

การควบรววมกิจการ: ผลกระทบของวันที่ประกาศกับผลตอบแทนที่ไม่ปกติในเอเชีย

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต  
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Mergers and Acquisition: The Effect of Announcement Date on Abnormal Return in As

ia

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A Thesis Submitted in Partial Fulfillment of the Requirements

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หัวข้อวิทยานิพนธ์

การควมรวมกิจการ: ผลกระทบของวันที่ประกาศกับ

ผลตอบแทนที่ไม่ปกติในเอเชีย

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Mergers and Acquisition: The Effect of Announcement Date on Abnormal Return in Asia) อ.ที่ปรึกษาหลัก : อ. ดร.รุ่งเกียรติ รัตนบานชื่น

การควบรวมกิจการและการเข้าซื้อกิจการ (Merger and Acquisition) เป็นกลยุทธ์ทางธุรกิจที่เหมาะสมสำหรับการลดความเสี่ยงในการลงทุนของธุรกิจและการขยายอำนาจทางการตลาดที่แข็งแกร่งขึ้น ในการวิจัยนี้ใช้วิธีการศึกษาจากราคาหุ้นระหว่างเหตุการณ์ (Event Study) เพื่อดูความผิดปกติของอัตราผลตอบแทนจากการควบรวมกิจการในประเทศแถบเอเชียเช่น อินโดนีเซีย ไทย มาเลเซีย ฮองกง และสิงคโปร์ ระหว่างปี 2553 ถึง 2560 การทำวิจัยนี้เป็นการทดสอบทฤษฎีการตลาดที่มีประสิทธิภาพระดับกลางโดยวัดความผิดปกติของอัตราผลตอบแทนก่อนและหลังการประกาศควบรวมกิจการ จากผลการทดสอบพบว่า การควบรวมกิจการในเอเชียช่วยสร้างมูลค่าเชิงบวกสำหรับบริษัทที่ต้องการควบรวมกิจการ สรุปได้ว่าประเทศอินโดนีเซียแสดงให้เห็นถึงประสิทธิภาพของตลาดหลักทรัพย์ที่ต่ำสุดเมื่อเปรียบเทียบกับตลาดหลักทรัพย์อื่นที่นำมาทดสอบ ผลของการวิจัยแบบตัดขวางโดยพยายามที่จะหาความสัมพันธ์ระหว่างอัตราผลตอบแทนที่ผิดปกติกับตัวแปรสถาบันเช่น ความเร็วในการซื้อขายหุ้น มูลค่าของตลาดหลักทรัพย์ และการลงทุนโดยตรงจากต่างประเทศ ผลลัพธ์ไม่สามารถสรุปได้อย่างชัดเจนแต่ตัวแปรส่งผลเชิงลบกับอัตราผลตอบแทนที่ผิดปกติ อีกทั้งทำการทดสอบหาความสัมพันธ์ระหว่างอัตราผลตอบแทนที่ผิดปกติช่วงเวลาก่อนและหลังการประกาศการควบรวมกิจการกับผลอัตราประสิทธิภาพของบริษัทและลักษณะของการควบรวม นอกจากนี้ก็วิเคราะห์เกี่ยวกับการควบรวมกิจการและการลงทุนของแต่ละประเทศถูกนำมาเปรียบเทียบและวิเคราะห์เพื่อพัฒนาประสิทธิภาพของตลาดหลักทรัพย์ที่กำลังพัฒนา

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KEYWORD: Merger and Acquisition, Abnormal Return, Leakage of Information,  
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Theedanai Snguanwongchai :  
Mergers and Acquisition: The Effect of Announcement Date on Abnormal  
Return in Asia. Advisor: Roongkiat Ratanabanchuen, Ph.D.

Merger and acquisition (M&A) is an ideal option to reduce business's risk of investment, gain stronger market penetration and wealth maximization. In this study, event study was performed to see the effect of abnormal return from M&A on Asian countries, including Indonesia, Thailand, Malaysia, Hong Kong and Singapore with sampling period between 2010 to 2017. From the result of the test, it was found that M&A creates positive value for acquirer firms in Asia. The semi strong form of Efficient Market Hypothesis (EMH) was examined by looking at the leakage of information prior to the announcement and market's reaction after the announcement. The result suggested Indonesia to be the least efficient market follows by Malaysia. Cross-sectional regression was attempted to find the relationship between abnormal return and institutional variables, including share traded velocity, market capitalization ratio and FDI. The results were insignificant however the institutional variables assist with reducing abnormal return. Firm performance ratios and deal characteristics were also regressed against the abnormal return for pre- and post- announcement. Regulations on M&A and penalty on insider trading in different countries were compared and analyzed to identify possible improvements that can be applied by regulators to promote more efficient market.

Field of Study: Finance

Student's Signature .....

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## Chapter 1 Introduction

### 1.1 Background

Over the past decades, strong competitions, economic instability, and value creation have led to an upward trend towards mergers and acquisitions (M&A) across the globe. Developed markets, such as the US, has over 13,000 announced transactions in 2017 (data from Bloomberg Terminal). Firms in developed markets would seek for merger and acquisition as an ideal option to reduce business's risk of investment, gain stronger market penetration, build synergy, create growth, reduce competitions, and maximize wealth of shareholders. With continuous growth of the emerging markets, similar trends have been witnessed throughout, in particular, the ASEAN economies. Although, the amount of announced M&A transactions may not be as high as some developed countries, it goes without saying that M&A is one of the important activities in obtaining growth and development, and this trend of M&A activities is expected to continue to match with the developed economies (Liu, Shu, & Sinclair., 2009).

Many companies in ASEAN economies have put focus on M&A deals in order to maximise their wealth and further expand their business empire. Some companies obtain considerable amount of investment to take over company of the same size or even bigger. Such action would affect the security price of both the bidder and target. Certainty of abnormal returns is likely to be witnessed after such M&A deal is made. While this have been true for many companies based on information from past researches, few studies have been done on emerging ASEAN countries even though there is an increasing number of M&A transactions.

In developed countries like the US, where financial markets are highly regulated, interests of shareholders and investors are well protected. The situation is quite transverse for the ASEAN emerging economies, where there is weak law enforcement with poor legal environment. Furthermore, organizational structure of firms in developed countries and emerging countries are somewhat different in terms



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of ownership, cultural and market behavior. These environmental differences may play crucial role to the responsiveness of the market. Therefore, researches of M&A deals may not be transferable for the markets of ASEAN. In this study, abnormal return from M&A announcement for countries in Asia will be investigated both developed and developing countries.

### **1.2 Objectives**

This thesis attempts to examine the abnormal returns around M&A announcement dates. Event study is performed to examine the market's response to some event by observing the stock price around the event. The objective of the event study is to test whether abnormal return of the acquirer is earned from the announcement of the particular event compared to a normal expected return if there is no event. In this research, M&A announcement will be used as an event to test for the abnormal return. This type of test is to challenge the theory of Efficient Market Hypothesis (EMH), meaning stock price react to the event accordingly and no abnormal return can be obtained comparing to the market index. It is an attempt to reflect on the information value of an M&A announcement by calculating abnormal return (if any). The announcement should incorporate the changes in stock prices on the announcement data itself, but since this kind of study is trying to analyse the violation of efficient market hypothesis, the pre-event and post-event period has been considered. The pre-event period is considered to estimate the leakages of information, while the post-event is considered to estimate any delay in the reach of the information being disseminated. M&A announcements create two difficult problems to the regulators. Firstly, the announcement usually involves significant price affecting information and secondly, M&A is usually involving a wide range of people whom will possess material inside information. By this sense, leakage of information is suitable to be investigated around the M&A announcement date.

M&A studies were usually done using developed countries' data however the results are sometimes inconclusive depending on the factors that the researchers used. In this study, top three emerging ASEAN markets (Malaysia, Indonesia and Thailand) and developed Asian countries (Singapore and Hong Kong) will be used as

data sample for the test. The market characteristics between developed market and emerging market such as corporate governance practice, institutional environment, etc. are not the same meaning the result from previous studies cannot be used on the emerging market. Growth in the performance of emerging markets like ASEAN countries are very attractive for investors who seek to gain more return from the investment with some degree of risks. The amount of Foreign Direct Investment (FDI) in Malaysia increased from 3.78 billion USD in 2000 to 9 billion USD in 2015 while for Thailand's FDI increased from 3.36 billion USD in 2000 to 10.96 billion USD in 2015. The amount of FDI in Indonesia is much more extreme where in the year 2000, FDI figure was -4.55 billion USD (due to the Asian Financial Crisis in the late 1990s) while in 2015, the amount of FDI is the highest among the three countries, 20 billion USD (Bank, 2017).

In this study, market characteristic of the top three ASEAN market namely Malaysia, Indonesia and Thailand compared with developed Asian countries like Singapore and Hong Kong will be investigated. The test will be conducted to examine how Asian financial markets react upon introducing new information (pre- and post- event). Efficient market is where the market price is an unbiased estimate of the true value of the investment, meaning there is no abnormal return from the investment. An exist in abnormal return prior the announcement will contribute to the leakage of information while abnormal return after the announcement will indicate a delay information reaching the public and how investor interpret and react to the new information.

This study will attempt to identify the relationship of the variables which are institutional factors, firm characteristics and deal characteristics that leads to an abnormal return of a stock around the announcement period. Institutional structure is related to an action conducted by agencies that are responsible for the regulation and supervision of the financial institutional and market, this includes the policy by central bank of the area. Institutional factors will be investigated since it represents the mechanism that reduces informational leakage during M&A. The main question

for this research is to determine which factors links with the efficiency of the market by looking at the abnormal return from M&A announcement. Lastly, quantitative analysis of the regulation on announcement of M&A and penalty relating with the inside trading. This study has implications for the policy makers where they should be concerned on price manipulation and introduced tighten regulations/penalties to discourage any intention for insider trading.

This paper is structured into five sections. Section one is the introduction of this paper which was discussed previously. The next section is the literature review related to this paper, motives of M&A, results of previous researches of M&A announcement in United States of America, Europe and Asia. Factors affecting the abnormal return including institutional variables, firm performances and deal characteristics are reviewed along with the hypothesis development. Third section of this paper represents the data and methodology used in this study. Results and analysis of the finding are display in the fourth section. The last section of the paper provides conclusion and suggestion for future research.

## Chapter 2 Literature Review

The terms mergers and acquisitions (M&A) refers to business activities that involve in buying, selling and combining two or more companies together. The main idea behind a merger or acquisition is to increase shareholders' value from the combination of resources of the two firms (Bradley, Desai, & Kim, 1988). The terms mergers and acquisitions are often used interchangeably by academic literature because they have a similar meaning one to another (Sherman, 2010; Gaughan P. A., 2010). This study will also use these terms interchangeably and define merger and acquisition as the same, that is, an offer which is made by the bidding or acquiring firms to the shareholders of target or acquired firms. According to Hitt et al., (2001), a merger takes place when two companies joined their resources and operate as a single new entity. Whereas, in an acquisition a firm (acquirer) buys majority of the shares, usually greater than 50%, in another firm (target) to acquire ownership and management of the target firm.

### 2.1 Motives for M&A

Prior deciding to conduct M&A, firm's manager has to considers the benefits of M&A, Table 1 below represents the summary of all motives for M&A. Various of objectives can be found in conducting M&A, in this section, three theories which are growth, synergy and market power theory will be discussed in some detailed.

Table 1 Summary of motives for merger and acquisition

<b>M&amp;A Motives</b>	<b>Reasons</b>
<b>Economies of scale</b>	<ul style="list-style-type: none"> <li>Cost reduction</li> <li>Achieving economies of scale</li> <li>Vertical integration</li> <li>Reduction in over capacity</li> </ul>
<b>Transaction costs</b>	<ul style="list-style-type: none"> <li>Minimise governance costs</li> <li>Achieving competitive advantage and cost reduction</li> </ul>
<b>Growth</b>	<ul style="list-style-type: none"> <li>Key strategy for businesses</li> </ul>

	Exploiting new markets Internal or external growth
<b>Monopoly</b>	Achieved through horizontal integration Increasing market share; market leader
<b>Diversification</b>	Reducing risk Maximizing returns with less uncertainties
<b>Debt/Equity</b>	Tax incentives Reducing cost of financing Minimise risk of bankruptcy by sharing capital
<b>Synergy</b>	Combining operations generates more profit Increasing efficiencies Achieved through economies of scale and scope

Source: Karagiannidis, 2010

## 2.2 Studies of M&A in U.S. and Europe

Following the Global Financial Crisis in 2008, many companies that survive the crisis are faced with a dilemma of organization restructuring to ensure that they maintain their competitiveness. M&A is one of the attractive options for the restructuring. There are many research questions related to M&A such as which factors motivates M&A activity and whether M&A increases shareholders' return. The most investigated topic associated with M&A is whether M&A increase shareholders' wealth or not. There are several researches performed to evaluate the abnormal return caused by Mergers and Acquisition announcement for both acquirer and target firm (Fuller et al., 2002; Martynova et al., 2006). The results obtained by many researchers were mixed.

The effects of M&A are significant in such way that they affect the price of stocks for both acquiring and target company. The degree of effect to the stock price varied for each company depending of the view or perception of the stockholders. Most of the previous research agreed that the target firms earn a significant abnormal return (Franks, Harris, & Titman, 1991; M. C. Jensen & Ruback, 1983). Whereas the return for the acquiring firms are insignificantly different from zero return(Campa &

Hernando, 2004; Gaughan, 2010; M. C. Jensen & Ruback, 1983). The result from Depamphilis (2009) showed that the abnormal returns to the acquiring firms' shareholders are insignificantly different from zero, slightly negative and slightly positive meaning result cannot be concluded. A study conducted by Asquith et al. (1993) investigated 343 U.S. M&A announcements during the period of 1973 to 1983, the result shows that acquirers received statistically significant negative abnormal return of 0.85% over a two days event window (Asquith, Bruner, & Mullins, 1993). Kaplan and Weisbach (1992) did a research with 271 M&A deals sample during 12 years horizon with eleven days event window and also found a significant negative abnormal return of -1.49% to the acquirer (Kaplan & Weisbach, 1992). In addition, Mulherin and Boone (2000) and Andrade et al. (2001) employed a larger sample size of 1305 and 4256 M&A deals in the U.S by using a 3 days event window (Andrade, Mitchell, & Stafford, 2001; Mulherin & Boone, 2000). The result also shows insignificant negative returns. Goergen and Renneboog (2004) investigated large M&A deals in Europe between 1993 and 2001. Their results show insignificant negative abnormal returns of 0.48% over a 121 days event window (Goergen & Renneboog, 2004).

However, positive abnormal returns to the acquirers are also found in some studies. For instance, Bradley et al. (1988) examined 161 U.S. M&A activities between 1963 and 1984 and found significant positive abnormal returns of 0.97%. Jarrell and Poulsen (1989) conducted a research during 1963 to 1986 with 770 U.S. sample which also supported Brandley et al. (1988) with significant positive abnormal returns of 0.92%. A study in Canada by Eckbo et al. (2000) also suggested significant positive abnormal returns of 1.71%. A recent evidence by Fuller et al. (2002) shows that the acquiring firm shareholders experienced insignificant positive return of 1.77% using 3135 U.K. M&A deals. Table 2 below shows a summary of mixed result obtained on the impact of M&A announcements on firms' performance.

Table 2 Summary of impact of M&amp;A announcements on firms' performance.

Study	Return	Country	Sample Size	Sample Period	Event Window	Test Statistic
Asquith et al. (1993)	-0.85%	US	343	1973-1983	(-1,0)	Significant
Kaplan & Weisbach (1992)	-1.49%	US	271	1972-1982	(-5,5)	Significant
Mulherin & Boone (2000)	-0.37%	US	1305	1990-1999	(-1,1)	Insignificant
Andrade et al. (2001)	-0.70%	US	4256	1973-1998	(-1,1)	Insignificant
Goergen & Renneboog (2004)	-0.48%	Europe	300	1993-2001	(-60,60)	Insignificant
Draper & Paudya (2006)	-0.40%	UK	1098	1981-2001	(-1,1)	Significant
Bradley et al. (1988)	0.97%	US	236	1963-1986	(-5,5)	Significant
Jarrell & Poulsen (1989)	0.92%	US	770	1963-1984	(-5,5)	Significant
Eckbo et al. (2000)	1.71%	Canada	1261	1964-1983	(-40,0)	Significant
Fuller et al. (2002)	1.77%	UK	3135	1990-2000	(-2,2)	Insignificant



### 2.3 Studies of M&A in Asia

Theories that can explain events in developed market cannot necessarily be applied to the developing market. For example, the theory of “free cash flow” can be used to explain the reason for M&A behavior in developed market but cannot be applied for the emerging market. Free cash flow theory suggests that with unused borrowing power and large free cash flow, managers are more likely to diversify and undertake low-benefit mergers causing a lower total gain (M. C. Jensen, 1986). However, a study by Khanna and Palepu (1997, 2000) suggested a contradicting result where diversification in developing markets may generate higher total gains. From this, it leads to a questionable result from M&A to be performed using emerging market data sample.

A study by Ma et al. (2009) on abnormal returns to M&A in ten Asian stock markets during 2000 to 2005 with 1,477 M&A deals from China, India, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand were examined. They found that the bidder firms have expected positive cumulative abnormal return in three different windows, a two day (0,1) window, a three day (-1, +1) window and five day (-2, +2) window. They also found that the abnormal return one day before the announcement is 0.32% statistically significant at the one percent level, meaning valuation effects of information leakages about M&A deals are statistically significant.

Wang et al. (2014) conducted a research on Asian acquiring banks gain significant long- term negative abnormal returns after the M&A announcement date. The study examined a total of 293 M&A deals in the 1997-2007 periods. However, the result by Wang et al. (2014) is contradicted with a study on European data set by DeYoung et al. (2009) where a positive impact of M&A announcement on European banks was obtained, resulted in higher shareholders’ value and increasing efficiency. This empirical result suggests that the M&A has different outcomes for the long- term stock returns for Asian banks and the U.S. and European banks.

Tsung-Ming & Hoshino (2002) examines the performance of the acquirer and target firm by looking at the stock price of 46 Taiwanese M&A deals between 1987 to 1998. The result shows that both firms gain a slight positive abnormal return around the M&A announcement date while for longer term performance, the result shows a statistically significant abnormal return.

In Japan, the study on the effect of M&A on abnormal return had already been conducted intensively since it is the largest economy in Asia. The researches were conducted on effect of M&A by using both accounting-based data method and event study method. It was found that with event study method, shareholders of merging firms gain positive abnormal returns (Pettway & Yamada, 1986; Pettway, Sichernan, & Yamada, 1990). The evidence from M&A studies in Asia suggests that, on average, M&A have a positive impact to shareholder wealth.

Shah et al. (2014) examined the effect of M&A announcements on both acquirer and target in the Asia-Pacific region during 2013. A result by Shah contradicted with the result obtained from other previous mentioned research. They found a positive CAAR significantly different from zero while for acquirer the result is insignificant from zero.

#### **2.4 Leakage of Inside Information and Market Reaction**

Under efficient capital market, the stock return should incorporate instantaneously and completely on the announcement of M&A, there should be no pre-announcement run up or post announcement drift. However, many studies have indicated the price run up rather than a sudden increase in stock price on the date of announcement. Two hypotheses were proposed regarding the anomaly, firstly the run up of stock price might be because of the insiders trading on price-sensitive information. For an informed investors, by knowing that the stock price will increase majorly on the day of the event, they would buy shares before the news become public and sell afterward to earn an abnormal return hence the hypothesis of insider trading is supported if insiders are overall net buyers or seller pre- and post-announcement. On the other hand, the run up of stock price can also come from

the perceptive investors that anticipate the deal from mandatory disclosures or rumours. Measuring abnormal returns before the announcement is a means commonly adopted to identify changes in the market's consensus expectations generated by new information, by distinguishing significant firm-specific price movements from market wide fluctuations (Beaver, 1968). Consequently, if firms were engaged in disclosure of private information before the announcement, we would assume to see a change in stock prices as informed traders revise their positions.

A study by Aspris, Foley and Frino (2014) found that a gradual adjustment reflects the actions of investors and speculators. Aspris suggested that investors can anticipate the announcement of M&A from signal of stake building (mandatory disclosure requirement to regulators) and rumours in the media on impending deals. The mandatory disclosure requirement if an investor own more than 5% of the firm's common shares, this disclosure is observable by the public and might create rumour for takeover which results in price run up prior the actual announcement.

Information costs can play an important role for the investment decision of firms. The cost of investment may also increase with the distance of the investment due to information asymmetry (Giovanni, 2005 & Martin and Rey, 2004). Due to this asymmetry information the market reaction is expected to be delayed.

While Banerjee and Eckard (2001) found attribute relationship of abnormal return to leakage of information on impending deals. They found that more than 50% of the cumulative abnormal returns prior to the announcement can be a result from usage of inside information. Meulbroek (1992) concluded that before the major announcement event, daily return is positively correlated with the volume of illegal insider trading. In the US, most of the literature regarding insider trading in M&A deals are evidence from small samples dating between 1970-1990. A study by Malatesta and Thompson in 1985 also suggested that if there is a leakage of information, the effect of M&A announcement might be reflected in stock prices prior to the announcement date.

In Asia, there is very little study on the leakage of information from M&A announcement. A study by Ma et al. (2009) found that the stock markets have expected positive cumulative abnormal returns in three event windows (0, 1), (-1, +1) and (-2, +2). The effect of information leakage on M&A deals are statistically significant.

The action by insider trader can affect the trust and participation in the financial markets which will reduce the public's ability to join fairly in value-increasing events such M&A announcement hence the market efficiency is reduced. The asymmetries of information can also reduce the liquidity of the market which will leads to adverse selection problems. A reliable full disclose of an information will produce confidence in market integrity. Subsequently, transparency will not only affect the market valuation of a company however it also has great effect on national economy's ability to attract investment from domestic and foreign investors.

On the date of the public announcement of M&A (intentions to buy another firm), there is still speculation in the market regarding the completion of the acquisition. From the results, insiders could still believe there will be a significant post-announcement drift caused by slow market adjustment hence they may continue to buy shares on the following days of the announcement.

As commonly known, in M&A transactions there is no complete information that is made publicly available. Using the principal-agent model, in M&A, the buyer is the principal and seller is the agent (Lukas, 2010). There is always a risk of overpayment since evaluating the right enterprise's value of a company is difficult. This type of information asymmetry occurs prior the M&A took place. The seller will withhold important information in order to earn highest profit from the M&A deal. These are properties of the sales object, which may adversely affect the price of the seller's perspective. The buyer cannot know the true value of the seller company and they cannot distinguish between good and bad information causing a asymmetry of information which leads to the adverse selection problem.

The same model is also can be applied to the shareholders and the managers where the manager may act in his own interest rather than the shareholders. This type of information asymmetry occurs after the M&A deal is concluded. In this case, the manager has more information of which he can use and hide from the shareholders for his own interest. The principal cannot observe all of the actions from the agent since the thing changes before the final result is revealed (M. M. Jensen, W., 1976).

## **2.5 Factor Influencing Abnormal Return**

Within an M&A context, the basis for value creation is the effective combination of the two companies' resources which results in synergy (Goold & Campbell, 1998). Researchers have identified a number of characteristics that affect the return arising from M&A transaction including previous experience of acquiring firm (Fuller et al., 2002); relative size of the target to acquirer (Asquith, Bruner, & Mullins, 1983; S. B. Moeller, Schlingemann, & Stulz, 2004); industry relatedness (J. A. Doukas, Holmen, & Travlos, 2002) and payment type (Asquith et al., 1983). In this research, we will test for the efficiency of the market, where it depends on supporting institutions that can provide the formal and informal rules of the game of a market economy and allowing a lower transaction and information costs and reducing uncertainty (North, 1990). The following institutional variables will be investigated to see the effect of abnormal return from M&A.

### **2.5.1 Institutional Variables**

The quality of the institutional structures had shown in many studies to give a significant positive relationship with the stock market performance. A study by Gugler (2004) and Ajide (2014), suggested that countries with better developed governance systems have stock market with higher returns on equity and lower levels of risk. Institutions have an important role on the financial markets development in many advanced economies (Ajide, 2014; Gugler, 2004). Paper written by Gani in 2008 stated that institutional quality is an integral part of enhancing the development of stock

markets in a country. Thus, institutional quality matters for stock market development.

### Share Turnover Velocity

As previously studies mentioned the stock market liquidity usually goes in line with the efficiency of the market. The liquidity is believed to increase the efficiency in some forms since the liquidity increase the volume of trade that will adjust the price of the stock to the publicly available information. Many recent studies have shown that securities mispricing is greater in illiquid market. Theoretically, liquidity is an important attribute of stock market development because liquid markets improve the allocation of capital and enhance prospects of long term economic (Demirgüç-Kunt & Levine, 1996). Share turnover velocity will be used as a measure of market liquidity in this study. It is calculated by using the amount of share turnover monthly divided by month end market capitalization. High turnover velocity is often used as indicator of low transaction costs. It measures trading relative to the size of stock market. A low liquidity in stock market provides a possibility to make a better accurate prediction of stock prices hence excess profit can be gained which shows market is inefficient. A liquid market will allow the investors to adjust their portfolio cheaply and quickly, hence reduce the risk and increase the chance of profit for the investors.

### Market Capitalized Ratio

The market capitalized ratio can be defined as the value of the market capitalization divided by GDP. It is used to determine whether the market is overvalued or undervalued. More than one suggests that the market is overvalue while around zero point five is considered to be undervalued. It is one of the interesting ratios to determine what position the market is in. This variable will be used to classify the date into different group in order to see the effect of institution structure to abnormal return created from M&A. A review paper written by Demirguc et al. (1996) mentioned countries with big stock markets have less volatile, more efficient stock markets with a high volume of trading relative to GDP. Therefore,

market capitalized ratio is a good indicator to see whether does institutional variable actually have impact on the efficiency of the market or not .

The size of the market capitalization or stock market development is one of the indicators for the performance of the economic. The capital market remains one of the mainstreams in every economy that has the power to influence economic growth(Ewah, 2009) The economic growth is related to the stock market development in the sense that country with high economic growth is likely to have developed financial market (Levine & Zervos, 1996). Therefore, looking at the market capitalization to GDP will be an interesting variable to see the efficiency of the market.

#### Amount of capital inflow from Foreign Direct Investment (FDI)

Foreign Direct Investment or FDI is an investment by a company or individual based in one country in business interest of another country with the aim for ownership or controlling interest in a foreign company. The study in FDI is usually related to institutional development, since FDI helps to promote economic development and growth for the country where the investment is being made (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; Borensztein, De Gregorio, & Lee, 1998). This is can be seen particularly in the developing market, the amount of FDI in the developing market increases every year meaning more growth, more employment, better use of technology and resources. I will use amount of capital inflow from FDI to see whether does FDI has an effect on abnormal return that create from M&A announcement or not.

Bevan et al. conducted a test on FDI to examine the relationship between institutional development and FDI inflow. They found that FDI is positively related to the quality of formal institutions (Bevan, Estrin, & Meyer, 2004). Institutional framework of the country has a very big influence on where the investor decides to invest. The result obtained from Bevan et al. are highly suggestive that institutional development has big influence on the inward foreign investment. Papers written by Errunza and Senbet (1981) and Black and Rose (1991) provide strong argument that

there is a strong positive effect of international expansion, through Foreign Direct Investment, on shareholder's value, meaning shareholder's wealth is increasing with the amount of FDI.

High stock market liquidity, private capital flows and foreign direct investment (FDI) were found to have a positive and significant impact on stock market development in Cameroon (Mehwish Zafar, 2013; ZHOU, 2015). FDI also found to have significant effect on stock market development in Pakistan (M. Zafar, 2013). The FDI improves competition and liquidity in the market thus making them more develop and efficient.

## 2.5.2 Firm Performance Ratio Variables

### Firm Size

Many papers have suggested that the return of M&A activity can be affected by the firm size. Based on Moeller et al. (2004), firm size can be categorized into two categories; which are acquirer size effect and relative size effect. The degree of abnormal return during the announcement date is determined by the acquirer firm size meaning small size acquirers gain high abnormal return than larger size acquirers. There are two reasons behind this finding, firstly, in terms of management and managers, small firms sized are more easily to monitor compared to large firm sized. Also, managers of small firms usually have the objective to maximize shareholders' wealth rather than their own interests (Demsetz & Lehn, 1985). Therefore, small size acquirers are expected to experience relative low agency cost which increases the value gained from M&A.

Secondly, since large acquiring firm generally have sufficient resources in terms of managers' experience, financing ability and information which results in fewer obstacles in implementing M&A activity. The mentioned characteristics of large acquiring firms often give rise to more premium than smaller size acquirers. Moeller et al. (2004) states that the amount of premium paid by acquirer will increase as the firm size increase when other factors are kept constant. High premium paid by the acquirers will reduce the abnormal return expected to earn from M&A for large sized



firms. Large firms offer larger acquisition premiums than small firms and enter acquisitions with negative dollar synergy gains. The evidence is therefore consistent with managerial hubris playing more of a role in the decisions of large firms.

### Return on Equity (ROE)

Firm's profitability can be measured by many ways, one of them is the return on equity. It is the proportion of firm's earnings generated using the firm's equity. In terms of M&A performance, the synergies for the acquiring company and the economic outcome for acquiring firm's shareholder can be examined in several ways such as return on equity (accounting method) or abnormal return (event study method). According to a paper written by Berger and Bouwman (2013), they argued that profitable acquirers or high return on equity ratio firms usually achieve higher abnormal return from the M&A announcement (Berger & Bouwman, 2013). This claim is supported by Becher (2009) where positive returns exist for firms with high ROE. In addition, Athanasoglou (2012) shows that firms with high ROE are in a better position to survive from economic shocks, especially in the crises period (P. Athanasoglou, 2012). They also found ROE variable in the OLS regression to be significantly positive with a coefficient of 0.911% at the one percent significance level using 204 European banks M&A deals between 1996 and 2004. The reason for high ROE firm to gain high abnormal return is because firm with high ROE are more superior in term of financial position and performance. More return on equity will lead to more future benefits to the investors therefore the investors will react positively to the announcement.

### Leverage

Previous studies conducted showed that stock prices performed well in the year where firm's capital expenditure increases Bhandari (1988). Increase in leverage can reduce manager's discretion and also discourage them from engaging in empire building action when firms have excessive cash reserves (Stulz, 1990). With leverage, it will encourage managers to maximise shareholder's wealth since if the firms are going into financial distress, they have to give up significant control to the creditors with other negative consequences.

According to Garvey and Hanka (1999), they show that leverage generates a positive effect on firm's takeover protection. This is because leverage motivates managers to improve firm performance as they have to give up significant control to creditors and usually have serious consequences if the firms they managed are going into financial distress.

As Jensen (1986) points out that managers who possess large amount of cash reserves (or free cash flows) could use it in two ways, for example increase dividend payment to shareholders or for stock repurchase. This provides managers with significant amount of control over the use of these cash which increases the agency costs between managers and stakeholders. Therefore, Jensen (1986) argues that debt could probably be a solution to minimize the agency costs of having excess cash reserves since it reduces the amount of cash flow available for use at the decision of managers.

### 2.5.3 Deal Characteristic

#### Payment Type

The types of payment have been found to have important effect on the return of the acquiring company. In this study, I filtered three different methods of payment; cash, stock, or both cash and stock. As mentioned above, Myers and Majluf (1984) proposed information asymmetry hypothesis. The payment type will be select by the acquirer depending on the degree of information they received on the target company. If target shareholders are aware of this, they might underestimate the bidder's value. Cash payment implies that the bidder is willing to overpay the target as well as signals a high valuation for the target. This will discourage potential bidders to join into the bid resulting in a higher abnormal return for the initial bidder (Fishman, 1989). It is claimed that a cash payment method is used only for acquisitions that are sure in the success of the transaction (Rappaport & Sirower, 1999).

In addition, there were some studies relating tax issues to the payment type. A study by Gordeon and Yagil (1981) suggested that stock payment acquisition is tax

deferrable until the shares are sold whereas cash payment acquisition are immediately taxable. Therefore, the acquirers are always asked to overpay the transaction for cash payment acquisition to compensate for tax expense. In regards with empirical evidences, Travlos (1987) studied 167 acquisitions during the period from 1972-1981. The stock payment deals experienced a significant negative abnormal return of 1.47% while cash payment deals earned an insignificant abnormal return of 0.24%. This is consistent with the theory that stock acquisitions perceive as a negative message about the market overestimation of the acquiring company.

Furthermore, it is applicable that the value of the company to be acquired may also have an impact on the share value of the volume of new-founded company. The acquirer usually takes on stock payment when they feel the target company's share is overvalued. This result is also supported by Brown and Ryngaert (1985)'s research with total sample of 268 deals. They report a 0.06% abnormal return for acquiring company through cash financed acquisition and - 2.74% abnormal return for stock financed acquirers and 2.48% abnormal returns for the mixed payment. Previous studies showed that different means of payments have significant impact on the abnormal returns. A study by Travlos (1987) and Brown & Ryngaert (1985) compared the return from different payment type. They found that abnormal returns for cash financed acquirers are considerably different from stock financed acquirers and mixed financed acquirers. The question is created to see whether which type of M&A finance creates higher abnormal return.

In a study by Moeller et al., found that private companies have acquired with shares had better outcomes than private companies with cash payment. It can be explained with the resulting synergies gain from the stock deal. In addition, the authors suggested no significant differences between stock and cash payment for the public target company. In this case, it can be justified by the fact that public companies have less information asymmetry than private company causing no differences in return from different payment type (S. B. Moeller, Schlingemann, F.P. & Stulz, R.M., 2007).

Another study by Chang in 1998 examined the average abnormal return changes in private and public companies. He used sample of 536 M&A deals in the US from 1981 to 1992 and found that private target companies that have been acquired with shares are significantly (2.64% at 1% level of significance) more success than private target companies acquired with cash payment. However, in public target companies, cash payment is more successful than stock payment (Chang, 1998).

In summary, when the acquirer has optimistic view on the benefit and success of the deal, cash payment is often used. On the other hand, a more uncertain and pessimistic view will use share as payment type since risk will be shared between the two parties. High risk transaction will usually conduct that deal with stock as payment type to reduce of the acquirer. This is linked to the model of Myers & Majluf (1984) which referred to cash payment as a 'good' signal while share payment as opposite. It was noted that shares can reduce information asymmetries in the M&As better than cash because they reduce the risk in the transaction (Myers, 1984).

#### Industry Relatedness

Based on previous empirical research, the impact of industry relatedness on abnormal return from M&A showed mixed result for the acquiring firms' return. The industry relatedness tested for the deal based on the same or different industry between acquiring and target firm. Bruner (2004) concludes that relatedness has more potential for higher gains than one of unrelated diversification. The benefits are most maximized when firms stay closer to their expertise area rather than investing in new industries. A significant weakness for industrial diversified M&A strategy as pointed out by Rajan et al. (2000) is due to the information asymmetry between investors of the two companies. This problem of information asymmetry could destroy shareholder wealth as agency costs rises. However, M&A transaction in different industry between acquiring and target firm could provide high returns in situation where the acquiring firm has special knowledge and assets about the target industry (Bruner, 2004). Other empirical evidence that support higher shareholder value from unrelated industry M&A includes Seth (1990) and Doukas and Travlos

(1988). Seth (1990) shows that diversification of M&A in unrelated industry creates shareholder value due to the lower cost of capital of the combined firm as correlation of performance between acquiring and target firms are relatively low.

A study by Krishnaswami and Subramaniam (1999) document wealth gains from focus-enhancing spin-offs when there exists a high level of information asymmetry about a firm. The findings indicated that M&A with same industry firm reduces the information asymmetry and increase the firm value. The more information asymmetry in the target firm linked with the higher likelihood of same industry M&A. A previous literature by Schwart (1996), for industry related M&A, he witnessed a positive CAR for the run-up period of 17.3%. He suggested that related industry firm are likely to know about the situation of the same industry regarding their investment plan (Schwert, 1996).

#### Target Type (Private vs Public Company)

Several previous studies indicated that private target M&A generally deliver higher returns than public target M&A. Hansen and Lott (1996), Chang (1998) and Moeller et al. (2003) found positive abnormal returns for the acquiring firm that acquired private targets. Two possible reasons could explain why private target acquisitions provide higher return. The first reason is the liquidity effect and limited competition into account. As buying and selling private firms are more difficult than publicly traded firms, this liquidity insufficiency makes privately held targets less attractive and therefore the transaction costs are usually lower to acquire private firms. As a result, acquiring firms' shareholders earn a higher return on these transactions (Fuller et al., 2002). Another reason is based on the monitoring hypothesis. Generally, there will be outside block investors when firms are acquiring privately firms because the target firms are owned by a group of small shareholders. These outside block investors facilitate in an ongoing monitoring and assessing the management of target firms which can lead to higher returns of acquiring firms' shareholders (Chang, 1988).

One major different between acquiring a public company or private company

is the quantity and quality of the information available. Acquiring the private target firm causes information asymmetry for the investors since the information of the target company is usually not publicly available. The lack of information has effect on the market reaction side of the event study. The investors do not have enough information to react to the new information accordingly, possibly leading to the effect of delay in market reaction after the announcement.

A paper by Capron et al (2007) conducted a study on the effect of acquirer's return for public and private target. They argued that due to the lack of information on private target will increase the risk that limits the proper evaluation of the target's assets. However, this allows for more value-creating opportunities for the acquirer compared to public target company where all the information must already been analysed and processed. They found that acquirers favor private target in same industry M&A while choosing public target company when enters in new business industries. They also found that the return of the acquirer who acquires private target company performed better than acquiring public target company.

Information economics sees information asymmetry as a friction in factor markets that creates constraints in the target selection process (Akerlof, 1970), whereas strategic factor market theory views information asymmetry as an opportunity for firms with superior information processing capabilities to create value (Makadok and Barney, 2001).

#### Target Type (Domestic vs Cross-Border)

Many studies have been investigated on the effect of cross-border M&A. Cross-border investment is linked with cultural distance for the target firm. One suggested that cross border investment imposes an additional integration cost on merging firms, erodes synergy gains from M&A thus reducing the return of the investment (Bertrand, 2011; Buono, 2003; Krug, 2001).

In contrast, other studies argued that cross-border is a source of value creation since the different in cultural can leads to new innovation and learning which could help break the old thinking (Barkema, 1998; Vermeulen, 2001). According

to Doukas and Travlos (1998), cross-border acquisition on product diversified mergers and acquisition provides higher gains to shareholders in the acquiring firm since acquirers are able to increase their market power and exploit from potential market imperfections.

The information asymmetry is a very significant matter regarding the cross-border M&A. The differences in information between buyer and seller drives the higher transaction cost of the M&A. Firm usually employ searching and data gather mechanism to reduce the asymmetry to benefit both selection and evaluation to make an informed decision and lower the risks. All manager should seek to reduce the information asymmetry whether it is domestic and cross-border transaction as there will always be imperfect information. However, the risk of information asymmetry for a cross-border deal is higher causing higher risk and contracting cost (Boeh, 2011).

## **2.6 Event studies**

Event study methodology is used to examine the market reaction to the announcements of M&A deals (Brown & Warner, 1985). A paper written by Fama, Fisher, Jensen and Roll in 1969 introduced a method of testing the Efficient Market Hypothesis which is an event study. They used stock splits as an event which brings new information to the market, the value of cumulative abnormal return is used to test for EMH. If the market is efficient meaning it excludes all the possibility of earning abnormal return, the value of abnormal return should be close to zero. From this hypothesis, the testing was conducted and found that the stock market is efficient as the market's opinion regarding the stock splits were fully reflected in the stock price immediately after the news of stock split. This thesis attempts to examine the abnormal returns around M&A announcement dates, event studies are often used as an indicator of value creation or destruction. The event study will be performed to test whether abnormal return of the acquirer is earned from the announcement of the particular event compared to a normal expected return if there is no event.

Firm's share price is counted to be one of the indicators to see firm's performance. By looking the share price of the firm surrounding the announcement date, it can tell us whether the market react and adjust to the new information or not. Fama (1970) stated that the perfect semi-strong efficiency would appear if the returns of the market and the return of the firm adjusted at the same level. Statically analysis is then used to check how significant is the difference between the two returns whether if it is significant enough for an investor to earn abnormal return.

Berry & Gallinger (1990) claimed that the superiority of event study framework is its features to investigate the abnormal return of a firm affected by a specific event (Berry, Gallinger, & Henderson Jr, 1990). This method is based on an assumption that give rationality in marketplace, the effect of an event will be reflected immediately in asset prices. The period of the study is varied between for different researches.

There are many papers address the issue of the suitable window length that should be used to measure the movement of stock price. The event window could be hours (Hillmer & Yu, 1979) depends on the data collected or days as the market keeps responding to the event(Chang & Chen, 1989). One day prior to the announcement date can be added to the event window because it will capture the market reaction to possible information leakages before the official deal announcement(J. Ma, Pagan, & Chu, 2009). Campbell and MacKinlay (1997) argued when there are more days included in the event window, the predictive power will also be lowered. This is due to the possibility of confounding effects from other market events. Long term event usually not ideal to see the effect of event on the return of the stock price since the price may be manipulated by insiders.

### Efficient Market Hypothesis

Event study methodology is based on the Efficient Market Hypothesis (EMH) theory where Fama (1998) states that an efficient market is where the stock price always reflects all relevant information. This means it is possible to beat the market on average because any new financial information related to the company will be immediately reflected into stock prices, no investor can earn abnormal return.



An EMH theory by Fama (1970) can be categorized into three main forms which are strong form, semi strong form and weak form. The weak form of the EMH suggests that current stock prices reflect all available information, it assumes that past rate have no effect on future rate. The semi-strong form stress current stock prices reflect all publicly available information. Stock prices rapidly change to reflect new public information. With this form, investor cannot earn profit from studying company's financial statement since the market has already taken them into account on stock price. Fama (1991) studies indicates that most of the financial markets are in the semi-strong form of EMH. The strong form efficiency suggested that market price is fully reflected all information both private and public. In this form, no investor would be able to earn profit above the average investor even if he was given new information.

## **2.7 Hypothesis Development**

### **2.7.1 Hypothesis 1: Test for pre-announcement leakage of information**

Given the theoretical foundation, statistically significant daily abnormal returns in days prior to the announcement can be expected. The second hypothesis focuses on the run up of acquirer stock prices. Under efficient capital market, the daily abnormal returns should fluctuate randomly around zero on all days apart from the formal announcement date, meaning there should be no evidence of a gradual increase in stock price. If the results show the presence of stock price run-up, it can be explained by either insider trading or market anticipation. Under the semi-strong form hypothesis, all public information is fully reflected in the stock price therefore only those who possess of the inside information can outperform the market on a risk adjusted basis. The test will be conducted by using the event window of (-5, -1) and (-2, -1). If the event window is too narrow then there is a risk in missing early market reaction, such as information leakage prior to the announcement. On the other hand, too long and there is a risk of capturing the effects of unrelated events. The selections are empirically supported from its implementation in previous research (Campbell, Lo, & MacKinlay, 1997).

I hypothesis developing markets like Indonesia, Thailand and Malaysia to have significant abnormal return prior the announcement while developed market (Hong Kong and Singapore) to have no significant abnormal return prior to the announcement.

### 2.7.2 Hypothesis 2: Test for post-announcement market reaction

The third hypothesis will focus on market reaction during post announcement of M&A. It will allow us to see how Asian market react to the new information being introduced and estimate any delay in the reach of the information being spread. The misalignment observed between the market prices and fundamental values of securities may either be due to the inability of investors to correctly interpret and use the information that is made available. It is the ability of the market to provide all information about the traded eliminates the opportunities to realize abnormal returns This finding will lead to the emergence of behavioural finance, a discipline which highlights the irrational conduct of many investors in financial markets. Under semi-strong form (EMH), the current stock prices reflect all publicly available information. Stock prices rapidly change to reflect new public information. Therefore, no post announcement drift can be witnessed.

Developing markets are hypothesized to have longer period of adjustment to the new information introduced, hence longer post-announcement drift being from under-reaction of the market due to possibly lack of information and attention by the investors. On the other hand, developed markets (Hong Kong and Singapore) are expected to have shorter post-announcement drift of 1 day.

### 2.7.3 Cross Sectional Regression

The next stage of this paper will conduct regression analysis using the variables mentioned above to see the relationship between them with abnormal return of the acquiring firms. When investigating the abnormal return of the stock market using event study, cross sectional regression is often done in order to see the relationship between the abnormal return in this case Cumulative Abnormal Return (CAR). The independent variables that are often used to determine the relationship



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with abnormal return are firm size, cash reserve, payment type, industry relatedness, etc. (Masulis, Wang, & Xie, 2007). A study by Bradley et al. (1988) conducted a cross sectional regression on 11 days event window (-5, +5) to see effect of time period, multiple bidder contest and fraction of shares purchased by the acquirer. Cross sectional regression was found to be a very good indicator for the relationship of the return and independent variables. In this study, the test of abnormal return pre-announcement will use (-5, -1) and (-2, -1) event window to see the relationship of regress variables against leakage of information. For post-announcement, (1, 5) event window will be used.

### **Institutional Variable Hypothesis**

The summary of the hypothesis on the institutional variables based on argument mentioned in the earlier section can be found on Table 3. The result will enable us to see whether the institutional structure helps promote efficiency of the market or not. These variables are mainly focus on the pre-announcement abnormal return.

#### **Share Turnover Velocity**

Liquidity increase the volume of trade that will adjust the stock price to the publicly available information. A liquid market will allow the investors to adjust their portfolio cheaply and quickly, hence reduce the risk and increase the chance of profit for the investors. Therefore, I anticipate highly liquid market will lower the abnormal return in the market.

Table 3 Summary of the hypothesis on the institutional variables of the cross-sectional regression

No.	Variables	Relationship	Reasons
1.	Share Turnover Velocity (SHV)	Negative	The liquidity is believed to increase the efficiency in some forms since the liquidity increase the volume of trade that will adjust the price of the stock to the publicly available information.
2.	Market Capitalization Ratio (MCR)	Negative	Countries with big stock markets are less volatile, more efficient stock markets has higher volume of trading relative to GDP.
3.	Foreign Direct Investment (FDI)	Negative	FDI helps to promote economic development and growth for the country where the investment is being made. FDI is positively related to the quality of formal institutions. High FDI will benefit the economy in growth, more employment, better use of technology and resources.

#### Market Capitalized Ratio

Market Capitalized Ratio is used for measuring stock market size calculated by the value of market capitalization divided by GDP. The assumption behind market capitalization is that the market size is correlated with the ability to mobilize capital and diversify risk (Demirgüç-Kunt & Levine, 1996). Developed countries are more likely to have ratio of greater than 1 while developing countries are more likely to have ratio of less than 1. High market capitalized ratio will have insignificant abnormal return in other words leakage of information is little. While for low market capitalized ratio is expected to have significant abnormal return.

#### Foreign Direct Investment (FDI)

Foreign Direct Investment (FDI) figure records the amount of cross-border transactions related to direct investment. This includes the equity transactions,

reinvestment of earning and intercompany debt transaction. Inward FDI in developed countries is characterized more by mergers and acquisitions (M&A) — involving buyouts of existing companies — than by greenfield investments entailing the establishment of new companies. It can be noticed that country that is already developed will have high FDI since investors are confident to invest in a less volatile market compared to the developing market. As mentioned earlier the amount of FDI in the emerging market is increasing significantly, however it is still far below the figure for the developed market. Therefore, I expect abnormal return for high FDI market to be little/insignificant, vice versa for the developing market (Low FDI).

### **Firm Performance Hypothesis**

Table 4 represents the summary of the expect relationship of firm performance variables and abnormal return. Firm performance ratio will be used as control variables. Based on the free cash flow theory, most acquiring firms have a positive performance before considering M&A activities. It is to believe that the financial position of the acquiring firms before mergers is positively associated with the acquirer's market performance if the investors have confidence on the management team of the acquiring company (Jensen 1986). The performance of the firm will be investigated to see the relationship with return prior and after announcement.

Table 4 Summary of the hypothesis on the firm performance variables of the cross-sectional regression

No.	Variables	Relationship	Reasons
1.	Total Asset (FSIZE)	Negative	Large firms offer larger acquisition premiums than small firms and enter acquisitions with negative dollar synergy gains.
2.	ROE (ROE)	Positive	Firm with high ROE are more superior in term of financial position and performance. More return on equity will lead to more future benefits to the investors therefore the investors will react positively to the announcement.
3.	Leverage (LEV)	Positive	According to Jensen (1986) and Masulis et al. (2007), we anticipate that leverage would have a positive effect on abnormal returns of the acquiring firms. Lower managers' discretion and maximise shareholders' wealth

### Deal Characteristics Hypothesis

The summary of the hypothesis on the deal characteristics can be found on Table 5. The variables test here are payment type, industry relatedness, target type (private vs public) and target type (domestic vs cross-border). The main focus for the deal characteristics variables is for looking at the relationship of abnormal return after the announcement.

Table 5 Summary of the hypothesis on the deal characteristics of the cross-sectional regression

No.	Variables	Relationship	Reasons
1.	Payment Type	Cash payment (+)	Previous studies from Travlos (1987) and Brown and Ryngaert (1991), cash payments suggested a higher abnormal return than stock payments.
2.	Industry Relatedness	Related (+)	A positive relationship between the abnormal return around the M&A announcement and the industry relatedness can be evidenced from Bruner (2004) and Rajan et al. (2000), better synergy gain.
3.	Private vs Public Company Target	Private (+)	As previous studies suggested, a target on private company generally deliver higher returns than target public company (lower transaction cost and higher growth potential). Information asymmetry arise for both acquirer and investors to interpret the information. The delay in market reaction is also expected to be witness for the acquisition of the private target.
4.	Domestic vs Cross-border Target	Domestic deal (+)	The information asymmetry for a cross-border deal is higher causing higher risk and contracting cost hence domestic deal is expected to have positive return. The delay in market reaction is expected to be seen for cross-border target.

### M&A Regulation Hypothesis

The discussion of regulation comparison is performed in the later part of this report. This section will show the hypothesize relationship of the regulation to the abnormal return, those regulations being;

1. Stake building reporting time to the authority
2. Requirement of independent advisor

The reporting time to authority of stake building is expected to create asymmetry of information which could potential lead to insider trading. As longer reporting time allows a person that has the inside information to act much faster and revise their position before it is available to the public. Therefore, I hypothesize the stake-building to have impact on abnormal return prior the announcement. For the independent advisor, I expected to see impact on acquirers' return after the announcement as for no independent advisor, the investors will only receive the information provided by the acquirer and only investors that know more will have benefit from the deal. The summary of the assigned dummy variables for each regulation can be found on Table 17.



## Chapter 3 Methodology

### 3.1 Data

Data for mergers and acquisition will be collected from Bloomberg database from 1<sup>st</sup> of January 2010 to 31<sup>st</sup> of December 2017.

Searching criteria

1. Acquiring firms can be only public companies listed on the Bursa Malaysia Stock Exchange, Indonesia Stock Exchange, Stock Exchange of Thailand, Stock Exchange of Hong Kong and Singapore Exchange. This study chooses only public company to allow investors to make use of the information obtained from this study for the investment in the public companies.
2. The deal type is only merger and acquisition
3. All deal status of merger and acquisition deals are included in the sample (completed, pending, proposed, terminated and withdrawn) (see Table 7)
4. Payment method of M&A Transaction are cash, stock and cash or stock only.

Initial data of M&A deal extracted from Bloomberg had total of 2,857 M&A deals. Once I have gathered all the stock price from Datastream and performed the event studies, I removed the outlier and unavailable data and reduced the number of sample down to 2,672 M&A deals (see Table 6, shows number of M&A deal within each year).

Table 6 Summary of M&amp;A deal during 2010 to 2017 (obtained from Bloomberg)

Year	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
2010	12	34	91	127	125
2011	11	23	55	107	84
2012	10	26	68	96	77
2013	7	19	96	89	98
2014	10	43	88	114	108
2015	5	45	99	146	103
2016	5	50	62	147	76
2017	7	47	80	96	86
<b>Total</b>	<b>67</b>	<b>287</b>	<b>639</b>	<b>922</b>	<b>757</b>

Table 7 Summary of deal status for all countries from period of 2010 to 2017

	Completed	Pending	Proposed	Terminated	Withdrawn	Total
<b>Indonesia</b>	57	5	-	2	3	<b>67</b>
<b>Thailand</b>	231	41	4	8	3	<b>287</b>
<b>Malaysia</b>	554	49	0	34	2	<b>639</b>
<b>Hong Kong</b>	713	132	1	70	6	<b>922</b>
<b>Singapore</b>	668	42	-	45	2	<b>757</b>

The advanced search function within Bloomberg allows us to do a more specific research and categorized firms into different groups which are payment type (see Table 8), industry relatedness (see Table 9), target type (public vs private) (see Table 10) and target type (cross-border vs domestic) (see Table 11). A summary of payment type for M&A transaction between 2010 to 2017 can be seen in Table 8. An interesting point to note is that cash payment is chosen as main type of M&A payment in Asian countries, meaning acquiring firms in Asia are confident on the successful of the M&A based on previous research suggestion for cash payment. Since cash payment are dominated in Malaysia, Hong Kong and Singapore, a dummy

variable of 1 is chosen for 'stock & stock and cash' payment method to avoid the related effect to other variables.

Table 8 Summary of payment type for all countries from 2010 to 2017

	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
Cash	63	266	543	757	620
Stock & Stock and Cash	4	21	96	165	137
<b>Total</b>	<b>67</b>	<b>287</b>	<b>639</b>	<b>922</b>	<b>757</b>

A summary of industry relatedness between acquirer and target shown in Table 9 shows that the ratio of related and not related for all countries are relative the same however, only Hong Kong displays a higher focus on not related target.

Table 9 Summary of industry relatedness for all countries from 2010 to 2017

	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
Related	37	153	311	365	400
Not Related	30	134	328	557	357
<b>Total</b>	<b>67</b>	<b>287</b>	<b>639</b>	<b>922</b>	<b>757</b>

A summary of target type (private vs public) for all countries from the period of 2010 to 2017 can be found on Table 10. It demonstrates that the acquirers in Asia likely to choose to conduct a M&A on private company over public company. It could be a case that private target company in Asia have high potential of growth and expansion.

Table 10 Summary of target type (Private vs Public) for all countries from 2010 to 2017

	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
Private Company	60	246	583	880	704
Public Company	7	41	56	42	53
<b>Total</b>	<b>67</b>	<b>287</b>	<b>639</b>	<b>922</b>	<b>757</b>

A summary of target type for domestic and cross-border can be found on Table 11. Domestic target is higher in Indonesia, Thailand and Malaysia while, as anticipated Hong Kong and Singapore have higher cross-border target.

Table 11 Summary for target type (domestic vs cross-border) for all countries from 2010 to 2017

	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
Domestic	37	161	384	320	286
Cross-border	30	126	255	602	471
<b>Total</b>	<b>67</b>	<b>287</b>	<b>639</b>	<b>922</b>	<b>757</b>

Table 12 Data source for the institutional and firm characteristics regression variables

No.	Variables	Data Source	Calculation	Data Collection Period
1.	Share Turnover Velocity	World Federation of Exchanges members	Amount of share turnover monthly divided by month end market capitalization	Quarterly record before the announcement date
2.	Market Capitalization	Bloomberg Terminal	Market Capitalization /	Quarterly record before the

	Ratio		GDP	announcement date
3.	Foreign Direct Investment (FDI)	Bloomberg Terminal	Logarithm of FDI	Yearly record before the announcement date
4.	Firm Size (Total Asset)	Datastream Code: X(WC02999)~U\$	Logarithm of Total Assets	Quarterly balance sheet prior to the announcement date
5.	ROE	Datastream Code: WC08301	Net Income / Shareholder's Equity	Quarterly balance sheet prior to the announcement date
6.	Leverage	Datastream Total Code: (WC03351)~U\$ / X(WC02999)~U\$	Total Liabilities / Total Assets	Quarterly balance sheet prior to the announcement date

The market capitalization ratio to GDP (see Table 13) is the highest in Hong Kong due to smaller GDP while having such a large financial market.

Table 13 Market capitalization ratio from period of 2010 to 2017

Year	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
2010	0.47	0.81	1.59	14.55	2.43
2011	0.40	0.72	1.32	11.45	1.68
2012	0.46	0.96	1.48	12.83	2.06
2013	0.38	0.82	1.54	12.87	1.90
2014	0.47	1.02	1.34	14.24	1.83
2015	0.41	0.83	1.27	13.27	1.52
2016	0.45	1.00	1.19	12.51	1.50
2017	0.51	1.16	1.42	15.77	1.68

The percentage of share traded velocity can be found in Figure 1. The figure shows that Thailand had the highest share traded velocity throughout the whole

sampling period with Hong Kong being the second highest share traded velocity. In a liquid market, investors allow the investors to choose their investment with ease and enhance capital allocation.

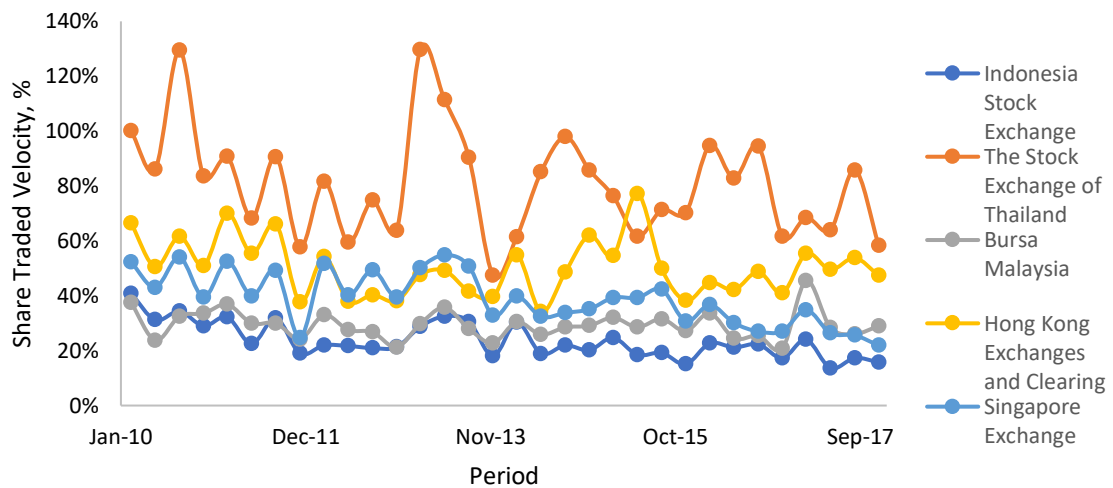


Figure 1 Share Traded Velocity from 2010 to 2017

The summary of Foreign Direct Investment (FDI) can be found in Table 14. The amount of FDI for Singapore and Hong Kong increased the most by 50-70% from the period of 2010 to 2017. This shows that foreign investors have more confidence to invest in a developed market than developing market because of factors like economic growth, political stability, government policy, etc. The FDI improves competition and liquidity in the market thus making them more developed and efficient.

Table 14 Foreign Direct Investment (Billion, USD) from period of 2010 to 2017

Year	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
2009	4.88	6.411	0.13	54.28	23.61
2010	15.29	14.75	10.89	82.72	55.62
2011	20.56	2.47	15.13	96.14	49.21
2012	21.20	12.90	8.90	74.88	55.46
2013	23.28	15.94	11.30	76.85	64.40
2014	25.12	4.98	10.62	129.84	68.63
2015	19.78	8.93	9.86	181.03	69.84

2016	4.54	2.81	13.49	133.26	73.74
2017	20.51	8.05	9.37	125.73	94.79

The statistical analysis for all the variables can be found on Table 15. The data was cleaned by using standardized residual of less than absolute 3 to remove the outliers.

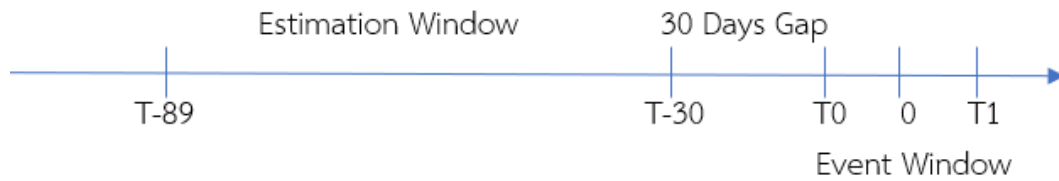
Table 15 Statistical analysis of the data

Variables	Mean	Min	Max	Standard Deviation
Firm Size (USD)	2,625,045	698	111,394,125	-
Firm Size (ln)	12.84	6.55	18.53	1.99
ROE (%)	7.28	-52.79	64.76	15.61
Leverage (%)	41.77	0.02	99.15	0.20
FDI (mUSD)	56,488.84	133.39	181,030.15	-
FDI (ln)	24.13	18.71	25.92	1.48
STV (%)	0.46	0.14	1.30	0.19
MCR	5.54	0.34	16.29	5.62

### 3.2 Methodology

The definition of normal return is the return is expected if the event did not occur. The announcement date is the most appropriate date to determine the effect of an event. If the abnormal return can be obtained before the announcement date meaning there is information leaks. According to a paper written by Halpern (1983) stated that stock price of the acquirer firm will adjust accordingly to reflect the probability of a successful M&A deal and the profitability of the merger and the time period required to conclude the M&A.

Campbell and MacKinlay (1997) suggested the estimation window to be from -89 to -30 in order to observe the information leakage, slow market reaction and effect of end of trading days into account, in this paper we will use the same estimation window.



Event window represents the number of days set up for measuring the possible abnormal return that are caused by the M&A announcement. As discussed earlier, long window could lead to the less effective result, while too short event window will have a possibility of not be able to observe the effect of the event.

### Calculating Actual Return of Stock Price

The actual return of the acquirers over a specific period of time will be calculated using the following formula;

$$R_{it} = \ln \left( \frac{P_{i,t}}{P_{i,t-1}} \right) \quad \text{Equation 1}$$

where:

$R_{it}$  is the actual return of firm i on day t

$P_{i,t}$  is the adjusted closing price for firm i on day t

$P_{i,t-1}$  is the adjusted closing price for firm i on day t-1

As for market return, in this research it is defined at the natural log of continuously compounded returns on the Stock Exchange on day t;

$$R_{mt} = \ln \left( \frac{I_t}{I_{t-1}} \right) \quad \text{Equation 2}$$

where:

$R_{mt}$  is the stock exchange index return on day t (market return)

$I_t$  is the index on day t

$I_{t-1}$  is the index on day t-1

### Calculating Abnormal Return



A variety of statistical model can be used to estimate abnormal return during the event window in the absence of event (M&A), for example market model, mean return model and capital asset pricing model (CAPM). The mean return model assumes that the mean return of the security is constant through time. The market model assumes a stable linear relationship between the market return and the stock's return. For CAPM, it is assuming that the expected return of a given asset is a linear function of its covariance with the return of the market portfolio.

This study applies the market model since it is an improvement over the constant mean return model (Campbell et al., 1997). While CAPM model was not chosen because it requires the risk-free return which is the rate of a government issued bond or bill to estimate the return. However, for an emerging market, the risk free return is only just being introduced after the 1997 financial crisis. The use of the CAPM will complicate the implementation of an event study. From previous M&A researches using event study method, market model was found to be most common in terms of merger and acquisition effects on shareholder's wealth of acquiring firms (Bradley et al., 1988). Fama et al. (1970) proposed the ordinary least square regression (OLS) that provide the basis for the market model as following:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad \text{Equation 3}$$

where:

$E(R_{it})$  is the normal expected return of firm  $i$  on day  $t$

$\alpha_i$  is the intercept coefficient

$\beta_i$  is the slope coefficient

$R_{mt}$  is the index return on day  $t$

$\varepsilon_{it}$  is the disturbance term of stock  $i$  on day  $t$

The parameter  $\alpha_i$  and  $\beta_i$  can be determined from running OLS regression on estimation window.

Bartholdy et al. (2007) suggested formula below for calculating the abnormal return of stock  $i$  at time  $t$  (Bartholdy, Olson, & Peare, 2007).

$$AR_{it} = R_{it} - E(R_{it}) \quad \text{Equation 4}$$

Substitute in normal expected return on the equation above;

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt} + \varepsilon_{it}) \quad \text{Equation 5}$$

### Calculating Cumulative Average Abnormal Returns

After the abnormal returns are calculated for each stock, cumulative abnormal return can then be determined by;

$$CAR_{i(t_0,t_1)} = \sum_{t=t_0}^{t_1} AR_{it} \quad \text{Equation 6}$$

where:

$CAR_{i(t_0,t_1)}$  is the cumulative abnormal return for firm i from  $t_0$  to  $t_1$

$t_0$  is the number of days prior to the announcement date

$t_1$  is the number of days after the announcement date

$AR_{it}$  is the abnormal return of the firm i on day t

The cumulative abnormal return is focused on individual firm instead of the whole sample, it will be used for cross-sectional regression analysis to determine the relationship between each factor and the abnormal return. The next step is to compute the average abnormal return of the acquiring firms in the sample for the three, seven and eleven-day event window. According to Fama (1970), the average abnormal return can be calculated as:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \quad \text{Equation 7}$$

where:

$AAR_t$  is the average abnormal return of firm on day t

$N$  is the number of firm in the sample

Once average abnormal return is calculated, cumulative average abnormal return can then be determined using Equation 8.

$$CAAR_T = \sum_{t=1}^T AAR_t \quad \text{Equation 8}$$

### Test Statistics on Cumulative Average Abnormal Return

The first hypothesis is to test whether M&A announcement create abnormal return for acquiring firm or not. T-test statistic will be used on Cumulative Average Abnormal Return (CAAR) to test the hypothesis.

$H_0$ : CAAR = 0, i.e. abnormal returns are not significant

$H_1$ : CAAR  $\neq$  0, i.e. abnormal returns are significant

Equation below is used to perform t-test statistic with 1%, 5% and 10% level of significance;

$$t = \frac{CAAR}{\frac{s}{\sqrt{n}}} \quad \text{Equation 9}$$

where:

*CAAR* is the cumulative average abnormal return for all sample

*s* is the standard deviation of the sample

*n* is the number of firm in sample

### Cross-Sectional Regression Analysis

To further examine the relationship between the potential factors affecting firms' performance and the acquirer's abnormal return, the study will conduct a multiple linear regression analysis to see whether the abnormal return can be explained by firm and deal characteristics as well as macroeconomic factors. The analysis of OLS regression model is carried out by examining each independent variable coefficient in order to determine the degree of impact of the explanatory variables on the dependent variable. The test will use level of significance of 1%, 5% and 10%, if the absolute value of the t-tests is greater than its corresponding critical value or p-value is less than 1%, 5% and 10% meaning the variable has a significant impact on the dependent variable. In this test, independent variable is the cumulative abnormal return of the acquiring firm *i*, from day  $t_0$  to  $t_1$ .

$$CAR_{i(t_0,t_1)} = \beta_0 + \beta_{1i}X_{1i} + \beta_{2i}X_{2i} + \dots + \beta_{ni}X_{ni} + \varepsilon_i \quad \text{Equation 10}$$

where:

$i = 1, 2, \dots, N$

$\beta_0$  is the regression constant

$\beta_{ni}$  is the coefficient of the variables

$X_{ni}$  is the variables testing to see the effect on CAR

$\varepsilon_i$  is the error term

The cross-sectional regression test is performed using Equation 11. In order to test the leakage of information event window of (-5, -1) and (-2, -1) will be performed. For post announcement abnormal return an event window of (1, 5) is used. Table 16 displays a summary of independent variables used in the cross-sectional regression test. Country dummy variables are also added to see the effect of each country to abnormal return.

$$CAR_i = \beta_0 + \beta_1PMT_i + \beta_2CROSS_i + \beta_3IND_i + \beta_4PRI_i + \beta_5FSIZE_i + \beta_6ROE_i + \beta_7LEV_i + \beta_8FDI_i + \beta_9STV_i + \beta_{10}MCR_i + \varepsilon_i \quad \text{Equation 11}$$

Table 16 Summary of deal characteristics variables

No.	Variables	Representation
1.	Payment Type (PMT)	Payment arrangement for M&A Stock and Cash = 1, Cash = 0
2.	Industry Relatedness (IND)	Acquirer and target industry Related = 1, otherwise = 0 (Masulis et. Al, 2007)
3.	Private vs Public Company Target (PRI)	Private company target = 1, Public company target = 0 (Moeller et al., 2003)
4.	Domestic vs Cross-border Target (CROSS)	Domestic = 1, cross-border = 0 (Doukas and Travlos, 1998)

In the later part of the report, the regulations were compared between all five countries. The cross-sectional regression is also performed to see whether the variables provide any significant towards the regulation variables factor or not. The equation can be found below. The representation of dummy variable for regulations are summarized in Table 17.

$$CAR_i = \beta_0 + \beta_1 FSIZE_i + \beta_2 ROE_i + \beta_3 LEV_i + \beta_4 X_i + \varepsilon_i \quad \text{Equation 12}$$

Table 17 Summary of regulation variables

No.	Variables	Representation
1.	Stake-building (STAKE)	More than 5 days = 1, Less than 5 days = 0
2.	Requirement for Independent Advisor (ADVI)	No requirement for independent advisor = 1, Requirement of independent advisor = 0

## Chapter 4 Results and Analysis

### 4.1 Descriptive Statistic

In this part of the report, the analysis of the raw M&A deals data is performed. The summary of cumulative abnormal return for 11 days event window (-5, +5) can be found in Table 18. In general M&A generate more positive return than negative return for 11 days event window around the announcement of M&A. Indonesia has the highest average CAAR of 4.75% for 11 days event window. This potentially links to the inefficiency of the financial market in Indonesia. While for the other countries, the cumulative average abnormal returns are in the range of 0.6-0.9%. From the overall positive mean, it suggested that M&A creates value for the acquirers. The ratio of positive and negative from the M&A transaction are not much different for all countries.

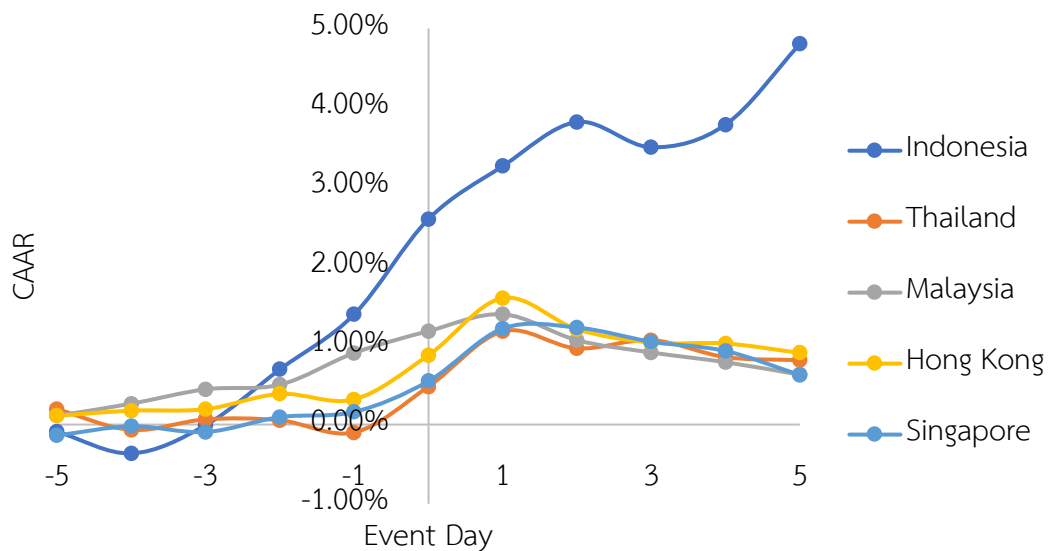
Table 18 Descriptive statistic for cumulative abnormal return for event window (-5, +5) for all country

	No. of Positive	No. of Negative	Min	Max	Average	Standard Deviation
Indonesia	48	19	-21.5%	32.8%	4.75%	10.8
Thailand	159	128	-23.3%	26.5%	0.85%	7.5
Malaysia	324	315	-30.4%	31.1%	0.64%	7.7
Hong Kong	476	446	-34.1%	39.7%	0.90%	10.6
Singapore	392	365	-35.7%	37.1%	0.70%	9.0
<b>Overall</b>			<b>-35.7%</b>	<b>39.7%</b>	<b>0.87%</b>	<b>9.2</b>

Event study enables us to investigate investors' behaviour around the announcement of a significant company event. Figure 2 represents the comparison of Cumulative Average Abnormal Return (CAAR) during the 11 days event window for all countries. It shows that stock markets have positive reaction to the announcement. On the announcement day (day 0), the return for all country increases compared to the previous day (day 1). Indonesia's CAAR gradually increases from day -2 indicating

price run up causing either leakage of information or market anticipation. This market behaviour goes in line with study by Meulbroek (1992) and Banerjee and Eckard (2001). By comparing with other country, Indonesia's CAAR graph is much more extreme and continue to increase in return after the announcement indicating post announcement drift. The price was adjusted on day 3 however on day 4 the price continues to increase which could be from investors trying to catch the upside trend by looking at technical analysis. For Thailand, Malaysia, Hong Kong and Singapore, the price adjusted within 1 after the announcement.

Figure 2 Cumulative Average Abnormal Return (CAAR), 11 days (-5, +5) event window



The summary of test statistics on cumulative average abnormal return for all country at 11 days event window (-5, +5) can be found on Table 19. From 11 days period, Indonesia earned the highest abnormal return of 4.75% at 1% level of significance follows by Hong Kong at 0.90% (1% level of significance). Malaysia having the least CAAR of 0.64% with 5% level of significance and Singapore at 0.70% (5% level of significance). Thailand earned abnormal return of 0.85% with lowest significance level of 10%, this indicates abnormal return from M&A in Thailand is least evident among all country.

Table 19 Summary of t-statistic test for individual country at (-5, +5) event window

Country	CAAR (-5, +5)	p-Value	No. of Sample	Standard Deviation
Indonesia	4.75% ***	0.001	67	10.75
Thailand	0.85% *	0.056	287	7.50
Malaysia	0.64% **	0.036	639	7.73
Hong Kong	0.90% ***	0.010	922	10.56
Singapore	0.70% **	0.033	757	9.03

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The summary of t-statistic test for deal characteristics used in this report is displayed on Table 20. Contradicting result from the previous literature is found for cash payment and target type (private vs public). As the cumulative average abnormal return for cash payment is 0.53% while 'stock and cash' payment is 2.71%. Previous literature suggests that cash payment is more likely to earned higher abnormal return due to the confident of the acquirer. Private company is found to have higher abnormal return than public target from previous literature as lower transaction cost and higher growth potential. However, in this study, private target company earned less than public target company at 0.82% and 1.55% respectively. As expected, industry relatedness (0.94%) and domestic target type (1.08%) show a higher CAAR compared to not industry related target (0.82%) and cross-border target type (0.71%).

Table 20 Summary of t-statistic test for deal characteristics at (-5, +5) event window

	CAAR (-5, +5)	p-Value	No. of Sample	Standard Deviation
Cash	0.53% ***	0.004	2,249	8.70
Stock and Cash	2.71% ***	0.000	423	11.45
Related	0.94% ***	0.000	1,266	9.20
Not Related	0.82% ***	0.001	1,406	9.25
Private	0.82% ***	0.000	2,473	9.33



Public	1.55% ***	0.005	199	7.78
Domestic	1.08% ***	0.000	1,188	9.09
Cross-Border	0.71% ***	0.003	1,484	9.33

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 4.2 Pre-Announcement – Leakage of Information

In an efficient market, the daily abnormal returns will fluctuate randomly around zero period the announcement of an event. Measuring abnormal returns before the announcement is a means commonly adopted to identify changes in the market's consensus expectations generated by new information (Beaver, 1968). Subsequently, if firms were engaged in disclosure of private information prior to the official announcement, we would expect to see a change in stock prices as informed traders revise their positions. In this part, I will focus on the cumulative average abnormal return for 5 days event window (-5, -1) and 2 days event window (-2, -1).

By looking at the result of the test for 5 days event window (-5, -1), for Indonesia, we can reject the null hypothesis on day -2 at 10% significance and reject the null hypothesis on day -1 at 1% level of significance. The test result from Malaysia is most extreme since we can notice a rejection of null hypothesis from day -4 at 5% level of significant and rejecting the null hypothesis at 1% level of significance from day -3 to day -1. As for Hong Kong, we can reject the null hypothesis on day -3 at 10% level of significance and rejection of 1% level of significance from day -2 to day -1. As discussed in the literature review section, abnormal return found prior to the announcement could be a result of insider trading or market anticipation. The results conflict with efficient capital markets theory where during the significant corporate events, there should be no pre-announcement run-up or post announcement drift. We will have to look at shorter event window to see if this leakage information prior the announcement still can be found, or it is just because of the market anticipation. Unlike the markets mentioned

above, Thailand and Singapore fail to reject the null hypothesis prior the announcement date meaning the cumulative average abnormal returns are statistically insignificantly different from zero at all levels of significance. They both follow the efficient market hypothesis where abnormal return cannot be earned prior to the introduction of new information. In other words, there is no evidence of information leakage from inside trader prior to the M&A announcement. This is one of the characteristics that encourage investors to invest as there is no disadvantage from the information asymmetry. A reliable full disclosure of an information will produce confidence in market integrity hence promote efficiency in the market.

Table 21 Cumulative Average Abnormal Return for 5 days (-5, -1) Event Window

Event Period	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
CAAR (-5, -1)	1.39% ***	-0.10%	0.90% ***	0.32% ***	0.16%
(p-value)	0.001	0.579	0.000	0.006	0.388
CAAR (-5, -2)	0.70% *	0.05%	0.50% ***	0.39% ***	0.09%
(p-value)	0.090	0.761	0.000	0.001	0.612
CAAR (-5, -3)	-0.01%	0.07%	0.45% ***	0.19% *	-0.09%
(p-value)	0.986	0.712	0.000	0.094	0.613
CAAR (-5, -4)	-0.36%	-0.07%	0.26% **	0.18%	-0.02%
(p-value)	0.374	0.705	0.025	0.130	0.905
AAR (-5)	-0.09%	0.19%	0.11%	0.11%	-0.14%
(p-value)	0.825	0.279	0.346	0.338	0.462

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

When looking at shorter event window of 2 days event (-2, -1) (Table 22), it presents that only Indonesia and Malaysia reject that null hypothesis on day -1 at 1% level of significance. This indicates the leakage of information that allow investors to gain abnormal return prior the announcement. The inside information regarding the deal of M&A could be leaked out before the actual announcement date which causes the abnormal return to be witness prior the actual announcement. Whereas Hong Kong fail to reject the null hypothesis on day -1 at 2 days event window unlike result found for 5 days event window where the result rejects the null hypothesis at

day -3 for Hong Kong. For a longer event window to reject the null hypothesis while during shorter event window fail to reject, one can conclude that the abnormal return that appeared on 5 days event window could possibly be from market anticipation. Thailand and Singapore still demonstrate a rejection of null hypothesis on day -1 which conform with the efficient market hypothesis where the prices adjust on the new information on the day the information is announced only, not prior to the announcement.

Table 22 Cumulative Average Abnormal Return for (-2, -1) Event Window

Event Period	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
CAAR (-2, -1)	1.40% ***	-0.16%	0.46% ***	0.12%	0.25%
(p-value)	0.001	0.356	0.000	0.287	0.171
AAR (-2)	0.70% *	-0.01%	0.06%	0.19% *	0.19%
(p-value)	0.087	0.948	0.623	0.097	0.311

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Due to the differences in the result for developing market and developed market, market regulation will have to be investigated in order to see why market behaves as shown above. The evidence of leakage of information in Indonesia and Malaysia can be because of the loose regulation that regulates the market. The comparison of the market regulations and penalty between countries will be conducted in the later part of the report to see how the dissimilarities contribute to the differences in market behaviours. These regulations are the determinants of the ability for market misconduct, the stricter the regulation, the more market will have to behave in order to avoid the penalty by the market. The comparison between the countries will allow us to identify the factors that likely lead to higher market efficiency. Subsequently, we can suggest ways to improve the market efficiency and promote investments.

#### **4.3 Post Announcement – Market Reaction**

The post announcement return is conducted to examine how fast investors react to the new information and to see the period of post announcement drift for

each country. By investigate the post-announcement of M&A, the results found for some countries does not support the efficient market hypothesis since the market reaction to the new information is not completed by the day after the announcement. The stock prices may show small positive abnormal returns over longer periods, but immediately after the event there should be no significant returns.

The result in Table 23 represents the statistic test for average abnormal return from day 0 to day 5. On day 0, it can be seen that for all countries, statistically significant abnormal return is achieved from the new information of M&A announcement to the market with Indonesia gaining the highest average abnormal return of 1.20%. The significant abnormal return can still be found on day 1 (one day after the announcement) for all except Indonesia. However, a 5% significance level of abnormal return can be found on day 5 after the announcement, which indicates a slow in market adjustment. There are two possible reason for this, firstly, the market behaviour by Indonesia suggests the market already absorb and consider on the new information and react appropriately to the new information hence, the post announcement return fluctuate randomly around zero. Secondly, there is not enough information available to the market for investors to make an informed decision. The comparison of M&A regulation in the later part will help us to see which would likely to be the case. The result from Indonesia indicates an under-reaction of the market participants. The investors tend to stick with the past information of the firm due to the lack of attention, lack of information, costs and efforts related causing this market under-reaction and gradual price adjustment after 4-5 days after the announcement (Zhang, 2009). As proposed by Hirshleifer (2009), limited investor attention causes underreaction of the market. This mispricing or post announcement drift creates from investors neglecting the information that is available which could possibly be the insufficient quality of the information.

The significant results of day 1 for Thailand and Singapore show that the markets require one day after the announcement to react on the new information and return on fluctuate randomly around zero, hence short lived of abnormal return

is achieved on day 1. A significant post announcement drift on abnormal return can be found for the acquirers in Malaysia and Hong Kong. The results suggested a significant abnormal return of 1% level of significance on day 2. On the M&A announcement date, there is still market speculation regarding the completion of the acquisition. The misalignment observed between the market prices and fundamental values of securities may either be traced to the inability of investors to correctly interpret and use the information that is made available. The delay measured indicates that stock prices in Malaysia and Hong Kong incorporate new information slower than other countries (Thailand and Singapore). Insiders could still believe there will be a significant post-announcement drift resulting from slow market adjustment, hence they may continue to buy shares on the following day causing the return to be even higher. However, on the second day after the announcement, the return for Malaysia and Hong Kong reserved to negative at -0.33% and -0.39% respectively. This is could be an act of insider trading selling off their share after realising enough return. The result from Malaysia and Hong Kong contradict with the semi-strong form EMH where the stock price should fully reflect on all publicly available information and abnormal return cannot be achieved after the announcement. These existence of the abnormal return after the announcement suggest the degree of market efficiency.

Table 23 Average Abnormal Return from day 0 to day 5

Event Day		Indonesia	Thailand	Malaysia	Hong Kong	Singapore
5	AAR	1.02% **	-0.04%	-0.16%	-0.12%	-0.30%
	(p-value)	0.015	0.827	0.183	0.310	0.104
4	AAR	0.29%	-0.21%	-0.12%	-0.01%	-0.12%
	(p-value)	0.483	0.229	0.296	0.920	0.525
3	AAR	-0.32%	0.11%	-0.15%	-0.17%	-0.18%
	(p-value)	0.435	0.556	0.190	0.148	0.335
2	AAR	0.56%	-0.22%	-0.33% ***	-0.39% ***	0.01%
	(p-value)	0.175	0.226	0.006	0.001	0.946
1	AAR	0.67%	0.70% ***	0.21% *	0.72% ***	0.66% ***
	(p-value)	0.105	0.000	0.072	0.000	0.000
0	AAR	1.20% ***	0.58% ***	0.28% ***	0.56% ***	0.39% **
	(p-value)	0.004	0.001	0.019	0.000	0.037

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Regulations will be analysed to see the kind of information is necessary when firms are negotiating the M&A deal. By knowing what kind of information will be available to the investors will help investors to react to the newly announced information instantaneous with informed decisions.

#### **4.4 Cross-Sectional Regression Analysis**

The result of the cross-sectional regression on institutional variables can be found on Table 24. In order to test for abnormal return that created by the leakage of information, event window of (-5, -1) and (-2, -1) are used and event window of (1, 5) is performed for post-announcement investigation. The multicollinearity is checked by variance inflation factor (VIF) by measuring the variance of the coefficient is inflated by the multicollinearity. The VIF shows value of around 1 for all variables which means we can trust the coefficient and no further action is required regarding the multicollinearity issue.

A result from cross-sectional regression analysis for pre- and post-announcement abnormal return is demonstrate on Table 24. Country dummy is assigned to see the effect of abnormal return around the announcement for each country. When looking at pre-announcement period ((-5, -1) and (-2, -1) event window), a constant variable being Indonesia shows positive coefficient of 2.414% and 3.123% suggesting leakage of information is most witnessed from Indonesia. This coincides with earlier test where we witness highest abnormal return prior the announcement for Indonesia. While for the remaining country dummy variables show all negative relationship with abnormal return hence lowering the abnormal return from leakage of information. High significant negative coefficient for Thailand and Singapore (at 5% level of significance) dummy variables demonstrating reduction of abnormal return prior the announcement of M&A, this shows consistent result for earlier test as we cannot see significant abnormal return prior the announcement test for these two countries (Table 21 and Table 22).

Statistically significant variable is found for payment type variable only. A value of 1 is given for payment with 'stock and cash' meaning a transaction with 'stock and cash' will increase the abnormal return prior the announcement by 1.342% and 1.259% (1% level of significance). This may possibly be because when involving stocks to the transaction, the information is dealt with bigger range of people including the regulator to set up the stock transaction, which could lead higher chance of leakage of information. Domestic target is given value of 1 indicating domestic target will result in an increase of abnormal return prior the announcement. This demonstrates a possibility of leakage of information for domestic target firm compared to cross-border as domestic target information is much easier to leak out compared to cross-border target.

A positive relationship for industry related on (-2, -1) event window suggests that information within the same industry can be shared around and allowing investors/industry competitors to trade on the information and earned abnormal return (Schwert, 1996). Negatives coefficient can be found for all firm performance variables for event window prior the announcement. Large firms have better

corporate governance and stricter on highly confidential information (only high-level position would have the information) leading to negative coefficient to abnormal return. Firm with high ROE are often have strong governance, comprehensive stakeholder engagement and high degree of transparency resulting in negative coefficient of ROE prior the announcement. High leverage firm shows a negative relationship to abnormal return prior the announcement as high leverage firm are constantly monitored by their creditors. Any price manipulation by the firm may cause problem with their creditors.

The significant of institutional variables to the abnormal return would allow us to see how we can use particular variables in promoting the market efficiency. For the variables that have effect on market efficiency, we expected it to have negative relationship that would result in the reduction of the abnormal return (y variables). As hypothesize by looking at (-2, -1) event window, FDI and market capitalization ratio (MCR) show negative relationship with abnormal return prior the announcement. This means high amount of FDI and big market size reduce the abnormal return prior the announcement, hence promoting more efficient market. Share traded velocity (STV) results display positive relationship with abnormal return for both (-5, -1) and (-2, -1) event window suggesting high traded velocity increases the abnormal return prior the announcement. The result found is opposed to previous literature where high liquidity of the financial market helps adjusting the price to the true value and no abnormal return can be earned. The institutional variables that were chosen in this study mainly represent the economic status of the country. It does not have a direct link with financial market efficiency which could be the reason why the result is not statistically significant. However, at the assumption of good economy status helps promote invest confident in investment and liquidity, financial market efficiency is assumed to have positive relationship with economic growth.

The insignificance of institutional variables in this test demonstrates that the variables that were significant for other type of research to test for efficient market (price reaction) do not provide any significant result for abnormal return prior the



announcement of M&A (Demirgüç-Kunt & Levine, 1996) (Bevan et al., 2004). This could also suggest that the market might already be efficient however the leakage of information can be because of the loose regulation and penalty on insider trading. The regulation will be analysed in the next section of the report to potential identify the possible cause of leakage of information. With less strict regulation and little consequence from misconduct, this behaviour of insider trading can still appear in any market.

Table 24 Cross-sectional regression result on pre- and post- announcement

VARIABLES	Leakage of information		Market Reaction
	(-5, -1)	(-2, -1)	(1, 5)
PMT	1.342*** (0.366)	1.259*** (0.322)	-0.200 (0.407)
CROSS	0.093 (0.277)	0.365 (0.244)	0.210 (0.308)
IND	-0.376 (0.263)	0.210 (0.232)	0.366 (0.292)
PRI	-0.260 (0.510)	-0.445 (0.449)	-0.184 (0.567)
FSIZE	-0.077 (0.080)	-0.072 (0.070)	0.080 (0.089)
ROE	-0.011 (0.009)	-0.011 (0.008)	0.004 (0.010)
LEV	-0.297 (0.721)	-0.510 (0.635)	1.204 (0.801)
FDI	0.024 (0.154)	-0.006 (0.136)	-0.109 (0.171)
STV	0.500 (1.383)	1.009 (1.219)	-0.113 (1.539)
MCR	-0.016 (0.187)	-0.082 (0.165)	-0.383* (0.208)

Thailand	-1.801	-2.392**	-1.581
Dummy	(1.170)	(1.031)	(1.301)
Malaysia	-0.885	-1.455*	-2.029**
Dummy	(0.890)	(0.784)	(0.990)
Hong Kong	-1.528	-1.074	3.500
Dummy	(2.428)	(2.139)	(2.700)
Singapore	-1.648*	-1.794**	-0.979
Dummy	(0.927)	(0.817)	(1.031)
Constant	2.414	3.123	2.956
	(3.936)	(3.467)	(4.377)
Observations	2,672	2,672	2,672
Adj R-squared	0.007	0.010	0.003

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

A post-announcement abnormal return regression is performed to see the relationship of abnormal return and the regressed variables for the return after the announcement. The constant coefficient being Indonesia exhibits a positive value of 2.956% implying significant post-announcement drift as witnessed in earlier test for Indonesia. This confirms the underreaction act by the market due to lack of information and lack of attention by the investors. The market in Hong Kong also shows similar post announcement drift result as Indonesia by displaying at high positive coefficient of Hong Kong dummy variable at 3.500%. High degree of market adjustment to the new publicly announced information is demonstrated. Thailand, Malaysia (5% level of significance) and Singapore display negative coefficient with abnormal return to the market reaction after the announcement. The result is as expected for Thailand and Singapore as the earlier test showed 1-day period for market adjustment. This implies that the market behaves quite efficient as reduction in abnormal return is seen for these countries.

The payment type by 'stock and cash' denoted as 1 for dummy variable resulting in negative coefficient of -0.200% suggesting lower abnormal return for

'stock and cash' payment type. This agrees with the previous literature where acquirer pay for M&A transaction with 'stock and cash' when they want the risk of the transaction to be shared due to the uncertain of the deal hence lower abnormal return is witnessed. The regression result for deal characteristics suggests domestic target and industry relatedness contribute positively to the announcement as the coefficient for the two variables are positive to the return. Market perceives domestic target will lower the cost of integration of the two companies and same industry M&A creates better value for synergy gain and advantage on market competitiveness. For target type under private vs public target company, it shows that when acquirers acquire private company, the result will be negative to the return of the acquirer's stock price. This is mainly due to the hidden information of the target firm that could suffer the acquirers and investors are not confident to take the risk.

Large firm size is found to have positive coefficient as investors view large firm has high negotiation power on M&A and will have to conduct a good analysis of target firm before M&A leading to positive abnormal return (Moeller et al., 2004). This contradicts with previous research where they found large firms are likely to face with high premium for the transaction and causing the return to decrease. The relationship of ROE and leverage are as hypothesized. ROE and leverage show a positive coefficient as good performance firm (ROE) and high debt to asset firm (Leverage) are expected to earn a positive return from M&A. High ROE firm meaning good performance leading to confident in future earning by investors and as high leverage lower managers' discretion and maximise shareholders' wealth. When comparing between pre- and post- announcement, it shows that firm size, ROE and leverage all have negative relationship to the return of the acquirer prior the announcement, however after the announcement, the relationship reverses and result in positive to the return. This suggests that large firm, good ROE performance and high leverage are good sign to investors regarding their investment/expansion decision once it is announced.

All institutional variables display negative relationship with abnormal return after the announcement suggesting the variables help with decrease the abnormal

return in the market. Significant result is observed for market capitalisation ratio at 10% level of significance. High liquidity in the market, high amount of FDI and large market size to GDP help with lowering the abnormal return during post-announcement and promoting more efficient market. The result from this part of the report suggests that the variables that were chosen to conduct on this test are slightly related to the abnormal return of the stock. However, no significant conclusion can be made on which institutional variables have effect on the abnormal return, being leakage of information or market reaction. Further study can be conducted using the total traded volume as well as the ratio of retail trade volume and institutional trade volume of the market around the announcement date (DeLong, 1990; R. Ma, Whidbee, D.A. and Zhang, W.A. , 2018) to try to capture the abnormal return witnesses.

#### **4.5 Regulation on M&A**

The market regulation determines how the investors in the market will conduct on their trading activities. Developed markets will contain more practical regulations to promote and reinforce market efficiency than a less developed market. Table 25 below represents the key differences between each country investigated in this study. There are a few differences in the regulations that may possibly be the key to reduce the likelihood of insider trading (leakage of information) and promote a more efficient market. From the result of the test earlier, Indonesia was found to be the least efficient market followed by Malaysia. Indonesia have shown a significant result for leakage of information one day before the announcement and significant post-drift of abnormal return on day 5 post-announcement. From the comparison and analysis of M&A regulations for all country, Indonesia's M&A regulations are found to be the least regulated hence could be a potential reason to why the abnormal return can be gained most out of all the countries. The leakage of information is caused by information asymmetry in the market, the regulation of Indonesian market presents a few key points that leads to the information asymmetry. The key differences of regulations are explained and analysed below.

Firstly, stake building, while all of the countries have the same condition of having to disclose the information of the shareholders owning more than 5% to the regulator. However, the reporting to regulators timeframe for Indonesia is most relaxed with 10 days followed by Malaysia with 7 days whereas Thailand, Hong Kong and Singapore required a report of such information within 2-3 days after the occurrence. This means that the information of the changes disclose to the public may be delayed. For other countries where the timeframe to report such stake holding to the regulator is quite short, the new information can be available to the public within a shorter period which allows the stock price to adjust to the release of new public information faster. This would be beneficial to the investors to see if there is any potential M&A for a particular company. An interested investor will conduct further analysis on particular company with this new information. This regulation allows for a potential leakage of information that was evident in Indonesia and Malaysia. With the reporting timeframe of up to 7-10 days, information asymmetry is existed for the insider information compared to the public knowledge. As the insiders have few days to use the inside information to their own benefit before the information is announced to the public.

A study by Jarrell and Poulsen in 1989 with 172 successful cash tender offers, they concluded that there are a few sources of legitimate information that is available to the market and allow investors to anticipate the takeover announcement. One of the sources is the 13D filing when investor acquiring more than 5% of the target firm's stock. The journal gave an example from 1983, the acquirer planned to bid for a company and had already acquiring stock of more than 5% of the target company. A few people knew about this planned to bid of the target company caused the stock price of that target company to rise by more than 20%. The bidder decided to cancel the bid since the price risen unexpectedly by the insider trading causing the stock price to plummet after the cancelling announcement. For the case of cancel bid announcement, insider will not earn anything from the transaction since the insider will sell all the stock right after the cancelling announcement. However, in other cases, both bidder and target will not

know that the price run-up is simply because of the insider trading or merely reflects target company new information.

Secondly, requirement of MTO (Mandatory Tender Offer), for Indonesia, the trigger point of MTO is 50% while the other countries fall in between 25% to 33%. By having a lower trigger point will allow the investors to see if there will be a possible M&A transaction and react to the new information much faster. High trigger point of MTO for Indonesia indicates a slow in market announcement to the public which causes asymmetry of information. This asymmetry of information from requirement of MTO trigger point might not be directly related to the abnormal return during M&A announcement. However, it is related to the asymmetry of information in general and the degree of market efficiency that created from high trigger point.

Committed funding could be the reason why M&A creates such big impact on stock price in Indonesia. Committed funding is only required for M&A in Indonesia and Malaysia while for the other countries, only independent financial institution's support for enough funding to complete the M&A is needed. The requirement for committed funding will mostly forcing the M&A deals to be completed and not withdrawn. The investors will more likely to invest once they know about the potential M&A deals since it is likely to be completed. High confidence in investors will drive the stock price of the firm to move higher. Unlike no committed funding, investors are more likely to wait and analyse the information of the firm in more detail and likely that if they expected good benefit from M&A on acquirer, a positive abnormal return will then be witnessed on announcement date of M&A. Indonesia being the highest earner from M&A, investors in Indonesia could be confident on the M&A for the acquirer and start investing earlier before the announcement with an expectation of complete M&A deal and provide benefit to the acquirer.

For the restriction on new offer from the same acquirer firm, Indonesia is the only country that does not restrict for the launch of the new offer while the remaining countries require at least a 1-year period until the acquirer can launch another offer. In this case, acquirer firms from Thailand, Malaysia, Hong Kong or Singapore will have to be confident about the M&A before making the offer,

otherwise they will have to wait 1 year to make another offer. On the other hand, for Indonesia, the firmness of the offers may not be high since acquirers can launch another offer at any time. The due diligence performed by the acquirer firm from Indonesia could be less informative compared to other countries because they can offer a new M&A transaction at any time and can easily manipulate the market. This will discourage the true intention of M&A by acquirer and apply the freedom of new offer regulation to announce on new offer for price manipulation hence lowering the efficiency of the market.

Lastly, Indonesia is the only country that does not require to have an independent financial advisor to assist with the due diligence on the M&A decision. Investors will have to rely solely on the company's available information or opinions from the board of directors. In this case, the information on M&A cannot be reviewed thoroughly by the independent advisor and provide opinion for the investors to make an informed decision. The following are basic information required to be public available for M&A transaction for all countries;

- Background of the M&A, objectives
- Details of the estimated number and percentage of shares to be purchased
- Detail of the target company
- Detail of the acquirer company
- Detail of new controller, if any
- Capital market supporting institution, source of fund
- Lawsuits in relation to the M&A

Abnormal return is the result of market's inability to digest all the available information about the company. It is the ability of the market to provide all information about the traded eliminates the opportunities to realize abnormal returns. From the asymmetry of information, insider could trade on that information known only on the inside causing abnormal return to be the highest for Indonesia. The regulation for third party independent study should be in place and open to the public on their opinion. Criteria for the independent study will have to be

established by the regulators that will contain enough M&A relating information for both acquirer and target. With the independent study regulation being in place, it will enable investors to study and interpret the data more clearly which will help with the delay of market reaction seen in section 4.5 of this report. Once the information asymmetry is reduced, in this case investors are expected to react on the information quite instantaneous after the new information is announced, hence market will be more efficient.

Table 25 Regulation summary for all countries

Topic	Indonesia	Thailand	Malaysia	Hong Kong	Singapore
<b>Secrecy</b>	Absolute secrecy before the announcement of offer is made	Absolute secrecy before the announcement of offer is made	Absolute secrecy before the announcement of offer is made	Absolute secrecy before the announcement of offer is made	Absolute secrecy before the announcement of offer is made
<b>Stake Building</b>	More than 5% disclose within 10 days	More than 5% disclose within 3 days	More than 5% disclose within 7 days	More than 5% disclose within 3 days	More than 5% disclose within 2 days
<b>Committed Funding</b>	Required before announcing with supporting for the source of fund	Not required but required supporting for the source of fund	Required before announcing an offer with supporting for the source of fund	Not required but required supporting for the source of fund	Not required but required supporting for the source of fund
<b>Minimum level of acceptance</b>	50%	50%	50%	50%	50%
<b>Requirement on MTO</b>	Trigger when own more than 50%	Trigger when own more than 25%, 50% and 75%	Trigger when own more than 33%	Trigger when own more than 30%	Trigger when own more than 30%
<b>Payment</b>	Cash and	Cash and	Cash and	Cash and	Cash and



<b>Type</b>	other securities	other securities	other securities	other securities	other securities
<b>Foreign Bidder</b>	No restriction	No restriction	No restriction	No restriction	No restriction
<b>Restriction on new offers</b>	No restriction	Cannot launch another offer for 1 year	Cannot launch another offer for 1 year	Cannot launch another offer for 1 year	Cannot launch another offer for 1 year
<b>Tax</b>	Stamp duty at 0.1%	Stamp duty 0.1%	Stamp duty 0.3%	Stamp duty 0.2%	Stamp duty 0.2%
<b>Requirement for independent advisor</b>	Not requirement	Require to obtain independent advice by a financial advisor and make known to the shareholders	Require to obtain independent advice by a financial advisor and make known to the shareholders	Require to obtain independent advice by a financial advisor and make known to the shareholders	Require to obtain independent advice by a financial advisor and make known to the shareholders
<b>Penalty</b>	Maximum fine of 1,000,000 USD  Maximum imprisonment of 10 years	Two times the benefit received with a minimum of 16,000 USD  No maximum year for imprisonment	Maximum fine of 250,000 USD  Maximum imprisonment of 10 years	Maximum fine of 1,300,000 USD  Maximum imprisonment of 10 years	Maximum fine of 180,000 USD  Maximum imprisonment of 7 years
<b>Court Liable</b>	Civil and Criminal Liable	Civil and Criminal Liable	Civil and Criminal Liable	Civil and Criminal Liable but mainly Criminal Liable	Civil and Criminal Liable



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Many studies suggested that the institutional regulation provides some impact on reducing the act of insider trading and create more efficient market. However, consequences and punishment of insider trading provide much more reinforcement in promoting the efficient market (Bris, 2005). From Table 25, the penalty ranking for Hong Kong being the highest penalty regarding the insider trading, with maximum fine of 1.3 million USD and 10 years maximum imprisonment. Indonesia, although has the least efficient market evident in this study, has the second highest penalty of 1 million USD and maximum 10-year imprisonment followed by Malaysia and Singapore. For Thailand, the penalty is two times the benefit received and no maximum imprisonment depending on the court's judgement. Being charged with insider trading is liable to be prosecuted under civil offence and criminal offence, depending on the case. In Hong Kong, the law is much stricter compared to the remaining countries, where all forms of market misconducts are liable to criminal offence directly with civil offence as an additional charge if the court finds it suitable.

That being said, in Indonesia, there has not been a single insider trading case that has been prosecuted in the last 20 years (Rako, 2017). Possibly, due to the lack of thorough investigations and search for evidence for insider trading cases, market regulators can only charge the potential insider trading case with irregular transaction. In order to prove someone to be guilty of insider trading, the Indonesian court requires actual proof of evidence in the form of document for this type of act. With this feeble regulation in place, insiders can exchange inside information with little or even without the fear of being charged with a criminal offence if they do not leave an actual proof of inside information in public.

DeMarzo who conducted a test on the optimal enforcement of insider trading regulation mentioned an optimal policy enforcement must balance the benefits from regulation enforcement and the costs of it (DeMarzo, 1998). He proposed two main suggestions for regulators to deal with the insider trading, first a policy must specify the conditions under which the regulator should investigate. In other words, regulators should clearly define the criteria that will suggest for an act of insider trading, e.g. the amount of volume traded prior certain days of significant news

announcement by firm. Secondly, the penalty schedule and investigation procedures imposed if an insider is caught. A clear penalty and investigation procedures will allow outsiders to follow on the correctness of the investigation until the prosecution. This will prevent regulators to perform such unfair act which typically found in developing market.

Regulators in the developing market can use the results of this analysis and conduct further investigation into regulations in developed market, like Hong Kong and Singapore, and revise the existing regulations in their countries which may not be adequate. Strict enforcement of insider trading regulations and penalties should be put in place in finance capital market which will gain confidence of the investors and promote the economy and market to be more efficient. Additionally, the regulators should adequately address the practicality of insider trading regulations so that they can be utilized to regulate the market.

#### 4.5.1 Cross-Sectional Regression Analysis on Regulations

From the regulation comparison in the above section, the cross-sectional regression analysis is performed to see the relationship of the regulation on abnormal return prior the announcement (Table 26). The dummy variables are used as described on Table 17. The event window chosen to performed is (-5, -1) to capture the return earned from information asymmetry prior the announcement and event window of (1, 5) to see the market reaction.

For an event window of (-5, -1), it can be seen that stake-building shows a significant result at 5% level of significance. For reporting time of owning more than 5%, a value of 1 indicates more than 5 days reporting time (Indonesia and Malaysia) while a value of 0 indicates less than 5 days reporting time (Thailand, Hong Kong and Singapore). From the regression result, it suggests that authorities reporting time of more than 5 days increase the abnormal return by 0.719%. This indicates that the information asymmetry from reporting time period contributes to abnormal return prior the M&A announcement.

Table 26 Cross-sectional regression results on the regulation variables

VARIABLES	(-5, -1)	(-5, -1)	(1, 5)	(1, 5)
FSIZE	-0.114 (0.075)	-0.136* (0.074)	0.096 (0.083)	0.093 (0.083)
ROE	-0.013 (0.009)	-0.012 (0.009)	0.00511 (0.010)	0.004 (0.010)
LEV	-0.372 (0.706)	-0.401 (0.706)	1.289 (0.784)	1.240 (0.784)
STAKE	0.719** (0.295)	-	-0.352 (0.328)	-
ADVI	-	1.339 (0.834)	-	1.897** (0.926)
Constant	1.906** (0.886)	2.350*** (0.875)	-1.667* (0.984)	-1.735* (0.971)
Observations	2,672	2,672	2,672	2,672
Adj R-squared	0.004	0.003	0.002	0.002

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

For an event window of (1, 5), the stake building variable shows an insignificant negative coefficient of -0.352%, possibly from the market realising the M&A is taken place and stake-building reporting time is not an important factor anymore. However, the requirement of independent advisor group shows a significant positive coefficient of 1.897% indicating without independent advisor to give opinion report to the public, the information asymmetry exists for abnormal return to be earned.

## Chapter 5 Conclusions

The objective of this study is to firstly identify and measure if M&A announcement creates any abnormal returns to the shareholders of acquirer's firms in the Indonesia, Thailand, Malaysia, Hong Kong and Singapore during the period from 2010-2017. The event study methodology is used to examine the effect of M&A announcement on acquiring firms in the short-run. The result shows a positive return for all country during the M&A announcement, with Indonesia being the highest earner of abnormal return out of all the countries. While for the remaining countries, abnormal return is found to be around 0.6-0.9% during the announcement of M&A. The result agrees with previous studies in Asia where M&A creates value to the acquirers. This is because of the stock price run-up effect prior the announcement. Deal characteristics are compared and found that 'stock and cash' payment, target industry related, domestic target type and private company target type achieve higher return compared to cash payment, not related, cross-border target and public company target.

The market efficiency is investigated for prior announcement to test for the leakage of information and post announcement to see market reaction after the announcement. By focusing on the shorter event window of two days prior the announcement (-2, -1) to remove the price run-up factor, it suggests for a possibility of a leakage of information since the significant abnormal return can be witnessed on day -1 for Indonesia and Malaysia. Whereas no significant abnormal return can be found for Thailand, Hong Kong and Singapore on one day before the announcement. For a post-announcement test, Indonesia is the only country that does not have significant abnormal return on day 1 however abnormal return is witnessed on day 5 after the announcement. This longer period of price adjustment can be from a delay in information being spread as well as the ability of the investors to interpret and use the information. Thailand and Singapore display a characteristic of efficient market where the market completely adjust to the new information and no abnormal return is seen after day 1. As for Malaysia and Hong Kong, they require 2 days after the

announcement for the market to adjust and react upon the new information being introduced.

Cross-sectional regression is performed to see the relationship between abnormal return during pre- and post- announcement. For pre-announcement abnormal return, large constant coefficient being Indonesia confirms the existence of leakage of information prior the announcement. Whereas Thailand, Malaysia, Hong Kong and Singapore display a negative coefficient to abnormal return during pre-announcement period. Statistically significant variable is seen for payment type. The focus for this part is to try to capture abnormal return using institutional variables but the result found from institutional variables were insignificant. The relationship of FDI and market capitalisation are negative as hypothesize to lower abnormal return and form more efficient market. All firm performance variables are found to be negatively related to abnormal return as big firm size, high ROE and high leverage indicates strong corporate governance and high degree of transparency which result in reducing the abnormal return.


For post-announcement abnormal return, positive coefficients are found for constant variable (Indonesia) and Hong Kong dummy variable indicating high post-announcement drift. Negative coefficient for country dummy variable for Thailand, Malaysia and Singapore suggesting fast market adjustment reaction. Negative coefficients for 'stock and cash' payment type and private company target are found for post-announcement. Domestic target type and industry related target are found to have positive correlation with the return for the acquirer after the announcement as hypothesize. All firm performance variables show positive coefficient as large firm, good performance and high leverage have good perception from the market. All institutional variables display negative relationship with abnormal return, implying to lower the abnormal return and promote efficient market. The measurement of stock market development cannot be done with just a single or few measures. Some indicators might be an appropriate measure for certain questions. In this study, the result for the above-mentioned institutional variables might not be a good indicator to capture the abnormal return obtained during M&A announcement.

Moreover, the M&A regulations and penalty were compared and analysed. A few differences were noticed that could assist in developing a more efficient market for regulators. Those being, stake building reporting time period, trigger percentage for the requirement of MTO, committed funding, restriction on new offer and lastly an independent financial advisor to assist with the M&A transaction. The cross-sectional regression test is conducted to see the relationship of the regulations mentioned above by assigning dummy variables. The significant result is found for the stake building showing longer reporting time increases abnormal return prior M&A announcement. For post-announcement, no independent advisor variable suggesting abnormal return, possibly due to the asymmetry of information.

By having regulations and penalty in placed, without a clear criterion for investigating insider trading, transparency of the procedures and cooperation from all parties, insider trading will still exist in the developing market. The outcome of this study will be useful to policy makers for regulations development to promote a more efficient market that consists of high liquidity, transparency, no information asymmetry which will attract more investors to join the market. As well as portfolio manager investing in Asia could use the information from the cross-sectional regression on firm performance and deal characteristics to assist with their trading analysis.

Future research in this field might try to explore more variables to capture the abnormal return earned pre- and post- announcement. The more related with institutional variables that could be attempted are the volume and ratio of noise trader and institutional trader to try to capture the abnormal return from leakage of information. The target firm's financial performance can also be examined to see more insight into the abnormal return of acquirers from M&A. Future research could also perform regulation analysis of wider country sample to see the relationship with abnormal return as well as developing proxy for the regulation regression.

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