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Late Disclosure of Insider Trades: Who Does It and Why?

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Late Disclosure of Insider Trades: Who Does It and Why?

Abstract

We attempt to understand the personal incentives that motivate corporate insiders to engage in unethical behavior such as delayed trade disclosure. Delayed disclosure affects corporate transparency and other shareholders in the firm potentially suffer investment losses because they are unaware of insiders' activities. Using archival data from the 300 largest Australian firms between 2007 and 2011, the results show that risk factors such as insider age and tenure and wealth effects in the form of insider shareholdings affect the likelihood of delayed reporting. Governance positions such as committee membership mitigate this behavior. Our study highlights the importance of considering individual insider's wealth and risk factors. The self-monitoring role of governance positions is also indicative of the effectiveness of internal corporate governance in the prevention of illegal insider behavior.

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Late disclosure of insider trades – who does it and why?

1. Introduction

To avert compromising market integrity and investor confidence and to reduce the extraction of excessive private benefits by informed parties, regulations are implemented that require timely disclosure by corporate insiders when trading in their own firms' shares. In Australia for example, for firms listed on the Australian Securities Exchange (ASX), Listing Rule 3.1 requires directors (corporate insiders) to disclose any changes in their stockholdings within five business days of the transaction. Public disclosure of insider trades accelerates price discovery and reduces insider profits (Huddart, Hughes and Levine, 2001) and these findings have been shown empirically where returns to trades disclosed immediately are lower than for delayed disclosed trades (Etebari, Tourani-Rad and Gilbert, 2004). There is also some evidence that the requirement to disclose may not be strictly adhered to in some Australian firms. For example, reviews done by the ASX Markets Supervision (ASXMS) of Directors' Interest Notices show incompleteness or late disclosure rates of 5.2%, 7.3% and 8.1% during the first quarter of 2010, first quarter of 2009 and third quarter of 2009 respectively.

We investigate small though persistent late disclosures of insider trades to initially, identify incentives for such behavior by corporate insiders and then to determine whether firm governance mechanisms mitigate the behavior. We use the extended fraud framework which states that the likelihood of fraud increases when a person has an incentive to commit fraud, an opportunity to do so because of weak controls or monitoring, the fraudulent behavior can be rationalized and the person has the capability to commit fraud (Wolfe and Hermanson, 2004). Corporate insiders have incentives to delay the reporting of their trades when there are potential personal financial incentives in the form of increased returns from these trades and

the opportunity with weak or ineffective firm monitoring of disclosure. Insiders may be able to rationalize this behavior as compensation for their efforts in managing the firm or because of excessive trading restrictions placed on them by the firm. Finally, all insiders have the capability to undertake such behavior as long as they hold stock in the firm. In this study, we pay particular attention to the incentives and the opportunity for delayed reporting because we are unable to determine the attitude to this behavior like Beams, Brown and Killough (2003) who identify determinants of intention to trade on inside information. Terpstra Reyes and Bokor (1991) also propose that ethical decisions with respect to insider trading depend on complex interactions between the person and the situation. They highlight person factors to include locus of control and interpersonal competitiveness and situation factors such as legality, referent others and potential profit. Because we are unable to obtain data on such person factors or attitudes (Beams et al. 2003), we rely on insider characteristics to assess their effects on the likelihood of late reported trading.

Our main focus from an ethical viewpoint is on the insider's decision to delay the reporting of trades, in contravention of the timely disclosure requirement. Put another way, the unethical behavior surrounds the late disclosure of the trades rather than the trading itself. This is because corporate insiders are allowed to trade as long as these trades are not trading based on non-public information. However, they have an obligation to provide timely disclosure of such activity. The requirement to provide timely disclosure when changes in interest occur is critical for the maintenance of corporate transparency and investor confidence. The decision to delay the reporting of trades reduces the transparency of management's actions, allowing an opportunity to earn additional profits. That is, insiders with informational advantage have an opportunity to extract private benefits from the parties who have given them the responsibility to manage their investment in the firm.

A frequently held view is that insider trading is always illegal and unethical. However, McGee (2009) argues that this is not always the case and suggests its examination from the basis of two philosophical approaches: the utilitarianism approach and the rights based approach. The former views insider trading as ethical if it produces the greatest good for the greatest number. Delayed reported trades can be viewed as unethical because they only benefit the insiders who conduct them. These insiders are also in breach of their fiduciary duty and the requirement to report their trades in a timely manner. With the rights-based approach, insider trading is illegal if someone's rights are violated. The rights of other shareholders in the firm to be informed of insiders' trading activity and transparency are also violated with late reported trading. Therefore, we believe that this behavior contravenes the requirement to disclose trades on a timely basis and unethical from both the utilitarian and rights based approaches (for example McGee, 2009) where other shareholders potentially suffer losses when insider trading activity is not disclosed when it occurs, such that insiders profit more from these trades.

It is crucial for investors to possess up to date information on insider stockholdings to comprehend the nature of the change in holdings and the signals accompanying the change. It is widely accepted that corporate insiders have intimate knowledge of the operations of a firm and possess superior information of its future performance and value. This informational advantage equips them with the ability to earn abnormal returns when they trade in their own firm's shares (Givoly and Palmon 1985; Seyhun 1988). Becker's (1968) economic rationality framework argues that for a crime to be committed, the benefits of doing so should outweigh its costs. The benefits from delayed reported trading are expected to be financial such as immediate returns from the trades and increased value of the insider's stock portfolio. The

expected costs on the other hand are in the form of prosecution and loss of reputation. Prior research also contends that a manager whose wealth is linked to a firm's stock price has a greater incentive to engage in financial misreporting (Cheng and Warfield, 2005; Bergstresser and Philippon, 2006). Steen and Horrigan (1995) also show that in failed firms, while insiders do not reduce their shareholdings, they do not increase them either. As not all insiders in the firm engage in late reporting, we attempt to identify wealth and individual characteristics influencing such behavior. Some studies propose that ethical decisions and behaviors are a function of the interactions between individual factors and situational factors (Trevino, 1986; Bommer, Gratto, Gravander and Tuttle, 1987). Terpstra, Rozell and Robinson (1993) found that men and also individuals who were highly competitive, younger and with an external locus of control are more likely to engage in insider trading. Guilt, anticipated gains, cynicism and perceptions of fairness of law influence the intention to trade on inside information (Beams, Brown and Killough, 2003). According to Bhattacharya and Marshall (2012), 'richer' top management tend to engage more in illegal insider trading activity. Specifically, we investigate whether an insider's characteristics such as age, tenure within the firm and wealth linked to the firm in the form of equity based compensation and stockholdings affect the likelihood of late reporting. In addition, we test whether concerns about the effects of detection on their reputation mitigates such behavior. Reputation effects are measured by the insider's direct involvement in internal governance such as membership on or being a chairperson of the audit, remuneration and nomination committees in the firm.

Our measure of late reported trading differs from the method used by the ASX Markets Supervision (ASXMS) which measures reporting outside the required five day period. We compare each insider's aggregate trades as reported to the Australian Securities Exchange over the financial year to their trading disclosed in the annual report. Discrepancies between

the reported trades (as they occur) and the annual record of trading are taken to be incidences of late reported trades (net purchases or net sales) over the year.

For S&P/ASX300 firms between 2007 and 2011, the rate of late reported trading is about six percent. Insiders who are older, with longer firm tenure and more stockholdings are more likely to engage in late reported trading. However governance positions tend to mitigate such behavior where insiders who are also members on committees are less likely to engage in late reported trading. The positions held by insiders (executive and non-executive directors) also affected these factors differently.

This paper is organized as follows: the relevant literature and hypotheses are discussed in Section 2 while the data and method are presented in Section 3. Section 4 provides the results and the paper concludes with summary and conclusions in Section 5.

2. Relevant literature and hypotheses

Individual characteristics and wealth indicators are predicted to influence the likelihood of late reported trading, viewed as unethical behavior in terms of both the utilitarianism and rights-based approaches while corporate governance roles and reputational concerns are expected to mitigate such behavior. In this section, the relevant literature around these various factors and the resulting hypotheses are presented.

Late reporting and wealth considerations

When an insider's wealth is interconnected with firm value and performance, such individuals are expected to become less risk averse in their dealings with the firm, either through managing the firm's projects or managing their own equity portfolios in the firm. These

wealth considerations are measured via stock and flow measures being insider stockholdings and equity based compensation respectively. With both measures, the unethical behavior of insiders results in a benefit to the perpetrators only, to the detriment of other stockholders and also other insiders who report their trades in a timely manner.

Risk averse insiders with equity holdings in their own firms may hold undiversified portfolios such that their wealth is strongly linked to the firm's stock performance. While early studies such as Smith and Stulz (1985) suggest stock options as compensation due to the convexity of their payoff to offset insiders' risk aversion, later studies including Carpenter (2000) find that stock options not only increase the sensitivity of insider's wealth to changes in risk but also to changes in stock price. Therefore equity based compensation such as stock options can have an ambiguous effect of insider's incentives to take on more risk. More recently, Armstrong, Larcker, Ormazabal and Taylor (2013) find that equity portfolios provide managers with incentives to misreport when they become less averse to equity risk. The concerns relating to equity based compensation apply more or even exclusively to executives in the firm rather than non-executives (independent directors). As such, executive directors are more likely to engage in unethical behavior from the utilitarian point of view due to their role in the firm and accompanying incentives. The role of non-executive directors is to actively monitor the behavior and decisions of top management to maximize returns to stockholders (Fama and Jensen, 1983) and their compensation is directly related to the need for monitoring and task difficulty. Indeed, Brick, Palmon and Wald (2006) find that director compensation is positively related to firm size, intangible assets and firm volatility. Non-executive directors receive less equity based compensation than executives (Brick et al, 2006; Li, Henry and Chou, 2011). Li et al (2011) report that while more than 37% of Australian executive directors were granted options, the corresponding figure is more than 11% for non-executive directors,

although the options were not performance incentives.

Firms with restrictions on the timing of insider trades pay a premium of 4% to 13% in total compensation compared to firms without such restrictions (Roulstone, 2003). These restricted firms also make greater use of bonus payments, stock options and restricted stock as compensation. Insiders in these restricted firms hold portfolios that increase their sensitivity to changes in price compared to other insiders. Given the restricted trading periods, they may choose to trade discreetly by delaying the disclosure of their trades to exploit the private information they hold at the time. Here equity based compensation is predicted to increase the individual's incentive to engage in the unethical behavior of delaying the disclosure of trading. In addition, there also appears to be low likelihood of detection given no widely reported cases of prosecution of corporate insiders for late reporting trading.

H1: With executive directors, there is a positive relation between equity related compensation and the likelihood to delay the reporting of trades.

The conflict of interest between the managers and owners of the firm resulting from the separation of ownership from control can be traced back to Berle and Means (1932). Following on from this is the idea that investors with larger stakes have more incentives to monitor its activities, as the return from monitoring is sufficient to cover the associated monitoring costs (Jensen and Meckling, 1976). Morck, Shleifer and Vishny (1988) also advance the negative effect of managerial entrenchment where the larger the proportion of ownership held by a firm's insiders, the more likely they are to pursue their own goals, to the detriment of other investors. Fidrmuc, Goergen and Renneboog (2006) suggest that the market reaction to insider purchases and sales depends on the ownership levels held by the

insiders themselves and other blockholders due to the effect of the latter's monitoring on information asymmetry. In their examination of delayed reported insider trades under Form 5 in US firms prior to the Sarbanes Oxley Act, Cheng, Nagar and Rajan (2007) report that institutional blockholders, particularly non-executive directors, display tendencies to prevent late disclosure of trades, particularly for trades that are opportunistic in nature. Even though institutional blockholders may monitor the trading and reporting activities of insiders, we predict that insiders with larger shareholdings may still exhibit opportunistic behavior by delaying the reporting of their trades. Similar to the previous hypothesis on equity based compensation, the likelihood of unethical behavior increases with personal financial incentives which are comparatively higher for executive directors. With their larger stockholdings compared to non-executive directors, to a large extent the predicted relationship relates more to executive directors in the firm.

H2: With executive directors, there is a positive relation between insider stockholdings and the likelihood to delay the reporting of trades.

Late reporting and risk taking behavior

Peterson, Rhoads and Vaught (2001) study the ethical beliefs of business professionals and report a lower standard of beliefs in the younger age group. Vroom and Pahl (1971) find a negative relation between age and risk taking while according to MacCrimmon and Wehrung (1990), more mature executives are the most risk averse. In terms of the economic costs and benefits of white collar crime, Bhattacharya and Marshall (2012) predict that younger management have more to lose in terms of income, reputation and future prospects, and lower the likelihood of illegal insider trading. However, they found more young management being

indicted for insider trading. Therefore when we view delayed reported trading as risk taking behavior, we expected that older insiders are less likely to engage in such activity due to their higher ethical beliefs.

H3: There is a negative association between insider age and the likelihood of delayed reporting of trades.

Insider experience and expertise within the firm is correlated with age although its effect on the likelihood of delayed reported trading is expected to be different. The expertise hypothesis argues that a director who has been with a firm over a longer term has greater experience, commitment and competence as a result of knowledge of the firm and its environment (Vafeas, 2002; Vance, 1983; Buchanan, 1974). However over extended periods of time, such benefits may be eroded (Katz, 1982) and this resulted in a call for term limits for directors (Lipton and Lorsch, 1992).

According to Clinard (1983), senior executives who are more mobile and have short tenure are more likely to participate in illegal activities. However, Miller (1991) argues that long tenured executives become stale in the job and while they may not actively participate in fraudulent activities, they may passively consent to fraud. Similarly, insiders with longer tenure and experience in a particular firm are more likely to engage in late reported trading because they are aware of the low likelihood of detection. Coupled with better understanding of the firm when an idiosyncratic event occurs, these insiders better comprehend its implications on firm value, compared to newer insiders. As such, it is easier for them to identify the mispricing and act on such information. Subsequently, this may give rise to a higher tendency to engage in late reported trading. By the very nature of their role on the board, non-executive directors have shorter firm tenure and are therefore less entrenched

in the firm. The likelihood of engaging in unethical behavior should also decrease. Beasley (1996) provides evidence supportive of this notion where the likelihood of financial statement fraud decreases as outside director ownership and tenure increase.

H4: There is a positive relation between firm tenure and the likelihood to delay the reporting of trades.

Governance positions deterring late reported trading

The reputation hypothesis (Fama, 1980; Fama and Jensen, 1983) suggests that vigilant managers create reputations as good monitors and attain additional seats on boards as a reward. In contrast, negligent managers encounter problems with their reputation capital and have reduced opportunities to serve on other boards. Much of the research has examined this issue from the viewpoint of CEOs and outside directors and the results are mixed. For example, Helland (2006) reports an increase in the number of other board seats held by outside directors in firms facing class action lawsuits while Fich and Shivdasani (2007) found an opposite result.

We examine the reputation hypothesis using insider involvement in internal governance where insiders are appointed to oversight or monitoring positions such as membership on the main committees or chairperson of the main committees. Pool, Wang and Xie (2008) document that some insiders are held more responsible than others because of the predominant roles they play in the firm. For example, an insider who is also chairperson of a committee may be held responsible if there are disputes within the committee. Subsequently, this additional role may deter them from engaging in self-serving activities. We investigate the chairperson of each committee: audit, remuneration and nomination. These three

committees are commonly found to be the ones of greatest influence and importance (Kesner 1988). Limiting the measure to only three committees allows a better differentiation on the importance of the role of the chairperson. With a greater level of responsibility, the chairperson of the committee may be closely monitored by the board of directors. Such monitoring may deter them from opportunistic activities.

H5a: Insiders who are also chairpersons on main committees are less likely to delay reporting their trades.

H5b: Insiders who sit on main committees are less likely to delay reporting their trades.

3. Data and Research Method

The initial sample consists of insiders on S&P/ASX300 firms during the five year period from January 2007 to December 2011. To be included in the sample, an insider must hold the same position within the firm for the entire financial year where any changes in position are verified on Connect4 BoardRoom. Data on insider trades were collected from Signal G announcements on Morningstar DatAnalysis Premium while annual insider trades were taken from annual reports on Connect4 Annual Reports. SIRCA's Corporate Governance and Connect4 BoardRoom databases are the two main sources for insider characteristics and compensation.

When any change in stockholding occurs, an insider is required to disclose the trade to the exchange via a Change in Director's Interest notice (under s205G of Corporations Act and ASX Listing Rule 3.14). In addition, annual disclosure of insider holdings is also made in the firm's annual report (under s300 of Corporations Act). For each insider, the beginning and end balance is given in the Annual Report together with details on transactions which have occurred during the year such as purchases, sales and stock related compensation. The

disclosure is made in terms of number of shares. Late reported trading is estimated by corroborating the purchase and sales figures as disclosed in the annual report with the reported trades announced to the exchange at the time of the trades¹. When the annual report figure of net purchases (purchases less sales) differs from the reported net purchase figure aggregated over the financial year, this difference is deemed to be a case of late reported trading over the year, i.e. an annual net figure. We are unable to detect exactly when these trades occurred, beyond the knowledge that they had occurred sometime during the year. These net trades are censored at a minimum of 500 shares and a maximum of one million shares to ensure materiality of the effect and the removal of outliers that cannot be accounted for.² Over the five year period from 2007 to 2011, there are 313 occurrences of late reported trading.

Model

A Probit regression is used to predict the likelihood of late reported trading on an insider firm year level. Late reported trading (LRT) is measured by a dichotomous variable where 1 represents a case of late reported trading and 0 otherwise. The model is follows:

$$\begin{aligned} LRT_{i,j,t} = & \alpha_{i,j,t} + \beta_1 GENDER_{i,j,t} + \beta_2 AGE_{i,j,t} + \beta_3 EXP_{i,j,t} + \beta_4 COMM_{i,j,t} + \beta_5 CHAIR_{i,j,t} + \\ & \beta_6 TCOMP_{i,j,t} + \beta_7 EQUITY_{i,j,t} + \beta_8 DHOLD_{i,j,t-1} + \beta_9 ROA_{i,j,t-1} + \\ & \beta_{10} MB_{i,j,t-1} + \beta_{11} MKTCAP_{i,j,t-1} + \beta_{12} TURNOVER_{i,j,t-1} + \varepsilon_{i,j,t} \end{aligned} \quad (1)$$

Factors predicted to affect the likelihood of late reported trading are in three groups: insider

¹ The late reported trade metric is measured in number of shares. To ensure that stock splits are detected, the beginning and end balances of insider stockholdings (in terms of number of shares) are compared for each financial year. Furthermore, such close examination of the beginning and year end stockholding balances allows us to re-estimate net late reported trading each year such that any late reported trading in one financial year is not carried over into the next year. For each reported trade, particularly those conducted near the end of the financial year, an up to 15 trading day allowance is made for reporting of the trade. This is due to the s205G disclosure requirement allowing directors to report up to 14 days after the trade.

² The censoring at the lower limit of 500 shares resulted in the reduction of 120 cases while at the upper end, the figure was 53.

personal characteristics, insider wealth and governance mechanisms. In the wealth group, insider wealth is proxied by total compensation received (*TCOMP*), the proportion of equity related compensation to total compensation (*EQUITY*) and insider stockholdings (*DHOLD*). The proxies for personal risk characteristics include gender (*GENDER*), age (*AGE*), and firm experience (*EXP*). The mitigating governance roles predicted to preserve insider reputation and reduce the likelihood of late reported trading are membership on main committees (*COMM*) and chairperson of main committee (*CHAIR*). These explanatory variables are as follows:

TCOMP is total annual compensation paid to each insider;

EQUITY is annual compensation paid in the form of equity including options and share purchase plans, scaled by *TCOMP*;

DHOLD is the insider's stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding;

GENDER is a dichotomous variable with a value of 1 for male insiders and 0 otherwise;

AGE is the insider's age in years;

EXP is the number of year the insider has been working in the firm;

COMM is the number of committees the insider is a member of, including the audit, remuneration and nomination committees;

COMMdum is a dichotomous variable with a value of 1 when an insider is a member of the audit, remuneration or nomination committee and 0 otherwise;

CHAIR is a dichotomous variable with a value of 1 when the insider is a chairperson on any one of the main committees (audit, remuneration and nomination) and 0 otherwise.

Four variables are included to control for firm performance, growth opportunities and size. Previous research has shown that the level of trading, specifically the levels of buying and selling by insiders are affected by these factors (Seyhun 1986; Lakonishok & Lee 2001; Rozeff and Zaman, 1998). *ROA* is measured as earnings before interest and tax divided by total assets while *MB* is the market to book ratio and accounts for the firm's growth opportunities and finally, *MKTCAP* and *TURNOVER* represent firm size and liquidity,

measured as the market value of equity and annual share turnover.

4. Results

Table 1 provides frequency counts of the late reported trades by insider level. In Panel A, of the 5,274 insider firm years from 2007 to 2011, there were 313 cases of late reported trading. The highest rate of late reported trading is in 2007 (7.01% or 60 cases) while 2010 gives the lowest rate at 5.37% or 75 cases. The average rate over the five year period is 6%. In the breakdown between executive and non-executive directors, the rate of late reported trading is higher among the former (9.23%) compared to 5.05% for non-executive directors.

In the breakdown by firms with late reported trading given in Panel B, it is apparent that late reported trading occurs in a small number of firms only. For example, in 2011, there are 153 firms with no late reported trading, 29 firms with one case, 11 firms with 2 cases and one firm with five and six cases each of late reported trading. Panel C shows the frequency of late reported trading by insider. Of the 1,739 individual insiders in the sample, there are 1500 (86.2%) insiders with no late reported trading. This suggests that the phenomenon is also only concentrated among a small proportion of insiders. Further, there are 187 directors with one case of late reported trading, 37 directors with two cases, nine directors with three cases, five directors with four cases and only one director with five cases of late reported trading over the sample period.

<insert Table 1 about here>

Table 2 presents the descriptive statistics classified by firms with and without late reported trading. In terms of firm characteristics, firms with late reported trading have mean return on

assets (ROA) and mean market to book ratio (MB) of 4.4% and 3.17 respectively. These figures are higher (4.6% and 3.54) though not significantly so, in firms with no late reported trading. Compared to firms without late reported trading, firms with late reported trading are larger, in terms of market capitalization and less liquid (lower share turnover).

The sample is dominated by male insiders in both firms with and without late reported trading (93% and 92%). The former are also older in age and have more firm specific experience. The average insider in a late reported trading firm is 60 years of age with 9.4 years of firm experience and sits on 1.13 committees. He also trades more frequently than insiders in firms without late reported trading (0.84% vs. 57%). In terms of compensation, insiders in late reported trading firms receive more total compensation (\$776,000 vs. \$522,000), receives a higher proportion of equity based compensation (14.9% vs. 11.4%) and has higher stockholding (2.6% vs. 1.3%).

<Insert Table 2 about here>

Executive and non-executive directors play different roles within the firm and therefore are compensated differently. Table 3 presents an analysis based on this classification. Ninety seven percent of executive directors are male, compared to 90% for non-executive directors. Executive directors are younger (53.8 years vs. 60.3 years), have more firm specific experience (8.5 years vs. 6.7 years), receive more total compensation (\$1.78 million vs. \$170,647), receive more equity based compensation, (33.4% vs. 5.2% of total compensation) and have higher stockholdings (3.3% vs. 0.8%). The monitoring function expected of non-executive directors is reflected in their committee membership where the average non-executive director sits on 1.67 committees compared to 0.3 committees for executive directors

and 39% of non-executive directors are chairs of main committees. Eighty five percent of non-executive directors receive no equity based compensation while for executive directors, the comparable figure is 22%. This reflects the way executive and non-executive directors are compensated within the firms they are involved with.

<insert Table 3 about here>

Due to the differences between executive directors and non-executive directors, correlation analysis was conducted separately and the results are provided in Table 4 Panel A for executive directors and Panel B for non-executive directors. From Panel A, the Pearson correlation analysis shows that director age is positively correlated with firm experience and director stockholdings and negatively with equity based compensation. Firm specific experience is also positively correlated with committee membership, total compensation and director stockholdings. However with non-executive directors, age is positively correlated with experience, committee membership and total compensation but negatively with equity based compensation and stockholdings. These differences in correlations again reflect the different roles and compensation packages of the director types within the firm.

<insert Table 4 about here>

Tetrachoric correlation analysis was also conducted for dichotomous variables, the results of which are given in Table 5. For executive directors as shown in Panel A, late reported trading is positively correlated with reported trading and committee membership. Reported trading is positively correlated with gender but negatively with the position of chair on committees and when no equity based compensation is received. In Panel B, late reported trading is negatively

correlated with committee membership while there is a negative correlation between gender and reported trading and also between equity compensation and reported trading.

<insert Table 5 about here>

Probit regression results are given in Table 6. The dependent variable is late reported trading (LRT) and the independent variables are insider wealth, insider characteristics, governance factors and firm controls. In Model 1 with only firm controls (ROA, MB, MKTCAP and TURNOVER) included, the coefficient on TURNOVER is negative and significant at $p < 0.05$. This suggests that late reporting trading is less likely in firms with high turnover, that is, the more liquid firms. The pseudo R^2 is very low at 0.02%.

Next, the explanatory variables are included. In Model 2, the coefficients on TRADING, AGE, EXP and DHOLD are positive and significant while the COMMdum coefficient is significantly negative. The likelihood of late reported trading increases with insider (reported) trading frequency, age, firm experience and ownership. That is, older insiders and those with experience within the firm and larger ownership stakes are more likely to risk such behavior. However, membership on one of the main committees curbs such unethical behavior. The likelihood of late reported trading is affected by the insider's experience with the firm where knowledge of its operations and perhaps also of its weak controls encourage such behavior. Insiders with more of their wealth tied into the firm's performance are also more likely to engage in this behavior to maintain or increase the value of their portfolios. They may feel encouraged to undertake late reported trading, a risk taking activity because the likelihood of discovery is low. However, when placed in positions of responsibility such as being executive directors in the firm, insiders are less likely to engage in late reported trading. This is because

they value their professional reputation in the market.

Next, the analysis is run separately for executive and non-executive directors due to the roles they play and their compensation structure. In Model 3 for executive directors, the TRADING, AGE, EXP and MKTCAP coefficients are positive and significant at at least $p < 0.05$. The financial incentives hypotheses, H1 for equity related compensation and H2 for equity ownership are not supported. Contrary to H3, older insiders are more likely to act unethically by delaying the reporting of their trades. Hypothesis H4 is the only hypothesis that is supported where it is predicted that insiders with longer firm tenure are more likely to engage in late reported trading.

For non-executive directors in Model 4, the likelihood of late reported trading increases with experience (0.268, $p < 0.05$) though membership on the main committees reduces the likelihood of this unethical behavior. Insider ownership however provides an incentive for non-executive directors to engage in late reported trading because the likelihood of such behavior increases with their stockholding.

To ensure the robustness of the main results, additional analyses are conducted. Late reported trading by insiders are rare events and when converted to binary dependent variables for probit or logit analysis, there are many more zeros (non-events) than events. In our sample, there are 313 events and 4961 non-events. To account for the unbalanced sample where the probability of rare events is underestimated (King and Zeng, 1999a), we run a rare events logit regression based on the methodology in King et al (1999). The results remain unchanged.

While differences in compensation level, compensation structure and ownership between executive and non-executive directors have been discussed, there is also variability based on size of firm. For example, the mean total compensation for non-executive directors in small firms is lower than in large firms (\$109,587 vs. \$263,986); the mean proportion of equity based compensation is higher (7.66% vs. 3.64%) while the level of ownership is also higher (1.51% vs. 0.18%). With executive directors, the mean total compensation is higher in large firms (\$3,706,278 vs. \$823,588) and the proportion of equity compensation is also higher (44.82% vs. 26.54%). However, the mean ownership level is lower in large firms (1.72% vs. 3.93%), due to the size of the firm. To account for these differences, the executive and non-executive director probit regressions are re-estimated separately for small and large firms³. The results in Table 6 show that age and experience affect the likelihood of late reported trading by executive directors. The firm size breakdown indicates that while experience is still a factor in small firms, equity based compensation reduces the likelihood of late reported trading. In comparison, the level of total compensation increases the likelihood of unethical behavior by executive directors in large firms.⁴ In the non-executive director regressions, the level of stockholdings increases the likelihood of late reported trading among small firm directors while in large firms, older directors are more likely to late report and being a chairperson on the main committee mitigates such behavior. These additional analyses emphasize the importance of taking size differences into consideration when examining compensation and ownership among corporate insiders.

The firm governance structures such as membership on main committees and position of chairperson on these committees appear to be effective in reducing the likelihood of unethical

³ Firms in the sample were allocated into size deciles based on market capitalisation where Decile 1 consists of the smallest firms and Decile 10 the largest firms. Small firms are defined as those belonging to Deciles 1, 2, and 3 while large firms belong in Deciles 8, 9 and 10.

⁴ Experience is not significant in the executive director-large firm regression.

behavior primarily among independent directors. This is because of the monitoring roles they are expected to play within the firm. However, with the higher rates of late reported trading among executive directors, we consider one other factor which could affect such behavior. According to Beasley (1996), the likelihood of financial statement fraud increases with the number of outside directorships due to director busyness and therefore distraction from their monitoring responsibilities. However it is also possible that directors with outside directorships are more concerned with acting ethically to prevent any damage to their reputational capital. We rerun the probit regressions for executive directors and include the number of outside board appointments as an independent variable. However, the variable is not significant.

<insert Table 6 here>

5. Summary and Conclusions

This study investigates late reported trading by corporate insiders and considers how personal incentives, risk preferences and governance positions affect the individual's decision to engage in such unethical activity. Specifically, personal incentives such as wealth proxies in the form of equity related compensation and insider stockholdings are considered together with risk factors such as age and firm tenure. We also ask the question: whether corporate governance positions held by insiders deter them from engaging in unethical behavior when they contemplate the effect of discovery on their reputation. That is, we test whether positions of responsibility and influence dissuade insiders from corporate wrongdoing.

The rate of late reported trading is approximately 6% over the 2007 to 2011 period. This means that late reported trading occurs in six out of every 100 insiders. Older

insiders and those with longer tenure in the firm demonstrate a higher likelihood of late reported trading. Insiders whose wealth is linked to the firm in terms of their stockholdings are also more likely to delay the reporting of their trades. These findings indicate that insiders with longer tenure are not only more knowledgeable about firm processes and procedures; they are also more informed of the likelihood of non-discovery. Therefore, they are willing to take risks because their personal wealth is secured to the firm. That is, there is more entrenchment. However, being involved in firm governance deters insiders from late reported trading. Main committee members are less likely to engage in this activity, relative to their counterparts.

Due the different roles they play within firms and the variation in compensation structures and ownership levels, we analyzed executive and non-executive directors separately. Older executive directors and those with more firm specific experience are more likely to engage in late reported trading. By comparison, non-executive directors who are also sit on main committees are less likely to engage in such unethical behavior. In fact, their ownership levels positively affect the likelihood of late reported trading, particularly in smaller firms.

This is possibly due to the higher proportion of shares held by insiders in small and newly listed shares while in larger and more established firms, proportionally higher compensation is paid.

Our findings support prior studies that have shown the importance of considering wealth and risk characteristics of insiders when investigating occurrences of unethical corporate behavior. When certain personal and firm characteristics are present, this creates a perfect storm for unethical behavior. Firms have the ability to avoid the storm by putting appropriate governance measures in place. That is, reputations concerns can be controlled by appointing

insiders to governance positions within the firm to curb undesirable and unethical behavior.

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Table 1 Frequency of late reported trades: 2007 to 2011

Panel A: Breakdown by years

	Insider firm years	Late reported trades	Late reported trades: executive directors	Late reported trades Non-executive directors
2007	855	60 (7.01%)	24 (11.27%)	36 (5.60%)
2008	983	55 (5.59%)	18 (7.82%)	37 (4.91%)
2009	1009	61 (6.05%)	17 (7.69%)	44 (5.59%)
2010	1396	75 (5.37%)	24 (7.76%)	51 (4.69%)
2011	1031	62 (6.01%)	26 (11.60%)	36 (4.46%)
Total	5274	313 (6.00%)	109 (9.23%)	204 (5.05%)

Panel B: Breakdown of late reported trades by number per firm

	0	1	2	3	4	5	6	7
2007	137	29	10	1	2			
2008	162	27	4	4	2			
2009	153	39	5	1	1	1		
2010	176	40	6	2	1		1	1
2011	153	29	11			1	1	

Panel C: Breakdown of late reported trades by number per insider

	0	1	2	3	4	5		
Insiders	1500	187	37	9	5	1		

Table 2 Descriptive statistics												
Variable	N	Mean	SD	P50	N	Mean	SD	P50	<i>t</i>		Z	
	Late reported trading firms				No late reported trading firms							
ROA	313	0.044	0.174	0.066	4967	0.046	0.181	0.065	0.172		0.281	
MB	313	3.174	3.359	2.340	4967	3.538	5.120	2.290	1.792		0.591	
MKTCAP	313	11300	33000.	642	4967	6210	18900	984	-2.703	**	2.181	**
TURNOVER	313	689.330	1428.826	243.078	4967	3385.230	61600.000	350.931	3.070	***	3.924	***
GENDER	313	0.929			4947	0.917			-0.831			
AGE	196	60.056	7.692	60	3486	59.086	7.955	61	-1.715	*	-1.193	
EXP	313	9.435	6.364	6	4967	6.989	4.930	8	-6.673	***	-7.105	***
COMM	313	1.128	1.064	1	4967	1.379	1.088	1	4.046	***	3.969	***
COMMdum	313	0.623			4967	0.721			3.463	***		
CHAIR	313	0.236			4967	0.309			2.945	***		
TRADE	313	0.840			4967	0.568			-12.434	***		
TCOMP	313	774,864	1,381,794	166,549	4967	522,350	1,173,736	207,000	-3.162	***	-3.468	***
EQUITY (%)	313	0.149	0.242	0	4967	0.114	0.225	0	-2.456	**	-3.429	***
NOEQUITY	313	0.620			4967	0.713			3.298	***		
DHOLD	299	0.026	0.072	0.000	4672	0.013	0.053	0.001	-3.106	***	-5.777	***
DHOLDdum	299	0.896			4672	0.868			-1.524			

ROA is return on assets, *MB* is market to book ratio; *MKTCAP* is the market value of equity; *TURNOVER* is the firm annual stock turnover; *TCOMP* is total annual compensation paid to each insider *EQUITY* is annual compensation paid in the form of equity including options and share purchase plans, scaled by *TCOMP*; *NOEQUITY* is a dichotomous variable with a value of 1 when an insider has no stockholdings and 0 otherwise; *DHOLD* is the insider' stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding; *DHOLDdum* is a dichotomous variable with a value of 1 when the insider holds stock within the firm and 0 otherwise; *GENDER* is a dichotomous variable with a value of 1 for male insiders and 0 otherwise; *AGE* is the insider's age in years; *EXP* is the number of year the insider has been working in the firm in the current position; *COMM* is the number of main committees the insider is a member of; *COMMdum* is a dichotomous variable with a value of 1 when an insider is a member of the main committee and 0 otherwise; *CHAIR* is a dichotomous variable with a value of 1 when the insider is a chairperson on any one of the main committees and 0 otherwise.

Table 3 Director characteristics by executive and non-executive directors												
	Executive directors				Non-executive directors							
GENDER	1197	0.976			4076	0.900			-8.473	***		
AGE	684	53.789	7.823	54	2996	60.364	7.447	61	20.007	***	20.176	***
EXP	1197	8.474	5.743	7	4076	6.747	4.771	6	-9.483	***	-10.005	***
COMM	1197	0.314	0.681	0	4076	1.674	0.988	2	54.344	***	38.681	***
COMMdum	1197	0.209			4076	0.864			50.580	***		
CHAIR	1197	0.013			4076	0.391			45.368	***		
LRT	1197	0.091			4076	0.050			-4.561	***		
TRADE	1197	0.673			4076	0.559			-7.265	***		
TCOMP	1197	1,784,764	2,029,570	1,044,641	4076	170,647	162,592	132,408	-27.489	***	-46.58	***
EQUITY	1197	0.334	0.259	0.345	4076	0.052	0.168	0	-35.517	***	-43.126	***
NOEQUITY	1197	0.222			4076	0.850			47.357	***		
DHOLD	1136	0.033	0.086	0.003	3829	0.008	0.038	0	-9.350	***	-24.651	***
DHOLDdum	1136	0.915			3829	0.857			-5.831	***		

ROA is return on assets, *MB* is market to book ratio; *MKTCAP* is the market value of equity; *TURNOVER* is the firm annual stock turnover; *TCOMP* is total annual compensation paid to each insider *EQUITY* is annual compensation paid in the form of equity including options and share purchase plans, scaled by *TCOMP*; *NOEQUITY* is a dichotomous variable with a value of 1 when an insider has no stockholdings and 0 otherwise; *DHOLD* is the insider' stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding; *DHOLDdum* is a dichotomous variable with a value of 1 when the insider holds stock within the firm and 0 otherwise; *GENDER* is a dichotomous variable with a value of 1 for male insiders and 0 otherwise; *AGE* is the insider's age in years; *EXP* is the number of year the insider has been working in the firm in the current position; *COMM* is the number of main committees the insider is a member of; *COMMdum* is a dichotomous variable with a value of 1 when an insider is a member of the main committee and 0 otherwise; *CHAIR* is a dichotomous variable with a value of 1 when the insider is a chairperson on any one of the main committees and 0 otherwise; *LRT* is the likelihood of late reported trading and equal to 1 when there is late reported trading and 0 otherwise; *TRADE* is a dichotomous variable equal to 1 when the insider has traded during the year and 0 otherwise.

Table 4 Pearson and Spearman (above diagonal) correlations										
<i>Panel A: Executive directors</i>										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ROA (1)	1	0.242	0.117	-0.153	0.020	0.195	0.036	-0.028	-0.128	0.062
MB (2)	0.005	1	0.035	-0.132	-0.096	0.067	0.061	-0.168	0.060	0.196
MKTCAP (3)	0.054	-0.031	1	0.548	0.073	0.170	-0.075	0.581	0.305	-0.334
TURNOVER (4)	-0.031	0.126	0.101	1	0.056	0.004	-0.030	0.459	0.246	-0.346
AGE (5)	0.104	-0.096	0.040	0.057	1	0.256	0.012	-0.027	-0.171	0.003
EXP (6)	0.206	-0.001	0.017	-0.062	0.345	1	0.069	0.006	-0.121	0.201
COMM (7)	0.045	-0.012	-0.074	-0.068	-0.037	0.098	1	-0.156	-0.171	0.204
TCOMP (8)	0.059	-0.104	0.428	0.156	0.050	0.086	-0.102	1	0.630	-0.333
EQUITY (9)	-0.122	0.013	0.200	0.095	-0.175	-0.126	-0.170	0.507	1	-0.213
DHOLD (10)	0.081	0.141	-0.076	-0.074	0.083	0.101	0.118	-0.155	-0.189	1
<i>Panel B: Non-executive directors</i>										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ROA (1)	1	0.350	0.055	-0.162	0.047	0.083	0.097	-0.070	-0.180	0.023
MB (2)	0.088	1	0.091	-0.171	-0.061	-0.019	0.019	-0.053	0.077	0.038
MKTCAP (3)	0.048	-0.024	1	0.574	0.115	0.035	-0.095	0.640	0.033	-0.456
TURNOVER (4)	0.026	-0.024	-0.009	1	0.110	-0.014	-0.066	0.494	0.023	-0.380
AGE (5)	0.031	-0.079	0.064	0.012	1	0.273	0.050	0.162	0.005	0.056
EXP (6)	0.093	-0.026	-0.002	-0.002	0.246	1	0.066	0.087	-0.093	0.270
COMM (7)	0.054	-0.015	-0.061	-0.038	0.083	0.051	1	0.012	-0.034	0.083
TCOMP (8)	0.004	-0.027	0.278	-0.006	0.111	0.105	0.016	1	0.179	-0.310
EQUITY (9)	-0.182	0.032	-0.028	-0.015	-0.065	-0.102	-0.021	0.333	1	-0.036
DHOLD (10)	-0.035	0.051	-0.065	-0.012	-0.094	0.074	-0.087	-0.075	-0.016	1

ROA is return on assets, MB is market to book ratio; MKTCAP is the market value of equity; TURNOVER is the firm annual stock turnover; TCOMP is total annual compensation paid to each insider EQUITY is annual compensation paid in the form of equity including options and

share purchase plans, scaled by *TCOMP*; *NOEQUITY* is a dichotomous variable with a value of 1 when an insider has no stockholdings and 0 otherwise; *DHOLD* is the insider' stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding; *DHOLDdum* is a dichotomous variable with a value of 1 when the insider holds stock within the firm and 0 otherwise; *GENDER* is a dichotomous variable with a value of 1 for male insiders and 0 otherwise; *AGE* is the insider's age in years; *EXP* is the number of year the insider has been working in the firm in the current position; *COMM* is the number of main committees the insider is a member of; *COMMdum* is a dichotomous variable with a value of 1 when an insider is a member of the main committee and 0 otherwise; *CHAIR* is a dichotomous variable with a value of 1 when the insider is a chairperson on any one of the main committees and 0 otherwise; *LRT* is the likelihood of late reported trading and equal to 1 when there is late reported trading and 0 otherwise; *TRADE* is a dichotomous variable equal to 1 when the insider has traded during the year and 0 otherwise; *DHOLD* is the insider' stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding;

Table 5 Tetrachoric correlations					
<i>Panel A: Executive directors</i>					
	(1)	(2)	(3)	(4)	(5)
LRT (1)	1				
TRADING (2)	0.293	1			
GENDER (3)	-0.116	0.226	1		
COMMdum (4)	0.135	-0.006	0.048	1	
CHAIR (5)	-1.000	-0.234	1	1.000	1
NOEQUITY (6)	0.03	-0.121	0.065	0.358	0.586
<i>Panel B: Non-executive directors</i>					
	(1)	(2)	(3)	(4)	(5)
LRT (1)	1				
TRADING (2)	0.377	1			
GENDER (3)	0.032	-0.132	1		
COMMdum (4)	-0.121	0.042	-0.160	1	
CHAIR (5)	-0.037	-0.006	0.046	1.000	1
NOEQUITY (6)	-0.053	-0.430	-0.010	-0.010	-0.010

ROA is return on assets, *MB* is market to book ratio; *MKTCAP* is the market value of equity; *TURNOVER* is the firm annual stock turnover; *TCOMP* is total annual compensation paid to each insider *EQUITY* is annual compensation paid in the form of equity including options and share purchase plans, scaled by *TCOMP*; *NOEQUITY* is a dichotomous variable with a value of 1 when an insider has no stockholdings and 0 otherwise; *DHOLD* is the insider' stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding; *DHOLDdum* is a dichotomous variable with a value of 1 when the insider holds stock within the firm and 0 otherwise; *GENDER* is a dichotomous variable with a value of 1 for male insiders and 0 otherwise; *AGE* is the insider's age in years; *EXP* is the number of year the insider has been working in the firm in the current position; *COMM* is the number of main committees the insider is a member of; *COMMdum* is a dichotomous variable with a value of 1 when an insider is a member of the main committee and 0 otherwise; *CHAIR* is a dichotomous variable with a value of 1 when the insider is a chairperson on any one of the main committees and 0 otherwise; *LRT* is the likelihood of late reported trading and equal to 1 when there is late reported trading and 0 otherwise; *TRADE* is a dichotomous variable equal to 1 when the insider has traded during the year and 0 otherwise.

Table 6 Late reported trading probit regressions												
	Coef	z		Coef	z		Coef	z		Coef	z	
	All directors			All directors			Executive directors			Non-executive directors		
TRADING				0.606	4.15	***	0.658	3.04	***	0.615	3.89	***
GENDER				-0.111	-0.78		-0.559	-1.30		0.001	0.01	
lnAGE				0.707	2.07	**	1.697	2.59	***	0.274	0.67	
lnEXP				0.271	3.35	***	0.302	2.14	**	0.268	2.76	***
COMMdum				-0.284	-2.61	***	-0.092	-0.37		-0.314	-2.41	***
CHAIR				-0.022	-0.25					0.009	0.10	
lnTCOMP				0.008	0.30		0.037	0.39		0.003	0.07	
EQUITY				0.261	1.11		0.073	0.44		0.385	1.21	
lnDHOLD				1.384	1.73	*	-0.696	-0.51		2.499	2.62	***
ROA	-0.242	-1.39		-0.334	-1.44		-0.250	-0.61		-0.391	-1.35	
MB	-0.010	-1.07		-0.007	-0.55		-0.020	-1.15		-0.001	-0.07	
lnMKTCAP	0.042	0.78		0.069	0.93		0.182	2.67	***	0.054	0.08	
lnTURNOVER	-0.116	-2.26	**	-0.046	-0.66		-0.146	-1.45		-0.019	-0.27	
Constant	-1.082	-1.31		-6.322	-3.90	***	-10.638	-3.58	***	-5.064	-2.51	**
Year effects	Included			Included			Included			Included		
Industry effects	Included			Included			Included			Included		
N	3472			3472			630			2827		
Pseudo R ²	0.021			0.087			0.140			0.083		

ROA is return on assets, *MB* is market to book ratio; *MKTCAP* is the market value of equity; *TURNOVER* is the firm annual stock turnover; *TCOMP* is total annual compensation paid to each insider *EQUITY* is annual compensation paid in the form of equity including options and share purchase plans, scaled by *TCOMP*; *NOEQUITY* is a dichotomous variable with a value of 1 when an insider has no stockholdings and 0 otherwise; *DHOLD* is the insider' stockholdings at the end of previous financial year in number of shares, divided by total number of shares outstanding; *DHOLDdum* is a dichotomous variable with a value of 1 when the insider holds stock within the firm and 0 otherwise; *GENDER* is a dichotomous variable with a value of 1 for male insiders and 0 otherwise; *AGE* is the insider's age in years; *EXP* is the number of year the insider has been working in the firm in the current position; *COMM* is the number of main committees the insider is a member of; *COMMdum* is a dichotomous variable with a value of 1 when an insider is a member of the main committee and 0 otherwise; *CHAIR* is a dichotomous variable with a value of 1 when the insider is a chairperson on any one of the main committees and 0 otherwise; *LRT* is the likelihood of late reported trading and equal to 1 when there is late reported trading and 0 otherwise; *TRADE* is a dichotomous variable equal to 1 when the insider has traded during the year and 0 otherwise. Firm clustered standard errors are reported.