# Does Stronger Corporate Governance Constrain Insider Trading? Asymmetric Evidence from Australia

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*Abstract*

This paper investigates the role of internal corporate governance in limiting opportunities for company "insiders" in the top 250 ASX listed companies (2002 to 2014) to extract abnormal returns from trading "own shares". We show that higher corporate governance translates into more restrictive insider trading policies, but does not translate into lower trading volume, expenditure value, or reduced profits from insider purchases; but does reduce the profitability (loss avoidance) of insider selling. Firm size and a switch to a more restrictive trading policy is associated with reduced insider purchase profitability. For insider sales, aggregate governance, trading restrictions and a switch to a restrictive policy reduces profitability. The dominant conclusion is that internal firm governance policies constrain insider sales, but not insider purchases that provide contrarian trading signals and increased shareholder wealth.

*Key words*: Corporate governance and restrictive trading policies, Insider trading, Governance asymmetry between insider transactions.

*JEL classification*: G30; M40

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## 1. Introduction

Whether corporate insiders (executive directors, non-executive directors, upper level management)[2] use their private asymmetric knowledge of firm operations to extract abnormal profits is an important economic and ethical question for shareholders, investors and regulators. In this paper we investigate the activities of inside traders by triangulating the relationship between firm level corporate governance, restrictive trading policies and insider trading volume and profitability. Our paper is motivated by two streams of research—the role of internal corporate governance in mitigating agency problems and the trading activities of corporate insiders.

A typical agency problem faced by corporations is the channelling of resources by senior management to obtain excessive perquisites or resources for their own use. Expropriating shareholder value through insider trading is a classic embodiment of an agency conflict (Ausubel, 1990; Leland, 1992) and a cost to shareholders (Bebchuk and Fried, 2003). By utilising their monopoly on proprietary information regarding the firm, executives and managers can extract wealth from owners by buying shares below, and selling shares above, their fundamental value.

Our paper is motivated by the observation that returns from insider trading are higher in countries with stronger country wide governance (Fidrmuc et al., 2013; Bris, 2005),[3] and in firms with more widely held share ownership (Betzer and Theissen, 2009). Further, Hillier at al. (2015) reveal that individual personal attributes are a major determinant of insider trading returns, and conclude that broad brush economy wide regulations do little to restrain the opportunistic behaviour of individuals. By extension, the application of internal corporate

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[2] For the purposes of this study an "insider" is defined as a current or former director (either executive or non-executive) of the company or a person discharging managerial responsibilities (PDMR) within the company.
[3] The explanation given is that private ex-ante information is in restricted supply to the market, but mandatory reporting of insider transactions releases asymmetric information, and the level of country wide governance quality reinforces the value relevance of that signal (Fidrmuc et al., 2013).

governance policies, that target behaviour, may be more important in restricting insider returns in countries such as Australia (Goncharov et al., 2013). Consequently, direct firm based constraints on insider trading behaviour may be more effective. Research that focusses on internal corporate governance such as: blackout trading periods (Betzer and Theissen, 2009), general counsel approval (Jagolinzer et al., 2011), and internal controls of financial reporting (Skaife et al., 2013; Lambert et al., 2007), supports such a proposition.

Our applied tests are aimed at evaluating the effectiveness of internal governance on constraining the trading of insiders that include directors and senior management in Australia. First, we utilise a measure of firm governance, derived from the methodology used in the UoN/Horwath Corporate Governance Reports, to show that higher corporate governance is associated with policies that place a greater restriction on corporate insider trading. We then examine the relationship between a company's share trading policy and the number and value of purchases and insider profitability. Consistent with Jagolinzer et al. (2011), there is no significant difference on insider purchase activities across less restrictive, moderately restrictive and highly restrictive policies. We conjecture this arises because insider buying increases wealth for all shareholders and does not attract as much adverse attention when compared to wealth reduction from sales. Finally, firm size, as a proxy for more attentive analyst and media attention, constrains insider purchase returns as does an initial shift to a more restrictive policy. For inside sellers, aggregate corporate governance and restrictive trading policies are instrumental in reducing profitability (loss avoidance).

Our dominant contribution is to show that internal corporate governance has asymmetric outcomes. Clearly, insider sale activity is a wealth reduction activity for shareholders and hence its profitability appears to be more rigorously monitored. Our evidence is consistent with firm governance policies aimed at constraining insider sales but not purchases, to the comparative advantage of current shareholders rather than outside

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investors. In short, whilst on the face of it Australian corporations enact strict internal corporate governance, they only embargo trading that negatively affects internal shareholder wealth (Hillier at al., 2015; Ali and Hirshleifer, 2017).

This paper is now organised as follows. Section 2 outlines the background literature and frames the research hypotheses. The data collection process and methodology are presented in Section 3, the results are in Section 4, and Section 5 provides a summary and conclusion.

## 2. Background and Research Hypotheses

### 2.1. Corporate Governance

Our concentration is on internal firm corporate governance as a restricting device for rent extraction by insiders who trade. To provide a context with external governance, we note several papers report increased insider profitability for countries that have higher levels of governance or enact increased insider trading regulations. For example, Betzer and Theissen (2009) report higher abnormal returns earned by supervisory board chairs in Germany. On a wider European sample, Fidrmuc at al. (2013) find higher relative insider returns in northern European countries with higher external governance regulations (Fidrmuc et al. 2013). On a global basis, Bris (2005) notes higher insider returns after insider trading regulations are enforced. Fishman and Hagerty (1995) argue that a contrarian economic effect occurs where marginal inside traders are driven from the market—the remaining insider traders are able to extract from a larger pool of available profits. These observations are consistent with Hillier et al. (2015) who argue that personal attributes induce insiders to trade, and regulations (such as SOX 2002) are relatively ineffective.

Consequently, if country wide or global regulations and enforcement are less than effective, then it might be instructive to examine firm level governance where there is greater

scope for personal intervention. Hence, we ask if firm specific corporate governance is a constraint on insider rent extraction.

Our approach builds on agency theory which sees the modern firm as a relationship where one group (owner/principals) engage another group (manager/agents) to act on their behalf (Jensen and Meckling, 1976). Agency theory predicts that managers and agents are motivated to further their own self-interests (Donaldson and Davis, 1991), resulting in both direct and indirect agency costs borne by shareholders. Direct agency costs arise from monitoring and bonding contracts while indirect agency costs arise when managers maximize their own wealth at the expense of shareholder value through resource channelling (Brown et al., 2011). To minimise agency costs, boards on behalf of shareholders, enact corporate governance mechanisms to enhance their ability to monitor managers.

Corporate governance plays a role in reducing agency costs and a body of empirical evidence shows that "good" corporate governance is effective in limiting management self-interest. For example, firms with weaker corporate governance are shown to be more likely to experience management perpetrated fraud (Farber, 2005; Uzun, Szewczyk and Varma, 2004; Beasley et al., 2000; Beasley, 1996); overconsumption of benefits (Core et al., 1999; Hallock, 1997; Sridharan, 1996; Brickley and James, 1987), and manipulation of reported earnings (Peasnell et al., 2005; Davidson et al., 2005; Xie et al., 2003; Klein, 2002).

If corporate boards view proprietary trading as an unethical use of insider information, then they may prohibit or restrict the times an insider can trade or impose regulations that reduce the monopoly power of their information set. Recent studies indicate a negative association between insider trading returns and the quality of corporate governance. For example, focussing on perquisite channelling, Minnick and Zhao (2009) report that firms who covertly backdate CEO option grants have less independent boards, and Collins et al., (2009) and Bizjak et al., (2009) find firms that backdate options have a higher

incidence of CEO/board chair duality.  Moreover, Bebchuk et al. (2010) report that CEOs are more likely to receive "lucky" option grants when the board does not have a majority of outside directors.[4]  Finally, Bebchuk et al. (2011) report a strong correlation between CEO dominance of the board and the likelihood of the CEO benefiting from option grants at monthly price lows.

We conjecture that an important mechanism to limit the opportunity for insider trading at the firm level is the adoption of share trading policies that place restrictions on when insiders can trade own shares.  In recognition, the Australian Securities Exchange (ASX) introduced Listing Rule 12.9 on 1 January 2011 that requires all listed entities to establish a share trading policy outlining the restrictions the firm applies to share trading by managers and key management personnel.[5]  In this regard, there exists a paucity of evidence regarding both the insider trading restriction practices of Australian listed companies, and the effectiveness of such policies in ensuring insiders do not extract abnormal returns from these trades.  We therefore propose a first hypothesis:

> *H1: Firms with stronger corporate governance are more likely to implement restrictive insider share trading policies than firms with weaker corporate governance.*

### 2.2. Insider Trading

The prevailing literature represents a two-fold story on the value of insider trading. The first approach emphasises the information value-added from insider trading.  For example, the early work of Manne (1966) argues that insider trading introduces private information into the market and this produces stock prices that more accurately reflect "fundamental value".  This approach is supported by Piotroski and Roulstone (2004) who

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[4] Bebchuk et al. (2010) define "lucky grants" as option grants to CEOs exercisable at the lowest share price of the grant month.

[5] However, as shown in Uylangco et al. (2010) directors do not always comply with listing requirements.

show that insider trading increases the aggregate amount of information incorporated into stock prices (see also Seyhun,1986; Lakonishok and Lee, 2001; Fidrmuc et al., 2013), and Hodgson et al., (2018) who report that directional trading reveals the quality of opaque intangibles.  The regulatory approach in this case, is to not restrict corporate insider trading but to implement speedy and transparent reporting to investors so that the private information advantage is limited.

A follow up related question is whether investors do take note of insider transactions to rapidly incorporate private information into prices. Earlier studies such as Ikenberry et al. (1995) and later studies (Fidrmuc et al., 2013; Hillier et al., 2015), show that the market is slow to adjust to insider trading signals.  Explanations range from a lack of financial acumen by average investors, a focus on past returns rather than ex-ante economic signals, or that they are fundamentally inattentive (Tetlock, 2011).

In contrast to the argument that insider trading provides a positive investor externality, Ausubel (1990) and Leland (1992) argue that insider trading diverts wealth to insiders who have primacy access to private information.  Others such as Ali and Hirshleifer (2017) view insider trading as a predatory and unethical practice which adversely affects capital investment and liquidity.  Other papers, such as Bebchuk and Fried (2003) represent insider trading profits as an agency cost for investors and wealth loss to shareholders.  In this negative externality case, the regulatory approach is to impose restrictive trading policies, or at a minimum, ban trading around events that represent asymmetric private information.[6]

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[6] The Corporations Act 2001 describes "insider trading" as a prosecutable offence that occurs where a person trades in shares or other financial products while in possession of "inside information". s1042A defines "inside information" as information that is not generally available and, if it was generally available, a reasonable person would expect it to have a material effect on the price or value of the securities of a body corporate. Lei and Ramsay (2014) give a concise analysis of the 79 enforcement cases prosecuted in Australia during the period 1973 to 2013 and comment on the procedural difficulties in securing enforcement prosecutions.  It is important

Recognising ASX Listing Rule 12.9, that invokes a requirement for firm based insider trading policies, and following the restrictive trading research of Jagolinzer et al. (2011), we propose two further hypotheses on trading restrictions and the activities of corporate insiders:

*H2: Insiders from firms with more restrictive share trading policies trade less often and for a lower average dollar value compared to insiders from firms with less restrictive share trading policies.*

*H3: Insiders from firms with more restrictive share trading policies experience lower abnormal returns than insiders from firms with less restrictive share trading policies.*

## 3. Data and Methodology

Data was collected for the top 250 companies in Australia from 2002 to 2014. Data relating to insider purchases and sales transactions comes from the 2iQ database with share returns and market capitalisation collected from Datastream. Transaction data was then matched with the company's corporate governance data, and a composite index of corporate governance for each firm derived from the methodology used in the UoN/Horwath Corporate Governance Reports. The composite index is aggregated from 23 governance-related variables that are hand collected from publicly available corporate disclosures, primarily the mandatory disclosures required in company annual reports (see Appendix 1). An advantage of this dataset is its focus on the level of director independence through adopting the Carcello and Neale (2003) definition that treats "affiliated" non-executive directors as non-independent.[7]

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to note that the focus of this study is not on cases of prosecuted insider trading but rather trading by corporate insiders that maybe legal but considered by some to be unethical.

[7] "Members can be either affiliated directors or independent directors. We define affiliate directors as current or former officers or employees of the company or of an affiliated entity, relatives of management, professional advisers to the firm (e.g. consultants, bank officers, and legal counsel), officers of significant suppliers or customers of the firm and interlocking directors" (Carcello and Neale, 2003 p. 291)

As previously outlined, director independence is evaluated from disclosures in the company's annual report. Details of director relationships with the company are required in the Director's Report, Corporate Governance Statement and Related Party notes to the financial statements. We undertake a close analysis of these sources and double check in order to provide an objective basis for determining director independence.

A central contribution of this study is to analyse insider share trading data in the context of both general firm level corporate governance and restrictions on insider trading. The measures of internal corporate governance are described in Appendix 1 and cover six broad areas of governance: the board of directors, audit committee, remuneration committee, nomination committee, external auditor and risk management. Each component is weighted using the same method adopted in the Horwarth/UoN corporate governance report. The Horwath/UoN corporate governance index has been applied to research in several published academic studies,[8] although to date the data has never been used to examine the relationship between governance and insider share trading.

In order to provide a proxy measure for restrictiveness of insider share trading policy, each firm is categorised into one of the following three groups[9]:

> *Highly Restrictive* - firms that only allow insiders to trade in specified "trading windows";
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> *Moderately Restrictive* - firms that prohibit insider trades only in certain "blackout" periods;
>
> *Non Restrictive* - firms that either have no insider trading policies or policies that do not restrict insiders trading discretion.[10]

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[8] For example Brooke et al. (2018), Beekes et al. (2015), Beekes and Brown (2006), Lama (2012) and Linden and Matolscy (2004) all use the Horwath/UoN ranking scores. These studies however, rely on the composite grading for each firm that was publicly available. Our study differs in completeness and complexity in that it was granted access to the proprietary data relating to each component of the index score for each firm (see Appendix 1).

[9] Refer to Appendix 2 for examples of actual policy disclosures by companies in each classification.

ASX Listing Rules Guidance Note 27: Trading Policies prescribes that either a "trading window" or a "blackout period" approach complies with Listing Rule 12.12.1. However, Paragraph 4.2 of the guidance note states that trading windows are preferable to blackout periods: "…since they typically lead to shorter periods during which KMPs (Key Management Personnel) are permitted to trade, making them more effective in reducing the risk of insider trading and easier to administer." (p.8), thus providing statutory support for our delineation.

Table 1 shows that proportions in each category varied as firms departed and entered the ASX top 250.  On average over the twelve year period, 46.6% of firms had a share trading policy that restricted insider trades to "trading windows"; 40.6% prevented insider share trades to "blackout" periods, and 12.8% had either no share trading policy or a non-restrictive policy.  Of note is that, whilst not strictly linear, there is a general trend of firms implementing trading restrictions, either highly restrictive or moderately restrictive.  For example, in 2003, 28.8% of firms allowed unrestricted insider trading, whilst in 2014 that percentage had dropped to 1.6%.  Moreover, the introduction of ASX Listing rule 12.9 in January 2011, that required all listed entities to establish a share trading policy, did not appear to have an immediate impact, but over time we observe a general drift towards an adoption of moderate blackout policies.

INSERT TABLE 1 ABOUT HERE

To formally test whether insiders in companies with restrictive share trading policies extract excessive returns we follow the standard event study methodology outlined by MacKinlay (1997).  The cumulative abnormal return (CAR) is calculated using a market

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[10] Many of these firms adopted share trading policies that were used merely to reiterate insider trading legislation and require reporting post-trade but placed no limitation on insiders' trading discretion.

model, where the market is the ASX200 see equation (1). The *"previous"* trading period is defined as the abnormal return for the ten days prior to the day of the insider transaction (comparing the close price from the day before the trade occurs with the close price from the day before the 11th day before the trade). The *"post"* period is defined as the abnormal return on the day of the transaction and for the ten days after the day of the trade occurring (comparing the close price from the 10th day after the day of the trade with the close price from the day before the trade). These returns are then annualised, based on the number of trading days, for comparative purposes, see equation (2). Hence, cumulative abnormal returns (CAR) and annualised CAR for the *"previous"* transaction periods are calculated as follows:

$$CAR_t = (\frac{(p_t - p_{t-10})}{p_{t-10}} - \frac{(mkt_t - mkt_{t-10})}{mkt_{t-10}}) \qquad (1)$$

$$Annualised\ CAR_t = [1 + CAR_t]^{(\frac{260}{10})} - 1 \qquad (2)$$

where $p_t$ is the closing price of the shares on the day prior to the transaction and $p_{t-10}$ is the closing price of the shares on the 11th day prior to the transaction for the *"previous"* period and $mkt_t$ is the closing price of the S&P/ASX200 on the day prior to the transaction and $mkt_{t-10}$ is the closing price of the S&P/ASX200 on the 11th day prior to the transaction for the *"previous"* period. The cumulative abnormal returns (CAR) and annualised CAR for the *"post"* transaction periods are calculated as follows:

$$CAR_{t+10} = (\frac{(p_{t+10} - p_t)}{p_t} - \frac{(mkt_{t+10} - mkt_t)}{mkt_t}) \qquad (3)$$

$$Annualised\ CAR_{t+10} = [1 + CAR_{t+10}]^{(\frac{260}{10})} - 1 \qquad (4)$$

where $p_{t+10}$ is the closing price of the shares on the 10th day after the transaction and $p_t$ is the closing price of the shares on the day prior to the transaction for the *"post"* period and $mkt_{t+10}$ is the closing price of the shares on the 10th day after the transaction and $mkt_t$ is the closing price of the shares on the day prior to the transaction for the *"post"* period.

The independent variables are: share trading policy *ST Policy*, company size *Size* (market capitalisation) and corporate governance score *CG Score*. Cognisant that problems may exist with collinearity, particularly between the share trading policy and the corporate governance score, we examine several different models. The models for the *"previous"* transaction periods are outlined below.

Model 1: $CAR_t = \alpha + \beta_1 * ST\ Policy_t + \beta_2 * Size_t + \beta_3 * CG\ Score_t + \varepsilon_t$ (5)

Model 2: $CAR_t = \alpha + \beta_1 * ST\ Policy_t + \beta_2 * Size_t + \varepsilon_t$ (6)

Model 3: $CAR_t = \alpha + \beta_1 * ST\ Policy_t + \varepsilon_t$ (7)

Model 4: $CAR_t = \alpha + \beta_1 * Size_t + \beta_2 * CG\ Score_t + \varepsilon_t$ (8)

Model 5: $CAR_t = \alpha + \beta_1 * CG\ Score_t + \varepsilon_t$ (9)

where *CAR$_t$* is the abnormal return received by insiders in the 10 days prior to the transaction, *ST Policy* is a value of 0, 1 or 2 representing a non-restrictive share trading policy, a moderately restrictive share trading policy or a highly restrictive share trading policy respectively. *Size* is the market capitalisation of the company and *CG Score* is the most recently preceding corporate governance score from the Horwarth reports. The models for the *"post"* transaction periods are outlined below.

Model 1: $CAR_{t+10} = \alpha + \beta_1 * ST\ Policy_{t+10} + \beta_2 * Size_{t+10} + \beta_3 * CG\ Score_{t+10} + \varepsilon_{t+10}$ (10)

Model 2: $CAR_{t+10} = \alpha + \beta_1 * ST\ Policy_{t+10} + \beta_2 * Size_{t+10} + \varepsilon_{t+10}$ (11)

Model 3: $CAR_{t+10} = \alpha + \beta_1 * ST\ Policy_{t+10} + \varepsilon_{t+10}$ (12)

Model 4: $CAR_{t+10} = \alpha + \beta_1 * Size_{t+10} + \beta_2 * CG\ Score_{t+10} + \varepsilon_{t+10}$ (13)

Model 5: $CAR_{t+10} = \alpha + \beta_1 * CG\ Score_{t+10} + \varepsilon_{t+10}$ (14)

where *CAR$_{t+10}$* is the abnormal return received by insiders in the ten days after the transaction and *ST Policy, Size* and *CG Score* are as described in the above paragraph.

## 4. Results

Table 2 provides a breakdown of corporate governance features according to firm internal share trading policy. It shows that the average overall corporate governance score for companies with a non-restrictive share trading policy (91.8), is lower than the average score for companies with a moderately restrictive share trading policy (107.9), which in turn is lower than the average score for companies with a highly restrictive share trading policy (110.5). The Kruskall-Wallis test for statistical significant differences confirms, at the 1% level, a significant difference between corporate governance scores that progressively increase with share trading policy restrictiveness.

INSERT TABLE 2 ABOUT HERE

Comparative decomposition analysis on the individual impact of specific corporate governance mechanisms show that no single mechanism is a primary driver. Specific mechanisms include board independence, board chair independence, audit committee and audit committee chair independence, rigour of the company's risk management policy and the existence of a code of conduct. Table 2 reports that all Kruskall-Wallis test statistics for individual components are significantly different at the 1% level. In support of hypothesis one, we conclude that a company's implementation of restrictive insider trading policy is significantly related to both specific corporate governance features and the firm's overall governance environment.

We now shift to a comparison between insider transaction metrics and restrictive trading policies. The annual number and value of insider transactions for each company according to their share trading policy classification is shown in Table 3. Average purchases follow a declining trend with the average number of purchases by insiders of companies with non-restrictive share trading policies (4.49), moderately restrictive share trading polices

(4.03), and highly restrictive share trading policies (3.89). This trend is also evident for insider sales. The correlation between the number of purchases and a restrictive share trading policy is weakly negative (-3.26%) - similarly for sales (-8.48%). However, the difference in the number of purchases and sales across share trading policy is not statistically significant.

INSERT TABLE 3 ABOUT HERE

Annual transaction values are also reported in Table 3 and reinforce the declining trend in raw transactions. The highest average value of a purchase is for companies with non-restrictive share trading policies ($2.355m), followed by moderately restrictive share trading policies ($2.277m), and highly restrictive share trading policies ($2.004m). The correlation between the value of purchases and the company's share trading policy is again weakly negative (-0.96%) - sale values are similar. The highest average values are for companies with non-restrictive share trading policies ($11.725m), followed by companies with moderately restrictive share trading policies ($7.521m), and highly restrictive share trading policies ($6.817m). The correlation is weakly negative (-5.35%) with differences not statistically significant across the value of purchase or sale values. Overall, there is no strong support for hypothesis two's prediction that restrictive trading policies affect insider trading transactions or the value of expenditure. A result that is more in line with Hillier et al. (2015) that personality traits and not regulation determine insider trading.

On a conceptual basis we argue that an observation of no significance across insider purchases is not unexpected, given that shareholder wealth more likely increases with information based purchase activity. In sales, however, the expectation would be for a reduction in insider trading metrics as the degree of restrictive policies aimed at mitigating trading allows corporate insiders to avoid a loss of wealth at shareholder' expense.

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Consequently we next examine wealth impacts using excess returns as a proxy as outlined in hypothesis three.

INSERT TABLE 4 ABOUT HERE

Table 4 provides analysis of share returns by insiders trading own shares grouped by the degree of restrictiveness. Change in wealth is proxied by changes in the level of excess returns over ten day windows. Table 4 shows that in the ten days prior to an insider purchase, shares on average experienced annualised negative returns (-4.84%), followed by positive excess returns in the ten days afterwards (4.75%). This result suggests that insiders purchase on a contrarian basis, consistent with prior literature that an insider inputs private information on market mispricing (Lakonishok and Lee, 2001). The Kruskal-Wallis Chi square test however shows no statistical difference in the returns ten days prior/post insider purchases across the different restrictive trading policies. In short, whilst firms implement restrictive trading policies they do not mitigate returns for insider purchases, consistent with the purchase trading metrics results.

For insiders that sell own shares, annualised average excess returns are positive ten days prior to transactions (5.37%). The effect is strongest for companies with non-restrictive share trading policies and the difference across levels of restriction is statistically significant at the 5% level. In the ten days following the sale transaction, annualised excess share returns are positive for companies with moderately restrictive or highly restrictive share trading policies (4.20%), and negative for companies with non-restrictive share trading policies (-2.47%). Hence, if a firm's corporate governance policies do not impose restrictions on insider selling then insiders earn excess profits by avoiding losses, with the plausible interpretation they are trading on private information. This is not the case for companies with some form of restrictive share trading policies as shares in these companies continued to rise

following a sale transaction, signifying non-informative liquidity or rebalancing trading (Lakonishok and Lee, 2001).

In summary, the degree of restriction on trading policy does not significantly change insider profitability after insider purchases. For insider sales, trading in companies with non-restrictive policies provides a loss avoiding return over ten days (-0.58%), which is significantly different from moderate and highly restrictive policies. Hence, hypothesis three is only supported for sale transactions. Another way to examine returns is to set up a zero cost trading strategy by mimicking purchase and sale transactions across share trading policies. This would involve purchasing shares following an insider purchase transaction and short-selling shares following an insider sale transaction. This strategy provides declining ten day returns of 1.42% (non-restrictive), 0.49% (moderately restrictive), and -0.58% (highly restrictive), which supports a contention that overall insider profitability reduces with the degree of restriction.

The above analysis does not control for the strength of general corporate governance which may work to mitigate insider profitability regardless of the restrictive trading policy. In addition to controlling for governance using an index derived from the UoN/Horwath data, we add a control for size. Table 5 shows the separate panel results of the OLS regression models (5) to (14) for purchases and sales. The dependent variable is the abnormal returns in the ten days prior to a purchase or sale and the abnormal returns in the ten days following a purchase or sale.

INSERT TABLE 5 ABOUT HERE

In the ten days prior to a purchase, none of the independent variables (share trading policy, size or corporate governance score) are statistically significant in any model. In the ten days after the purchase transaction, only company size is significant in reducing abnormal

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returns in all models. This is consistent with size being a proxy for the aggregate quality of information that attaches to larger firms from increased analyst and information search activities.

For insider sales, both the corporate governance and restrictive share trading policy coefficients are negative and significant beforehand. If insider selling is viewed through the lens of contrarian trading that reduces prior period overpricing then these governance variables represent lower prior mispricing. This is more likely to occur with lower information asymmetry, higher levels of corporate transparency and a lower propensity to manipulate accounts (Jagolinzer et al., 2010; Skaife et al., 2013). Post transaction, the restrictive share trading policy coefficient is significant and switches sign, indicating that insider profitability is lower when there is a restrictive policy. Hence, a restrictive policy dominates in reducing rent extraction from sale transactions.

Finally, to more closely examine the effect of a change in share trader policy and to reduce the impact of potential endogeneity, we conduct additional analysis to determine whether insider returns changed in the year following a change in the share trading policy of that company. Results are shown in Table 6. An interesting observation is that there are more or less an equal number of companies where the share trading policy becomes less restrictive versus when the policy becomes more restrictive.

INSERT TABLE 6 ABOUT HERE

Turning to the profitability results, when a company imposes a more restrictive share trading policy, ten day insider purchase returns decrease, compared to when policy becomes less restrictive (1.77% v's 2.98%). The Kruskal-Wallis chi-square test shows significant difference at the 1% level. Prior to the company implementing a more restrictive share trading policy, these companies had a ten day insider purchase return of 1.86%. For insiders

that sell own shares, post traded returns are not negative, signifying that a change in share trading policy is not a determinant of insider profitability. This is also supported by a non-significant Kruskal-Wallis statistic. One caveat is that insider selling when the policy becomes more restrictive leads to a greater dampening of prior mispricing (down from 2.74% to 0.82%). Prior to the company implementing a more restrictive share trading policy these companies had a ten day insider sale return of 0.14%, which is similar to that of companies implementing a less restrictive share trading policy at 0.13%. When we combine this with the lower purchase return observations, the change to more restrictive trading policies is a signal to insiders that trading will be more closely monitored.

## 5. Summary and Conclusion

This paper assesses the effectiveness of a company's internal share trading policy by analysing the relationship between the restrictiveness of company share trading policy and corporate governance features. Results show a statistically significant positive relationship between a company's restrictive share trading policy and overall corporate governance index score as well as the individual components (board independence, independence of the board chair, audit committee independence, independence of the chair of the audit committee, rigour of risk management and the existence of a code of conduct). Consequently, they all play a synergistic governance role in influencing the decision to restrict corporate insider trading.

We then examine, on an annual basis, the impact of restrictive trading on the level of insider transactions and aggregate expenditure. We report no strong evidence to support the hypothesis that the degree of restrictive trading policy plays a role in reducing transaction metrics. A result that is more in line with the prognosis of Hillier et al. (2015) that personality traits and not regulation determine the degree of insider trading activity.

Based on the premise that profitability is a more robust test of resource channelling we examine excess returns around insider trades. The ten day abnormal returns from insider purchases reverse prior negative returns and result in significant post traded returns across all restrictive policies. Clearly, enacting internal restrictions on insider trading does not constrain profitability. We conjecture this trading may be overlooked because of the contrarian trading signal and the fact that insider buying increases wealth for all shareholders and supports an ex post information prognosis that company policies are not influential in constraining insider purchase activity because of both wealth and information impacts (Jagolinzer et al., 2011; Fidrmuc et al., 2013). On the other hand, restrictive trading policies dampen insider returns from sales. The non-parametric Kruskal-Wallis tests show there is a statistically significant difference between the returns for insiders who undertake sales and a buy/sell trading strategy provides ten day positive returns in companies with non-restrictive policies and negative returns in highly restrictive policy firms. Clearly, insider sale activity is a wealth reduction activity for shareholders and insider profitability appears to be more rigorously monitored.

Additional regression analysis supports the above conclusions and reveals that size, as a proxy for public information availability (e.g. analyst and media attention), is the most significant constraint of insider purchase profitability. For insider sales, the dominant factor in reducing profitability is a restrictive share trading policy.

To summarise, stronger corporate governance translates into more restrictive insider trading policies but does not translate into lower trading volume, expenditure value, or reduced profits from insider purchases. Insider selling is more profitable (loss avoiding) in firms with non-restrictive insider trading policies, and when a company changes to a less restrictive trading policy. Evidence is consistent with firm governance policies constraining

insider sales but not purchases, to the comparative advantage of current shareholders rather than outside investors.

**Appendix 1: Corporate Governance Index Composition**

This appendix lists the components of corporate governance that are collected and used to construct the corporate governance index for each firm.

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|---|
| *BOARD OF DIRECTORS* |
| *Proportion of independent directors* |
| *Board Chair Independence* |
| *Board Meetings per annum* |
| *Independent Directors with tenure < 10 years* |
| *Proportion of Female Directors* |
| *AUDIT COMMITTEE* |
| *Audit Committee Existence* |
| *Proportion of independent directors on audit committee* |
| *Independence of Audit Committee Chair* |
| *Number of Audit Committee Meetings per annum* |
| *Audit Committee Size* |
| *Proportion of Audit Committee members with financial expertise* |
| *REMUNERATION COMMITTEE* |
| *Remuneration Committee Existence* |
| *Proportion of independent directors on Remuneration Committee* |
| *Remuneration Committee Chair Independence* |
| *Remuneration Committee Size* |
| *NOMINATION COMMITTEE* |
| *Nomination Committee Existence* |
| *Proportion of independent directors on Nomination Committee* |
| *Nomination Committee Chair Independence* |
| *Nomination Committee Size* |
| *EXTERNAL AUDIT* |
| *Proportion of Non-audit Fees Collected by External Auditor* |
| *RISK MANAGEMENT & OTHER* |
| *Risk Management Committee Existence and Rigour* |
| *Existence of Code of Conduct* |
| *Adequacy of General Corporate Governance Disclosure* |

**Appendix 2: Examples of Corporate Share Trading Policies** (Company identifiers deleted)

**Example 1: Highly Restrictive Share Trading Policy (Trading Windows)**

"Directors are also only permitted to deal with the Group's securities within certain periods, as long as they are not in the possession of unpublished price-sensitive information. These periods include the 30 days after the half yearly and final results announcements, and 14 days after quarterly trading update releases."

**Example 2: Moderately Restrictive Share Trading Policy (Blackout Periods)**

"The Securities Dealing policy restricts dealings by Directors and identified employees in shares and other securities during designated prohibited periods and at any time that they are in possession of unpublished price-sensitive information."

**Example 3: Non-Restrictive Share Trading Policy**

"Employees must not deal in securities of the Company unless they have satisfied themselves that they are not in possession of any price sensitive information that is not generally available to the public."

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*Table 1 – Description of Firm Share Trading Policies*

| | Share Trading Policy | | | | | |
| | Non Restrictive | | Moderately Restrictive | | Highly Restrictive | |
| | Number of companies | % | Number of companies | % | Number of companies | % |
|---|---|---|---|---|---|---|
| 2002/03 | 72 | 28.8% | 46 | 18.4% | 132 | 52.8% |
| 2003/04 | 31 | 12.4% | 77 | 30.8% | 142 | 56.8% |
| 2004/05 | 22 | 8.8% | 123 | 49.2% | 105 | 42.0% |
| 2005/06 | 39 | 15.6% | 95 | 38.0% | 116 | 46.4% |
| 2006/07 | 43 | 17.2% | 91 | 36.4% | 116 | 46.4% |
| 2007/08 | 51 | 20.4% | 83 | 33.2% | 116 | 46.4% |
| 2008/09 | 36 | 14.4% | 107 | 42.8% | 107 | 42.8% |
| 2009/10 | 30 | 12.0% | 135 | 54.0% | 85 | 34.0% |
| 2010/11 | 21 | 8.4% | 84 | 33.6% | 145 | 58.0% |
| 2011/12 | 25 | 10.0% | 80 | 32.0% | 145 | 58.0% |
| 2012/13 | 11 | 4.4% | 144 | 57.6% | 95 | 38.0% |
| 2013/14 | 4 | 1.6% | 153 | 61.2% | 93 | 37.2% |
| Average | 32.1 | 12.8% | 101.5 | 40.6% | 116.4 | 46.6% |

*Table 2 – Comparing Insider Share Trading Policies with Corporate Governance Factors*

| | | Share Trading Policy | | | |
|---|---|---|---|---|---|
| | | Non Restrictive | Moderately Restrictive | Highly Restrictive | Total |
| | Number of Transactions | 1080 | 4549 | 4312 | 9941 |
| | Percentage | 10.9% | 45.8% | 43.4% | 100% |
| **Corporate Governance Score** | Average | 91.8 | 107.9 | 110.5 | 107.3 |
| | Minimum | 20.0 | 12.0 | 26.0 | 12.0 |
| | Maximum | 140.0 | 146.0 | 142.0 | 146.0 |
| | Kruskal-Wallis χ2 | | | | 507*** |
| **Independent Board** | Average | 15.8 | 19.5 | 20.6 | 19.6 |
| | Kruskal-Wallis χ2 | | | | 340*** |
| **Chair Board** | Average | 7.5 | 8.3 | 8.2 | 8.2 |
| | Kruskal-Wallis χ2 | | | | 84*** |
| **Independent AC** | Average | 7.3 | 9.5 | 9.8 | 9.4 |
| | Kruskal-Wallis χ2 | | | | 462*** |
| **Chair AC** | Average | 3.5 | 3.8 | 3.8 | 3.8 |
| | Kruskal-Wallis χ2 | | | | 107*** |
| **Risk Management** | Average | 5.7 | 7.1 | 6.8 | 6.8 |
| | Kruskal-Wallis χ2 | | | | 151*** |
| **Code of Conduct** | Average | 4.2 | 4.8 | 4.9 | 4.8 |
| | Kruskal-Wallis χ2 | | | | 432*** |

where *, ** and *** denote significance at the 10%, 5% and 1% level respectively

**Corporate Governance Score -** a score calculated for the Horwarth report based on the characteristics below. A higher score implies better overall corporate governance.

**Independent Board -** a score of 0 if there are no independent board members and a score of 5, 10, 15, 20 or 25 depending on the proportion of independent board members

**Chair Board -** a score of 0 if the board chair is not independent and a score of 5 or 10 depending on the level of independence of the chair of the board

**Independent AC -** a score of 0 the audit committee is not independent and a score of 8 or 12 depending on the level of independence of the audit committee

**Chair AC -** a score of 0 if the chair of the audit committee is not independent or a score of 2 or 4 depending on the level of independence of the chair of the audit committee

**Risk Management -** a score of 0 if the risk management strategy is not stated or a score of 5 or 10 depending on the quality of the risk management strategy

**Code of Conduct -** a score of 0 if the company does not have a code of conduct statement or a score of 5 if they do

*Table 3 – Number and Value of Insider Transactions Per Company Year and Restrictive Share Trading Policy*

| | | Share Trading Policy | | | |
|---|---|---|---|---|---|
| | | **Non Restrictive** | **Moderately Restrictive** | **Highly Restrictive** | **Total** |
| **Number of Purchases** | Average | 4.49 | 4.03 | 3.89 | 4.01 |
| | Minimum | 1 | 1 | 1 | 1 |
| | Maximum | 34 | 41 | 38 | 41 |
| | Number of Companies | 132 | 558 | 610 | 1300 |
| | Correlation with Share Trading Policy | | | | -0.0326 |
| | Kruskal-Wallis χ2 | | | | 0.479 |
| | | **Non Restrictive** | **Moderately Restrictive** | **Highly Restrictive** | **Total** |
| **Number of Sales** | Average | 3.43 | 3.37 | 2.74 | 3.11 |
| | Minimum | 1 | 1 | 1 | 1 |
| | Maximum | 44 | 34 | 17 | 44 |
| | Number of Companies | 87 | 419 | 373 | 879 |
| | Correlation with Share Trading Policy | | | | -0.0848 |
| | Kruskal-Wallis χ2 | | | | 4.279 |
| | | **Non Restrictive** | **Moderately Restrictive** | **Highly Restrictive** | **Total** |
| **Value of Purchases** | Average | $2,355,000 | $2,277,200 | $2,004,500 | $2,157,100 |
| | Minimum | $1,710 | $218 | $411 | $218 |
| | Maximum | $96,054,000 | $204,780,000 | $277,110,000 | $277,110,000 |
| | Number of Companies | 132 | 558 | 610 | 1300 |
| | Correlation with Share Trading Policy | | | | -0.0096 |
| | Kruskal-Wallis χ2 | | | | 2.615 |
| | | **Non Restrictive** | **Moderately Restrictive** | **Highly Restrictive** | **Total** |
| **Value of Sales** | Average | $11,725,000 | $7,520,700 | $6,817,300 | $7,638,400 |
| | Minimum | $14,551 | $1,214 | $6,891 | $1,214 |
| | Maximum | $299,180,000 | $206,300,000 | $201,810,000 | $299,180,000 |
| | Number of Companies | 87 | 419 | 373 | 879 |
| | Correlation with Share Trading Policy | | | | -0.0535 |
| | Kruskal-Wallis χ2 | | | | 1.347 |

where *, ** and *** denote significance at the 10%, 5% and 1% level respectively

*Table 4 – Excess Returns of Shares Traded by Company Insiders According to Share Trading Policy*

| | | Share Trading Policy | | | |
| | | Non Restrictive | Moderately Restrictive | Highly Restrictive | Total |
|---|---|---|---|---|---|
| **Panel A: Purchases** | | | | | |
| **Previous 10 day return** | $CAR_t$ | -1.01% | -0.36% | -0.24% | -0.38% |
| | Annualised $CAR_t$ | -12.39% | -4.58% | -3.07% | -4.84% |
| | Count | 614 | 2193 | 2411 | 5218 |
| | Kruskal-Wallis χ2 | | | | 3.051 |
| | | | | | |
| **Post 10 day return** | $CAR_t$ | 0.88% | 1.39% | 0.84% | 1.08% |
| | Annualised $CAR_t$ | 3.85% | 6.16% | 3.70% | 4.75% |
| | Count | 614 | 2193 | 2411 | 5218 |
| | Kruskal-Wallis χ2 | | | | 0.801 |
| **Panel B: Sales** | | | | | |
| **Previous 10 day return** | $CAR_{t+10}$ | 0.82% | 0.43% | 0.25% | 0.40% |
| | Annualised $CAR_{t+10}$ | 11.20% | 5.72% | 3.29% | 5.37% |
| | Count | 296 | 1370 | 1066 | 2732 |
| | Kruskal-Wallis χ2 | | | | 9.168** |
| | | | | | |
| **Post 10 day return** | $CAR_{t+10}$ | -0.58% | 0.49% | 1.42% | 0.73% |
| | Annualised $CAR_{t+10}$ | -2.47% | 2.13% | 6.28% | 3.18% |
| | Count | 296 | 1370 | 1066 | 2732 |
| | Kruskal-Wallis χ2 | | | | 8.085** |

Cumulative abnormal returns and annualised cumulative abnormal returns for the *"previous"* transaction periods are calculated as follows:

$$CAR_t = \left(\frac{(p_t - p_{t-10})}{p_{t-10}} - \frac{(mkt_t - mkt_{t-10})}{mkt_{t-10}}\right) \qquad Annualised\ CAR_t = [1 + CAR_t]^{\left(\frac{260}{10}\right)} - 1$$

where $p_t$ is the closing price of the shares on the day prior to the transaction and $p_{t-10}$ is the closing price of the shares on the 11th day prior to the transaction for the *"previous"* period and $mkt_t$ is the closing price of the S&P/ASX200 Index on the day prior to the transaction and $mkt_{t-10}$ is the closing price of the S&P/ASX200 Index on the 11th day prior to the transaction for the *"previous"* period.

Cumulative abnormal returns and annualised cumulative abnormal returns for the *"post"* transaction periods are calculated as follows:

$$CAR_{t+10} = \left(\frac{(p_{t+10} - p_t)}{p_t} - \frac{(mkt_{t+10} - mkt_t)}{mkt_t}\right) \qquad Annualised\ CAR_{t+10} = [1 + CAR_{t+10}]^{\left(\frac{260}{10}\right)} - 1$$

where $p_{t+10}$ is the closing price of the shares on the 10th day after the transaction and $p_t$ is the closing price of the shares on the day prior to the transaction for the *"post"* period and $mkt_{t+10}$ is the closing price of the S&P/ASX200 Index on the 10th day after the transaction and $mkt_t$ is the closing price of the S&P/ASX200 Index on the day prior to the transaction for the *"post"* period.

*Table 5 – OLS Regressions of the Cumulative Average Abnormal Return of Shares Traded by Company Insiders*

**Returns prior to purchases**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| **Intercept** | 0.6143 | -0.8154 | -0.7878 | 0.8652 | 0.7234 |
| (p value) | 0.6082 | 0.1551 | 0.1645 | 0.4617 | 0.5305 |
| **Share Trading Policy** | 0.4193 | 0.2915 | 0.3029 | | |
| (p value) | 0.2816 | 0.4405 | 0.4211 | | |
| **Size** | 0.0160 | 0.0079 | | 0.0156 | |
| (p value) | 0.4681 | 0.7104 | | 0.4812 | |
| **Corporate Governance Score** | -0.0155 | | | -0.0125 | -0.0104 |
| (p value) | 0.1742 | | | 0.2574 | 0.3262 |
| **$R^2$** | 0.05% | 0.02% | 0.01% | 0.03% | 0.02% |

**Returns following purchases**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| **Intercept** | 1.9904* | 1.4514** | 1.3235** | 1.9497* | 2.1849** |
| (p value) | 0.0163 | 0.0003 | 0.0008 | 0.0164 | 0.0066 |
| **Share Trading Policy** | -0.0679 | -0.1159 | -0.1838 | | |
| (p value) | 0.8009 | 0.6574 | 0.4837 | | |
| **Size** | -0.0361* | -0.0392** | | -0.036* | |
| (p value) | 0.0191 | 0.0082 | | 0.0194 | |
| **Corporate Governance Score** | -0.0058 | | | -0.0063 | -0.0105 |
| (p value) | 0.4588 | | | 0.4089 | 0.1575 |
| **$R^2$** | 0.16% | 0.14% | 0.01% | 0.15% | 0.04% |

**Returns prior to sales**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| **Intercept** | 3.9387** | 0.8403 | 0.7220 | 3.8905** | 3.8928** |
| (p value) | 0.0079 | 0.2167 | 0.2843 | 0.0069 | 0.0049 |
| **Share Trading Policy** | -0.0657 | -0.2665 | -0.2504 | | |
| (p value) | 0.8902 | 0.5693 | 0.5956 | | |
| **Size** | 0.0022 | -0.0123 | | 0.0023 | |
| (p value) | 0.8861 | 0.3744 | | 0.8782 | |
| **Corporate Governance Score** | -0.0331* | | | -0.0335* | -0.0332** |
| (p value) | 0.0186 | | | 0.0156 | 0.0097 |
| **$R^2$** | 0.25% | 0.04% | 0.01% | 0.25% | 0.25% |

**Returns following sales**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| **Intercept** | 1.4311 | -0.5355 | -0.5139 | 2.2483' | 2.0758' |
| (p value) | 0.2688 | 0.3671 | 0.3789 | 0.0741 | 0.0837 |
| **Share Trading Policy** | 1.1060** | 0.9798* | 0.9737* | | |
| (p value) | 0.0078 | 0.0167 | 0.0173 | | |
| **Size** | 0.0085 | -0.0007 | | 0.0061 | |
| (p value) | 0.5216 | 0.9544 | | 0.6471 | |
| **Corporate Governance Score** | -0.0210' | | | -0.0152 | -0.0128 |
| (p value) | 0.0873 | | | 0.2091 | 0.2488 |
| **$R^2$** | 0.328% | 0.218% | 0.214% | 0.060% | 0.050% |

*ST Policy* is a value of 0, 1 or 2 representing a non-restrictive share trading policy, moderately restrictive share trading policy or restrictive share trading policy, respectively. *Size* is the market capitalisation of the company (in $m) and *CG Score* is the most recently preceding corporate governance score from the Horwarth reports.

**, *, ' indicate significance at the 1%, 5% and 10% levels

*Table 6 – Excess Returns of Shares Traded by Company Insiders According to a Change in Company Share Trading Policy*

| | | Share Trading Policy | | | |
| --- | --- | --- | --- | --- | --- |
| | | Share Trading Policy Becomes Less Restrictive | No change in Share Trading Policy | Share Trading Policy Becomes More restrictive | Total |
| **Panel A: Purchases** | | | | | |
| Previous 10 day return | $CAR_t$ | -0.06% | -0.83% | 0.64% | -0.52% |
| | Annualised $CAR_t$ | -0.74% | -10.32% | 8.72% | -6.58% |
| | Count | 446 | 2675 | 541 | 3662 |
| | Kruskal-Wallis χ2 | | | | 1.734 |
| | | | | | |
| Post 10 day return | $CAR_t$ | 2.98% | 1.02% | 1.77% [a] | 1.37% |
| | Annualised $CAR_t$ | 13.56% | 4.50% | 7.88% | 6.07% |
| | Count | 446 | 2675 | 541 | 3662 |
| | Kruskal-Wallis χ2 | | | | 11.171*** |
| **Panel B: Sales** | | | | | |
| Previous 10 day return | $CAR_{t+10}$ | 1.13% | -0.12% | 2.74% | 0.29% |
| | Annualised $CAR_{t+10}$ | 15.70% | -1.52% | 42.14% | 3.87% |
| | Count | 183 | 1355 | 169 | 1707 |
| | Kruskal-Wallis χ2 | | | | 11.113*** |
| | | | | | |
| Post 10 day return | $CAR_{t+10}$ | 0.13% | 0.81% | 0.82% [b] | 0.74% |
| | Annualised $CAR_{t+10}$ | 0.57% | 3.58% | 3.61% | 3.26% |
| | Count | 183 | 1355 | 169 | 1707 |
| | Kruskal-Wallis χ2 | | | | 1.919 |

Cumulative abnormal returns and annualised cumulative abnormal returns for the *"previous"* transaction periods are calculated as follows:

$$CAR_t = (\frac{(p_t - p_{t-10})}{p_{t-10}} - \frac{(mkt_t - mkt_{t-10})}{mkt_{t-10}}) \qquad Annualised\ CAR_t = [1 + CAR_t]^{(\frac{260}{10})} - 1$$

where $p_t$ is the closing price of the shares on the day prior to the transaction and $p_{t-10}$ is the closing price of the shares on the 11th day prior to the transaction for the *"previous"* period and $mkt_t$ is the closing price of the S&P/ASX200 Index on the day prior to the transaction and $mkt_{t-10}$ is the closing price of the S&P/ASX200 Index on the 11th day prior to the transaction for the *"previous"* period.

Cumulative abnormal returns and annualised cumulative abnormal returns for the *"post"* transaction periods are calculated as follows:

$$CAR_{t+10} = (\frac{(p_{t+10} - p_t)}{p_t} - \frac{(mkt_{t+10} - mkt_t)}{mkt_t}) \qquad Annualised\ CAR_{t+10} = [1 + CAR_{t+10}]^{(\frac{260}{10})} - 1$$

where $p_{t+10}$ is the closing price of the shares on the 10th day after the transaction and $p_t$ is the closing price of the shares on the day prior to the transaction for the *"post"* period and $mkt_{t+10}$ is the closing price of the S&P/ASX200 Index on the 10th day after the transaction and $mkt_t$ is the closing price of the S&P/ASX200 Index on the day prior to the transaction for the *"post"* period.

a Prior to the company implementing a more restrictive share trading policy, these companies had a ten day insider purchase return of 1.86%.
b Prior to the company implementing a more restrictive share trading policy these companies had a ten day insider sale return of 0.14%