

## Corporate Governance and Insider Trading: Evidence from Malaysia

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### Abstract

The collapse of prominent companies coupled with the increasing number of lawsuits against the directors of the companies for wrongdoing has raised concerns with insider trading activities. Insider trading does cause significant market reaction, whereby the insiders are able to earn significant cumulative abnormal returns for both purchases and sales. However, studies on the factors influencing insider trading are relatively scarce. This study aims to examine the factors that influence insider trading activities. Specifically, this study examines the relationship between four corporate governance factors, namely, board independence, board size, executive compensation and ownership concentration and insider trading activities in public listed companies in Malaysia. This study evinces that board size and executive compensation significantly influence insider purchases. On the other hand, significant market reaction caused by insider sales may be explained by other factors. Therefore, future studies could be carried out on other factors that may influence opportunistic insider sales. This study also found evidence against the semi-strong form Efficient Market Hypothesis theory that suggests insiders cannot earn abnormal returns in a semi-strong efficient market using public information.

**Keywords:** Insider trading; Cumulative abnormal returns; Market reaction; Corporate governance.



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### 1. Introduction

Insider trading issues have been extensively discussed in the literature, especially on how insider trading affects market efficiency and subsequently, investors. Insider trading can also be considered as a test of share market efficiency (Theissen and Betzer, 2009) Insider trading does not uphold the principle of fairness. Violation of the principle of fairness can reduce the investors' confidence since the insiders use the undisclosed information to gain abnormal returns, whereas the investors do not have access to it Kadir and Muhamad (2012a) Studies have found that insider trading has a negative effect on market efficiency, thus causing noise in the share prices due to information asymmetry (Ameer and Othman, 2008). Noise in share price is defined as information that causes severe deviation from the expected price (Feng, 2014). The noise will adversely influence market liquidity and participation as well as the behaviour of incompetent companies (Fernandes and Ferreira, 2009). As a result, the economic growth of the country may be adversely affected due to the declining number of potential investors.

Insider trading can also cause interference in the share market as it affects market reaction (Agrawal and Cooper, 2015; Finnerty, 1976; He and Rui, 2016; Yusof *et al.*, 2013). These studies have shown that using undisclosed information held by the insiders provides abnormal returns, notwithstanding the trading is of insider trading purchases or insider trading sales (Alireza and Ahmad, 2003); (Chauhan *et al.*, 2016). This circumstance violates the semi-strong efficient market hypothesis that believes individuals cannot earn abnormal returns because the share prices are reflected in the disclosed information. It also violates strong form market efficiency, where the share prices do not reflect public and private information, subsequently allowing insiders to earn abnormal returns.

Many countries have established insider trading regulations due to the negative effect of insider trading activities on the share market, such as the U.S. and Taiwan. Insider trading activities are deemed to be immoral, unfair, injurious and a breach of investors' fiduciary rights (He and Rui, 2016). In Malaysia, insider trading has received much attention over the last decade due to its negative effect on market efficiency. The Securities Commission of Malaysia is responsible for monitoring insider trading activities in the public listed companies. Over the years, the Securities Commission has strengthened and enhanced its enforcement unit (Ameer and Othman, 2008), and since then, the Securities Commission has been handling an increasing number of insider trading cases each year.

Despite the establishment of adequate regulations and more stringent enforcement against insider trading in Malaysia, the success of the authorities in curbing insider trading is still questionable which is reflected in the low prosecution rate in the country (Kadir and Muhamad, 2012a). Illegal insider trading activities are hard to detect because of the difficulty in differentiating between abnormal volume traded by the insiders and the increase in share prices due to speculation. Furthermore, the ambiguity of the regulations has also contributed to the difficulty in

detecting illegal insider trading activities (Adams *et al.*, 2016). Other than that, investors who do not realize that they are the victims of insider trading, also contribute to the low prosecution rate (Kadir and Muhamad, 2012a).

A number of studies have examined the relationship between corporate governance structure and insider trading activities through market reaction. These studies have found that good corporate governance enhances monitoring and deters insiders from trading on undisclosed information by reducing access to undisclosed information (Chauhan *et al.*, 2016; Dayanandan *et al.*, 2014; He and Rui, 2016; Kiwia, 2017). However, very few studies have examined this issue (Rozanov, 2008). Furthermore, no study has yet to examine the relationship between insider trading activities and corporate governance in the context of Malaysia.

This study aims to examine the relationship between four corporate governance mechanisms, namely, board independence, executive compensation, board size and ownership concentration and insider trading activities in public listed companies in Malaysia. The findings of this study can provide a better understanding on whether or not different environments and market conditions influence insider trading activities, especially since such a study has never been done in Malaysia.

This study examines market reaction of 256 companies, whose directors and officers were involved in insider trading in 2016, as well as its relationship with corporate governance. This study finds that insider trading in Malaysia does cause significant market reaction. The results also show the percentage of abnormal returns gained from insider sales is higher than insider purchases. Further analysis also finds that executive compensation and board size influence insider purchases. The results indicate Malaysia's public listed companies have an appropriate board size and provide sufficient compensation to deter insiders from engaging in insider trading activities. However, the analysis finds no significant relationship between board independence, executive compensation, board size and ownership concentration and insider sales. The results indicate significant market reaction due to insider sales may be explained by other factors.

This study contributes to the body of knowledge on insider trading as studies on insider trading are scarce, especially in Malaysia. It provides an avenue for more debate on the association between corporate governance and insider trading activities since findings from previous studies have often been mixed. In addition, no study is available on the relationship between corporate governance and insider trading in Malaysia. Therefore, this study is the first of its kind in the Malaysian market context. Furthermore, the findings of this study may provide insights to the relevant authorities to enhance their monitoring and enforcement. Market reaction or cumulative abnormal returns may be a red flag for insider trading activities and a starting point for an investigation to be initiated. Lastly, the paper also enriches understanding on the level of efficiency of the Malaysian market.

The remainder of this paper is organized as follows: Section 2 is on the literature review on insider trading, Section 3 develops four hypotheses and Section 4 describes the research methodology. Section 5 reports the empirical findings and Section 6 provides the conclusion.

## 2. Literature Review

### 2.1. Insider Trading

Insider trading activities in the capital market have been in existence since the commencement of business operations (Sarli *et al.*, 2013). The increase of lawsuits against directors and officers on their trading activities prior to the revelation of accounting scandals has raised concerns with insider trading activities. Studies have found that insider trading has a negative effect on market efficiency that is caused by the information asymmetry between the insiders and the outside investors. Information asymmetry occurs when there is a gap between what the insiders know and what the outsiders know. The bigger the information gap between the insiders and the outsiders, the bigger the gains that the insiders accrue (Kiwia, 2017).

Insider trading motivates managers to withhold information by altering the company's direction in order to increase trading profit and value (Zekos, 1998). Insiders usually engage in insider trading because they are driven by insider opportunism to gain abnormal returns at the expense of the outsiders (Hamouda and Ben Arab, 2013; Sarli *et al.*, 2013).

To date, there is still doubt as to why insiders carry out insider trading. It may be related to the information gap or other factors, such as tax avoidance or portfolio diversification (Kiwia, 2017). Insider trading is one of the red flags in accounting fraud since it exploits material information that may adversely affect the share prices and subsequently harm the outsiders (Rozanov, 2008). Insiders have an unfair advantage over investors, thus making their trading of shares illegal on the grounds of justice (Strudler, 2011), and creating an uncompetitive capital market (Kadir and Muhamad, 2012a).

As mentioned above, in Malaysia, the Securities Commission of Malaysia is the regulatory body that is responsible for monitoring and enforcing insider trading regulations. It continuously reinforces proper market conduct so that the companies would act in the best interests of their investors. This is done by continuous monitoring of the companies for early detection of insider trading. The Securities Commission is also in the process of developing a corporate analytical platform to regulate the capital market (Securities Commission, 2016). However, the database on insider trading cases that are still under investigation or being charged is unavailable. Nevertheless, general information about insider trading cases can be found in the Securities Commission website. The absence of an insider trading database makes it difficult to assess the actual number of cases that have been or are being investigated.

## 2.2. Abnormal Returns

Finnerty (1976) discovered abnormal returns when he found insiders can beat the market in a semi-strong efficient market that is against the efficient market hypothesis. Many studies on insider trading have found that insiders can earn abnormal returns that come about from the price change due to the undisclosed information discovered through insider trading (Alireza and Ahmad, 2003; Chauhan *et al.*, 2016; Finnerty, 1976; He and Rui, 2016; Yusof *et al.*, 2013). There are two patterns of insider trading, namely, routine and opportunistic. Previous studies have found opportunistic insider trading provides more abnormal returns compared to routine insider trading (Rasel Chawdhury *et al.*, 2015). Studies have also provided evidence that insiders intentionally hold price-sensitive information in order to maximize abnormal returns. Many studies on insider trading have used abnormal returns to measure market reaction (Chauhan *et al.*, 2016; He and Rui, 2016; Yusof *et al.*, 2013). These authors have found significant market reaction where the insiders earned higher abnormal returns after the purchase date. The insiders have also avoided continuous abnormal loss by selling their shares (Alireza and Ahmad, 2003; Chauhan *et al.*, 2016; He and Rui, 2016; Yusof *et al.*, 2013).

## 2.3. Regulations on Insider Trading

Due to the unfair provision of information and information asymmetry, many countries have legalized insider trading regulations and the number of insider trading regulations is on the increase. As of 2004, at least 93 countries have formalized regulations on insider trading and the impact of such legislation has been positive (Kadir and Muhamad, 2012b). The restrictions on insider trading promote information accuracy, wider share distribution and liquidity improvement (Brochet, 2010; Kadir and Muhamad, 2012b) and alter insiders' behaviour (Rozaanov, 2008).

Malaysia also has become more aware of the effect of insider trading activities on market efficiency and such awareness is reflected in the legislation of insider trading regulations (Kadir and Muhamad, 2012a). Insider trading regulations in Malaysia regulate market behaviour and protect investors (Wong *et al.*, 2010). Malaysia has the following regulations that prohibit insider trading:

- 132, 132A and 132B of 132, 132A and 132B of the Companies Act 1965;
- Part H, Chapter 9 of the Listing Requirements of Bursa Malaysia Securities Berhad; and
- Division 2, Section 89-89P, Part IX of Securities of Securities Industry Act 1983.

## 3. Hypothesis Development

Several studies have examined the link between corporate governance and information asymmetry and its influence on insider trading activities (Chauhan *et al.*, 2016; He and Rui, 2016) (Huang *et al.*, 2012a); (Kiwia, 2017); (Rozaanov, 2008). These studies have found that corporate governance can influence insider trading activities, resulting significant market reaction after the insiders have purchased or sold their shares. A good corporate governance mechanism contributes to an increase in and accuracy of information disclosure and prevents the insiders from exploiting undisclosed information (Dai *et al.*, 2013) (Dai *et al.*, 2013); (He and Rui, 2016). It also helps in mitigating information asymmetry, improves financial transparency and subsequently, protects the investors (He and Rui, 2016).

### 3.1. Board Independence

Board independence is an indicator of effective corporate governance that can minimize price adjustment due to private information misappropriation by insiders (Chauhan *et al.*, 2016). This is supported by Coles *et al.* (2008) and (Linck *et al.*, 2008), who found an increase in the ratio of independent directors leads to more efficient corporate governance. High board independence provides absolute advantage, especially to large shareholders since the management becomes more efficient (Wu and Li, 2016). This is consistent with (Chen *et al.*, 2006) who found a greater number of independent directors on the board can prevent fraud in the company. Independent directors assist in reducing information asymmetry and improving quality and transparency of information disclosure, hence resulting in less market reaction. Furthermore, independent directors can act in the best interests of the shareholders in order to maintain their reputation (Kiwia, 2017). However, (Jensen, 1993) believed that a high ratio of independent directors reduces board effectiveness due to information asymmetry between them and the management team. Romano (2005) and Chauhan *et al.* (2016) found that independent directors do not act independently as they should because they have become part of the management team or they have an indirect relationship with the top management. Therefore, they would be more likely to misappropriate undisclosed information in order to earn abnormal returns at the expense of the shareholders. Therefore, the following hypotheses are developed:

H1a & H1b: There is a significant relationship between board independence and insider purchases (sales) activity

### 3.2. Board Size

The board of directors is the front-liner in ensuring that the company has an efficient and effective monitoring system (Rozaanov, 2008). However, researchers have frequently debated on the optimal number of board directors in a company. Huang *et al.* (2012b), Cormier *et al.* (2010) and Naimi Mohamad-Nor *et al.* (2010) believed that a small board leads to efficient corporate governance and effective monitoring because it contributes to better decision-making through effective consensus and communication. On the other hand, (Dayanandan *et al.*, 2014; Ghazali, 2010) and found that a large board enhances monitoring as the responsibilities can be distributed among the board members. Furthermore, increase in board size enhances the control mechanism in the company and reduces

the likelihood of insider trading activities (Dayanandan *et al.*, 2014). However, Kiwia (2017) found a positive relationship between board size and insider trading as it results in bigger market reaction. On the other hand, Rozanov (2008) and Wu and Li (2016) found that a company that has too large or too small a board relative to company size and industry size is likely to trade based on private information. Therefore, the following research hypotheses are developed:

H2a & H2b: There is a significant relationship between board size and insider purchases (sales) activity.

### 3.3. Executive Compensation

Compensation can be paid in cash or through share options. Compensation can be a good deterrence for insiders to engage in fraud activities, such as insider trading. According to Burns and Kedia (2006), compensation can be one of the important factors for top management not to commit fraud, as an adequate compensation can induce the top management to provide full commitment in carrying out their duties Burns and Kedia (2006). The Chief Executive Officers (CEOs) of companies can also reduce insider trading activities as they often receive high compensation (Roulstone, 2003) and hence, feel committed to enhance company performance (Jackson *et al.*, 2008). On the other hand, the trend of providing equity compensation that aligns the interests between management and the shareholders is increasing (Dayanandan *et al.*, 2014). Some companies offer equity compensation in order to save costs by giving a low salary base to the management (McGee, 2007) Arguably, it allows the management to trade using undisclosed information to match their pay with responsibility. However, Denis *et al.* (2013) found that when a company uses equity compensation to establish insider trading restriction, it reduces insider trading activities. Therefore, the following research hypotheses are developed:

H3a & H3b: There is a significant relationship between executive compensation and insider purchases (sales) activity

### 3.4. Ownership Concentration

High ownership concentration contributes to information asymmetry because the insiders' involvement in the business operations decreases the accuracy of information. At the same time, the insiders may be reluctant to disclose company-specific information (Chauhan *et al.*, 2016). Ma *et al.* (2010) believed high ownership concentration allows insiders to manipulate the management for personal advantage at the expense of the minority shareholders. This is consistent with (Fan and Wong, 2002) who found highly concentrated ownership encourages the management to engage in earnings management in order to inflate their company's value and make profit through insider trading. In addition, (He and Rui, 2016) found that highly concentrated ownership is more likely to purchase own shares in order to maximize their profit. Conversely, (Gillan and Starks, 2003) suggested that high ownership concentration reduces insider trading activities because it increases management turnover resulting in better monitoring function. Therefore, the following research hypotheses are developed:

H4a & H4b: There is a significant relationship between ownership concentration and insider purchase (sales) activity.

## 4. Methodology/Materials

This study selected companies listed on the Main Board of Bursa Malaysia that were involved in insider trading in 2016 and made announcement on Section 135 (S135) of the Companies Act 1965 as the sample. For year 2016, there were 7,115 announcements on S135, consisting of 5,215 share purchases and 2,409 share sales transactions done by directors and officers, involving 370 companies. However, only companies with more than 100,000 share transactions and open market transactions were chosen (Yusof *et al.*, 2013). Other types of transactions, option exercises and off-market transactions were excluded from the sample. Delisted companies and companies that entered into mergers after the trading date were also excluded due to inability to obtain their share price history.

The data collection was conducted from two main sources, namely, the Bursa Malaysia website and DataStream. Information on the insider trading date, type and volume for 2016 was collected from the Company's Announcement in Bursa's official website. Information on traders' name, trading date, type and details of transaction as well as number of shares traded was extracted from the announcement of S135 of the Companies Act 1965. Information on corporate governance, namely, proportion of independent directors, board size, executive compensation, substantial shareholders, total assets and number of board meetings held were extracted from the previous fiscal year of 2015 annual reports. For the company's share price history, the data was extracted from DataStream.

This study adopted a conventional event study methodology to determine market reaction. He and Rui (2016) suggested that insider trading activities influence market reaction. Market reaction was measured using the cumulative abnormal returns in estimating the impact of insider trading on the share market (Agrawal and Cooper, 2015; He and Rui, 2016; Wu and Li, 2016; Yusof *et al.*, 2013). As for the event date, it is defined as the transaction day of insider trading (He and Rui, 2016; Wu and Li, 2016; Yusof *et al.*, 2013). For abnormal returns calculation, standard market model has been recommended by prior studies (Finnerty, 1976; Yusof *et al.*, 2013). The abnormal returns for each day was calculated using the company's and market share returns. Market model estimator was calculated based on a period of the 41-day estimation window, centered on the event date. For the purpose of this study, the cumulative abnormal returns (CAR) for four different event windows was calculated. It was done to assess the market reaction for pre-, during and post-insider trading activities as well as the entire 41-days event period, i.e., CAR (-20, 20), CAR (-20,-1), CAR (0,1) and CAR (0,20). In order to determine the relationship between insider



trading activities and corporate governance, CAR (0, 20) was used as the dependent variable as it captures complete market reaction after each insider trading activity (He and Rui, 2016). We then regressed CARs for insider purchases and sales separately with the four corporate governance mechanisms.

$$CAR_t = \beta_0 + \beta_1 INDIR_{i,t-1} + \beta_2 BSIZE_{i,t-1} + \beta_3 EXCOM_{i,t-1} + \beta_4 SSHARE_{i,t-1} + \beta_5 LgASSET_{i,t-1} + \beta_6 BMEET_{i,t-1} + \epsilon_{i,t-1}$$

Where  $CAR_t$  is the cumulative abnormal returns for CAR (0,20),  $INDIR$  is the ratio of independent directors,  $BFSIZE$  is the number of board directors,  $EXCOM$  is the average compensation of directors and  $SSHARE$  is the percentage of substantial shareholders. Our regression also includes control variables, i.e.,  $LgAsset$ , which is the logarithm of total assets and  $BMEET$ , which is the number of board meetings held in 2015.

## 5. Results and Findings

### 5.1. Descriptive Statistic

**Table-1.** Descriptive Statistics of Trading Activities by Directors and Officers

	Purchases	(%)	Sales	(%)	Total
Transaction	949	61.8	586	38.2	1535
Volume of shares traded (mil)	1.146	41.0	1.649	59.0	2.796
No. of companies	146	57.0	126	49.2	256

Table 1 reports the distribution of share transactions conducted by the directors or officers. The sample period covers 1,535 share transactions consisting of 949 or 61.8% share purchases and 586 or 38.2% share sales activities, involving 256 companies. A total of 2.795 million shares were traded consisting of 1.146 million or 41.0% share purchases and 1.649 million or 58.0% share sales. Table 1 shows that the volume for share sales is larger than share purchases, even though total transactions are smaller. This indicates that although share sales transactions are lesser than share purchases, the directors have traded in large volumes in every transaction. The finding in this study is consistent with (Chauhan *et al.*, 2016).

**Table-2.** Descriptive Statistics of Independent and Control Variables

	Mean	Std. Deviation	Minimum	Maximum
Purchases				
INDIR	0.458	.130	.004	.833
BFSIZE	7.340	1.582	4	11
EXCOM	565.521	808.733	29.2	5419.571
SSHARE	0.485	.171	.000	.850
LgASSET	8.614	.724	4.128	10.482
BMEET	5.49	1.902	2	15
No. of Companies (N)	146			
Sales				
INDIR	0.473	.127	.004	.800
BFSIZE	7.53	1.631	4	12
EXCOM	677.091	1339.019	45.667	9875.00
SSHARE	0.474	.186	.093	.959
LgASSET	8.694	.670	4.440	10.550
BMEET	5.41	1.966	0	13
No. of Companies (N)	128			

Table 2 shows the descriptive statistics for share purchases and sales by the insiders. On average, the proportion of independent directors and ownership concentration for companies that were involved in insider trading activities is approximately 50% and the average number of board members is seven. The result on proportion of independent directors shows that the companies have fulfilled Bursa Malaysia's Main Market Listing Requirement (2018) that the number of independent directors of a public listed company must be at least one third of the board of directors.

For executive compensation, the result shows insiders who are involved in share sales earned higher compensation compared to the insiders who were involved in insider purchases. Based on the trading volume and average compensation on insider sales in Table 2, this study concludes that the executives earned higher equity compensation. This is evidenced by the results of average of cumulative abnormal returns in Figure 1 and Table 3, where they managed to avoid significant abnormal losses (Zekos, 1998).

## 5.2. Market Reaction

**Table-3.** Market reaction due to insider trading analysis

Event Window (CAR)	Purchases		Sales	
	Mean	t-Value	Mean	t-Value
(-20,20)	0.000%	-.446	0.000%	.314
(-20,-1)	-0.698%	-1.429	0.916%	1.185
(0,1)	0.962%	.415	-0.270%	-.731
(0,20)	0.757%	1.833***	-1.058%	-2.159**
N	146		128	

\*\* significant at 5%-level (2-tailed)

\*\*\* significant at 10%-level (2-tailed)

In Table 3, CAR (-20, 20) shows that insiders earned insignificant zero abnormal returns for the whole 41-day event window for insider purchases and sales. Market reaction for CAR (-20,-1) and CAR (0,1) for both insider purchases and sales is also insignificant. However, the result shows a significantly positive market reaction with an average cumulative abnormal returns of 0.757% for 20 days after the insider purchase activities (CAR 0, 20). Similarly, insider sales show a significantly average abnormal returns with -2.023% for (CAR 0, 20). This finding indicates that the insiders managed to avoid negative abnormal returns by selling their shares based on the private information that they had while the outsiders suffered losses (Alireza and Ahmad, 2003; Chauhan *et al.*, 2016); (He and Rui, 2016; Yusof *et al.*, 2013). The results also show the percentage of average cumulative abnormal returns for insider sales is higher than the insider purchases. This suggests that the information content of insider sales is stronger than the insider purchases (Chauhan *et al.*, 2016).

**Figure-1.** Cumulative average abnormal returns for insider purchases and sales within the event window (-20,20)

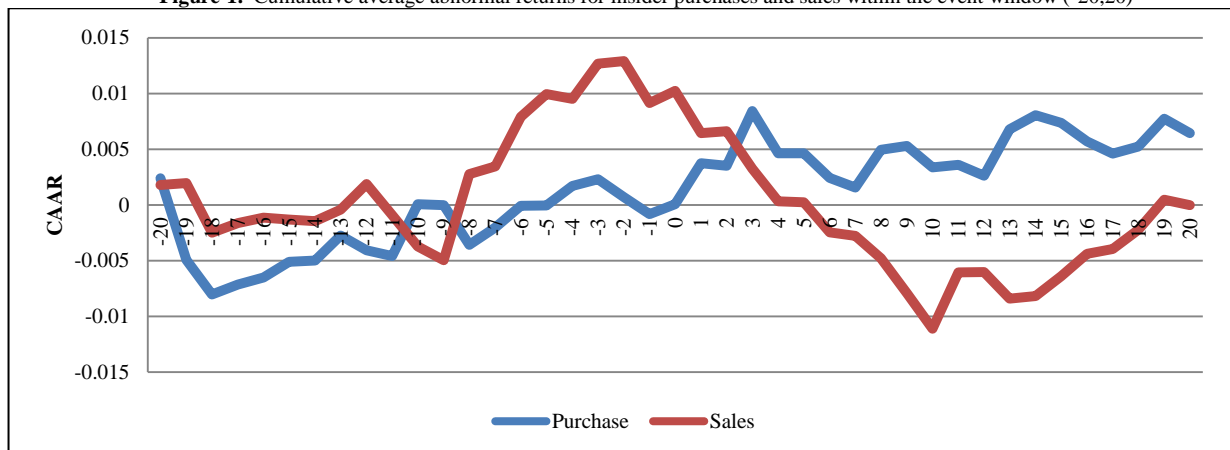


Figure 1 plots the cumulative average abnormal returns for insider purchases and sales. For insider purchases, the graph shows that the cumulative average abnormal returns increased starting day 17 before the event trading day and continuously increased for the following 13 days. The result is consistent with (Yusof *et al.*, 2013) who found cumulative average abnormal returns is due to the increase of insider trading activities over time in the Malaysian market. In addition, Figure 1 shows that the insiders continuously gained positive average abnormal returns after the event date. As for insider sales, the Figure 1 shows the cumulative average abnormal returns started to decrease continuously on the event day and experienced abnormal loss starting day six after the trading date. This finding is consistent with (He and Rui, 2016) but inconsistent with (Yusof *et al.*, 2013) who found the cumulative abnormal returns due to insider trading decreased over time in the Malaysian share market.

## 5.3. Regression Analysis

For this study, CAR (0, 20) was used as the dependent variable as it captures a complete market reaction after insider trading activities.

**Table-4.** Regression Results of Market Reaction on Corporate Governance

Independent Variables	Purchase		Sales	
	Coefficient B	T-Statistic	Coefficient B	T-Statistic
Constant	.004	.064	-.099	-1.348
INDIR	.025	.774	.053	1.259
BSIZE	.005	-1.681***	-.003	-1.014
EXCOM	-9.443E-7	-1.973**	5.405E-7	.142
SSHARE	-.026	1.027	.008	.299
LgASSET	-.003	.563	.009	1.271
BMEET	.002	-1.074	.000	.171
R <sup>2</sup>	.073		.033	
Adjusted R <sup>2</sup>	.033		-.015	
F-Statistic	1.826		.692	
P-Value	.097***		.657	
Company	148		128	

\*\* significant at 5%-level (2-tailed)

\*\*\* significant at 10%-level (2-tailed)

Based on Table 4, for insider purchases, the result shows there is a significant relationship between market reaction and the four corporate governance mechanisms, where executive compensation and board size are significant to insider trading activities. The results also show executive compensation has a negative effect on market reaction. In other words, the higher the compensation, the lesser the incentive for the directors or officers to engage in insider purchases (Huang *et al.*, 2012b; Jackson *et al.*, 2008; Wu and Li, 2016). The result indicates that executive compensation of the Malaysian public listed companies is relatively high and sufficient to prevent the directors and officers from engaging with insider trading. As for board size, it positively affected market reaction. This is consistent with prior studies that have suggested that a small board contributes to good governance because it develops trust among board members and acts unanimously (Rozaanov, 2008). Therefore, the results support H2a and H3a.

As for insider sales, the results show that none of the independent variables has a significant relationship with market reaction. Although the market reaction for CAR (0, 20) for insider sales is significantly higher compared to insider purchases activity, it cannot be explained by INDIR, BSIZE, EXCOM, SSHARE, LgASSET and BMEET. This finding suggests insiders may be driven by diversification or liquidity motives rather than by private information (He and Rui, 2016). The significant market reaction due to insider sales may be explained by other factors. The reasons as to why the directors or officers engaged less with insider sales but traded in a larger volume as compared to insider purchases may be rationalized.

## 6. Conclusion

In Malaysia, insider trading activities have caused significant market reaction, whereby the insiders have been able to earn significant cumulative abnormal returns for both purchases and sales. However, market reaction due to insider sales is stronger than insider purchases. It indicates that the insiders have managed to avoid losses by trading using private information. This study provides mixed findings on the relationship between corporate governance mechanisms and insider purchases and insider sales. For insider purchases, the results report a significant relationship between corporate governance components and insider trading activities for board size and executive compensation. For insider sales, this study shows a statistically insignificant relationship between all independent variables. This study cannot explain the significant market reaction due to insider sales. He and Rui (2016) suggested that the insiders may be driven by diversification or liquidity motives rather than by private information. Thus, the significant market reaction may be explained by other factors. In conclusion, insider trading does benefit the directors and officers, whether or not they purchase or sell their shares, which seems unfair to the outsiders. Therefore, the enforcement authorities may need to enhance their monitoring and enforcement activities in order to protect the outside shareholders.

The interpretations of this study are subject to several limitations. First, due to the lack of detailed information on insider trading cases charged by the Securities Commission, this study focused on share trading conducted by directors and officers of companies announced in the Bursa website. Therefore, the insider trading activities in this study are not classified as illegal. The second limitation is share price data. The share price may change a few times during a trading day. Another limitation is the decision made by insiders to trade their shares may not be solely based on private information. This study did not analyse the rationalization behind the insiders' decision. Due to lack of studies on insider trading activities in Malaysia, more research is recommended for this topic. In this study, insider sales have caused significant market reaction but this cannot be explained by the corporate governance mechanisms selected by this study. Future studies could be carried out on other factors that may influence opportunistic insider sales. Other than that, future research could be done on the information possessed by the insiders that influences them to sell their shares, in order to identify what the common private information is. Perhaps, future studies with a longer horizon for the same companies can be conducted so that the trend of market reaction can be analysed.

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