we examine that how many replacements of CEOs and chairmen take place before the public revelation of the keyed fraud event. Among those 155 firms, there are 126 CEOs and 127 chairmen who should be responsible for frauds are replaced. However, 69 CEOs and 67 chairmen lose their jobs before the regulation authorities announcement date of fraud. This is consistent with Jaryaman et al. (2004). Observing more than half people lose their positions before frauds are disclosed, we fix the last year frauds exist as the year 0.

For each firm included in our scandal firm sample, we identify a control firm with the same two-digit industrial code and with total assets that are closest to the fraud firm. When there is no fraud event in a firm for year -2 through 0 relative to the year of the fraud event in the fraud firm, that firm will be included in our control samples. If one or more fraud events are reported between year -2 and 0, we will change that control firm and select another firm with the same one or two-digit industry code and total assets next closest to the fraud firm. Such a procedure make sure that the control firms do not have any fraud in the preceding years or in the year of their matched firms' fraud events. If there is no appropriate firm exists in the two-digit code industry, we then search the same one-digit SIC code industry.

The above procedure yields 155 fraud firms and 155 matched control firms. Those 310 firms represent a large variety of industries. The largest classes consist of electrical, electronic and transport equipment manufacturers (25 matched pairs) and

chemical manufacturers (16 matched pairs). The other 101 matched pairs are distributed in 17 industries. All the firm financial data are obtained from *SinoFin* and *CSMAR* databases.

2.2 Summary statistics of the sample

Table 1 reports descriptive statistics of fraud and control samples. Panel A of Table 1 presents statistics on financial characteristics of the fraud and control samples. The financial data is from *SinoFin* and *CSMAR* databases. In that not all firms have data available for each variable, the sample sizes in Panel A range from 124 to 154 matched pairs of firms. The fraud firms' total assets and firm value are statistically significant larger than the control firms. The control firms have a higher median sales growth rate. However, there is no significant difference in sales, net sales and market value over year (-1, 0) between those two groups. We compute firm value as market value of equity plus total debt. Long-term debt to firm value and long-term debt to total assets are used to measure the financial leverage, and there is also no significant difference in leverage between the two groups.

Panel B of Table 1 shows the number of years before the year of our keyed fraud event in which the fraud and control firms experience fraud events. There could exist other fraud events or the keyed fraud events last for more than one year. Each test has all 155 matching pairs. By construction of the sample, the control firms do not experience fraud events in the year (-2, -1). A total of 16.1 percent of fraud firms also experience fraud events during year -2 relative to the keyed fraud year and 28.4 percent in the year -1. 4.5 percent of the fraud sample firms experienced other fraud

events during year +1, and 0.7 percent had other fraud events in year +2. 1.3 percent of the fraud sample firms experienced other fraud events during year +1, and 1.9 percent had other fraud events in year +2. The incidence of fraud events for the control firms is significantly lower than for fraud firms except in year +2. These results indicate that the firms in the fraud sample have significantly more frauds, in addition to the fraud upon which we focus, in the two years before and one year after the year of fraud event.

2.3 Operating performance changes around fraud events

Table 2 reports changes in operating performance in the years surrounding the fraud event which we focus on. Depend on availability of data, the sample sizes range from 89 to 155 pairs of firms. In Panel A, we use the ratio of operating income to sales to measure operating performance. In Panel B, we use the ratio of operating income to total assets to measure operating performance.

In Panel A, we find that fraud firms have a higher ratio of operating income to sales than the control firms in the year -2 relative to the keyed year, but not statistically significant. Over the next several years, the control firms seem to perform better than fraud firms, but the difference between those two groups is not statistically significant at the 5 percent level except in year +2. The mean ratio of operating income to sales of the fraud firms decreases to 18.05 percent while that of the control firms increases to 23.97 percent in year +2. The Wilcoxon signed rank tests for the median is significant at 5% as well. The control firms also have a significant higher median ratio of operating income to sales than the fraud firms in year 0. We also

examine the average paired difference (between the fraud and the control firms) in operating income changes from year -2. The mean and median paired difference (between the fraud and the control firms) in operating income changes from year -2 to year +2 are significant from zero. The paired differences between the fraud and control firms are also significantly different from zero in the period of (-2, 0). However the paired differences between the fraud and control firms are not significantly different from zero in (-2, -1) or (-2, +1). Overall there is some evidence that control firms experience an operating performance improvement relative to fraud firms through year -1 to year +2.

Panel B of Table 2 reports some more conclusive results. Almost all t-statistics and Wilcoxon test statistics are statistically significant although at different levels. In year -2, the mean and median ratio of operating income to total assets are smaller for fraud firms than for the control firms. Over the next few years, the difference between the two groups increases. The mean and median return on assets are significantly lower for the fraud firms than for the control firms in year -1, 0, +1 and +2. This may reflect the fraud firm's lower beginning return on assets in year -2. However, the mean and median paired difference in changes from year -2 are also significant in year 0, +1, and +2. This suggests that the control firms indeed make a significant improvement in operating performance.

3. The penalty for scandal from regulation authorities and the market

3.1 The enforcement actions from regulation authorities

Table 3 summarizes the enforcement actions taken by CSRC, SHSE and SZSE.

Some of the enforcement actions are against the firms; some are against the managers or directors. There are also actions against the firm and the management at the same time. Panel A reports the number of each type of enforcement actions against the firms. The largest number of enforcement actions is criticisms and public condemnation, which amounts to 114 out of 144 enforcement actions against the firms in total. There are warnings against 10 firms. Though warning is more severe than criticism and public condemnation, it is not a substantial punishment either. Only 12 out of 144 firms are fined or their illegal earning from frauds are confiscated. The range of fining imposed on firms is from 140,000 RMB to 5,000,000 RMB. The range of confiscation of illegal earnings of fraud firms is from 489,900 RMB to 84,290,000 RMB.

Panel B reports the number of each type of enforcement actions against the managers or directors in the firms committing scandals. Similar to enforcement actions against the firms, a large portion of enforcement actions are criticism and public condemnation. However there are 112 non-chairman directors received warning, and 62 received warning and get fined at the same time. The minimal amount of fining to individual is 30,000 RMB and the maximum is 300,000 RMB. The fines for individuals are not large enough to punish the management as the managers or directors can get personal benefits of millions of RMB from the frauds.

In the last column of Panel B, “ Severe Administrative Punishment ” includes ban of stock market entry, cancellation of qualification for being senior managers in publicly listed firms forever, or dismissal from the posts suggested by CSRC. There

are only 5 CEOs and 5 Chairmen received the severe Administrative Punishment.

Many firms get delisted or even go bankruptcy for fraud in developed markets. However that is not the case in China. No firms actually go bankruptcy because of conviction of fraud. Out of 155 firms convicted for fraud, only 2 firms get delisted after the conviction of fraud.

Overall the enforcement actions are not severe for firms convicted for scandal. This is at least partially due to the limited power of CSRC. Unlike SEC in US, the CRSC in China does not have certain juridical power.

3.2 Stock price reactions to the revelation of frauds

Fraud revelation of regulation authorities indicates very serious violations of law, and can have huge impact on a firm's stock price. Thus we examine the abnormal return for scandal firms and control firms. All firms' beta are calculated from a one-factor market model estimated during (-210, -11) days relative to the regulation authorities announcement date (day 0). Then we use estimated beta to compute cumulative abnormal return (CAR) for the days (-1, +1). For each control firm, we calculate its abnormal return over the same period as its matched fraud firms.

As shown in Panel A of Table 4, the mean CAR of fraud firms is -0.014 and is statistically significant negative. These are consistent with Wu and Gao (2002). In the last column the mean and median difference between fraud firms and control firms are statistically significant. Panel B reports the CAR of fraud firms with different types of enforcement actions. More severe actions should lead to larger impacts on stock price. The CAR for "criticism" is positive but not significant. The CAR for

“Public Condemnation” is -0.0235 and is statistically significantly negative. The CAR for “warning” and “warning, fining & confiscation of illegal earnings” is negative but not statistically significant. The CAR for “fining” and “warning & fining” is positive but not statistically significant. Overall the market reaction to revelation of fraud is negative and significant. The stock prices of scandal firms fall significantly. Scandals incur costs to minority shareholders in the firms.

In general the costs of committing scandals include the penalty from the regulation authorities, falling stock price, reputation penalty and legal penalty for management and corporation. However the results above suggest that there are no severe penalties from CSRC or the stock exchanges for fraud firms and its management. However there are also costs to minority shareholders in scandal firms in terms of stock price. In the next few sections we investigate whether there is reputation cost to the management committing fraud.

4. Empirical results regarding managerial turnover

4.1 Changes in the structure of managerial leadership

Firstly, we examine the impact of fraud events on the structure of managerial leadership, i.e., the combination of CEO and chairman positions. We collect data on the identities of every firm’s CEO and Chairman of board in the years surrounding each keyed scandal event from Sina Financial database and check with firm annual reports. In some cases, these two positions are held by the same individual. Brickley, Coles, and Jarrell (1997) argue that one of the benefits to concentration of power is lowering costs of many decision processes. Decoupling the CEO and Chairman

positions affect the structure of leadership. Comparing to replace those top managers who should be accountable for the frauds, decoupling the CEO and Chairman position is less radical. The individual who is both CEO and Chairman of the board can resign one position and retain the other one. Such a change is beneficial to the transition of decision authority.

In Table 5, we summarize the changes on structure of managerial leadership in the years surrounding the keyed fraud year. For not all data are available each year, the sample size for those tests range from 131 pairs of matched firms to 152 pairs. 29 percent of the fraud sample firms have combined CEO-Chairman positions in year -1 while 17.6 percent of the control firms have combined CEO-Chairman positions. The difference is statistically significant at 5 percent level. Therefore, firms committing scandals have a more unitary leadership structure than the control firms.

In the following years, i.e., year 0 to year +2, the fraud firms have higher proportion of unitary leadership structure than the control firms, but these differences are insignificant statistically. In addition, the difference in change from year -1 between the two groups is not significant during the interval from year 0 to +2. Both t-tests and Wilcoxon signed mark tests are not significant. Thus, we conclude that the differences in the mean proportion of unitary leadership structure between the fraud firms and the control firms reflect the initial difference in the year -1, and the scandal events do not play a role in changing the structure of leadership apparently. While a unitary leadership structure may be associated with the conviction of the scandal, we find no evidence that the conviction of scandal leads to a subsequent change in

leadership structure.

4.2 Univariate comparisons of top management and CEO turnover rates

In this section, we investigate the impact of fraud scandals on senior managers including CEO, vice president, CFO, controller, chief accountant, chief operation officer and assistant to CEO. The data are collected from the Sina Financial, and all the data we need are available. For not all those firms have the same set of senior management positions and some managers maybe undertake two or more positions, we just figure out the turnover rate of those positions rather than particular people.

Table 6 reports the managerial turn over rate. The first three rows of Panel A reports turnover rate of CEO in each year from 0 to +2, and the other three rows reports turn over rate in periods of multiple years. Overall compared with the matched firms, the fraud firms have a significant higher management turnover rates during the keyed fraud year and the subsequent two years. The last row of Panel A shows that the average turn over rate of senior executives in fraud firms is 1.11 in the following years (0, +2), while the control firms have a mean management turnover rate of 0.743 during the same period. Such a remarkable difference has passed both the t-test and Wilcoxon signed mark test at 1 percent level. Both our fraud firms and control firms have higher turnover rates than that reported by Agrawal et al. (1999).

In regard to CEO turnover, Panel B of Table 6 offers evidence that the turnover rate for fraud firms is dramatically higher than the matched control firms. No matter in single year or in multiple years, the fraud firms have a higher CEO turn over than the control firms. Both two groups experience a little higher turnover rate for CEOs

than for all the senior managers. Similar to Panel A, the first three rows of Panel B report turnover rate of CEO in each year from 0 to +2, and the other three rows focus on turn over rate for multiple years. As reported in the last row, on average firm experiences a CEO turnover rate of 1.348 during the interval (0, +2). On contrary, the turn over rate is only 0.845 for control firms. The last two columns show that the difference is significant in both t-test and nonparametric test.

4.3 Multivariate analysis of senior managerial turnover

In this section we use multivariate analysis to examine changes in senior management following the fraud events. In Table 7 the dependent variable is the turnover rate of the entire top management during the period from year 0 to year +2 and we apply OLS regressions.

To investigate the influence of fraud on senior management turnover, we introduce an independent variable *FRAUD* as a measure of frequency for fraud events. *FRAUD* is the number of years in which a firm has at least one fraud event from 2 years before until the year of the keyed fraud event. By construction of the control sample, *FRAUD* is 0 for all control firms. However, as previously noted, we found instances of multiple fraud events for some firms in the fraud sample. Thus, for fraud firms the variable *FRAUD* may range from 1 to 3.

Besides *FRAUD*, other characteristics of firms can influence the turnover of senior managers. To control for these characteristics, we include the following control variables in the OLS and logistic regressions.

BOSS: The position setting of CEO and Chairman of the board in the year -1.

This dummy variable equals 1 if one person undertakes both CEO and Chairman; 0 otherwise. We include the *BOSS* variable to control for any incremental influence on executive turnover a CEO might have if the CEO also serves as board Chairman. Jensen (1993) argues that the board is unlikely to respond expeditiously to managerial problems by removing top managers when the CEO is also board Chairman. This implies that turnover should be negatively related to the *BOSS* variable.

BOARDSIZE: The number of members on the board of directors in the year -1. Jensen (1993) and Yermack (1996) argue that the size of the board is inversely related to the quality of oversight of managers. This argument implies that managerial turnover should be negatively related to the size of the board.

STATEHOLDER: The dummy is assigned a value of 1 if the firm is owned by the state, otherwise it equals to zero.

LARGEST: The percentage of ownership held by the largest stockholder in the year -1.

Weisbach (1988) finds that executive turnover is negatively related to firm performance. We therefore consider the effects of three measures of growth opportunities or performance.

MBR: The ratio of total firm value (firm value = market value of equity + total liability) to the book value of total assets.

OPS: The average annual ratio of operating income to sales measured over the years (-2, 0).

OPA: The average annual ratio of operating income to total assets measured over

the years (-2, 0).

Previous studies show that that executive turnover is positively related to finance distress. We therefore consider the effects of three measures of financial distress or leverage.

CURRENTRATIO: current assets/current liability, which is a measure of a firm's short-term financial solvency.

The variables $(\text{Long-term Debt}/\text{firm value}) \times 100$ and $(\text{Long-term Debt}/\text{total assets}) \times 100$ are measures to firms financial leverage.

We also control for firm size in regressions. *LSALES*: The natural logarithm of a firm's sales in the keyed fraud year.

To control for the cross-sectional differences in the fraud's valuation effect, we include the firm's abnormal stock return around the announcement date of fraud revelation.

CAR: The cumulative abnormal return measured over days (-1, +1) relative to the public announcement date. The cumulative abnormal return is calculated from market model estimated over days -211 through -11. We use the value-weighted portfolio including stocks in both SHSE and SZSE as the market index. To make CAR comparable between those two groups, we also compute 3-day cumulative abnormal return for each control firm over the same interval. Arguments that costly frauds increase the net benefit to managerial change imply that turnover is negatively related to the abnormal stock return.

The last but not the least important is that we may need to control for the role

that different types of frauds play in management turnover. Karpoff and Lott (1993) divide all fraud scandals into four different types: fraud against stakeholders, fraud against government, financial reporting fraud and regulatory violation. Given China's specific situation, we classify the scandals into nine types of frauds according to the revelation of CSRC. In addition, there are firms that commit more than one type of frauds in one conviction, hence we include eight dummy variables into our regression models.

FRAUD1: accounting reports and statements fraud, including false profit, intentional false forecasts of future profit and statements misleading market and investors.

FRAUD2: illegal use of funds raised in securities offerings.

FRAUD3: hiding or intentionally delaying disclosure of important information, including important investment, guarantee contracts, litigations, and changes in contracts, etc.

FRAUD4: manipulating stock price and trading stock illegally.

FRAUD5: hiding or intentionally delaying disclosure of firms' performance information.

FRAUD6: hiding or delaying disclosure of related-party transactions, and violations that large shareholders expropriate minority shareholders.

FRAUD7: breach of duty and breach of faith of the board directors and management

FRAUD8: intentionally delaying issue of periodic accounting reports.

FRAUD9: others.

To a fraud firm, a dummy above equals to 1 if firm commits the corresponding types of frauds; otherwise the dummy is zero. By construction of the control sample, these dummies are 0 for all control firms. However, as previously noted, we found instances of multiple types of frauds at the same time for some firms in the fraud sample. Thus, for fraud firms more than one dummy can be 1.

Table 7 reports the OLS regressions of the turnover rate of the entire senior management in a firm. For our purpose, the coefficient of *FRAUD* is positive and significant at 1 percent level in model (1) and (2). This indicates that the people holding senior managerial positions in fraud firms are more likely to lose their job than in control firms, which is consistent with the previous univariate analyses. Besides, coefficient of *LARGEST* is negative and significant. This suggests that if the largest shareholder's ownership increases, the turnover rate of management is lower. The managers are usually appointed by the large shareholders or the large shareholders are the managers. With the support of stronger large shareholders as largest shareholder's ownership increases, the managers are less likely to be removed. This is consistent with the argument that large shareholders get entrenched as largest shareholder's ownership increases. As recent literature document, one of the most important features of corporate governance outside US is ownership concentration and large shareholders' dominance in listed firms. This is particular true in Asia (e.g., Claenssens, et al (2000), Claenssens, et al (2002), and Fan and Wong (2002)). Similarly in China the most essential characteristics of ownership structure is the dominance of large shareholder. There is no effective mechanism to monitor and

restrain the large shareholders. When gaining dominance in the control rights, large shareholders could expropriate the minority shareholders and would not be removed easily.

In model (1) and (2), the turnover rate is not significantly related to other variables, including the setting of CEO and board Chairman (*BOSS*), board size (*BOARDSIZE*), cumulative abnormal return (*CAR*), firm size (*LSALES*), the market-to-book ratio (*MBR*), operating performance (*OPA* or *OPS*), financial distress (*CURRENTRATIO*) and financial leverage ($(LONG-TERM DEBT/FIRM VALUE) \times 100$ or $(LONG-TERM DEBT/TOTAL ASSETS) \times 100$). In Model (3), (4) and (5), we control for the effect of different types of fraud on managerial turnover rate. With eight dummy variables for fraud type added in our models, we eliminate FRAUD in those three models. The coefficient of LARGEST is also negative and significant.

From model (1) to (4), *CAR* is negatively related to executive turnover but not significant. We control for the effects of different types of fraud on senior management turnover. As reported in model (3), (4) and (5), *FRAUD1*, *FRAUD5*, *FRAUD6* and *FRAUD8* have a significantly positive influence on managerial turnover rate for those four types of frauds may be more severe.

4.4 Multivariate analysis of CEO Turnover

We examine the turnover of the company CEOs. Table 8 reports the results of logistic regression of CEO turnover. We use the same set of regressors as in Table 7. The dependent variable is a dummy variable equals 1 if the CEO in the prior year is removed in any year during the interval of years (0, +2) and equal 0 otherwise.

In both model (1) and (2), the coefficient of *FRAUD* is positive and statistically significant at the 5 percent level. This suggests that CEO turnover is positively related to the revelation of fraud. *CURRENTRATIO* is positive and significant at the 10 percent level. Others variables are not statistically significant.

5. Turnover of board of directors

5.1 Univariate comparisons of board and Chairman turnover

Similar to Section 4, to examine the effects of fraud scandals on turnover of board and Chairman we collect data about changes in the board of directors from the *Sina Financial*. We count the number of the members of board in the year -1 relative to the keyed year, both of inside directors and independent directors, and then calculate turnover rate for each year in the following period (0, +2). Table 9 summarizes the results of univariate comparisons of board and chairman changes.

From Panel A of Table 9, we find that each measure of turnover rate is significantly larger for the fraud firms than for the control firms. The last row of Panel A shows that on average fraud firms have a mean turnover rate of 0.979 during the interval of years (0, +2), while the control firms have a turnover rate of 0.663. Panel B of Table 9 reports similar results as Panel A. The difference of turnover rate for Chairman of the board between fraud and control firms is statistically significant at the level of 1 percent. The bottom row of Panel B shows that fraud firms have a mean turnover rate of Chairman of 1.207 during the period from year 0 to +2. By contrast, the turnover rate of Chairmen for control group is 0.568. These evidences suggest that frauds have huge impact on turnover of board of directors.

5.2 Multivariate analysis of board members turnover

In this section, we report the results of OLS regression on the turnover rates of board members around the fraud events. In Table 10 the dependent variable of the five models is the turnover rates of board members measured over years 0 through +2, and the independent variables are identical with those in Table 7. In model (1) and (2), the coefficient of *FRAUD* is positive and significant at the 1 percent level. This is consistent with the results of univariate analysis in Table 9.

The board size *BOARDSIZE* and firm size *LSALES* are negatively related to the turnover rate of board directors. Firms with large board size and large sales are less likely to remove their directors. In addition, operating performance is negatively related to the turnover rate of board directors. The coefficient of *LARGEST* is negatively related to the turnover rate of board director. This suggests that if the largest shareholder's ownership increases, the turnover rate of board is lower. The directors are appointed by the large shareholders or the large shareholders are the directors. With the support of stronger large shareholders as largest shareholder's ownership increases, the directors are less likely to be removed. This is consistent with the argument that large shareholders get entrenched as largest shareholder's ownership increases.

We control the effect of different types of fraud in model (3), (4) and (5). The results of other variables are similar to that in models (1) and (2).

5.3 Multivariate analysis of Chairman turnover

In this section, we report the results of logistic regression on the turnover rates of

Chairman around the fraud events. Similar to in Table 10, in model (1) and (2) in Table 11 shows that fraud scandals have significant impact on board Chairman turnover. The coefficient of *FRAUD* in model (1) and (2) is positive and statistically significant at 1 percent level. In the two models, the setting of CEO and Chairman (*BOSS*), operating performance (*OPA* or *OPS*) and firm size (*LSALES*) are significantly negatively related to the turnover rate of Chairman at the level of 5 percent.

In the last three columns, we control for the effect of different types of scandals. The coefficients of *BOSS*, *LSALES* and *OPA* or *OPS* are significantly different from zero.

5.4 Discussions of results on management turnover

The results in Section 4 and Section 5 show that management turnover is higher for scandal firms than for the control firms. This is consistent with the results of Desai et al. (2006) and Jayaraman et al. (2004), but not consistent with the results of Agrawal et al. (1999). It seems that the managerial labor market disciplines the managers and directors committing scandals. However it is possible that the managers and directors leave their positions to avoid liabilities. Their leave can make the investigation difficult. Our results show that a large number of managers and directors leave their positions soon after the fraud and thus the replacement or resignation may take place before the authorities investigations start. We cannot rule out this possibility. Consequently in next section we go further to investigate where those managers and directors go after leaving their positions.

6. Final outcomes for CEOs and chairmen

This section focuses on the final real outcomes of CEOs and chairmen associated with fraud scandals. To collect data on the outcomes for CEOs and chairmen, we search on *Sina Financial*, *Google*, *Baidu*, and *China Entrepreneurs* for where those corporate leaders land after the fraud event. We are able to collect detailed data for 144 CEOs and 150 chairmen from 155 fraud firms.

We categorize the outcomes for CEOs and chairmen in fraud firms into 9 groups based on the final positions and social status of CEOs and chairmen after the scandal. Group A include those who get promoted to higher level positions in larger firms or their parent firms or higher level positions in government administrations. Group B includes those who keep their initial positions or move to similar positions in the same firm or other firm affiliated in the same group. Group C includes those moved to same level positions in other comparable firms. Group D includes those moved to lower positions in the same firm. Group E includes those moved to lower positions in other firms. Group F includes those retire right after scandal or died soon after scandal. Group G include those go (flee) to other countries. Group H includes those subjected to severe administrative punishment, for example, dismissed from the firm, forbiddance to management position in listed firms, suggested dismissal from office or the Party by CSRC. Group I includes those are sentenced on the court. The distribution of various types of outcomes for CEO and Chairman is shown in Figure 1 and Figure 2.

As shown in Figure 1 and Figure 2 the results are astonishing. 41 percent of the

CEOs and 33 percent of the chairmen keep their positions or move to positions at similar level in the same firms or firms within the same affiliated group, for example, CEO to Chairman or vice versa. 11 percent of CEOs and 10 percent of chairmen leave the firm and take same level of top management positions in other comparable firms. More surprising, 14 percent of the CEOs and 27 percent of chairmen get promoted to higher level of positions in larger firms or their parent firms or higher level of positions in government administrations. Furthermore, 19 percent of the CEOs and 10 percent of the chairmen were demoted to lower level of positions in the same firms or other firms affiliated with the same group, while 6 percent of the CEOs and 3 percent of the chairmen moved to lower positions in other firms. 1 percent of the CEOs and 9 percent of the chairmen retired or died soon after scandals. There are 2 percent CEOs and 3 percent chairmen go (flee) to US and other countries. Only 3 percent of CEOs and 2 percent of chairmen receive severe administrative penalties. 3 percent of CEOs and 3 percent of chairmen were suited and sentenced to jail for the frauds we focus on. We collect all the court judgments and find all the sentences rang from 2 to 3 years in jail. In general, although CEOs and chairmen in fraud firms are very likely to leave their positions around fraud events, they do not need to worry about further severe penalty. Thus the high turnover rate of managers and directors we find in section 4 and 5 do not necessarily suggest there exist a disciplined managerial labor markets and an effective legal system in China. Instead managers and directors may leave their positions in order to avoid liabilities and make the investigation of fraud more difficult.

We then conduct multivariate analysis of the likelihood for CEO and Chairman in fraud firms to face severe penalties. We define a dummy variable *OUTCOME*, which equals 1 if the CEO or Chairman gets severe administrative penalty, legal penalty or go (flee) to other countries, 0 otherwise. We assume those went (fled) to other countries would have been subject to severe administrative or legal penalties if they had not went (fled) abroad. We use the same set of independent variables in section 4 and 5 as regressors.

Since we examine where those CEOs and chairmen's are going at last following the fraud scandals, we consider some measures on their political background. We introduce a dummy variable in the regressions.

PARTY: equals 1 if the CEO or Chairman is a member of the Party, otherwise it equals 0.

Table 12 reports the regression results. The coefficient of *FRAUD* is positive and significant in model (10) and (2). This indicates that CEO or Chairman is more likely to receive severe administrative or legal penalty when there are more fraud events occurred in the period of year [-2, 0] or the fraud lasts more than a year. We control for effect of different types of frauds in model (3), (4) and (5). *FRAUD2*, which refers to illegal use of fund raised in securities offer, is positive and significant. Illegal use of fund raised in securities offer leads to severe punishment. The setting of CEO and Chairman (*BOSS*) is positively related to the likelihood for the corporate leader to receive severe penalty. This is reasonable in that a person that holds both CEO and Chairman has more liabilities for fraud.

In all five models, the Party membership, *PARTY*, is negative and significant. This suggests that certain political background may help avoid severe penalty. There may be CEOs or chairmen using the Party membership as a protector to commit fraud.

7. Conclusion

We empirically investigate the various potential penalty associated with corporate fraud scandal. The enforcement actions from CSRC, SHSE and SZSE are not severe for firms convicted for fraud. The market reaction to the revelation of fraud is negative and significant. We find that the turnover of senior managers, CEO, board members and Chairman is positively related to fraud. However we further find that a large portion of the CEOs and the chairmen keep their positions or move to positions at similar level in the same firm or in other comparable firms, or get promoted to parent firms or even government. Only 6 percent of CEOs and 5 percent of chairmen get severe administrative or legal penalty. In general, although CEOs and chairmen in fraud firms are very likely to leave their positions around fraud events, they do not receive severe penalty. The high turnover rate of managers and directors may suggest they leave the positions to avoid liabilities.

Overall we do not find that there exist efficient and enough penalty for crime against securities laws. The lack of legal enforcement on frauds, and the lack of penalty on fraud in managerial labor market lead to the rampancy of corporate fraud and stagnancy of stock market development in China in recent years. Previous literature documents the law as a prominent determinant of financial development and

economic growth (for example, La Porta et al., 1998) and mostly focus on the written law. Berkowitz et al (2003) and Pistor et al. (2000) found that the effectiveness of the law is more important than the written law in promoting financial development, especially in transition countries. Bhattacharya and Daouk (2002) compare the 103 countries that have stock markets and find that insider trading laws exist in 87 of them, but enforcement - as evidenced by prosecutions - has taken place in only 38 countries. They find that the cost of capital is reduced only in countries that enforced the insider trading laws. Furthermore Bhattacharya and Daouk (2005) find that the cost of capital rise in countries that introduce insider trading laws, but do not enforce it. They argue that under certain conditions, no law is better than a good law without execution of the law. Their arguments fit into Chinese emerging market. China's written laws have been improved significantly and are one of the better ones among developing countries. The Securities Act of China has absorbed many sound experiences from U.S. and other developed markets. However the enforcement of the law has been much lagged behind. Our study investigate the effectiveness of law in China by examine the various potential penalties on corporate frauds. We find weak legal system and underdeveloped managerial labor markets do not penalize management's fraud in China. Our study provides direct evidence that law, especially the effectiveness of law, affect stock market development in a country.

The policy implications of our study are clear. First, the capital market governance is not effective, and this is at least partially due to the limited power of CSRC as shown in our study. Unlike SEC in US, the CRSC in China does not have

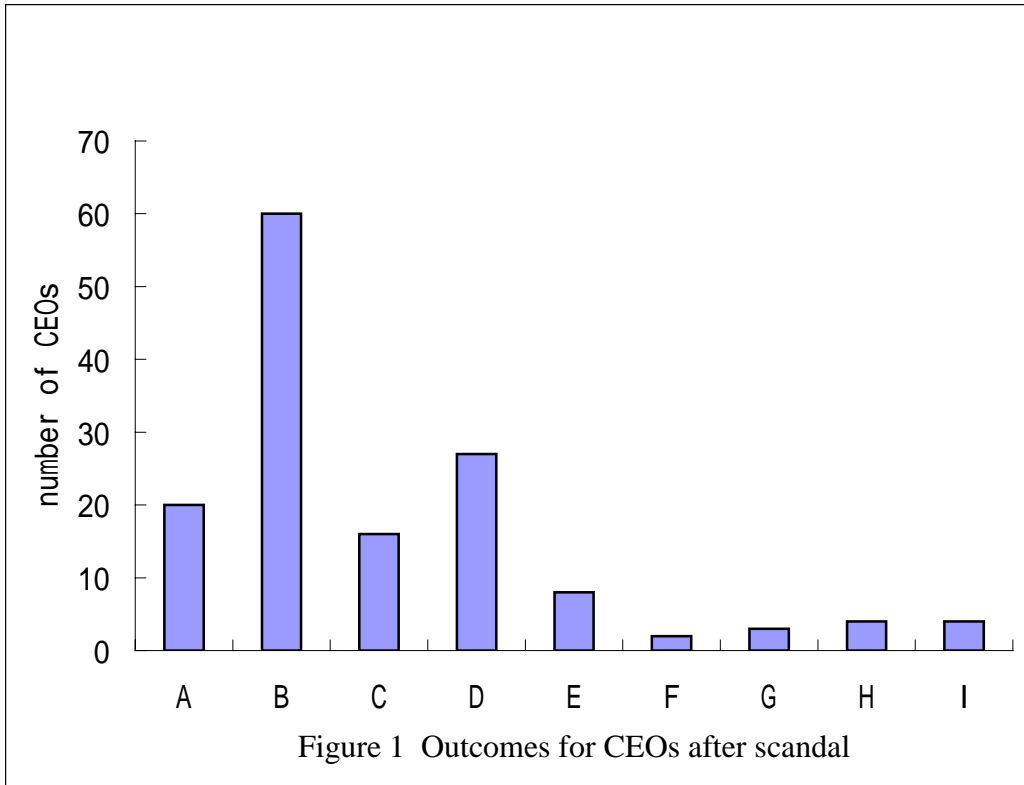
certain juridical power. CSRC should have more power in enforcement actions against the scandals. Second, the low effectiveness of law leads to the corporate frauds and scandals. The development of legal system and reputation based credit system should be the focus of the government. Financial market can develop successfully only when China improves the legal system, especially the effectiveness of law. Third, to improve the effectiveness of securities laws, the minority shareholders should be given the right for collective litigation against the large shareholders and management in the scandal firms. Shareholder litigations have been effective in US and other developed markets while it is not in practice in China. When the minority shareholders can effectively litigate against corporate management in China, there will be higher probability for the management to face penalty for fraud. These have the potential to influence managerial actions, thereby reducing the incidence of outright fraud.

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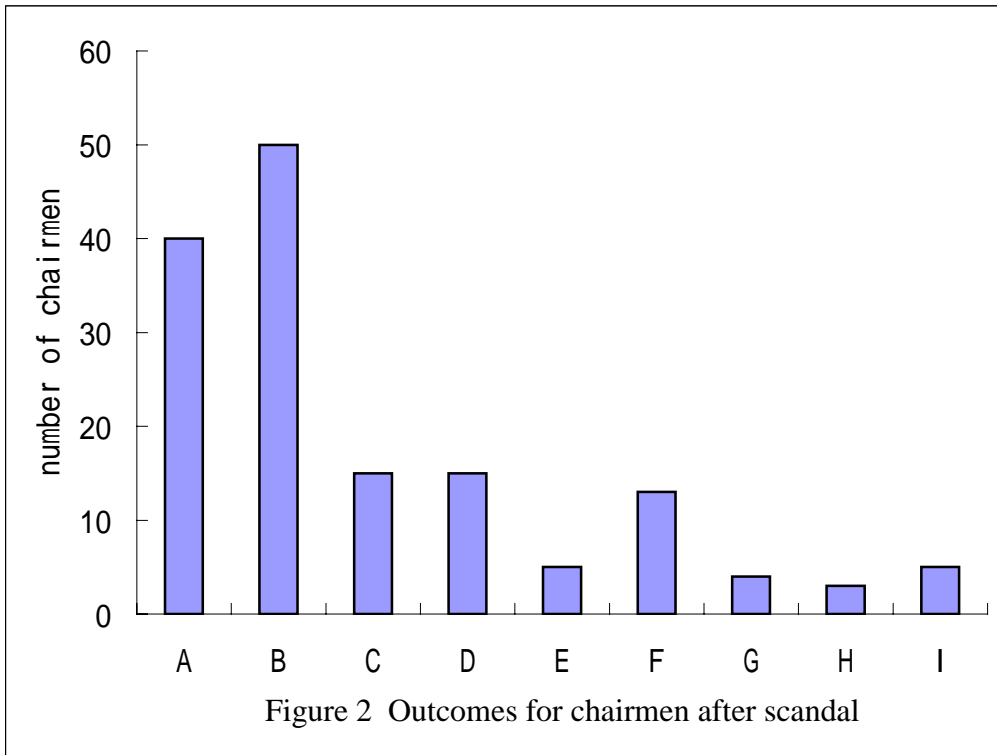
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Notes: Group A include CEOs promoted to higher level positions in larger firms or their parent firms or higher level positions in government administrations. Group B includes those who keep their initial positions or move to similar position in the same firm or other firms affiliated to the same group. Group C includes those moved to same level positions in other comparable firms. Group D includes those moved to lower positions in the same firm. Group E includes those moved to lower positions in other firms. Group F includes those retire right after scandal or died soon after scandal. Group G include those go (flee) to other countries. Group H includes those subjected to severe administrative punishment, for example, dismissed from the firm, forbiddance to management position in listed firms, suggested dismissal from office or the Party by CSRC. Group I includes those are sentenced by the court.



Notes: Group A include chairmen promoted to higher level positions in larger firms or their parent firms or higher level positions in government administrations. Group B includes those who keep their initial positions or move to similar position in the same firm or other firms affiliated to the same group. Group C includes those moved to same level positions in other comparable firms. Group D includes those moved to lower positions in the same firm. Group E includes those moved to lower positions in other firms. Group F includes those retire right after scandal or died soon after scandal. Group G include those go (flee) to other countries. Group H includes those subjected to severe administrative punishment, for example, dismissed from the firm, forbiddance to management position in listed firms, suggested dismissal from office or the Party by CSRC. Group I includes those are sentenced by the court.

Table 1 Summary statistics of fraud and control sample**Panel A: Operating and financial characteristics**

VARIABLE	MEAN		t-Statistic	MEDIAN		p-Value
	Fraud	Control		Fraud	Control	
Firm size:						
Sales (¥ million)	609.29	614.80	-.054	289.30	321.42	.071
Net sales (¥ million)	606.33	608.24	-.019	289.26	313.91	.104
Total assets (¥ million)	1459.05	1202.25	1.849*	825.12	815.74	.008
Firm value (¥ million)	2192.11	1808.60	2.351**	1498.75	1407.92	.035
Market value (¥ million)	1390.02	1276.15	1.428	1007.89	1083.83	.793
Growth:						
Sales growth rate over year (-1, 0)	.043	.181	-1.500	-.034	.100	<.001
Firm value/total assets	1.709	1.697	.186	1.557	1.502	.435
Financial leverage:						
100 × (long-term debt/firm value)	3.921	4.157	-.354	1.578	.959	.341
100 × (long-term debt/total assets)	6.284	6.142	.144	2.879	2.027	.311

Panel B: Incidence of other fraud events or continuity of fraud in previous years

YEAR	MEAN		t-STATISTIC	MEDIAN		P-VALUE
	FRAUD	CONTROL		FRAUD	CONTROL	
-2	.161	0	5.442***	0	0	<.001
-1	.284	0	7.813***	0	0	<.001
0	1	0		1	0	
+1	.045	.013	1.676*	0	0	.096
+2	.007	.019	-1.000	0	0	.317

Note: Mean and median characteristics of a sample of publicly traded firms that were convicted of a fraud by CSRC, SHSE and SZSE during the years 1990-2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in years (-2,0). Year 0 is the year of the fraud. Firm value equals the market value of equity plus the book value of debt. The variables are measured at the end of the year unless indicated otherwise. The t-statistic is for the mean of the difference between the matched pairs. The p-value is for the Wilcoxon signed ranks test. The sample size in Panel A varies from 124 to 154 pairs across the variables, depending on the availability of the data; the sample size in Panel B is 155 pairs. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 2 Operating performance of fraud and control samples

Year	Mean			Median			Tests for average paired difference in change from year -2	
	Fraud	Control	t-statistic	Fraud	Control	Wilcoxon test p-Value	t-statistic	Wilcoxon test p-Value
Panel A: (operating income/sales) × 100								
-2	20.91	19.05	0.547	17.80	18.14	.969	--	--
-1	19.52	22.27	-1.42	17.40	20.44	.169	-1.202	.163
0	12.32	19.50	-1.47	18.10	19.43	.052	-1.978*	.011
+1	19.12	21.21	-0.912	16.71	19.64	.216	-1.556	.163
+2	18.05	23.97	-2.52**	18.75	20.90	.017	-2.891*	.017
Panel B: (operating income/total assets) × 100								
-2	7.62	9.17	-1.84*	7.17	8.55	.040	--	--
-1	7.04	8.96	-2.20**	6.50	7.88	.005	-1.378	.081
0	5.59	8.77	-4.36** *	5.16	8.02	<.001	-3.035* **	.002
1	6.36	9.16	-3.42** *	5.19	8.30	<.001	-2.186* *	.010
2	7.64	11.01	-3.79** *	6.80	8.92	<.001	-2.727* **	.006

Note: Mean and median characteristics of a sample of publicly traded firms that were convicted of a fraud by CSRC, SHSE and SZSE during the years 1990-2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in years (-2,0). Year 0 is the year of the fraud. The t-statistic is for the mean of the difference between the matched pairs. The p-value is for the Wilcoxon signed ranks test. The sample size in Panel A and Panel B varies from 89 to 155 pairs across the variables, depending on the availability of the data. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 3 The enforcement action taken by the CSRC, SHSE and SZSE

Panel A: Classification of Penalty for Firms' Different Kinds of Frauds

	Criticism	Public Condemnation	Warning	Fining	Warning & Fining	Warning, Fining & Confiscation of Illegal Earnings
Firms	31	83	10	2	9	9

Panel B: Classification of Penalty for CEO, Chairman and Directors

	Criticism	Public Condemnation	Warning	Fining	Warning & Fining	Severe Administrative Punishments
CEO	3 (3)	18 (14)	5 (5)	1 (1)	11 (11)	5 (5)
Chairman	9 (9)	34 (30)	7 (7)	1 (1)	16 (13)	5 (5)
Directors (nonchairman)	17 (3)	190 (28)	112 (12)	11 (1)	62 (10)	0 (0)

Note: The enforcement action taken by the CSRC, SHSE and SZSE. Panel B reports the penalty for CEO, Chairman and Directors. The number in the parenthesis refers to the number of firms where those individuals are from.

Table 4 CAR of firms around the announcement of revelation of fraud and enforcement actions

	Mean		t-Statistic		Median		Tests for average paired difference	
	Fraud	Control	Fraud	Contro l	Fraud	Control	t- statistic	Wilcoxon test p-value
Panel A:								
All firms	-.014	.0048	-2.15**	1.571	-.009	-.0002	-2.57**	.005
Panel B:								
Enforcement Action Types								
Criticism	.0063	.0142	.360	1.883*	-.0125	.0052	-.415	.410
Public Condemnation	-.0235	-.0004	-2.62***	-.138	-.0058	-.0014	-2.40**	.013
Warning	-.0428	-.0015	-1.688	-.117	-.0292	-.0181	-1.223	.239
Fining	.0468	-.0036	1.399	-.291	.0468	-.0036	2.378	.180
Warning & Fining	.0068	.0202	.702	1.174	.0037	.0060	-.591	.929
Warning, Fining & Confiscation of Illegal Earnings	-.0065	-.0041	-.669	-.268	-.0043	-.0018	-.129	.594

Notes: The cumulative abnormal return (CAR) for the days (-1, +1) around announcement. All firms' beta are calculated from a one-factor market model estimated during (-210, -11) days relative the regulation authorities announcement date (day 0). For each control firm, we calculate its abnormal return over the same period as its matched fraud firms. The last two columns examine the difference of the abnormal return for scandal firms and control firms. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

**Table 5 Changes on the combination of CEO and Chairman
in scandal and control samples**

Year around year of scandal conviction (0)	Mean		t-statistic for paired difference	Wilcoxon test p-value	tests for average paired difference in change from year -1	
	Fraud	Control			t-statistic	Wilcoxon test p-value
-1	0.290	0.176	2.384**	0.019	--	--
0	0.237	0.184	1.132	0.258	0.140	0.889
+1	0.191	0.138	1.267	0.206	0.128	0.903
+2	0.208	0.175	0.728	0.466	0.112	0.882

Note: the mean proportion of firms in each sample where the CEO and the Chairman of the Boards are the same individual. The fraud sample consists of publicly traded firms that were convicted of a fraud by CSRC, SHSE and SZSE during the years 1990-2002. Each fraud firm is matched with a control firm in its 2-digit SIC code that has the closest sales in the year of fraud conviction (year 0) and had no fraud accusation during years (-2,0). The t-statistic in column 3 and the Wilcoxon test p-value in column 4 are based on matched pair differences in each year. The last two columns report tests for the difference between the two samples in a given year from year -1. The sample size varies from 131 to 152 pairs over the years, depending on the availability of the data. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 6 Senior management and CEO turnover in fraud and control samples

Years around year of fraud announcement (0)	Mean		t-STATISTIC FOR PAIRED DIFFERENCE	WILCOXON TEST P-VALUE
	Fraud	Control		
Panel A: Top Managers:				
0	.331	.215	2.950***	.005
+1	.418	.268	2.989***	.001
+2	.363	.260	2.416**	.010
(0, +1)	.750	.483	4.603***	<.001
(+1, +2)	.782	.528	4.094***	<.001
(0, +2)	1.113	.743	5.271***	<.001
Panel B: CEO				
0	.426	.290	2.180**	.035
+1	.529	.329	3.438***	.001
+2	.394	.226	3.020***	.003
(0, +1)	.955	.619	3.879***	<.001
(+1, +2)	.922	.555	4.801***	<.001
(0, +2)	1.348	.845	5.032***	<.001

Note: Mean number of managers who lost jobs in a sample of publicly traded firms that were convicted of a fraud by CSRC, SHSE and SZSE during the year 1992-2002 and in a control sample of firms matched by industry (2-digit SIC) and size (total assets). Panel A shows the turnover among all top managers. Panel B shows CEO turnover. Year 0 is the year of the fraud. Turnover in a given year is measured relative to the prior year. The sample size is 155 pairs for all the years. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

TABLE 7 OLS regressions of senior management turnover

INDEPENDENT VARIABLES					
FRAUD	.173***	.178***			
	(<.001)	(<.001)			
BOSS	-.046	-.065	-.021	-.010	-.018
	(.639)	(.499)	(.823)	(.921)	(.850)
BOARDSIZE	-.019	-.019	-.019		
	(.199)	(.189)	(.171)		
CAR	-.205	-.066	-.188	-.164	
	(.758)	(.920)	(.765)	(.795)	
LSALES	.000	-.008			-.002
	(.990)	(.730)			(.922)
MBR	.003	.002	-.016	-.010	.001
	(.954)	(.975)	(.770)	(.862)	(.986)
OPS		-.073	-.088		
		(.657)	(.577)		
OPA	-.671			-.634	-.355
	(.394)			(.372)	(.625)
STATEHOLDER	-.127	-.112	-.127	-.115	-.106
	(.233)	(.290)	(.211)	(.256)	(.289)
LARGEST	-.006**	-.006**	-.006**	-.006**	-.006**
	(.017)	(.010)	(.007)	(.019)	(.016)
CURRENTRATIO	.039	.036	.049	.052*	.051*
	(.216)	(.246)	(.102)	(.084)	(.096)
(LONG-TERM DEBT/FIRM VALUE) × 100	.002		.004	.003	
	(.738)		(.541)	(.543)	
(LONG-TERM DEBT/TOTAL ASSETS) × 100		.001			.001
		(.829)			(.798)
FRAUD1			.340***	.311**	.326***
			(.008)	(.014)	(.010)
FRAUD2			-.040	-.043	-.046
			(.835)	(.827)	(.814)
FRAUD3			.124	.140	.149
			(.271)	(.214)	(.183)
FRAUD4			.226	.225	.218
			(.357)	(.360)	(.378)
FRAUD5			.388***	.380***	.384***
			(.004)	(.004)	(.003)
FRAUD6			.447***	.429***	.431***
			(.005)	(.006)	(.006)

FRAUD7			-.056	-.061	-.058
			(.634)	(.605)	(.630)
FRAUD8			1.500***	1.514***	1.443***
			(<.001)	(<.001)	(<.001)
Constant	1.321	1.440	1.254	1.047	1.049
	(.010)	(.003)	(.001)	(.001)	(.021)
Adjusted R^2	.072	.069	.154	.152	.145
Sample size	296	300	300	300	304

Note: The dependent variable is the management turn over rate during the interval (0, +2). Year 0 is the year of fraud. The variable FRAUD equals the number of years in which a firm is accused of a fraud. OPS is the average ratio of operating income to sales over the year (0, +2). OPA is the average ratio of operating income to total assets over the year (0, +2). BOARDSIZE equals the number of directors on the board in year -1. BOSS equals 1 if the CEO and the Chairman are the same individual during the either of the years (-1,0); BOSS equals 0 otherwise. CAR is the abnormal return upon fraud announcement over the days (-1, 1). LSALES equals the natural logarithm net sales in year 0. MBR equals firm value divided by the book value of assets. STATEHOLDER is a dummy which is equals to 1 if the firm is owned by the state, otherwise it equals to zero. LARGEST is the percentage of ownership held by the largest stockholder in the year -1. CURRENTRATIO: current assets/current liability. The sample consists of publicly traded that were accused of a fraud during the year 1992 to 2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in year (-2,0). The numbers in parenthesis below the coefficient estimates are p-value. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 8 Logistic regression of CEO turnover

INDEPENDENT VARIABLES	(1)	(2)	(3)	(4)	(5)
FRAUD	.415**	.404**			
	(.013)	(.015)			
BOSS	.322	.406	.303	.273	.222
	(.313)	(.204)	(.369)	(.422)	(.509)
BOARDSIZE	.032	.039	.028		
	(.498)	(.406)	(.555)		
CAR	.010	.135	-.952	-1.151	-1.090
	(.997)	(.952)	(.669)	(.611)	(.637)
LSALES	-.034	-.015	-.026	-.028	-.045
	(.688)	(.858)	(.740)	(.731)	(.569)
MBR	.179	.156	.097	.109	.114
	(.373)	(.432)	(.634)	(.600)	(.576)
OPS	-1.073				-.869
	(.170)				(.275)
OPA		-2.840	-2.295	-2.380	
		(.231)	(.342)	(.345)	
STATEHOLDER	.137	.185	.235	.263	.219
	(.682)	(.571)	(.486)	(.441)	(.513)
LARGEST	.003	.003	.002	.001	...
	(.729)	(.662)	(.826)	(.941)	
CURRENTRATIO	.242*	.217*	.220*	.226*	.241*
	(.073)	(.096)	(.094)	(.085)	(.071)
(LONG-TERM DEBT/FIRM VALUE) × 100	.017			.019	.020
	(.400)			(.335)	(.329)
(LONG-TERM DEBT/TOTAL ASSETS) × 100		.009	.010		
		(.502)	.496		
FRAUD1			.858*	.881*	.876*
			(.094)	(.085)	(.084)
FRAUD2			.372	.360	.404
			(.658)	(.668)	(.632)
FRAUD3			-.254	-.280	-.275
			(.524)	(.483)	(.488)
FRAUD4			.722	.810	.724
			(.528)	(.479)	(.524)
FRAUD5			-.177	-.178	-.129
			(.670)	(.668)	(.757)
FRAUD6			.541	.563	.584
			(.347)	(.328)	(.309)
FRAUD7			.532	.542	.577
			(.246)	(.237)	(.208)

FRAUD8					
Constant	-0.005	-0.408	.062	.343	.683
	(.998)	(.823)	(.972)	(.841)	(.688)
-2 Log Likelihood	356.2	361.0	356.9	341.8	347.0
Sample size	296	300	300	296	296

Note: The dependent variable equals 1 if the prior year's CEO loses his position in any year during the years (0, +2); it equals 0 otherwise. Year 0 is the year of fraud. The variable FRAUD equals the number of years in which a firm is accused of a fraud. OPS is the average ratio of operating income to sales over the year (0, +2). OPA is the average ratio of operating income to total assets over the year (0, +2). BOARDSIZE equals the number of directors on the board in year -1. BOSS equals 1 if the CEO and the Chairman are the same individual during the either of the years (-1,0); BOSS equals 0 otherwise. CAR is the abnormal return upon fraud announcement over the days (-1, 1). LSALES equals the natural logarithm net sales in year 0. MBR equals firm value divided by the book value of assets. STATEHOLDER is a dummy which is equals to 1 if the firm is owned by the state, otherwise it equals to zero. LARGEST is the percentage of ownership held by the largest stockholder in the year -1. CURRENTRATIO: current assets/current liability. The sample consists of publicly traded that were accused of a fraud during the year 1992 to 2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in year (-2,0). The numbers in parenthesis below the coefficient estimates are p-value. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 9 Board members and Chairman Turnover in fraud and control samples

Year	MEAN		t-statistic for paired difference	Wilcoxon test p-value
	Fraud	Control		
Panel A: Board Members				
0	.270	.178	3.447***	.001
+1	.370	.252	3.161***	.003
+2	.340	.234	2.901***	.002
(0, +1)	.640	.429	4.779***	<.001
(+1, +2)	.710	.486	4.060***	<.001
(0, +2)	.979	.663	5.443***	<.001
Panel B: Chairman				
0	.336	.200	2.655***	.009
+1	.503	.174	5.823***	<.001
+2	.368	.194	3.210***	.002
(0, +1)	.839	.374	5.811***	<.001
(+1, +2)	.871	.368	6.507***	<.001
(0, +2)	1.207	.568	6.597***	<.001

Note: Mean number of directors who lost jobs in a sample of publicly traded firms that were convicted of a fraud by CSRC, SHSE and SZSE during the year 1992-2002 and in a control sample of firms matched by industry (2-digit SIC) and size (total assets). Panel A shows the turnover among all directors. Panel B shows Chairman turnover. Year 0 is the year of the fraud. Turnover in a given year is measured relative to the prior year. The sample size is 155 pairs for all the years. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 10 OLS regressions of board members turnover

INDEPENDENT VARIABLES					
FRAUD	.146*** (<.001)	.151*** (<.001)			
BOSS	-.044 (.516)	-.060 (.371)	.001 (.986)		
BOARDSIZE	-.019* (.058)	-.018* (.076)	-.018* (.073)	-.016* (.096)	-.017* (.079)
CAR	.382 (.414)	.476 (.301)	.429 (.353)	.567 (.210)	.562 (.211)
LSALES	-.029 (.076)	-.033 (.031)	-.028 (.076)	-.031 (.037)	-.031 (.035)
MBR	-.040 (.346)	-.033 (.421)	-.050 (.232)	-.045 (.258)	-.048 (.224)
OPS		-.341*** (.006)		-.323*** (.004)	-.317*** (.004)
OPA	-1.168** (.035)		-1.143** (.037)		
STATEHOLDER	.018 (.813)	-.007 (.919)	.028 (.698)	-.002 (.973)	
LARGEST	-.004** (.044)	-.004** (.040)	-.004** (.023)	-.004** (.019)	-.004** (.015)
CURRENTRATIO	.000 (.991)	-.001 (.975)	.010 (.638)	.010 (.645)	.009 (.658)
(LONG-TERM DEBT/FIRM VALUE) × 100	.000 (.928)		.001 (.739)		
(LONG-TERM DEBT/TOTAL ASSETS) × 100		-.002 (.588)		.000 (.903)	
FRAUD1			.101 (.268)	.088 (.323)	.090 (.307)
FRAUD2			-.239* (.084)	-.211 (.124)	-.208 (.128)
FRAUD3			.250*** (.002)	.245*** (.002)	.235*** (.003)
FRAUD4			.037 (.833)	-.002 (.991)	-.003 (.985)
FRAUD5			.281*** (.003)	.308*** (.001)	.311*** (.001)
FRAUD6			.201* (.072)	.215* (.053)	.218** (.048)
FRAUD7			.226*** (.008)	.237*** (.005)	.243*** (.004)

FRAUD8			.547***	.428***	.428***
			(.007)	(.023)	(.022)
Constant	1.782	1.823	1.691	1.724	1.730
	(<.001)	(<.001)	(<.001)	(<.001)	(<.001)
Adjusted R^2	.133	.137	.199	.201	.206
Sample size	296	300	296	300	302

Note: The dependent variable is the board members turn over rate during the interval (0, +2). Year 0 is the year of fraud. The variable FRAUD equals the number of years in which a firm is accused of a fraud. OPS is the average ratio of operating income to sales over the year (0, +2). OPA is the average ratio of operating income to total assets over the year (0, +2). BOARDSIZE equals the number of directors on the board in year -1. BOSS equals 1 if the CEO and the Chairman are the same individual during the either of the years (-1,0); BOSS equals 0 otherwise. CAR is the abnormal return upon fraud announcement over the days (-1, 1). LSALES equals the natural logarithm net sales in year 0. MBR equals firm value divided by the book value of assets. STATEHOLDER is a dummy which equals to 1 if the firm is owned by the state, otherwise it equals to zero. LARGEST is the percentage of ownership held by the largest stockholder in the year -1. CURRENTRATIO: current assets/current liability. The sample consists of publicly traded that were accused of a fraud during the year 1992 to 2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in year (-2,0). The numbers in parenthesis below the coefficient estimates are p-value. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 11 Logistic regression of board Chairman turnover

INDEPENDENT VARIABLES	(1)	(2)	(3)	(4)	(5)
FRAUD	.856*** (<.001)	.921*** (<.001)			
BOSS	-.701*** (.023)	-.885*** (.005)	-.721** (.033)	-.626** (.056)	-.650** (.046)
BOARDSIZE	.012 (.792)	.008 (.875)	.002 (.965)		
CAR	3.667 (.135)	3.584 (.157)	3.816 (.157)	4.185 (.096)	4.071 (.104)
LSALES	-.251** (.043)	-.365*** (.004)	-.314** (.021)	-.260** (.031)	-.248** (.035)
MBR	-.091 (.642)	-.036 (.852)	-.173 (.402)	-.160 (.421)	-.179 (.364)
OPS		-3.036*** (.001)			
OPA	-5.598** (.044)		-6.123** (.048)	-5.748** (.042)	-5.459** (.050)
STATEHOLDER	.472 (.156)	.344 (.317)	.562 (.112)	.433 (.198)	.490 (.136)
LARGEST	.008 (.307)	.008 (.303)	.006 (.457)	.006 (.444)	
CURRENTRATIO	.050 (.655)	.113 (.356)	.086 (.464)	.062 (.591)	.070 (.544)
(LONG-TERM DEBT/FIRM VALUE) × 100			-.004 (.827)		
(LONG-TERM DEBT/TOTAL ASSETS) × 100	-.015 (.284)	-.015 (.313)		-.013 (.345)	-.013 (.352)
FRAUD1			.651 (.176)	.673 (.151)	.694 (.140)
FRAUD2			-.185 (.796)	-.209 (.768)	-.231 (.746)
FRAUD3			.891** (.035)	.875** (.036)	.829** (.044)
FRAUD4			1.628 (.103)	1.613 (.110)	1.626 (.111)
FRAUD5			1.251*** (.010)	1.249*** (.010)	1.250*** (.010)
FRAUD6			.876 (.135)	.863 (.136)	.873 (.130)
FRAUD7			.512	.506	.524

			(.263)	(.259)	(.242)
FRAUD8			1.696	1.538	1.483
			(.129)	(.181)	(.198)
Constant	.131	.037	.305	.303	.217
	(.863)	(.960)	(.697)	(.678)	(.767)
-2 Log Likelihood	359.5	347.5	350.4	355.7	350.1
Sample size	300	300	296	300	300

Note: The dependent variable equals 1 if the prior year's Chairman loses his position in any year during the years (0, +2); it equals 0 otherwise. Year 0 is the year of fraud. The variable FRAUD equals the number of years in which a firm is accused of a fraud. OPS is the average ratio of operating income to sales over the year (0, +2). OPA is the average ratio of operating income to total assets over the year (0, +2). BOARDSIZE equals the number of directors on the board in year -1. BOSS equals 1 if the CEO and the Chairman are the same individual during the either of the years (-1,0); BOSS equals 0 otherwise. CAR is the abnormal return upon fraud announcement over the days (-1, 1). LSALES equals the natural logarithm net sales in year 0. MBR equals firm value divided by the book value of assets. STATEHOLDER is a dummy which is equals to 1 if the firm is owned by the state, otherwise it equals to zero. LARGEST is the percentage of ownership held by the largest stockholder in the year -1. CURRENTRATIO: current assets/current liability. The sample consists of publicly traded that were accused of a fraud during the year 1992 to 2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in year (-2,0). The numbers in parenthesis below the coefficient estimates are p-value. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.

Table 12 Logistic regressions of real outcomes for CEO and Chairman in fraud firms

INDEPENDENT VARIABLES					
FRAUD	.789**	.789**			
	(.015)	(.018)			
BOSS	1.394**	1.424**	1.302*	1.301*	1.332*
	(.014)	(.012)	(.071)	(.071)	(.061)
BOARDSIZE			.041	.042	.043
			(.691)	(.690)	(.675)
CAR			-4.942	-4.953	-4.830
			(.318)	(.315)	(.326)
LSALES	-.011	-.013	.099	.100	.091
	(.888)	(.860)	(.551)	(.550)	(.578)
MBR		.040	-.011		
		(.913)	(.977)		
STATEHOLDER	-.180		-.213	-.210	
	(.770)		(.760)	(.760)	
LARGEST		.000	-.007	-.007	-.007
		(.988)	(.715)	(.713)	(.700)
CURRENTRATIO	-.019	-.018			
	(.892)	(.894)			
PARTY	-.994*	-1.041*	-1.569**	-1.570**	-1.608**
	(.090)	(.072)	(.033)	(.032)	(.026)
FRAUD1			1.282	1.286	1.265
			(.116)	(.111)	(.115)
FRAUD2			2.382***	2.381***	2.405***
			(.002)	(.002)	(.002)
FRAUD3			.111	.114	.095
			(.870)	(.865)	(.887)
FRAUD4			3.125***	3.126***	3.063***
			(.006)	(.006)	(.006)
FRAUD5			1.259	1.258	1.250
			(.269)	(.269)	(.271)
FRAUD6			1.230	1.231	1.228
			(.247)	(.247)	(.246)
FRAUD7			-.309	-.309	-.308
			(.637)	(.637)	(.639)
Constant	-3.182	-3.140	2.820	2.801	2.948
	(.051)	(.100)	(.528)	(.527)	(.504)
-2 Log Likelihood	109.462	109.534	89.944	89.946	90.037
Sample size	254	254	250	250	250

Note: The dependent variable equals 1 if CEO or Chairman gets severe punishment, administrative or legal; it equals 0 otherwise. The variable FRAUD equals the number of years in which a firm is accused of a fraud. BOARDSIZE equals the number of directors on the board in year -1. BOSS equals 1 if the CEO and the Chairman are the same individual during the either of the years (-1,0); BOSS equals 0 otherwise. CAR is the abnormal return upon fraud announcement over the days (-1, 1). LSALES equals the natural logarithm net sales in year 0. MBR equals firm value divided by the book value of assets. STATEHOLDER is a dummy which is equals to 1 if the firm is owned by the state, otherwise it equals to zero. LARGEST is the percentage of ownership held by the largest stockholder in the year -1. CURRENTRATIO: current assets/current liability. PARTY is a dummy equals 1 if the CEO or Chairman is a member of the Party, otherwise it equals 0. The sample consists of publicly traded that were accused of a fraud during the year 1992 to 2002 and a sample of control firms matched by industry (2-digit SIC code) and size (total assets) that had no incidence of fraud in year (-2,0). The numbers in parenthesis below the coefficient estimates are p-value. *, **, *** Significant at the 10%, 5% and 1% level in a two-tailed test respectively.