THE BARGAINING POWER IN MERGERS AND ACQUISITIONS AND ITS LINKAGE TO PREMIUMS

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ABSTRACT

Title of Dissertation	The Bargaining Power in Mergers and Acquisitions and its Linkage to Premiums
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Bidders with high premiums will face a 'winner's curse' dilemma, as a result reducing the subsequent synergy created through acquisition, while bidders with low premiums paid may result in a more profitable way after acquisition. Bargaining is an important aspect in negotiating beneficial terms and conditions. The bargaining power contributes to target's and acquirer's characteristics to bargain each other on the premium paid in acquisitions. Therefore, bargaining power in mergers and acquisitions provides some useful implications on how negotiations in the bargaining process could affect the market for corporate control.

This research mainly focuses on the bargaining power in mergers and acquisitions and its effect on premium in the bargaining process before mergers and acquisitions occur. We want to see what variables would have significant impact on premiums based on the bargaining power between targets and acquirers. The higher bargaining power party will have a better bargaining position versus its counterparty, thereby receiving a better payoff and outcome.

The objective of this research is to determine the premium paid in mergers and acquisitions by examining bargaining characteristics between targets and acquirers in various ways. Most of the previous researches rarely explain the linkage between bargaining power and premium paid in acquisitions, rather focusing on the post-acquisition performance. The test of bargaining in acquisition at least provides some critical implications to managers, investors, investment bankers, fund managers or even policy makers in understanding the M&A bargaining situations.

Understanding the bargaining power in mergers and acquisitions is crucial. The findings of this research are useful for various parties. Target managers and acquirer managers would understand whether they should accept, reject or renegotiate the terms and conditions due to their bargaining powers or not. Investors and fund managers may take advantage of the stock price movement due to the acquisition announcement whether the deals are purchased at relatively low price level or not. Investment bankers would be able to evaluate the premium paid in acquisition more accurately. Also, policy makers may be able to specify the rules and regulations in mergers and acquisition deals.

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ABBREVIATIONS

Abbreviations	Equivalence
ACQ	Acquirer or Buyer
ANOVA	Analysis of Variance
EBITDA	Earnings before Interest, Tax, Depreciation and Amortization
FCF	Free Cash Flow per share
M&A	Mergers and Acquisitions
MBV	Market to Book Value
MKT CAPGR	Market Capitalization Growth
NEGP	Negative Premium
OLS	Ordinary Least Square
PER	Price to Earnings Ratio
REL	Relative Value of Target to Acquirer
ROE	Return on Equity
SD	Standard Deviation
SE	Standard Error
TAR	Target Firm or Seller
TOBINQ	Tobin's Q Value

CHAPTER 1

INTRODUCTION

1.1 Generality of Bargaining Situation

Bargaining settings occur when one party deals with another party to negotiate agreement on terms and conditions. Examples include a manufacturer negotiating with several raw material suppliers to reduce material costs; a company negotiating with labor unions about wage negotiations to abandon strike days; a property developer dealing with landowners to gather parcels of land; a new investor buying up equity stakes from a start-up firm; and a well-known established firm recruiting a high-skilled employee to matching skills with compensations, etc.

Bargaining is a situation where negotiation takes place between two or more parties, normally a buyer and a seller, of goods or services debating on terms and conditions to reach the agreement that favors their interests. It takes place under the assumption of rational manners. This means that they are logical in reasoning which each party can state their preferences for possible outcomes (Ståhl, 1972). The consequences of all alternatives are also considered in the negotiation stage. Each player in a bargaining problem bargains for the objectives in a period of time during different stages. Both players can also reasonably evaluate the preferences and different possible outcomes of the counterparties. By rational assumption, it assumes that each individual knows the other player is also rational and each individual knows what the other player knows about him. The main advantage of the rational assumption is to reduce the complexity of a negotiation. However, it should be noted that it is not applicable to all bargaining problems, but rather fulfills the requirements of the analysis in a given situation.

Bargaining power refers to the perceived ability of a firm to influence the outcome of a negotiation (Schelling, 1956), to favorably change the bargaining set of possible outcomes (Lax & Sebenius, 1986), and to accommodate agreements over the

other player (Tung, 1988). There are a number of areas where the bargaining power concept is situated into analysis: game theory, collective bargaining, negotiations, labor economics, and other negotiations. It is widely used in the economic perspectives. In our study, we narrow down the scope of work and focus on the bargaining perspectives in the area of mergers and acquisitions (M&A) since the emergence of M&A has been increasing continuously over the past decades. It also gives a clearer picture of how bargaining power contributes to the success in mergers and acquisitions negotiation.

1.2 Bargaining in Mergers and Acquisitions Perspective

By definition, although merger and acquisition are often used in the same breath, there is a slight difference between merger and acquisition. A 'merger' is the consolidation of two firms, often the same size, into one entity. Both firms stocks are abandoned and the new firms stock is issued instead of the old ones. On the other hand, when an acquiring firm purchases a target firm regardless of paying by cash or stock, this case is called 'acquisition'.[1] The target is still an independent legal entity controlled by the acquirer.

The M&A captures the interest of bidding firms or acquirers to implement into their strategy in various ways. A number of companies aim to participate in M&A activities for a number of reasons since there is an increase in the competitive market. The key principle behind M&A is that two combined firms are more valuable than two separate entities. The value creation on shareholders is created through the synergy gains after acquisition. During the global economic expansion, many industries acquired resources through mergers and acquisitions in order to help them

[1]When the payment is made by cash, it is normally called 'acquisition', while in stock or equity purchases, it becomes unclear who is the buyer and who is the seller. In some cases, an acquired company can end up owning the whole share of a buying company. The common interpretation is based on whether the deal is friendly (merger) or hostile (acquisition). To avoid this conflict, we rather define it is equally substituted in this paper.

expand the businesses and create clusters to compete against rivals. Sudarsanam (2003, p. 37) suggested classical explanation of M&A that it deals with economic perspectives which include economies of scale, economies of scope, economies of learning, cost reduction, market share seeking, monopoly power and synergy power. A commonly traditional view believes that M&A promotes the strengthening of business operations (Jarrell & Poulsen, 1989; Goergen & Renneboog, 2004). Ravenscraft and Scherer (1987) investigated that the offered price is reasonable to acquirers for generating future profitability and exploring the target firms resources. Moreover, due to the first-mover and competitive advantages, for example, firms may need to acquire other companies in order to compete more effectively, instead of creating the new subsidiary to run business, which takes a great deal of time. This pressure drives these firms to develop its own position in corporate takeover for both targets and acquirers views. Also, during periods of global economic recession, some target firms decided to get involved in acquisition agreements with bidding firms when the target faces financial distress. These situations often trigger the occurrence of M&A activities in the past decades.

Bargaining in mergers and acquisitions is critically essential. Before the bidding process occurs, it is important to consider about its potential bargaining power to the opponents for negotiation since both target and acquirer have their own decision whether to do M&A or not. It mainly depends on the agreement of both parties which satisfies them. When there are a number of similar target firms in the current market, bidders will have more bargaining power over the target. On the other hand, when there are a number of potential bidders, the bargaining power belongs to the target. Bidders with high premiums will face a ‘winner’s curse’ dilemma, as a result reducing the subsequent post-acquisition performance, while bidders with low price may result in a failed merger and the loss incurred from a profitable opportunity. In the latter case, the bidder may lose the target to its competitor from low price offer. Determining only the optimal premium level may not be sufficient without understanding the bargaining power between both parties since the seller always wants to sell at the maximum price and the buyer inevitably wants to buy at the lowest price as possible. The level of bargaining power outweighs each composition and contributes to the size of premium paid to target firm, and as a consequence impact

M&A performance. Therefore, understanding bargaining power in mergers from both views provide some insights and explanations on how negotiations between both parties could impact the market for corporate control.

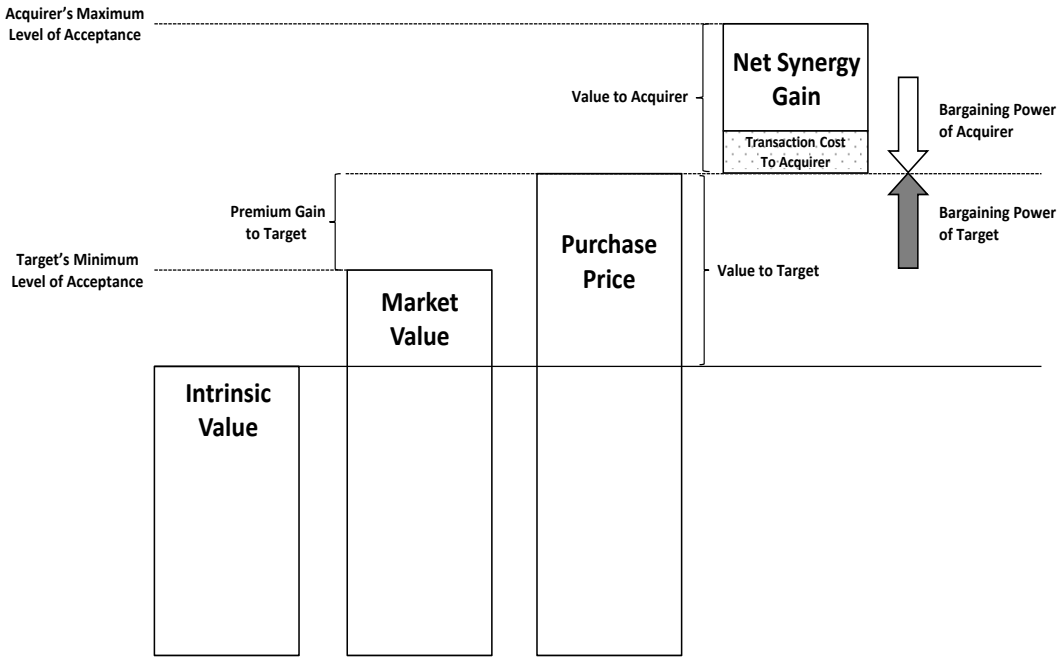

Figure 1.1 The Composition Value to Acquirer's and Target's Shareholders of the Acquisition Pricing Model

Source: Adapted from Shusta, 1999, p, 190.

Figure 1.1 illustrates the acquisition pricing model on how to value the deal. The 'intrinsic value' refers to the net present value of expected future cash flows of a target firm. It assumes that the current management continues to operate independently with expected revenue stream and growth of the firm. The 'market value' can be added into the intrinsic value, which is normally called the current market capitalization. It undoubtedly varies over time and reflects the investors anticipation of the target firm in the trading market. The market value can also be lower than the intrinsic value at some particular periods. The target would expect to sell their share at least equal to the market value – called 'Target's minimum level of acceptance'. The agreed acquisition price between bidder and target is called the

'purchase price', which means that the target shareholders agreed to sell at this level, while the 'premium gain' to target is the difference between the purchase price and the current market value on the agreed date. The 'value to acquirer' refers to the balance between the synergy created to acquirer and the purchase price from the target. The acquirer also incurs the 'transactions cost' throughout the acquisition process e.g. time spent, costs of hiring investment bankers for due diligence, asymmetric information cost. The acquirer would expect to pay at most at the total price added, which is called 'Acquirer's maximum level of acceptance'. It implies that beyond this price, the acquirer would not agree to buy since it incurs loss from acquisition.[2] The bargaining range is therefore between the target's minimum level of acceptance and the acquirer's maximum level of acceptance. The bargaining solution depends on the bargaining power of each party. Our study follows previous researches assuming there are no exist costs, such as opportunity cost, transactions cost, delay cost, and time consumption. However, in real-life situations, these costs do exist and the final outcome reveals whether both parties strike an agreement or not.

More importantly, the bargaining power between target and acquirer plays a vital role in determining the agreed premium paid to the target. The higher bargaining power of the target, the higher expected premium paid from the acquirer, and the lower acquirer's net synergy created through acquisition. The highest offer at or above minimum target expectation will be regarded as successful, and as a result target may accept the deal without premium renegotiation. Often, the overprice premium paid induces the underperformance of the acquirer (Agrawal & Jaffe, 2000; Jarrell & Poulsen, 1989). Edmans, Goldstein, and Jiang (2012) supported that as long as a target has bargaining power, it should capture the gains in the form of higher premium. Similarly, as long as an acquiring firm has higher bargaining power, it should realize a higher discount, or lower payment in acquisition. Sirower (1997) revealed that there are a number of deals that pay over premiums, while the premiums

[2]This concept is similar to the Net Present Value (NPV) calculation. When there is high capital investment cost (CAPEX), the recurring profit after acquisition would not be enough to cover the initial investment cost. As a result, it would create negative NPV from acquisition afterwards.

determine the failure of value creation to acquirers. Sirower and Sahni (2006) found that premiums paid in acquisitions are negatively related with acquiring firms' returns and can have impact on post-acquisition performance up to four years. On the other hand, the higher bargaining power of the bidder, the lower expected premium paid to target, and as a result, the higher net synergy gain after the acquisition. Hence, we can see that the level of bargaining power from both parties is essential to the premium size and the post-acquisition performance.

The target may find its bargaining position to negotiate for a better deal from the suitors. Ertugrul (2015) found that target shareholders gain 27.6% relative to bidder when the deals are bidder-initiated and when the target has strong takeover defense position, which means that target has more bargaining power than the bidder. The question to be resolved when a negotiation takes place in mergers and acquisitions is essential to determine the success of each party. We will further develop our analysis in the following section.

1.3 Statement of the Problem

Although the effect of bargaining power is important to takeover outcomes, the existing literature reviews on bargaining power affecting takeover premium remain insufficient.[3] There are only a few previous papers discussing about the bargaining power of target to renegotiate its bidding price (e.g. Ahern, 2012; Ertugul, 2015). The lack of evidence on value creation associated with premium concern has raised questions about the bargaining problem and solutions.

The main important difference between this study and the previous M&A researches is that the researches have not examined much on how the relative bargaining powers would affect the premium in mergers and acquisitions. The

[3]Most related literature studies on bargaining in takeovers examine bidding and auction models (e.g. Milgrom & Weber, 1982; Giammarino & Heinkel, 1986; Fishman, 1988; Milgrom, 1989; Rhodes-Kropf and Viswanathan, 2004), takeover defenses (e.g. Comment & Schwert, 1995; Subramanian, 2003), principal-agent conflicts (e.g. Hartzell, Ofiek, & Yermack, 2004; Moeller, 2005), etc.

components of bargaining factors have not yet been determined. This study aims to fulfill this gap for managers in order to gain more competitive advantage of bargaining and maximize their utility function in terms of negotiating premiums, which both parties will utilize their advantage, and as a result, affecting their performance after acquisition. This paper also attempts to examine the relative bargaining power which affects premium rather than determining targets' or acquirers' gains. Consequently, since this area of research is underrepresented in literature studies, we believe that this study would provide some significant implications to managers and explore several factors in different perspectives, which are crucial in the process of bargaining acquisition.

1.4 Research Question

In this study, we attempt to answer the question regarding the bargaining situation: "How does the bargaining power affect premium in mergers and acquisitions?" The assumption is that each party attempts to bargain with its best effort to maximize their utility functions. Hence, the question can be answered by testing a rational model to understand how one party uses its bargaining power to negotiate with another party. It provides some meaningful explanations based on the rationality assumption in bargaining theory.

A buyer would attempt to reduce a premium proposed by a seller if the buyer knows that it has higher bargaining power under the rational behavior, while the seller would want to sell as high as possible, otherwise the deal could not occur. Even though at the end of our research, it is found that our proposed models provide only a small proportion of applications for all bargaining situations, it would still be valuable for practical value and considerable research in this area of bargaining in mergers and acquisitions.

1.5 Research Objective

It is essential to clarify the purposes of selecting bargaining as the main interest of this study. This area of study was originally created by a particular problem

– Do mergers create value to buyer's and seller's shareholders? However, this question seems to be generally broad and unambiguous since it is composed of various attributes such as internal and external factors. Also, it has been widely discussed in the area of mergers and acquisitions. We then attempt to narrow down and find that bargaining is a critical aspect before mergers and acquisitions occur. Bargaining can also be applied to other aspects, not only M&A prospects. For example, agreements between a raw material manufacturer and distributors, wage negotiations between a company and labor unions. Although all such situations are not wholly affected by bargaining, it appears to constitute fairly large contribution in this area. If we look the way the buyer and seller bargain on the prices regarding their conditions, the higher bargaining party will attempt to gain benefits (e.g. decreasing premium paid to another party) over the lower power party. Hence, we believe that bargaining power would have some linkage to the premium from acquisition.

The main objective of this study is to quantitatively prove how the bargaining model does affect the premium paid in acquisition.[4] Although there are a number of debates in the discussion of bargaining related literature studies, no satisfactory answer has yet been identified. Most of the literature reviews also do not explain about the linkage between bargaining power and premium, including other related factors. A test of the bargaining models, at least, provides some implications to managers to deal with M&A bargaining situations.

1.6 Scope of the Research

As discussed earlier, this research focuses on the investigation of bargaining perspectives in mergers and acquisitions. In this paper, we argue that the bargaining powers of both bidder and target play vital role in the M&A occurrence and success. Successful takeovers depend on the position of bargaining power, which will be

[4]The bargaining model and process are firstly discussed from the perspectives of labor union on the wage determination to push up their wage into the competitive level (See Pigou (1932), Harsanyi (1956), Chamberlain & Kuhn (1965), Ashenfelter & Johnson (1969), Kochan & Wheeler (1975) Aumann & Kurz, (1977)).

associated with premium size, board management agreement, and provisions of the target, for example. When the target has high bargaining power, it can be a result of better negotiation on price premium and its position to undertake acquisition. Regardless of evaluation of the bargaining power from both parties, the evidence remains ambiguous to support whether M&A creates or destroys value to shareholders since most of the previous researches do not take this factor into serious consideration. Thus, it inadequately explains the synergy gains and losses through the acquisition.

1.7 Limitation of the Research

There are some limitations of this study which should be considered. Firstly, the bargaining model may not be applicable to all type of bargaining situations. Secondly, we assume that all parties play as rational behaviors, however, in reality it may not always be true since it depends on terms and other conditions such as financial distress, exit strategy of target firm, time constraints to reach the agreement, etc. Thirdly, some important issues such as corporate governance are not included in our study. Fourthly, in this study we only focus on two players in order to avoid complexity of the analysis. Hence, the study should be verified with other models to overcome these limitations and allows more understanding on bargaining situations in other perspectives.

1.8 Significance of the Study

This paper develops several contributions to both academics and professionals. For the academics, it extends the literature studies in the area of mergers and acquisitions. Firstly, it demonstrates how the linkage from the bargaining theories would be applied into the real bargaining situations. Most of the researches in this area develop a number of models regardless of verification of quantitative figures. We aim to reduce this gap by validating our hypotheses into practice. Secondly, despite its current debate on bargaining model and bargaining power, previous research has not focused on theoretical analysis and then validated the results with empirical testing.

The result of this study also shows how the bargaining power would affect the premium of mergers and acquisitions. It also critically strengthens the deeper understanding of how these factors are related.

Moreover, this study is useful for not only target and acquiring firms, but also for investors, fund managers and policy makers, for example. The target would maximize its offer price caused by the acquirer. On the other side, the acquirer would posit its negotiation price and processes through its bargaining power, and as a consequence affecting the shareholders' expectation after the acquisition. The investors are largely affected by the announcement of acquisition. For example, the investors may take advantages of the stock price movement caused by the announcement. Some policy makers may regulate the rules and regulations in order to protect the benefits due to the asymmetric information of insiders and normal investors from the acquisition.

1.9 Research Outline

To explain the bargaining situation in mergers and acquisitions, the allocation of this research can be divided into three main chapters. First, this research starts with the review of literature studies associated with bargaining theories developed throughout the time period. Next, the paper discusses about the bargaining model, data, and research methodology used in this study. Further, the paper discusses on the analysis of results. Last, the final section is devoted to the concluding remarks and details of the research from analysis of the study.

1.10 Definition of Term

Bargaining: A type of negotiation which a buyer and a seller debate the terms and conditions of agreement e.g. price, number of share sold, time of negotiation, etc. (Aumann & Maschler, 1964)

Bargaining Game: The economic situation between two or more parties to negotiate for a definite solution. (Nash Jr, 1950)

Bargaining Problem: A set of problem that the parties need to find the outcomes after negotiation. (Kalai & Smorodinsky, 1975)

Bargaining Power: An ability of one party to negotiate over another party. The bargaining power of A (B) is the cost of disagreement over the cost of agreement of A (B) perceived by B (A). (Chamberlain & Kuhn, 1965)

Bargaining Solution: The solution that each individual should expect to receive the outcomes after negotiation. (Binmore, Rubinstein, & Wolinsky, 1986)

Game Theory: The study of mathematical models between two or more parties about the conflict and cooperation. It is widely used to a wide range of behavioral relations in the logical decision making. (Neumann & Morgenstern, 1947)

Pareto Optimality: or Pareto Efficiency. A state of resource allocation in which it is impossible to make one party better off without making at least another party worse off. (Rao, 1987)

Pareto Improvement: A change to a different allocation to the point that at least one individual is not better off without harming the condition of another individual. (Krueger & Kubler, 2006)

Premium: The difference between the final agreed price and the market value. In this study, we measure the market value at 4-week period before announcement date to avoid information leakage that contributes to upward bias (Louis, 2004)

Rationality: A state of being reasonable. It implies that each party negotiates over another party based on facts and reasons. (Rubinstein, 1982)

Utility Function: A measure of preference, under rational choice theory, over a set of goods and services. It is normally represented as ‘satisfaction’ of the outcomes received. (Houthakker, 1950)

CHAPTER 2

LITERATURE REVIEWS

2.1 Theoretical Perspectives of M&A Motivations

The M&A is a part of strategic management decision involving buying, selling and combining acquirer and target firms. It helps firms to grow business in a rapid way without creating a subsidiary which would take a large period of time. It is also a shortcut approach to expand businesses into different products and channels. The oldest M&A motivation is based on the monopoly theory. Stigler (1950) and Ross (1973) revealed that the companies attempt to get involve in M&A in order to achieve their market share and increase the new entry barriers to other firms. Ansoff (1965) proposed the synergy theory to discuss the motives of mergers and acquisitions. The theory was expanded by Ravenscraft and Scherer (1987) and Williamson (1998) who highlighted that the M&A is driven by efficiency and value creation.

The other key drivers include synergy effects, operational, financial and managerial synergies. The synergy hypothesis is based on the result of more benefits on combined companies than two separate companies. Most practitioners highlight on synergy created as a key to potentially allow the companies to engage in the merger and acquisition deals. In some circumstance, some researchers argued that firms engage in M&A deals as a result of other objectives which are not related to the synergy gained such as creating new barrier entry, gaining market competitiveness, and achieving economies of scale. Fishman (1989) and Molnar (2007) revealed that the mergers are created to prevent their competitors purchasing the targets. They also concluded that even though creating mergers would reduce their profits, but it will compensate with the lower threat from the rivals. Healy, Palepu, and Ruback (1992) and Fluck and Lynch (1999) discussed about financial synergy that M&A creates lower cost of financial usage.

Some M&A theories are related to empire-building theory from Mueller (1969) and Ruback (1988), risk aversion of manager theory from Amihud and Lev (1981) and Chatterjee and Wernefelt (1991), and free cash flow theory from Jensen (1988). Hayashi (1982) and Gorton, Kahl, and Rosen (2009) also support the study of Jensen's work. Roll (1986) proposed Hubris hypothesis that gains to targets are a result of wealth transfer from bidding firms' shareholders to target's shareholders, not because of synergistic gains. Gilson (1989) and Stein (2003) concluded that there are agency conflicts between managers and shareholders which cause value deterioration in M&As. Hayn (1989) found that acquiring firms attempt to reduce tax from expenditures. Gort (1969) and Mitchell and Mulherin (1996) argued that technological and economic shocks bring mergers wave into industries. Shleifer and Vishny (2003) proposed the hypothesis of inefficient capital market to explain the M&A activity. The theory is also discussed by Steiner (1975), Ravenscraft and Scherer (1987) and Rhodes-Kropf and Viswanathan (2004), who argued that the true value of firms is not perfectly responded due to the asymmetric distribution of information. Therefore, the acquirers always misevaluate the target's value. When the target's price is perceived as underpriced, the acquirer will take risk to buy the target firm.

There are also some other M&A explanations regarding managerial decisions which include over-investment, job security concern, and overconfidence. Jensen and Ruback (1983) revealed that managers are unlikely to lose private benefits of managerial power. In other words, they are less desirable to play in a subordinated role or lose their jobs. Therefore, they aim to acquire firms instead of being acquired by the competitors. Scharfstein and Stein (1990) developed a model to study on a manager's decision-making for investment. Duhaime and Schwenk (1985) and Jemison and Sitkin (1986) explained how cognitive process and other simplifications can induce a merger. Martynova and Renneboog (2008) and Doukas and Petmezas (2007) found that manager's personal objectives can often trigger the takeover activity as a result of managerial hubris and herding behavior, which leads to poor acquisition performance. Table 2.1 concludes all previous M&A motivations and related theories.

Table 2.1 Conclusion from Reviews of Mergers and Acquisitions (M&As) Motivations

Motivation	Related Theory	Sample work	Description
Operational Synergy	Efficiency theory	Ansoff (1965), Ravenscraft and Scherer (1987), Williamson (1998)	Mergers are created due to the desire to reduce cost, improve efficiency, and create value to shareholders.
Financial Synergy	Efficiency theory	Healy et al. (1992), Fluck and Lynch (1999)	It is to create better financial performance including lower cost of capital for financial usage.
Diversification	Manager risk-aversion theory, Resource-based theory	Amihud and Lev (1981), Chatterjee and Wernefelt (1991)	Managers attempts to diversify their business in order to reduce future uncertainty risks and utilize productive resources.
Market Power	Monopoly theory, Raider theory, Agency problem theory (conflict of interest).	Stigler (1950), Ross (1973), Stein (2003)	The company enters into M&A in order to gain more market share and increase the barrier to new entry. The managers serve their needs over shareholders.
Manager Incentive	Empire-building theory, Managerial power, Manager risk-aversion theory	Mueller (1969), Jensen and Ruback (1983), Ruback (1988), Gilson (1989)	Managers are assumed to be risk-averse. They are undesirable to lose private benefits of managerial power. They are also aware of losing their jobs.

Table 2.1 (Continued)

Motivation	Related Theory	Sample work	Description
Misvaluation	Valuation theory, Asymmetric information theory	Steiner (1975), Ravenscraft and Scherer (1987), Shleifer and Vishny (2003), Rhodes-Kropf and Viswanathan (2004)	The absence of full information creates higher possibility of failed mergers in the long run.
Hubris	Winner's curse, Overconfidence theory	Roll (1986), Doukas and Petmezas (2007), Martynova and Renneboog (2008),	Investors overstate and rely on their past performance. They end up paying too much in order to win the competition.
Market for Corporate Control	Q-theory, Free cash flow theory	Hayashi (1982), Jensen (1986), Gorton et al. (2009)	Managers are tempted to use free cash flow in order to reduce cash since the cost of equity is high. The higher Q-ratio buys the lower one.
Market Entry	First-mover advantage, New entry protection	Fishman (1989), Molnar (2007)	Managers are created to prevent their competitors purchasing the targets.
Tax Considerations	Tax reduction theory	Hayn (1989)	Investors prefer to spend money on investment in order to reduce tax from capital expenditure.
Environmental Change	Disturbance theory	Gort (1969), Mitchell and Mulherin (1996)	Technology change and deregulation stimulates mergers.

2.2 Bidder's and Target's Strategies to Corporate Takeover

Before the bidding process occurs, there is a wide range of bidding and defensive strategies that bidder and target will employ in order to gain more competitive advantage. Table 2.2 illustrates a wide range of bidder's and target's strategy in order to protect its positions. The clear aims on the bidding strategy from the bidder points of view are associated with gaining control over target, minimizing premium size and reducing transaction costs involved in acquisition process. Bidder may informally contact through an intermediary for the purpose of acquisition to target's board of directors. This strategy is called 'casual pass', which refers to the friendly acquisition approach. If target rejects the offer, then the bidder has two options either to walk away or to develop other more aggressive approaches. Later on, if the bidders insist on the deal, they will adopt hostile approaches which can be a wide range of strategies from 'bear hug offer' (raise pressure to target board), 'proxy fight' (convince shareholders to replace current management), 'open market purchase' (buy shares directly from the open market), 'hostile tender offer' (buy shares directly from shareholders), to 'litigation' (accuse target board for improper issues), for example. These common bidder strategies can be used to achieve the bidder's objectives.

On the other hand, the defensive strategy developed by target firm allows them to protect shareholders' benefits, maximize premium size and slow down unwanted offer. Target firm can use 'poison pills' by entering into a specified agreement (e.g. the rights to purchase shares at discount price after acquisition) in order to increase the cost of entries to bidder. They may employ 'shark repellent amendment' (defend unwanted offer), 'white knight' (invite third party to get into bidding), 'greenmail' (pay for acquirer not to proceed the deal), 'ESOPs' (retirement plan to gain majority vote), and 'share repurchase' program (buy back shares and gain more control).

Table 2.2 Bidder Versus Target Strategy in Mergers and Acquisitions Environment

Bidder Strategy		**Target Strategy**	
Objective: - To gain control over target firm - To minimize the premium size - To reduce transaction costs		**Objective:** - To protect shareholders' benefits - To maximize the premium size - To slow down or defer unwanted offer	
Bidding strategy	**Description**	**Defensive strategy**	**Description**
Casual pass	Acquirer obtains target's support (friendly approach) and enters into a standstill agreement to avoid auction	Poison pills	Target shareholders have rights to purchase share at discount after acquisition
Bear hug offer	Acquirer raises pressure to target i.e. sending a letter to target board compellingly	Shark repellent amendment (porcupine provision)	Target attempts to defend an unwanted offer i.e. limiting shareholder actions, golden parachutes, etc.
Proxy fight (Proxy contest)	Acquirer attempts to convince shareholders to replace current management	White knight	Target finds a third party to get involved for multiple bidders to raise the price
Open market purchase	Acquirer purchases target share in the market to gain control over the target	Greenmail	Target pays an acquirer not to proceed the deal. It may require the acquirer to sign the standstill agreement
Hostile tender offer	Acquirer offers to buy target stocks from shareholders	Employee Stock Ownership Plans (ESOPs)	Target enters into the employees' retirement program in order to gain vote in support of management
Litigation	Acquirer accuses target board for improper issues	Share repurchase	Target buys back share to gain more majority share control

Source: Adapted from DePamphilis, 2014, p. 91.

2.3 Bargaining Power in Corporate Takeover

Bargaining power provides significant insights into a negotiation position that take into account for corporate takeover relating to asymmetric information driven and signaling interaction between two or more parties into the analysis. The greater the need of a bidder to acquire a target, the greater the bargaining power of the target over the bidder. Likewise, the greater financial distress and current market competition of a target, the greater bargaining power of the bidder over the target. The target, for example, gains higher bargaining power when there are multiple bidders, while the buyer gains higher bargaining power when the buyer knows that the target is currently facing a fierce competition and want to exit the current business, for example. The bargaining power determines the agreed premium paid by both parties. When the bidder overpays for the acquisition, it has high possibility of being failed in the post-acquisition performance. On the other hand, the target with low-paid premium, the target shareholders would not be satisfied and therefore reflects the price drop after acquisition.

In the business world, the bargaining power hypothesis describes reasonable assumptions that players can bargain to maximize their utility function on premium paid. Target firm can enhance its bargaining position from takeover defensive strategy, while acquirer can develop its bidding strategy to raise pressure to target shareholders to sell the company even with lower premium. The negotiation and strategy can be used to provide greater insights from the linkage between the bargaining position and premium paid to buy the target firms.

From the perspective of target firm, there are two main distinctive hypotheses related to target shareholder effects. First, a 'managerial entrenchment hypothesis'[5] suggests that target managers employ takeover defenses and strengthens its bargaining position in order to secure and protect their jobs at the expense of shareholders, while acquiring managers will put effort to succeed the deal for their private benefits. In

[5]Shleifer and Vishny (1992) proposed this hypothesis that it can be referred to the 'opportunity cost' of target firm. The target managers may fear of losing their jobs and pretend dropping out the merger deals in order to protect their benefits.

contrast, a 'shareholder interest hypothesis'[6] argues that target managers can develop takeover defensive strategies to screen out unattractive bids and gain higher premiums from opportunistic acquirers during the negotiation stage. This means that if takeover defenses are used properly to increase the target's bargaining power position, the premiums and returns should be higher.

Empirical evidence from Comment and Schwert (1995) and Heron and Lie (2006) found that when the target uses a poison pill, the premiums become larger. Bebchuk, Coates, and Subramanian (2002) examined that poison pills and classified boards[7] are the most effective defensive tools to deter opportunistic bidders and promote bargaining power of the target firm. However, Field and Karpoff (2002) and Danielson and Karpoff (2006) argued that these strategies do not affect target premiums and returns. Akdogu (2011) found that in a multiple bidder situation, which target gains higher bargaining power, bidders may rationally overpay when the cost of losing the target to a competitor is higher than the cost of overpaying. In the model of Shleifer and Vishny (1992), it shows that the possibility of being taken over and the premium paid to shareholders rises as the proportion of large target shareholder before acquisition increases.[8] Therefore, the takeover deal with majority shareholder would

[6]See Long and Walkling (1984). The main objective of the 'shareholder interest hypothesis' refers to the expected synergistic gain through mergers and acquisitions.

[7]The "classified board" is a structure of board directors to serve for different lengths of time. It is often referred as "staggered boards".

[8]Shleifer and Vishny (1992) showed that an increase in proportion of large shareholder would cause takeover become more likely, and the premium paid to the shareholders increases. The atomic incumbent shareholders have to pay the entire takeover and monitoring costs. By this reason, small shareholders who do not have a large enough effect on their shares will not want to absorb these costs. They prefer to wait and, as a consequence, the tender offer will likely to fail. In contrast, when the shareholders hold a greater portion of shares, they will have more impact on the takeover effect. The incumbent managements want to keep their jobs and try to avoid the takeover, while the large shareholders seek for maximizing their wealth through

signal higher premium paid to target, and as a result, higher gains to them. Moeller (2005) also testified the agency theory and investigated that low target shareholder control reduces takeover premiums, which provides incentives to allow bidder in negotiating for favorable deals. Hartzell, Ofek and Yermack (2004) examined that low-ownership managers not only tend to be less effective in maximizing target shareholders' benefits, but also pursue their own self-interest in bargaining the deals.

From the perspective of bidding firm, the bargaining position can be associated with the number of shares controlled of bidder before acquisition. The larger share the bidder holds prior to acquisition, the larger bargaining position of bidder. As a result, this brings to the lower premium of the acquisition price and the higher gains to bidder. The initial holding of the bidder in the target shareholders (α) is also an indicator of the successful bid. Obviously, when the bidder holds large enough portions in the target firm, there is no need to pay more in the premium to the shareholders, compared with the case of entirely purchased target firm. Walkling and Edmister (1985) supported empirically that the premium paid to target shareholders is negatively related to the initial shareholding of bidding firm. Bradley, Desai and Kim (1988) developed a bidding strategy with a two-tier offer to reduce free-rider problem.[9] The two-tier bidding strategy helps bidders pay lower premium to target

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the takeover premium. If the takeover is done successfully, the new shareholders may likely replace the management. Hence, the management will have no other choices rather than either creating barriers to takeover or even increasing takeover costs to bidder. In this case, target shareholders require higher premium when there are a large proportion of shareholder before acquisition to compensate them.

[9]Bradley, Desai and Kim (1988) analyzed the mechanics of tender offer process through the model used to describe synergistic gains. The study also shows that competition in multiple bidders increases gains to target and decreases gains to bidder since they may simply pay too much on the target they acquire. Furthermore, it demonstrates in the model that the fraction of target share purchased is positively related to the gains to target firms as it shows positive slope supply of the target shares. The study suggests that to reduce free-rider problem, the bidding firms need to make a two-tier offer which is front-end load (P_T) and back-end load (P_E), and set the

firm. Moeller, Schlingemann, and Stulz (2004) investigated that the higher premium paid from large firms destroy value to bidding shareholders in post-acquisition performance.

In summary, takeover provisions enhance bargaining power of both target and bidding firms. It can be employed effectively during the negotiation process on the premium paid. It is expected that the target with stronger bargaining power will capture a larger proportion of acquisition gains, while the bidder with higher bargaining position would pay lower premium to the target and gain higher returns after acquisition.

2.4 Determinants of Bargaining Power and Premium

As discussed, bargaining power plays a vital role in determining premium paid in acquisition. The previous literature studies conclude that there are a number of variables that could affect the premium in the model. In this section, we aim to review the previous literature studies in order to explore about the determinants of variables that could have an impact on premium in acquisition in Table 2.3.

P_T as greater than P_E to convince the shareholders to tender the offer, otherwise they would receive lower premium if the tender is successful. From this solution, tendering the offer becomes a dominant strategy. The model of the prisoner's dilemma from the two-tier offer solution demonstrates that target shareholders will maximize their wealth when they choose to tender the offer regardless of whether the deal will be successful or not.

Table 2.3 Example of Previous Literature Review of Independent Variables Effect on Premium

Variables	Example of Previous Literature Review on Premium
Method of Payment	Bruner (2002); Chang (1998); DeAngelo, DeAngelo, and Rice (1984); Faccio and Masulis (2005); Hansen (1987); Huang, Officer, and Powell (2016); Myer and Majluf (1984); Travlos (1987); Wansley, Lane, and Yang (1983)
Competition	Boone and Mulherin (2007); Hayward and Hambrick (1997)
Cross-Border Acquisition	Bris and Cabolis (2008); Campa and Hernando (2004); Martynova and Renneboog (2006); Rossi and Volpin (2004)
Type of Acquisition	Huang and Walking (1987); Jensen and Ruback (1983)
Percentage of Shares Owned after transaction	Arslan and Simsir (2016); Bradley, Desai and Kim (1988)
Industry Relatedness	Gondhalekar, Sant, and Ferris (2004); Hayward and Hambrick (1997); Lim and Lee (2016); Morck, Shleifer, and Vishny (1990); Wong and O'Sullivan (2001)
Hostility	Moeller (2005); Schwert (2000)
Toehold	Betton and Eckbo (2000)
Managerial Ownership	Stulz (1988)
Tobin's Q	Lang, Stulz, and Walkling (1991); Servaes (1991)
Target Performance	Bange and Mazzeo (2004); Crawford and Lechner (1996); Hayward and Hambrick (1997); Schwert (2000)
Target Leverage	Crawford and Lechner (1996); Maloney, McCormick, and Mitchell (1993); Shleifer and Vishny (1992)

Table 2.3 (Continued)

Variables	Example of Previous Literature Review on Premium
Target Size	Comment and Schwert (1995); Schwert (2000)
Target Sales Growth	Bange and Mazzeo (2004); Betton, Eckbo, and Thorburn (2009); Schwert (2000)
Target Market to Book Value	Betton et al. (2009); Gondhalekar et al. (2004)
Acquirer Size	Moeller et al. (2004); Schewert (2000)
Acquirer Cash Flow	Jensen (1986); Lang et al. (1991); Harford (1999)
Relative Size	Antoniou, Petmezas, and Zhao (2007); Asquith, Bruner, and Mullins Jr (1983); Comment and Schwert (1995); Gondhalekar et al. (2004); Hayward and Hambrick (1997); Moeller (2005)

2.5 Bargaining Model

A general example of mergers is that when one party initiates a process of purchasing another party by bargaining how many shares of the purchasing party to be swapped with the purchased party or how much premium that both parties are satisfied to the agreement. Both parties know that the agreement can be bargained depending on the "bargaining power" of each party. The agreement can also be broken or extended if the conditions are not met by another party – called "disagreement". The range of agreement depends on the position of two parties' bargaining positions, under which values can be transferred from one party to another party. However, the net loss and the net gain will not necessarily be equal due to transaction costs and other related costs such as taxation. (Harsanyi, 1956). The higher risk preference party will reach better terms of concession than the lower risk preference party. Therefore, the agreement point will lie within the range of bargaining positions towards both parties'= attitudes on risk-taking preference. It should be noted that both parties can pretend to neglect or ignore the offers on the terms proposed by the other party to gain higher bargaining power, however, the

longer time on the agreement would deteriorate synergy value and burden investment opportunity.

2.5.1 Bargaining Component

As discussed above, there are two main important components that need to be concerned in the bargaining model which are bargaining power and disagreement outcome. The definitions are shown as follows: (Svejnar, 1986)

1) Bargaining Power: The bargaining power (γ_i) refers to the power of each party in terms of negotiation. In theoretical perspective, the higher bargaining power party will be able to negotiate for more resources or asset allocation. It is influenced by a vector of variables 'Z', but do not enter directly into the parties' utility functions ($X_i \neq Z_j$, $\forall i, j$). Then, $\gamma_i(Z) \mid 0 < \gamma_i < 1$, $\sum_{i=1}^{n} \gamma_i = 1$, $(\partial Xi / \partial \gamma_i) > 0$, $\lim_{\gamma i \to 0} U_i(X_i) = U_i(d) = 0$ and $\lim_{\gamma i \to 1} U_i(X_i) = U_i(X)$ is called party i's bargaining power.

2) Disagreement Outcome: The disagreement point is the point which each player get $U_i(d)$ even if there is no agreement made at the end. The fear of disagreement (f_i) is a measurement of risk aversion on disagreement. The fear of disagreement derives from the concept of the fear of ruin. (Aumann & Kurz, 1977) Let the net gain[10] (X_i) derives from an outcome $\mu(S)$. And, $X = \sum_{i=1}^{n} X_i$ depends on the bargaining game. Then, the fear of disagreement outcome (f_i) at $\mu(S)$ or X_i is expressed as $f_i = U_i(X_i) / U_i'(X_i)$.

The bargaining payoff is bounded by the set of payoff 'S' and disagreement outcome (threat point,'d'). The threat point is set at some points, ensuring that the gain of each party depends on the bargainer characteristics. This refers to the Nash's theorem that each player expects to receive the maximization of expected utility as to maximize his bargaining position. In other words, it refers to the minimum acceptable utility levels which are taken to be the utility of zero profit. With its application to merger, the bargaining power determines the players realizing a gain (utility payoff) over the disagreement outcome[11]. The outcome, such as agreed premium paid,

[10]The net gain is the gain over the disagreement outcome (threat point).

[11]If the agreement is reached, each player gets the payoff what he expected. On the other hand, if the agreement cannot be met, then each player receives his disagreement payoff (d). Normally, the disagreement payoff is zero.

number of shares sold, terms and conditions of the acquisition etc., are subjected to bargaining which a powerful party gains higher bargaining power over a powerless player.

A party with high bargaining power receives a payoff corresponding to the premium outcome, whereas a powerless party deals with the fear of disagreement outcome in some certain points. The tradeoff concept between bargaining power and cost of disagreement remain critical to explore the feasible set of utility outcome. Chamberlain and Kuhn (1965) defines the bargaining power as follows: "The bargaining of A is the cost to B of disagreeing on A's terms relative to the cost to B of agreeing on A's terms." It can be shown from the equation

$$\text{Bargaining Power (BP) of A} = \frac{\text{Cost of disagreeing of B on A's terms}}{\text{Cost of agreeing of B on A's terms}}$$

This means that if a buyer (Party B) estimates that it is more costly to disagree than to agree on a seller's terms (Party A) or the bargaining power of the seller is higher than one, the negotiation will favor the seller. Therefore, in this case, the two parties will strike a bargain at a price (or conditions) closer to the seller's term. Conversely, if the buyer estimates that it is more costly to agree than to disagree (the seller's bargaining power is less than one), then the negotiation will favor the buyer and the two parties will strike a bargain at a price (or conditions) closer to the buyer's term.

Although the definition of bargaining power is clear, however, the determination of cost of disagreement and cost of agreement between two parties remain ambiguous since some factors cannot be measurable. The costs of disagreement, for example, are opportunity cost for not selling and cost of time delay, while the costs of agreement include opportunity cost to sell to other parties for higher price, cost of investment after purchase and other transactions costs. These measurements are difficult to evaluate. We therefore use the determinants of bargaining power which will be discussed in the methodology section as representatives of these bargaining factors.

2.5.2 Bargaining Assumption

To form the bargaining model, it is essential to set up assumptions for both parties. We allow the model to be formed with regard to the assumptions:

1) Profit Maximization

We assume that both parties are seeking profit maximization. The concept of profit maximization assures that the firms are certain about their profits. It also includes maximizing sales and market share under the conditions that the profits should be non-decreasing at a certain level. Also, the conditions are set by that all firms have perfect knowledge about their revenue and cost structure from both sides. However, in real practice, it is not possible under uncertainty condition that the firms can maximize their profits over time.

2) Individual Rationality

In regards with rationality, both parties adopt the best actions to achieve the goals by reasons. It is a matter of logical beliefs that managers are rational by maximizing the absolute use of information for their benefits. It appears to be reasonable to assume that each party wants to increase its expected utility by choosing the best available options on decision-making. The formation of rationality is set in order to predict the precise solutions without any biases. However, the rationality is criticized by the fact that it makes unrealistic assumptions, particularly when managers seek for a satisfactory solution rather than the optimal solution based on rationality.

3) Mutual Transferred Knowledge and Perfect Information

We also assume that party A knows what party B knows about them, and party B knows what party A knows about them. This assumption is based on perfect (or complete) information where knowledge can be transferred to both parties. The complete information includes other party's expected utility function, risk preference, rational expectation, and pay-off function for example. This assumption implies that one party would know another party's expected utility and payoff after obtaining the agreement. In M&A practice, each party signs non-disclosure agreement before exchanging all information for due diligence and valuation purposes. However, sometimes the available information cannot be wholly transferred for some reasons – called 'asymmetric information'. The asymmetric information happens when one

party has superior information over another party. For example, a target firm may not tell an acquirer about its contingent liability which causes the target firm lower valuation.

2.5.3 Bargaining Properties and Axioms

Suppose that a buyer would like to acquire (or merge) the firm from a seller. The seller will agree to sell the firm to the buyer on the terms X_1, but the buyer agrees to buy with the less favorable terms X_2. The question is whether the seller will accept the deal X_2 or insist on the proposed terms X_1. Obviously, it depends on the view from the buyer on the probability that the seller would definitely reject the deal from the terms X_1. Hence, this would lead to conflict which can be negotiated through the bargaining power of each party. The bargaining takes place in a rational manner which they can state their preferences on possible outcomes. All consequences and alternatives are considered into the preferences. Moreover, each party can evaluate the other party's preferences into a variety of possible outcomes. These outcomes are complex and can be varied through the terms (e.g. the number of shares sold to the buyer, the selling price, the premium, etc.) and the conditions (e.g. the date that the agreement is reached, the rules and regulations, etc.).

The bargaining problem is described by a set N = (1,…, n) of parties and a set of utility payoffs (S', d'), where S' is a compact convex subset of $\square^n$, which represents the feasible solutions to the problem, and d'ϵ S' relate to the disagreement outcome. The model is assumed that each party engages in the bargain since they expect potential gain either increasing their value or decreasing the opponent's value from the end of the negotiation. The bargaining is restrained to a set of the bargaining, A, under the property that at least one point s'ϵ S', and therefore d' < s' in which d' is a component of S'. All parties are assumed to be concave von Neumann-Morgenstern utility functions, U_1, …, U_n. When the parties fail to reach an agreement, the expected utility payoff becomes zero. The utility function is transformed the bargaining (S', d') into (S, d) = (S), where $d_1 = \ldots = d_n = 0$ and 0ϵ int S. To achieve this, the model is permitted under these four conventional axioms. The original contribution of these axioms was derived by Nash (1950), while the first axiom was developed.

AXIOM 1 – Independence of Equivalent Utility Representations: For any bargaining game (S', d') and real numbers a_i and b_i (i = 1, …, n) such that each $a_i > 0$, let the bargaining game (S, d) be given by $S = \{s' \in \mathbb{R}^n \mid \exists s \in S'$ such that $s'_i = a_i s_i + b_i$ for i = 1, …, n} and $d'_i = a_i d_i + b_i$ for i = 1, …, n. Then $\mu_i(S', d') = a_i \mu_i(S, d) + b_i$, where μ is a solution to the bargaining problem defined as a function $\mu: A \rightarrow \mathbb{R}^n$ such that $\mu(S, d) \in S$ for any game (S, d) in set A. This axiom reflects that the bargaining solutions are determined up to a linear transformation based on the von Neumann-Morgenstern utility. This axiom concludes that the bargaining solution should not change as a result of linear changes to the utility for either player.

Proof of Axiom 1: Suppose that (S', d') and (S, d) are the bargaining solutions. Then, $S' = \{(a_1 s_1 + b_1 , a_2 s_2 + b_2) \in \mathbb{R}^2 : (s_1, s_2) \in S\}$ and $d'_1 = a_1 d_1 + b_1$ and $d'_2 = a_2 d_2 + b_2$. In other words, $s' \in S'$ if and only if there exists $s \in S$ such that $s'_1 = a_1 s_1 + b_1$ and $s'_2 = a_2 s_2 + b_2$. Hence, if $(s'_1 , s'_2) \in S'$, we get

$(s'_1 - d'_1)(s'_2 - d'_2) = (a_1 s_1 + b_1 - a_1 d_1 - b_1)(a_2 s_2 + b_2 - a_2 d_2 - b_2) = (a_1 s_1 - a_1 d_1)(a_2 s_2 - a_2 d_2) = a_1 a_2 (s_1 - d_1)(s_2 - d_2)$ for some $(s_1 , s_2) \in S$

Now, (s_1^*, s_2^*) maximizes $(s_1 - d_1)(s_2 - d_2)$ over S, if and only if

$(s_1^* - d_1)(s_2^* - d_2) \geq (s_1 - d_1)(s_2 - d_2) \ \forall \ (s_1, s_2) \in S$; hence we get $a_1 a_2 (s_1^* - d_1)(s_2^* - d_2) \geq a_1 a_2 (s_1 - d_1)(s_2 - d_2) \ \forall \ (s_1, s_2) \in S$; it becomes $(s'^*_1 - d_1)(s'^*_2 - d_2) \geq a_1 a_2 (s'_1 - d'_1)(s'_2 - d'_2) \ \forall \ (s_1, s_2) \in S'$ Since $s'_i = a_i s_i^* + b_i$, hence, $(a_1 s'^*_1 + b_1, a_2 s'^*_2 + b_2)$ maximizes $(s'_1 - d'_1)(s'_2 - d'_2)$ over S'.

AXIOM 2 – Pareto Optimality: If s is a point in S and there exists a point s'_1 in S such that $(s'_1, s'_2) > (s_1, s_2)$, then $s_i \neq \mu_i(S)$. This axiom condition states that the outcome will lie on the edge of the utility-possibility set, which the boundary necessarily has a negative slope. The Pareto Optimality is the state of which resources are distributed such that a Pareto improvement is not possible. In other words, the resources will be allocated until the point that at least one individual is not better off without harming the condition of another individual.[12]

[12]For example, when the government announces the new policy to reduce taxi fares, this would increase the users' utility, but reduce the taxi drivers' utility. This is not called a 'Pareto Improvement' since it harms another individual's condition.

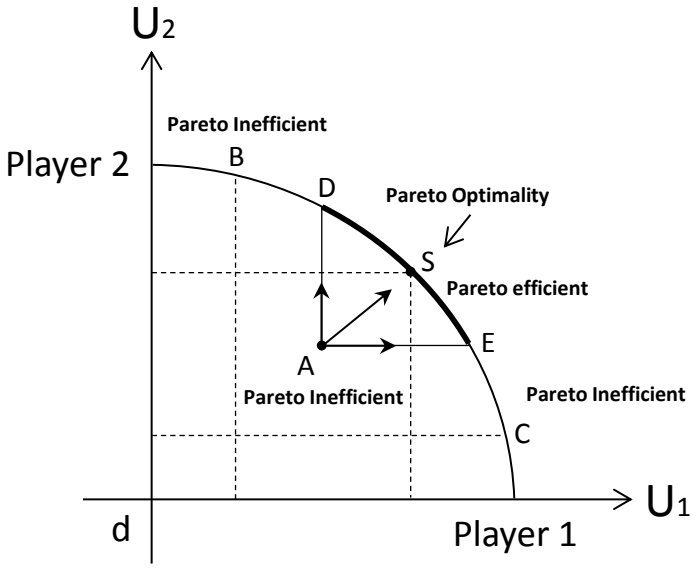

Figure 2.1 The Pareto Optimality Outcome

From Figure 2.1 above, moving from point A to S creates strong 'Pareto efficiency' such that it increases the utilities to both players, while moving from point A to D or E will create weak Pareto efficiency since only one player would increase his utility. At point S, it is called 'Pareto Optimality' since no one would be able to gain a 'Pareto improvement' after reaching this point. On the other hand, moving from point A to B or to C, or called 'Pareto Inefficiency', would make one better off and another one worsen.

Proof of Axiom 2: Since $H(s_1 , s_2)$ is increasing both in s_1 and s_2 that if $s'_1 > s_1$ and $s'_2 > s_2$ then $H(s') > H(s)$. Thus, (s_1, s_2) cannot maximize H if there exist $(t_1, t_2) \in S$ with $t_1 > s_1$ and $t_2 > s_2$. In other words, the pareto optimality states that to maximize the utility function, it will be increased until it cannot be increased when there is no point which $H(s') > H(s)$.

AXIOM 3 – Independence of Irrelevant Alternatives: Suppose that S and T are bargaining games such that $S \subset T$ and the solution $\mu(T) \in S$. Then $\mu(T) = \mu(S)$. This axiom demonstrates that the selection of bargaining solution is not affected by narrowing down of the original set T to a new set S, as long as the original solution $\mu(T)$ is also part of the new set S. In other words, if the actual outcome in the larger

game is also a possible outcome in the smaller game, hence, it will also be the final outcome for the smaller game.[13]

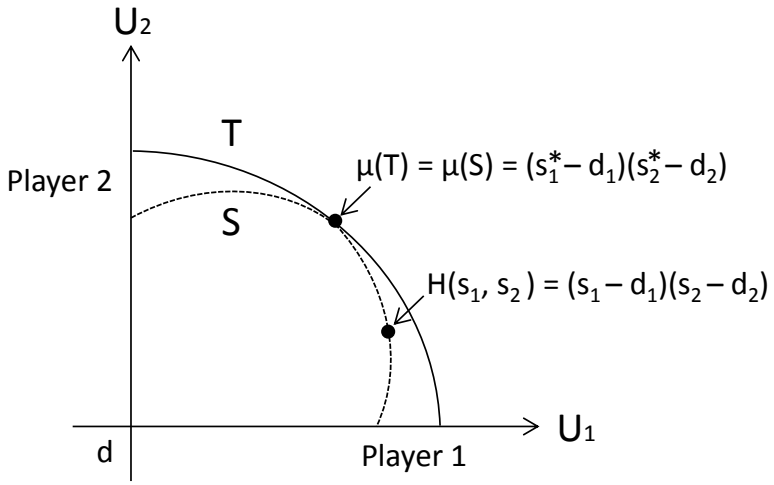

Figure 2.2 Independent of Irrelevant Alternatives

Proof of Axiom 3: Suppose S ⊂ T and that $(s_1^*, s_2^*) \in S$ maximizes $H(s_1, s_2)$ over T , where $H(s_1, s_2) = (s_1 - d_1)(s_2 - d_2)$, then

$$(s_1^* - d_1)(s_2^* - d_2) \geq (s_1 - d_1)(s_2 - d_2) \quad \forall (s_1, s_2) \in T$$ and in particular,

$$(s_1^* - d_1)(s_2^* - d_2) \geq H(s_1, s_2) \quad \forall (s_1, s_2) \in S$$

Since $s^* \in S$, the result follows that at $\mu(T) = \mu(S) = (s_1^* - d_1)(s_2^* - d_2) = (s_1 - d_1)(s_2 - d_2)$.

Therefore, as long as μ(T) is also part of the new set S, the outcome will be equal.

AXIOM 4 – Strong Individual Rationality: for every bargaining game (S), $\mu(S) > 0$. This axiom requires that the solution to bargaining problem μ(S) of each party could have more utility than the party could have on its own elsewhere. In other words, it means that no player receives less than what they could get on his own. This axiom can replace the Pareto optimality assumption, which is contrast to Nash's

[13]One clearer example is that when an individual prefers A to B in the choice set {A,B}, hence introducing a third option X would not change the individual preference.

equilibrium where the players' payoffs can all be increased. In other words, each individual will only concern his own payoffs, rather than thinking about whether the final outcome will decrease another individual preference or not.

2.5.4 Bargaining Process

We employ Svejnar's model to explain about the bargaining process. The bargaining model describes two parties: party i with bargaining power γ_i and party j with bargaining power γ_j. We define our assumption $\gamma_i/\gamma_j > 1$, when the party i has higher bargaining power over the party j, and $\gamma_i/\gamma_j < 1$, when the party i has lower bargaining power over the party j.[14] The parties bargain over a fixed divisible asset X in a situation that can be characterized in Axioms 1-4 mentioned earlier. Given that $U(X_{ij})$ is the utility of i as proposed by j. At the situation that one party bargains another party with rather extreme demands, it demonstrates that the expected utility of party i, $U(X_{11})$, tends to move its utility to the right when it has more bargaining power, while the expected utility of party j is reduced as the party i has more bargaining power. On the contrary, the expected utility of party j, $U(X_{22})$, tends to move its utility upward when it has more bargaining power, while the expected utility of party i is reduced as the party j has more bargaining power. The solution at point $\mu(S)$ satisfies Axioms 1-4 as shown in Figure 2.3 below.

[14]Svejnar (1986) defines $\gamma_i + \gamma_j = 1$. However, we adjust the model to the "Relative Bargaining Power" (RBP) value. If both parties has equally the same bargaining power, then $\gamma_i/\gamma_j = 1$.

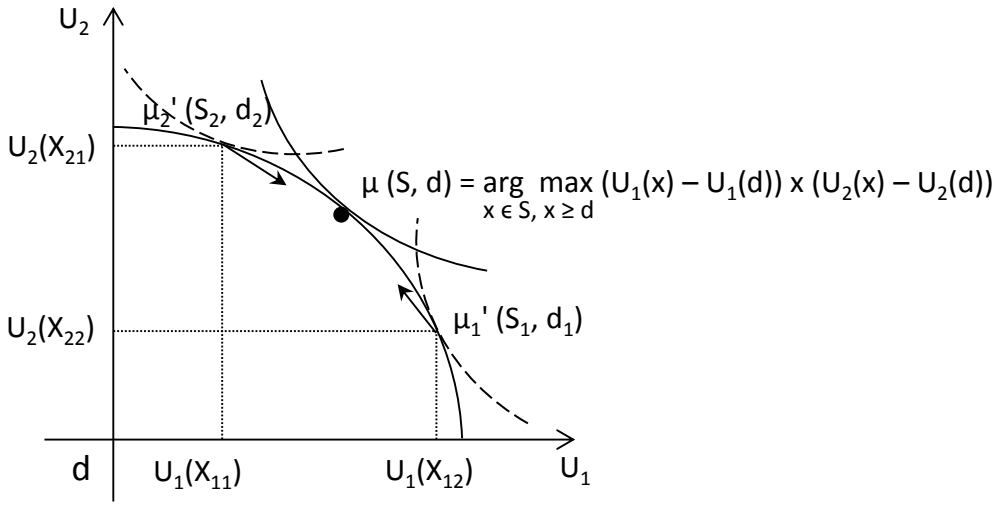

Figure 2.3 The Equilibrium of Bargaining Process and Solution

It can be shown from the theorem from Figure 2.3 that there is a unique solution μ(S) which maximizes $\prod_{i=1}^{n} U_i^{\gamma}i$ for all U ϵ S. Considering the bargaining set and the disagreement point, Nash solution is a unique solution which defined as follows:

$$\mu\,(S, d) \in \arg\max_{x \epsilon S,\, x \geq d} (U_1(x) - U_1(d)) * (U_2(x) - U_2(d))$$

In this model, two players expect a demand $X = (X_i, X_j)$ which are in the set of feasible outcomes. The bargainers in each party will maximize the weights of their bargaining powers or the weighted geometric average of their utilities. The tangency point between the utility frontier and the line $U_1^{\gamma}1\ U_2^{\gamma}2 = k$ indicates the solution from the strong individual rationality assumption. The model attempts to determine the adjusted bargaining position. When an experienced party knows another opponent well, they will occasionally disagree about the opponent's offer by adjusting the perceptions of their relative power. It should be noted that when the bargaining power of each party equal e.g. $\gamma_1 = \gamma_2$, the bargaining process can be consistent with the solution μ(S) in the midpoint of the curve. Also, it can be seen that when the party i has a very high bargaining power ($\lim_{\gamma i \to 1} U_i(X_i) = U_i(X)$), they can negotiate in a better favored position. In contrast, when the party i has a very low bargaining power

($\lim_{\gamma i \to 0} U_i(X_i) = U_i(d) = 0$) , they will receive the lowest terms and conditions from the negotiation.

The main drawbacks of the bargaining model are divided at least into four folds. First, it does not capture all bargaining processes and outcomes. In particular, the intrinsic bargaining model requires all set of feasible information contained in the utility set. The second criticism is that it does not permit to vary with exogenous changes in the bargaining situation.[15] Therefore, the model provides no clues to explain these changes. Third, the bargaining models are criticized to be strictly normative rather than explanatory.[16] Last but not least, the model must be based on the fear or cost of disagreement, otherwise, the negotiation cannot be met at some points.[17]

2.5.5 Bargaining Power Range and Outcome

In addition, both parties bargain through a solution considering each party's relative bargaining power and fear of disagreement. They attempt to evaluate the other party's bargaining power and they are aware of the possibility of deal failure. The bargaining model is applied to specify the bargaining range. If a target has greater bargaining power, it would secure a bargaining point above the midpoint of the bargaining range. On the other hand, if the target has lower bargaining range, it would only receive a bargaining point below the midpoint. We modified the bargaining power diagram from Sidak (2015) as follows.

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[15]The exogenous environments of bargaining power, which are not contained in the utility set of possible determinants, include changes in legal and regulation environment, macro shocks, technological adaption, future uncertainty, and other non-controllable restrictions, for example.

[16]Kochan and Wheeler (1975, p. 47) argue that the model is lack of explanation on how negotiators act and predicting the outcomes of the process since it does not incorporate the factors such as each party's rationality, preferences, asymmetric information, and manager's risk aversion, etc.

[17]Chamberlain and Kuhn (1965) introduced the concept of cost disagreement from the labor union to push wages above the competitive level.

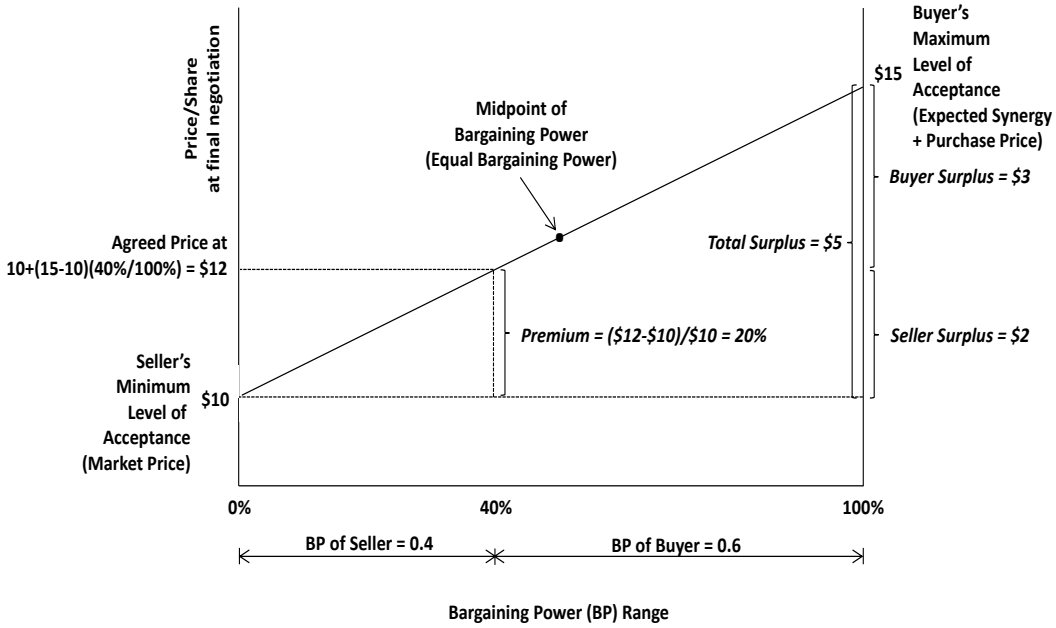

Figure 2.4 Bargaining Power Range and Possible Outcome
Source: Adapted from Sidak, 2015.

In Figure 2.4, the bargaining power range representing a division of surplus between a seller and a buyer is shown. When the final price goes beyond the buyer's maximum level of acceptance, the negotiation fails. On the other hand, the seller would also not accept the minimum level of acceptance when the final price is below their expectation. In theory, the seller's minimum level of acceptance refers to the current market value of the target firm.[18] However, when the target firm is in the financial stress situation or they want to exit the business due to immense competition, the final agreed price could fall below its current market value. In other words, the premium, as a result, becomes negative. The buyer's maximum level of acceptance refers to the total benefits from acquisition after adding synergy gain and deducting transaction costs. The midpoint of bargaining power indicates the equality of both parties' bargaining power, and the relative bargaining power equals one. In

[18] We would like to note that the difference between the agreed price and the seller's minimum level of acceptance would not necessarily be the premium. The definition of the premium is the difference between the agreed price and the current market value at 4-week before the announcement date (See Louis, 2004).

this example, the bargaining power of the buyer and the seller is 0.6 and 0.4, respectively. This obviously means that the buyer has greater bargaining power over the seller. The relative bargaining power of the seller to the buyer equals 0.6/0.4 = 1.5, while the agreed price can be calculated through the linear function which is $10 + ($15-$10)(40%/100%) = $12. Hence, the premium is calculated by ($12-$10)/$12 = 20%. The determination of the bargaining power range provides some reasonable explanation of the agreed price, premium, including terms and conditions applied before the end of negotiation. Although this methodology is relatively simple to determine the bargaining power between both parties, the components of bargaining factors remain unclear since it may vary through each party's expectation and conditions at that time. These factors will be discussed in later chapter.

CHAPTER 3

MODEL, DATA, AND METHODOLOGY

When a bidder offers a significantly attractive price to majority shareholders, the target directors will be pressured to 1) accept the deal, 2) bargain the deal to satisfy both parties' conditions, or 3) reject the deal. In real practices, nevertheless, target managements, who are aware of losing their jobs and control power, may find it difficult to reject the attractive deal package since the questions may be raised from the target shareholders. We also assume that both parties will use their utmost bargaining power and desire to have the deal occur at the agreed acquisition price. In this paper, we develop the models implication to explain M&A activities based on the bargaining power and situations. We will mainly focus on premium price, bargaining power, and the related factors of each party's power in the acquisition.

3.1 The Premium Model (P_b)

After the bargaining process has been settled, it means that both parties agree on the conditions. Next, both parties will evaluate the premium based on payoff. We modify the payoff function concept from Ståhl (1972). The model assumes that there are two parties: Party A (Buyer) and Party B (Seller), hence, we start the analysis by evaluating the seller's payoff $v(S,T)$ from an agreement on the conditions S at time T, where the agreement is made. Obviously, this pre-agreement payoff consists of pure operation from the seller company without taking merger into account. We then assume that the seller obtains a profit in each period, w, on an annual basis with growth rate of 100β per cent. Hence, the forecasted profit becomes $we^{\beta t}$ at time t. The profit distributed to the seller is subject to a corporate income tax of $100\ \tau$ per cent. Then, the seller's profit after tax becomes $(1-\tau)\ we^{\beta t}$ at time t. The present value of the seller is discounted by r, thus, the pre-agreement value of the seller is

$$V_{s,\,pre} = (1-\tau)\, w \int_0^T e^{\beta t} e^{-rt}\, dt$$

From time T onwards, the new organization is formed after the merger at time T, we then assume that the post-agreement payoff is a combination of both seller and buyer. Assuming that the profit of the buyer is W, hence, the combined profit is $s(W+w)e^{\beta t}$, where 's' is the percentage of the share hold by the seller in the new corporation. There is also a 'synergistic', π, created through merger from combining the resources and reducing expenses. As a result, the merger profit at an annual rate is assumed to be $\pi e^{\beta t}$ at time t. However, the synergy cannot be obtained indefinitely due to some limitations such as the market saturation, the expiration of a patent, for example. We then assume that the synergy will be generated until time Z, such that $T \leq t \leq Z$, and the annual payoff of the new firm becomes $(W+w+\pi)\, e^{\beta t}$. The after-tax profit of the combined firm equal $(1-\tau)s(W+w+\pi)\, e^{\beta t}$. Thus, during the time T to Z, the seller's post-agreement value during the time **T to Z** is

$$V_{s,\,post\ T\to Z} = (1-\tau)\, s(W+w+\pi) \int_T^Z e^{\beta t} e^{-rt}\, dt$$

Lastly, the value obtained after time Z (after the expiration of synergy) is only the value from the old company $(W+w)e^{\beta t}$. This value is assumed to be obtained indefinitely. Hence, the seller's post-agreement present value after time **Z** is

$$V_{s,\,post\ Z\to\infty} = (1-\tau)\, s(W+w) \int_Z^\infty e^{\beta t} e^{-rt}\, dt$$

Therefore, the total seller's payoff (V_s) through merger can be written as

$$V_s = (1-\tau)\, w \int_0^T e^{\beta t} e^{-rt}\, dt + (1-\tau)\, s(W+w+\pi) \int_T^Z e^{\beta t} e^{-rt}\, dt + (1-\tau)\, s(W+w) \int_Z^\infty e^{\beta t} e^{-rt}\, dt$$

On the other hand, the total buyer's payoff V_b can be written by substituting s by S (where s+S=1), replacing the share proportion w by W, the discounted factor r by R, and the growth rate β by α. Hence, we obtain the total buyer's payoff (V_b) as

$$V_b = (1-\tau)\, W \int_0^T e^{\alpha t} e^{-Rt}\, dt + (1-\tau)\, S(W+w+\pi) \int_T^Z e^{\alpha t} e^{-Rt}\, dt + (1-\tau)\, S(W+w) \int_Z^{\infty} e^{\alpha t} e^{-Rt}\, dt$$

From the buyer's point of view, it is shown that, ideally, the buyer will be interested in buying the seller's stock only if the post-agreement present value of the seller is higher than the amount paid to buy the seller's stock at the current market price.

$$(1-\tau)\, S(W+w+\pi) \int_T^Z e^{\alpha t} e^{-Rt}\, dt + (1-\tau)\, S(W+w) \int_Z^{\infty} e^{\alpha t} e^{-Rt}\, dt \;>\; (1+P_b)\,(1-\tau)\, w \int_0^T e^{\beta t} e^{-rt}\, dt$$

Where P_b is the expected premium paid by the buyer. We then formulate the payoff into

$$S(W+w+\pi) \int_T^Z e^{\alpha t} e^{-Rt}\, dt + S(W+w) \int_Z^{\infty} e^{\alpha t} e^{-Rt}\, dt \;>\; (1+P_b).\, w \int_0^T e^{\beta t} e^{-rt}\, dt$$

In other words, the premium (P_b) becomes

$$P_b \;<\; \frac{S(W+w+\pi) \int_T^Z e^{\alpha t} e^{-Rt} dt + S(W+w) \int_Z^{\infty} e^{\alpha t} e^{-Rt} dt}{w \int_0^T e^{\beta t} e^{-rt} dt} - 1$$

When the seller has greater bargaining power over the buyer, the seller will maximize its utility function by increasing the selling price. Hence, when the agreement has been settled, the maximum price that the seller can deal only if

$$P_b \;=\; \frac{S(W+w+\pi) \int_T^Z e^{\alpha t} e^{-Rt} dt + S(W+w) \int_Z^{\infty} e^{\alpha t} e^{-Rt} dt}{w \int_0^T e^{\beta t} e^{-rt} dt} \; 1$$

On the other hand, when the buyer has greater bargaining power over the seller, the buyer will attempt to reduce the premium paid to the seller. Therefore, the premium after the deal has been settled becomes

$$P_b \;<<\; \frac{S(W+w+\pi) \int_T^Z e^{\alpha t} e^{-Rt} dt + S(W+w) \int_Z^{\infty} e^{\alpha t} e^{-Rt} dt}{w \int_0^T e^{\beta t} e^{-rt} dt} - 1$$

3.2 The Model Extension

The abovementioned model exemplifies the payoff and premium (P_b) based on the future value or synergy created through merger and acquisition. However, in real practice, evaluating the future value is difficult. Hence, the buyer will evaluate the price based on the current market value of target firm. The higher the buyer expects to achieve synergy gain, the higher maximum price level of acceptance. The buyer will also tend to squeeze down the premium as much as possible if it has a higher bargaining power over the target. On the other hand, the deal will be accomplished as long as the agreed price paid after adding the premium is lower than the maximum price level of acceptance of the buyer. From this concept, we then develop the model regarding the premium as follows:

$$\bar{M} = V_{s,\,pre}\,(1+ P_b)$$

$$\bar{M} = (1+ P_b)(1- \tau)\; w \int_0^T e^{\beta t} e^{-rt}\, dt$$

Where $\bar{M}$ is the agreed price between the buyer and the seller. Also, the buyer expects the synergy gain or the acquirer's minimum acceptable value increased from the acquisition which is shown below:

$$M^* = \bar{M}\,(1 + \sigma)$$

$$M^* = (1 + \sigma)(1+ P_b)(1- \tau)\; w \int_0^T e^{\beta t} e^{-rt}\, dt$$

Where σ is the net expected synergy gained from the acquisition. M^* is the price that the buyer expects from the synergy gain. We then derive the bargaining function from Slusky and Caves (1991) that the party which has a higher bargaining power can bargain for better terms and conditions, including premium paid in an acquisition. The equation is shown below:

$$P_b = (BRES[X_i]/MV).B(Z_i)$$

From this model, the premium paid in an acquisition (P_b) is the net buyer's reservation price (BRES) to the market value of the target (MV), where BRES depends on factors (X_i) that represents the willingness of the buyer from acquiring the target e.g. synergy gain after acquisition. The bargaining function $B(Z_i)$ determines the bargaining power of target over acquirer, where the final price falls between the target's minimum acceptance level and the buyer's maximum acceptance level. Then, we get the equations:

$$\bar{M} = (1+ (BRES[X_i]/MV).B(Z_i))(1- \tau)\, w \int_0^T e^{\beta t} e^{-rt}\, dt$$

$$M^* = (1+ (BRES[X_i]/MV).B(Z_i))(1 + \sigma)(1- \tau)\, w \int_0^T e^{\beta t} e^{-rt}\, dt$$

It can be seen from the equation $P_b = (BRES[X_i]/MV).B(Z_i)$ that the higher bargaining power of target, the higher premium paid in the final agreed price. This function will be adjusted due to the bargaining position at that time when one party realizes another party's bargaining factors. The factor Z_i determines the components of the bargaining strengths of both parties e.g. financial strength, operating performance, and presence of bidding conditions, etc. As we can see that X_i and Z_i are variables considering the value gain in mergers and factors determining the relative bargaining positions, respectively.

According to the equation $\bar{M} = (1+ (BRES[X_i]/MV).B(Z_i))(1- \tau)\, w \int_0^T e^{\beta t} e^{-rt}\, dt$, it implies that the higher bargaining power of the target over the acquirer $B(Z_i)$, the higher agreed price paid in acquisition ($\bar{M}$), and resulting in higher premium (P_b). The acquisition premium within the bargaining range is expected to be negotiated through the bargaining power of each party. It should be noted that the relationship between the premium and the hypothesized determinants of bargaining power can be related to expected gain after acquisition. The components of bargaining power are examined in the following section.

3.3 The Components of Bargaining Power ($B(Z_i)$)

The ultimate outcome of a negotiation depends on the bargaining power of each party and on how the total surplus will be divided between both parties from the negotiation. The party with the greater bargaining power will tend to strike a bargain at a price (or conditions) closer to the lower bargaining power party's willingness to pay. In measuring the bargaining power of each party in a negotiation, we need to examine the relative bargaining position of each party, including the benefits each party would gain from reaching a successful negotiation. The lower bargaining power party will either walk away from the negotiation or accept the agreement that favors the higher bargaining power party. At the end, if the agreement is made, the amount of surplus (e.g. merger gain) is divided by the relative bargaining strength of each party.

In this section, we will develop the hypothesized bargaining power in order to understand what determinants of bargaining power contribute to the premium paid to target firm. The bargaining power and outcome depends on the characteristics of each party as shown in Table 3.1. Regardless of understanding the bargaining position in a corporate takeover, the firms may lose its competitive advantage in the process and negotiation power in making a deal for both targets and acquirers. At the end of this study, we shall see how firms may gain its competitiveness over the other firms in a bidding process.

Table 3.1 Bargaining Power Position between Bidder and Target, Hypothesis, and Predicted Sign on Target Premium

Variables	Abbreviation	Description and Hypothesis	Predicted Sign
Dependent Variable, or Y's			
• Premium Paid	PREMIUM	- The higher bargaining power of target, the higher premium - The higher bargaining power of acquirer, the lower premium	+/-

Table 3.1 (Continued)

Variables	Abbreviation	Description and Hypothesis	Predicted Sign
Independent Variable, or X's			
Deal Characteristics			
• Country of Target	COUNTRY	H_1: Country of target has an effect on premium	+
• Cross-border Acquisition	CROSS BORDER	H_2: Acquiring cross-border target leads to higher premium	+
• Type of Acquisition	MERGER	H_3: Merger leads to higher premium than other type of acquisition	+
• Method of Payment	CASH	H_4: Cash payment leads to higher premium than other methods	+
• Industry Relatedness	RELATED INDUSTRY	H_5: Acquiring related target leads to lower premium	-
• Percentage owned after transaction	PERCENT_OWNED	H_6: The higher percentage of shares owned after transaction, the higher bargaining power of target, leading to higher premium	+
Target's Characteristics (TAR)			
• Target EBITDA Margin	TAR_EBITDA	H_7: The higher EBITDA margin of target, the higher premium	+
• Target Return on Equity (ROE)	TAR_ROE	H_8: The higher return on equity of target, the higher premium	+
• Target Leverage	TAR_LEVERAGE	H_9: The higher leverage ratio of target, the lower premium	-

Table 3.1 (Continued)

Variables	Abbreviation	Description and Hypothesis	Predicted Sign
• Target Market to Book Value	TAR_MBV	H_{10}:The higher market to book value of target, the lower premium	-
• Target Market Capitalization Growth	TAR_MKT_CAP GR	H_{11}:The higher market growth of target, the higher premium	+
• Target Current Ratio	TAR_CURRENT RATIO	H_{12}:The higher current ratio of target, the higher premium	+
• Target Quick Ratio	TAR_QUICK_R ATIO	H_{13}:The higher quick ratio of target, the higher premium	+
• Target Free Cash Flow per share	TAR_FCF	H_{14}:The higher free cash flow of target, the higher premium	+
• Target Tobin Q	TAR_TOBINQ	H_{15}:The higher Tobin's Q of target, the lower premium	-
Acquirer's Characteristics (ACQ)			
• Acquirer Price to Earnings ratio	ACQ_PER	H_{16}:The higher PE of acquirer, the lower premium	-
• Acquirer Market to Book Value	ACQ_MBV	H_{17}:The higher market to book of acquirer, the lower premium	-
• Acquirer Market Capitalization Growth	ACQ_MKT_CAP GR	H_{18}:The higher market growth of acquirer, the lower premium	-
• Acquirer Tobin Q	ACQ_TOBINQ	H_{19}:The higher Tobin's Q of acquirer, the higher premium	+

Table 3.1 (Continued)

Variables	Abbreviation	Description and Hypothesis	Predicted Sign
Relative (TAR compared to ACQ)			
• Relative Total Asset	REL_TOTAL ASSET	H_{20}:The higher relative total asset, the higher premium	+
• Relative Market Value	REL_MARKET VALUE	H_{21}:The higher relative market value, the higher premium	+
• Relative Tobin's Q	REL_TOBINQ	H_{22}:The higher relative Tobin's Q, the lower premium	+

The bargaining power position between bidder and target is shown in Table 3.1. The table illustrates that the firm may strengthen the bargaining position to allow them to negotiate a better price. The outcome offers a crucial role in determining the bargaining power between each party. The target premium is defined as the percentage of the offer price to target closing stock price four weeks prior to the announcement of the deal.[19]

In our regression analysis of Acquisition Premium, we utilize common variables used in the previous literature studies. We describe each control variable and its implications affecting premium. These factors are associated with bargaining power. Both target and acquirer can utilize their bargaining strengths to negotiate with their opponent. From the previous literatures, the determinants of bargaining power affecting premium are mainly associated with the deal characteristics, bargaining power of the target and the buyer, and the relative bargaining power between them.

[19]The definition of the premium is defined by Security Database Corporate (SDC) as shown in Thomson ONE Banker. We use a four-week period to avoid a possible information leakage during the negotiation of the deal, which drives the target price, and as a result misleading value on the target premium.

3.3.1 Deal Characteristics

3.3.1.1 Country of Target

Target country composes of country risk specifications. The country risk terms capture all relevant risks for foreign investors to consider before making investment judgement. These risks include economic, political and financial components. Moreover, in some literature studies, it involves sovereign debt risk. It means that in some countries which will not be able to pay its debt obligations would cause the collapse into default. Rossie and Volpin (2004) also supported that target country are associated with shareholder protection, which can be varied across countries. The result shows that takeover premium is positively correlated with the shareholder protection, which result in higher premium. In other words, acquiring target firms with strong shareholder protection would cause higher premium in acquisition. Grossman and Hart (1980) found that higher premium paid in acquisitions is caused by the free-rider problem for diffuse ownership in countries which have higher shareholder protection. In our study, we want to evaluate whether the majority of target country would affect the acquisition premium or not. We code the target country dummy variable equal to 1 when the target is from the majority of sample and 0 when the target nation is others. The hypothesis can be set as follows:

H_1: Country of target has an effect on premium

3.3.1.2 Cross-border Acquisition

The pursuit of cross-border acquisition is challenging. Firms with cross-border M&A are allowed to access new markets or gain more knowledge capabilities. However, the drawbacks also involve cultural complexity, overseas risks, business practices, foreigner limitations and government regulations, etc. Rustige and Grote (2011) found that acquiring cross-border deals were 10% higher than acquiring domestic deals. Moreover, Martynova and Renneboog (2006) showed that acquiring cross-border targets experience lower returns than acquiring domestic targets around the announcement date. Campa and Hernando (2004) supported that cross-border deals potentially destroy the long-term performance of M&A. Hence, we expect that the cross-border takeovers may be associated with cultural issues and information accessibility which make it more volatile and risky. As a result, the bidder expects to pay higher premium on the cross-border target deals.

H_2: An acquiring company is likely to pay higher premium in the cross-border acquisition.

3.3.1.3 Type of Acquisition

Type of acquisition plays crucial concern about the acquisition premium. Merger means that the acquisition of a wholly portioned target firm, while acquisition or acquisition of majority of interest mean that acquirer has held less than 50% prior to acquisition and aim to acquire at least 50% through acquisition. Acquiring just a small portion e.g. 1% of shares, would have less effect on bargaining power compared to acquiring over 50% of shares. This consequence would also affect the bargaining power of both parties in the negotiation stage. Bradley, Desai and Kim (1988) found that acquiring a higher proportion of shares (e.g. merger compared to partial acquisition) would cause a higher premium in acquisition. Hence, we set up the hypothesis as shown below.

H_3: Merger leads to higher premium than other type of acquisition

3.3.1.4 Method of Payment (MOP)

A number of studies provide contradicting explanations in the usage of a payment method in relevance for corporate takeovers. Myers and Majluf (1984) provided some critical concerns on an asymmetric information model that selecting stock as a payment method interprets the overvaluation of acquiring firms. DeAngelo et al. (1984) examined that when the acquirer believes its stock is overvalued, they will tend to choose stock as a payment method and vice versa. Myer and Majluf (1984), Fishman (1989) and Hansen (1987) also found that the acquirer that uses stock exclusively as a payment method would indicate its share to be overvalued. Bruner (2002) supported that that stock payment is often triggered during the period of high company's market cycle. Thus, the payment method can be interpreted as a market signal about the valuation of the acquiring firms. Hansen (1987) argued that the acquirer may prefer to use stock payment method to diversify the risks of possible failures with the target firm. Jensen (1986) proposed the free cash flow hypothesis that the acquiring managers tend to use cash as an exchange when the firm wants to divert excess cash to limit the management ability of investment. Stulz (1988) investigated the linkage between the level of managerial ownership and the form of

payment. This study supported the result that acquiring managers prefer a cash payment in order to avoid the dilution effect of their newly formed venture.

The closest research regarding the method of payment and premium is associated with Wansley et al. (1983)'s study. The research found that the acquirer may be inclined to pay higher premiums when selecting a cash payment since it is able to avoid cash dividends which are subject to taxes. On the other hypothesis, stock payment allows the acquirer to pay lower premium since it avoids burden of free cash flow from cash payment to the target. Huang et. al. (2016) and Fishman (1989) also supported the higher premium by cash payment.

In our hypothesis, we code the method of payment dummy variable equal to 1 when the payment is made by pure cash acquisition and 0 when the payment is made by stock acquisition or a combination of cash and stock offers. From the bargaining power hypothesis, it can be seen as follows.

H_4: An acquiring company is likely to pay higher premium to a target company when it pays by cash acquisition.

3.3.1.5 Industry Relatedness

Higher relatedness between acquiring and acquired firms reduces complexities on nature of the business after acquisition. Two partners may also share some resources to reduce business redundancies and other related costs. Also, the acquiring firms will be familiar with the same target industries. Hence, the premium would become lower when they are in the same industries. Lim and Lee (2016) argued that acquiring a related target industry is associated with the lower level of perceived risk since the acquiring firm usually has a high level of industry knowledge as a result of low asymmetric information. Based on our hypothesis, it is expected to see that the bidding managers of acquiring related industry on target firms would expect to pay lower premium since they know the cost structure of the target's business. On the other hand, acquiring unrelated industries would cause high premium since the bidding firm has less information on the target industry. This is consistent with our bargaining hypothesis that target firm would have lower bargaining power than bidding firm due to the familiarity of the business. The dummy variable of industry relatedness is defined as 1 when bidding firm acquires a related target firm, and 0 in the case of unrelated industry acquisition. The hypothesis is shown below.

H_5: An acquiring company is likely to pay higher premium in an unrelated industry acquisition.

3.3.1.6 Percentage of Shares Owned After Acquisition

Bradley, Desai and Kim (1988) demonstrated that the fraction of target share purchased and owned after acquisition is associated with the premium paid in tender offer. The study concludes that the target firm requires higher premium to compensate with its control lost after acquisition if the bidder acquires more the majority of the share ownership. In other words, acquiring a small portion (uncontrolled share ownership) would cost lower premium than acquiring a high portion of controllable share ownership. Walking and Edmister (1985) also supported that on average acquiring firms pay about 9% higher when they seek for the majority control. Hence, we can construct the hypothesis as follows:

H_6: An acquiring company is likely to pay higher premium when the percentage of shares owned after acquisition is higher.

3.3.2 Bargaining Power of Target

3.3.2.1 Target EBITDA Margin

EBITDA or Earnings before interest tax and depreciation is a profitability ratio to measure the company's operating profitability. In our study, we select EBITDA margin as an indicator for measuring acquisition premium rather than net profit margin, gross profit margin and EBIT margin because we would want to see the company's profitability before reductions in interest, taxes, depreciation and amortization. Since interest and tax barriers would be different among countries, it is difficult to compare between countries if we use other indicators. We also try to avoid the net income since different countries may apply different tax scheme and would lead to misinterpretation of the result. Hence, to reduce bias in our study, we select EBITDA margin to understand how much operating cash would affect the acquisition premium. If the target firms perform extraordinarily well, they would have high bargaining power over the acquiring firms, thus leading to higher premium.

There are two main issues discussing the performance of the target and the premium paid. On the one hand, Bange and Mazzeo (2004) investigated that there is a positive relationship between the target's past performance and the premium. The

study revealed that a poor performance target firm is often associated with weak financial health, and thus is likely to have less bargaining power to negotiate for high premium with bidders. On the other hand, Schwert (2000) argued that the relation between the past performance of the target and the premium is negative. The research showed that bidders may be interested in a poor performance target firm since the bidders can expect gains after replacement of incumbent managers, thus leading to higher premium. However, in our study we support the bargaining hypothesis that the EBITDA margin of the target is positive to the premium paid for acquisition as follows.

H_7: The higher EBITDA margin of target firm, the higher premium paid in acquisition

3.3.2.2 Target Return on Equity (ROE)

Return on equity (ROE) is the net income returned to its shareholder's equity. ROE is also a part of profitability ratio to measure the firm's ability to generate incomes from its shareholders' investment. In other words, ROE refers to the profit gained from common shareholders' equity generates. The expression of the equation is the net income divided by the shareholder's equity value. The higher ratio of ROE indicates that the company is utilizing its equity funding more effectively. The initiation of this approach is developed by the idea that a higher ROE target firm (indicated financially stronger) will be better off withstanding price pressure from its acquirer, and the premium becomes higher. On the other hand, a higher ROE acquiring firm is also financially stronger than a lower ROE target firm. As a result, it indicates that the acquirer will be able to push pressure to reduce premium to the target firm. Evidences found that ROE is positively related to premiums (e.g. Chen, Gup, & Wall, 1989; Frieder & Petty, 1991; Jackson & Gart, 1999). The reason we chose ROE instead of other measurements such as ROA and ROI is because ROE measures the company gain directly from its shareholder's equity.[20] In this case, we can construct the hypothesis as follows:

[20]Ahern (2012) measured the financial strength of each firm by employing return on assets to evaluate the bargaining power between each party.

H_8: The higher return on equity of target firm, the higher premium paid in acquisition

3.3.2.3 Target Leverage

The leverage or debt level of bidding firm demonstrates the financial health status at the end of latest fiscal year before the announcement occurs. The leverage ratio is the measurement of company's leverage in operation. The low level of leverage of target firm implies favorable financial status, while the high leverage level refers to the financial stress situation. If the targets are financially distressed, market mechanism may push price below its current value (Shleifer and Vishny, 1992). A great deal of debt can be dangerous for a company since it needs to pay interests which will be deducted from its earnings. In addition, the target may be forced to sell some parts of its firm or issue new equities to return debt to financial institution. The target firm will have less bargaining power to negotiate with its bidder since the disagreement point is moved downwards. In other words, the premium becomes lower as a consequence of this financial situation. Hence, we can set up the hypothesis as shown below.

H_9: The higher leverage ratio of target firm, the lower premium paid in acquisition

3.3.2.4 Target Market to Book Value (MBV)

The market to book value is an indication of bargaining strength of target firm. The market to book value is a financial valuation to evaluate a firm's current market value to its book value. The higher market to book value indicates that the firm is overvalued, while the lower market to book value shows that the firm is undervalued. Our target's market to book value hypothesis proposes that a target with high market to book value (overvalued) tend to have lower bargaining power than a smaller market to book value (undervalued), and expected to pay lower premium. Moreover, our hypothesis is consistent with Schwert (2000) and Moeller (2005) who argued that the target size has a statistically negative effect to the premium paid for acquisition, which associated with the burden of integration costs. In other words, the larger target size, the higher integration costs, and the lower premium paid. From the target's market to book value size, we can set up the hypothesis as follows.

H_{10}: The higher market to book value of target firm, the lower premium paid in acquisition.

3.3.2.5 Target Market Capitalization Growth

The market capitalization is the market value of a firm's outstanding shares. It can be calculated by multiplying its stock price with the total number of share outstanding. Hayward and Hambrick (1997) also supported that market capitalization is the most valuation technique used for calculating premiums. The market capitalization refers to the size of the company in the stock market, while the market capitalization growth is an indicator to evaluate the company growth stage. The company with high market capitalization growth would perform better than those of low market capitalization growth in terms of business expansion. However, it should be noted that the larger company would have less market capitalization growth rate due to its size, compared to the smaller company size. However, the market capitalization growth is associated with the bargaining power since a target firm with higher rate of growth would have higher bargaining strength relative to its bidder, which would result in higher premium. Betton, Eckbo, and Thorburn (2009) assert that if a target is in a high growth stage, it will command a higher premium in acquisition. From this assumption, we can set up the hypothesis as follows:

H_{11}: The higher market capitalization growth rate of target, the higher premium paid in acquisition

3.3.2.6 Target Current Ratio

The current ratio is a liquidity ratio to measure a firm's ability to pay its debt obligations. The current ratio formula is current assets to current liabilities within the same time period. It reflects a company's ability to pay back its obligations from its liquid assets. The current ratio gives a rough estimation on how much the company can turn its current assets into cash to pay debt. The company with high inventory-based structure would have lower current ratio rate, compared to those of low inventory firms. Based on the bargaining hypothesis, it is seen that the higher current ratio target firms would have higher bargaining power than the lower current ratio target firms since the higher ones would have less pressure to force selling its business through acquisition by acquirers. Hence, we can construct the hypothesis as follows:

H_{12}: The higher current ratio target firm, the higher premium paid in acquisition

3.3.2.7 Target Quick Ratio

The quick ratio measures the ability of firm to manage its short-term financial liabilities. The main difference between quick ratio and current ratio is that the quick ratio deducts inventory from its equation and divided by current liabilities. The quick ratio demonstrates a more rigorous way to measure the company's short-term cash conversion. Hence, we can construct the hypothesis as follows:

H_{13}: The higher quick ratio target firm, the higher premium paid in acquisition

3.3.2.8 Target Free Cash Flow per share

The target's free cash flow per share measures the company's financial ability in terms of cash. It can be calculated by dividing free cash flow to total number of shares outstanding. The company with great free cash flow per share will have more ability to improve its financial and operational ability for cash reservation to avoid the financial distress situation. Also, it provides a signal to a target firm for the ability to pay its debt obligations. The higher free cash flow per share of a firm will have more bargaining power with its counterparty. Then, we can set up the hypothesis as follows:

H_{14}: The higher free cash flow per share of target firm, the higher premium paid in acquisition

3.3.2.9 Target Tobin's Q

Lang, Stulz, and Walkling (1991) and Servaes (1991) introduced the concept of Tobin's Q in order to evaluate the performance of the firms in acquisition. Tobin's Q is a measurement of a company's asset in relation to its market value. In other words, Tobin's Q is the market value to total assets. When the Tobin's Q value is between 0 and 1, it implies that the firm is undervalued since the market value is less than its total assets. On the other hand, when the Tobin's Q value is greater than 1, it means that the company's current value is worth more than its total assets, which can be viewed as overvalued. The ratio of Tobin's Q is widely used to measure the stock valuation behind investment decisions. From our bargaining hypothesis, it can be seen that when the target firm has high Tobin's Q value, it means that the target is

now overvalued, and as a result lowering the bargaining power of target firm. Hence, we can set up the hypothesis as follows:

H_{15}: The higher Tobin's Q of target firm, the lower premium paid in acquisition

3.3.3 Bargaining Power of Acquirer

3.3.3.1 Acquirer Price to Earnings Ratio (P/E)

The price to earnings ratio (P/E) measures the valuation of a company from its current market price in relation with its earnings per share. It can be calculated by dividing earnings per share to its market value per share. In essence, the P/E ratio indicates the amount of money an investor expects to invest in order to receive amount of earnings from investment. The higher rate of P/E ratio refers to the higher expectation of investors that they are willing to invest at a higher price level to receive the same amount of earnings compared to an investment in a lower P/E firm. The acquirer with high growth stage would have higher P/E level, and thus would want to expand its business faster than usual. However, our bargaining hypothesis is contradicted to the management overconfidence theory. Based on our assumption, the high P/E acquiring firm would have higher ability to bargain with its target, as a result of lower premium. Thus, the hypothesis becomes:

H_{16}: The higher P/E acquiring firm, the lower premium paid in acquisition

3.3.3.2 Acquirer Market to Book Value (MBV)

This is similar to the target market to book value as mentioned earlier, but in different perspective. When there is a high level of market to book value of acquirer, the acquirer will have more bargaining power over the target firm due to its rapid expansion. Thus, the acquirer with high market to book value will tend to have more confidence in acquiring target firm, as a result of overpayment. This is consistent with the managerial hubris from Roll (1986) and Moeller et al. (2004) who argued that larger acquiring firms tend to pay higher premiums than smaller acquiring firms. However, our bargaining hypothesis is contradictory to these theories that the higher market to book value of an acquiring firm will have higher bargaining power than the lower market to book value of a target firm. Therefore, we can construct the hypothesis as follows:

H_{17}: The higher market to book value of acquiring firm, the lower premium paid in acquisition.

3.3.3.3 Acquirer Market Capitalization Growth

Moeller et al. (2004) and Schewert (2000) evaluated the effect of acquirer's market size and premium. From our bargaining perspective, the high rate of market capitalization growth refers to the expansion stage and bargaining strength of acquirer relative to its target. The high growth acquiring firm would need to expand business rapidly and it will have more bargaining power from its market capitalization growth, resulting in lower premium paid in acquisition. Therefore, we can construct the hypothesis as follows:

H_{18}: The higher market capitalization growth of acquiring firm, the lower premium paid in acquisition.

3.3.3.4 Acquirer Tobin's Q

The acquirer with higher Tobin's Q would have higher confidence in reaching the target acquisition. Thus, it will tend to pay higher premium in acquisition to accomplish the deal. From previous literature review, there is no paper discussing about the relationship between acquirer Tobin's Q value and premium. However, we aim to understand whether the acquirer Tobin's Q would have a significant effect on premium or not. Therefore, we can construct the hypothesis as follows:

H_{19}: The higher Tobin's Q of acquiring firm, the higher premium paid in acquisition

3.3.4 Relative Bargaining Power (Target relative to Acquirer)

3.3.4.1 Relative Total Asset

Total asset is the total amount of assets a firm owns from both current and non-current assets. We use relative total asset to measure the natural logarithm of total asset of target to total asset of acquirer in order to compare their relative value. If the target's total asset is greater than the acquirer's total asset, the relative total asset becomes positive, vice versa. The previous literature studies identified two main variables used to analyze the effect of company size and the premium paid. Some literatures use logarithm of variables, such as total asset, to measure of firm size effect directly, whereas some studies use a relative ratio of the target to the buyer to identify

the premium paid. For example, Comment and Schwert (1995) measured the target size by the logarithm of the total assets as a direct measure regarding the premium effect at the end of the most fiscal year before the bid occurs. Palia (1993) found that there is a negative relationship between premium and relative total asset.

However, our bargaining hypothesis is contradictory to Roll's hubris hypothesis which concluded that larger firms tend to overpay for acquisitions since managers are overconfident and overpay. In our hypothesis, we want to measure the bargaining power between both parties on size of total asset in relative value. Therefore, we can set up the hypothesis as follows:

H_{20}: The higher relative total asset value, the higher premium paid in acquisition

3.3.4.2 Relative Market Value

Market value commonly refers to the market capitalization, obtained by multiplying its current market price by the number of outstanding shares. Relative value measures the natural logarithm of target's market value to acquirer's market value. If the acquirer's market value is significantly greater than the target's market value; therefore, the acquirer will have more bargaining power and resulting in lowering the premium paid in acquisition. On the other hand, if the target's market value is larger than the acquirer's market value. The target will have more bargaining power due to its market size and resulting in increasing its premium paid in acquisition. However, our hypothesis is contradictory to Gondhalekar et al. (2004), which studied about a relative size of target to buyer and reported the adverse effect of the relative target size on the premium. Based on our assumption, we can construct the hypothesis as follows:

H_{21}: The higher relative market value, the higher premium paid in acquisition

3.3.4.3 Relative Tobin's Q

Relative Tobin's Q is the form of natural logarithm of target's Tobin's Q to acquirer's Tobin's Q. If the target's Tobin Q is greater than the acquirer's Tobin' Q; hence, the relative Tobin's Q becomes positive. When the relative Tobin's Q is positive, our hypothesis implies that the target is overvalued comparing to the

acquirer, and lowering the bargaining of target. Therefore, we can set up the hypothesis as follows:

H_{22}: The higher relative Tobin's Q, the lower premium paid in acquisition

3.4 Data and Variables

3.4.1 Sample Design and Screening Criteria

In this paper, we examine a sample of successfully completed public mergers and acquisitions for 15 years announced between 2002 and 2016. Our data is collected from the Securities Data Corporation (SDC) merger database by the following criteria: 1) Only merger, acquisition and acquisition of major interest are taken into account; 2) All target firms are among 11 emerging countries (Japan, South Korea, Taiwan, Singapore, Malaysia, Hong Kong, China, Thailand, Vietnam, Indonesia, and Philippines)[21]; 3) The deal value is at least one million US dollars[22]; 4) Before the acquisition, bidders have less than 50% of total shares and owned more than 50% after acquisition, thereby implying the majority of ownership control after acquisition.[23]; and 5) Missing Premiums are excluded. The deal information (e.g. announcement date, consideration structure, percentage of shares before and after

[21]Most M&A studies focus on US, UK and other developed markets, while Asian emerging countries are different than the developed markets in several ways. The differences include economic growth fluctuations, legal system, organization structure, for example.

[22]We employ the same cut-off methodology from Fuller, Netter, and Stegemoller (2002) and Moeller et al. (2004) to avoid data misinterpretation of small values. In fact, 88% of our data sample is above 10 million dollars, 52% above 50 million dollars, and 37% above 100 million dollars. This data represents the high value of merger deals.

[23]24% of sample data is 100% acquisition and 76% of sample data is above 50% acquisition.

acquisition, etc.) are collected from the SDC database.[24] The financial statements (e.g. EBITDA, market value, return on asset, financial leverage, etc.) are retrieved from Thomson Financial Datastream. We then screen out some deals that have a large number of missing values and missing premiums data. Lastly, we cut outliers by 2.5% of data sample in each tail or 5% outliers to reduce errors. After applying all filters, there are 722 deals left for the analysis of this study as shown in the sample size in each screening criteria in Table 3.2 below.

[24]There are four main databases in M&A which are SDC database (previously Thomson ONE Banker), Bloomberg database, Mergerstat M&A. Literature studies indicate that the most popular one is SDC database since it contains data of domestic deals since 1979 and international deals since 1985 until now. However, the data is more accurate in the U.S. and other developed countries, while in developing markets it may lack of recent useful information. Bloomberg covers M&A data more in Asian and developing countries. Mergerstat database covers a wide range of acquisitions and divestitures; however, at least one party is U.S. firm. Zephyr database is suitable for U.S. from 1997 onwards and M&A deals in European transactions from 2000 onwards. In our research study, although Bloomberg seems to be more suitable for our database in Asian and developing countries, we finally use SDC database since it contains more data availability in the analysis for our specific independent variables.

Table 3.2 Data Screening Criteria in the Sample

Total	**Screening Criteria**	**No. of Deals**
All M&A	All data	1,097,927
Type of Acquisition	Merger (M) Acquisition (A) Acquisition of Majority Interest (AM)[25]	325,867
Announcement Date	1 Jan 2002 to 31 Dec 2016	208,242
Target Nation	Japan, South Korea, Taiwan, Singapore, Malaysia, Hong Kong, China, Thailand, Vietnam, Indonesia and Philippines	67,898
Deal Value	Over than 1 Million US dollars[26]	35,369
Deal Status	Completed	24,457
Acquirer Status	Public	13,353
Target Status	Public	1,248
Share Acquisition	Owned less than 50% prior to acquisition and Owned more than 50% after acquisition	868
Accounting Data	Data available left	798
Premium	Exclude Missing Premium	760
Data Completion	Exclude 2.5% of data in each tail (5% of Outlier)	722

[25]Merger (M) means acquisition of 100% of target firms. Acquisition of Majority of Interest (AM) means the acquirer has held less than 50% prior to acquisition and acquired 50% or more after acquisition. This screening criterion helps reducing acquisition bias on bargaining power. For example, acquiring only 1% of share would show different result from acquiring over than 50% of share owning to bargaining power of both parties from negotiation.

[26]We employ the method of one-million-dollar cut-off from Fuller et al. (2002) and Moeller et al. (2004).

3.4.2 Descriptive Statistics

Table 3.3 represents descriptive statistics in our sample. The number of data is classified by number of M&A transactions of our sample in each year. The sample consists of 722 publicly traded deals with the deal value of at least one million dollars. The target 11 emerging countries include Japan (N=517), South Korea (N=47), Taiwan (N=41), Singapore (N=30), Malaysia (N=26), Hong Kong (N=22), China (N=14), Thailand (N=9), Vietnam (N=9), Indonesia (N=5), and Philippines (N=2). Premium is defined as the difference between bid price and target market price at four-week prior to the announcement (t=-20) divided by the target market price at four-week prior to the announcement. The median premiums are shown in parentheses. Negative Premium (NEGP) shows the percentage number of negative premium value out of deals and its average value in each year. Owning to the screening criteria, Japan becomes our majority of data and represented in percent. Cross border demonstrates the percentage of cross-border acquisitions. Merger refers to the 100% of shares owned after acquisition. Cash payment is the form of payment by cash. Related industry is percentage of the industry relatedness between acquirers and targets.

It is evident that the Asian emerging markets experienced a merger boom from 2005 to 2011, and slowed down after 2012. The average premium of our sample is 19.21%[27], while the median premium is 15.05%. In 2009, the acquiring firms paid the highest average premium at 28.68% and the median value is at 24.42%, while the acquiring firms paid the lowest average premium and median value at 16.05% and 8.98% in 2011, respectively. The percentage number of negative premium value out of total deals and the average negative premium value are 22.30% and -11.94%, respectively. Due to our screening criteria, Japanese target firms remain our majority of study with 71.61% of the sample size. Hence, to avoid data bias, we also need to check whether Japan shows different result or not, in order to verify our result. The data contains only 6.65% cross-border acquisitions, while 93.35% of the sample is

[27]If we exclude all negative premiums in this sample, the average premium becomes 28.15%, while the median premium is 22.53%. The range of premium data varies from 106.90% to -48.07%.

acquired through domestic acquisitions. Almost half of the data (53.74%) is in the form of Merger, which acquired 100% of target's shares. The payment structure is classified by pure cash payment for 52.49%, while others are stock payment, mixed payment, and unknown transactions. Industry relatedness shows that 60.25% of acquirers and targets are from the same industry.

Table 3.3 Descriptive Statistics for Mergers and Acquisitions between 2002 and 2016

Year	N	Premium (%)	NEGP (% of N)	NEGP (avg %)	Japan (%)	Cross Border (%)	Merger (%)	Cash (%)	Related Industry (%)
2002	24	6.59 (8.70)	25.00	-25.27	95.83	4.17	87.50	20.83	54.17
2003	43	17.11 (11.11)	25.58	-7.28	86.05	2.33	69.77	34.88	48.84
2004	50	16.77 (11.08)	18.00	-11.57	78.00	6.00	64.00	34.00	56.00
2005	67	12.54 (8.37)	29.85	-11.10	76.12	4.48	55.22	52.24	58.21
2006	67	15.49 (9.08)	22.39	-10.43	73.13	10.45	58.21	52.24	59.70
2007	62	16.29 (16.87)	22.58	-12.68	77.42	8.06	40.32	69.35	48.39
2008	56	22.02 (20.66)	19.64	-11.61	67.86	8.93	46.43	60.71	71.43
2009	62	28.68 (24.42)	29.03	-11.47	77.42	4.84	54.84	58.06	66.13
2010	45	23.84 (27.71)	11.11	-8.01	62.22	4.44	60.00	48.89	55.56
2011	55	16.05 (8.98)	30.91	-9.90	60.00	10.91	54.55	50.91	52.73
2012	42	26.64 (24.67)	16.67	-11.05	61.90	9.52	45.24	61.90	69.05
2013	31	24.13 (21.36)	19.35	-9.83	74.19	9.68	41.94	67.74	67.74
2014	35	25.32 (24.61)	14.29	-5.80	60.00	8.57	60.00	45.71	77.14
2015	45	18.84 (14.65)	22.22	-11.98	64.44	2.22	35.56	62.22	64.44
2016	38	14.19 (15.76)	18.42	-29.01	63.16	2.63	47.37	47.37	60.53
Total	722	19.21 (15.05)	22.30	-11.94	71.61	6.65	53.74	52.49	60.25

Note: The sample consists of 722 publicly traded deals with the deal value of at least one million dollars. The target 11 emerging countries include Japan (N=517), South Korea (N=47), Taiwan (N=41), Singapore (N=30), Malaysia (N=26), Hong Kong (N=22), China (N=14), Thailand (N=9), Vietnam (N=9), Indonesia (N=5), and Philippines (N=2). Premium is defined as the difference between bid price and target market price at four-week prior to the announcement (t=-

20) divided by the target market price at four-week prior to the announcement. The median premiums are shown in parentheses. Negative Premium (NEGP) shows the percentage number of negative premium value out of deals and its average value in each year. Owning to the screening criteria, Japan becomes our majority of data and represented in percent. Cross border demonstrates the percentage of cross-border acquisitions. Merger refers to the 100% of shares owned after acquisition. Cash payment is the form of payment by cash. Related industry is percentage of the industry relatedness between acquirers and targets. All data were collected based on the data available at four-week prior to the announcement date or the latest available information during the announcement.

3.5 Research Methodology

This study uses ordinary least square regression (OLS) method to determine the variables that affect the premium paid in acquisition. The ordinary least square method evaluates the impact of change in the independent variables on the dependent variables with the minimum variance of the linear unbiased estimators. The basic regression equation in our study is as follows:

$$\begin{aligned} PREMIUM = {} & B_0 + B_1 COUNTRY + B_2 CROSS\_BORDER + B_3 MERGER + \\ & B_4 CASH + B_5 RELATED\_INDUSTRY + B_6 PERCENT\_OWNED + \\ & B_7 TAR\_EBITDA + B_8 TAR\_ROE + B_9 TAR\_LEVERAGE + \\ & B_{10} TAR\_MBV + B_{11} TAR\_MKT\_CAPGR + \\ & B_{12} TAR\_CURRENT\_RATIO + B_{13} TAR\_QUICK\_RATIO + \\ & B_{14} TAR\_FCF + B_{15} TAR\_TOBINQ + B_{16} ACQ\_PER + B_{17} ACQ\_MBV \\ & + B_{18} ACQ\_MKT\_CAPGR + B_{19} ACQ\_TOBINQ + \\ & B_{20} REL\_TOTAL\_ASSET + B_{21} REL\_MARKET\_VALUE + \\ & B_{22} REL\_TOBINQ \end{aligned}$$

To identify the best set of predictive variables, the stepwise regression procedure is selected in our study. Under this procedure, different independent

variables are constructed and re-examined to increase its significance until the optimal model is achieved. The description of the dependent and independent variables are shown in Table 3.4.

Table 3.4 Description of the Variables

Variables	Description
Dependent	
PREMIUM	The difference in bid price and target market price at four-week before acquisition announcement divided by the same target price four-week before acquisition announcement.
Independent	
COUNTRY	The dummy variable which equals to 1 if the target firms are Japanese firms and equal 0 otherwise.[28]
CROSS_BORDER	The dummy variable which equals to 1 if the target and the acquirer are from the same country and equal 0 otherwise.
MERGER	The dummy variable which equals to 1 if the transaction is in the form of merger and equal 0 otherwise e.g. acquisition of majority interest.
CASH	The dummy variable which equals to 1 if the transaction is made by cash only and equal 0 otherwise.
RELATED_INDUSTRY	The dummy variable which equals to 1 if the target and the acquirer are in the same industry.

[28]Since 71.61% of our data sample is Japanese target firm, hence we test whether it shows different result or not.

Table 3.4 (Continued)

Variables	Description
PERCENT_OWNED	The percentage of shares owned by the acquirer in the deal acquisition.
EBITDA	The percentage of earnings before interest, tax and depreciation and amortization (EBITDA).
ROE	The amount of net income to the shareholder equity value.
LEVERAGE	The ratio of total assets to the portion owned by shareholder equity. The higher leverage ratio implies the low portion of equity and high portion of debt.
MBV	The market to book value ratio indicates the market value of the firm relative to its accounting or book value.
MKT_CAPGR	Market capitalization growth refers to the average market capitaliz ation of 3-year growth.
CURRENT_RATIO	The ratio of current assets to current liabilities
QUICK_RATIO	The ratio of current assets minus inventory to current liabilities
FCF	Free cash flow per share
TOBINQ	The ratio of market value to total assets.
PER	Price to earnings ratio (P/E) refers to the current share price relative to its earnings per share.
REL_TOTAL_ASSET	The natural logarithm of total asset of target to total asset of acquirer.
REL_MARKET_VALUE	The natural logarithm of market value of target to market value of acquirer.
REL_TOBINQ	The natural logarithm of Tobin’s Q of target to Tobin’s Q of acquirer.

The descriptive statistics of dependent and independent variables in Table 3.5 shows the number of observations (N), mean value (Mean), standard deviation (SD), min value (Min), 25th percentile (P25), 50th percentile (P50), 75th percentile (P75), and max value (Max). Some data are missing due to the lack of availability of data in the database. In our study, there are four main types of data classification which are deal characteristics, target's characteristics, acquirer's characteristics, and relative bargaining power of target over acquirer. In the deal characteristics, the average percentage of share owned after acquisition is 83.5%, which reflects the bargaining power between acquirers and targets after acquisition. We select EBITDA margin, return on equity, leverage, market to book value, average 3-year market capitalization growth, current ratio, and Tobin Q values as the representatives of target's characteristics. While in the acquirer's characteristics, we select price to earnings ratio, market to book value ratio, average 3-year market capitalization growth and Tobin Q values as the representatives of acquirers. In the relative acquirer's data to target's data, we select total asset, market value and Tobin Q to evaluate the relative bargaining power by using natural logarithm comparison.

For the target's characteristics, the target's average (median) EBITDA margin is 5.95% (8.51%), while the target's average (median) return on equity or ROE is low at -0.13% (4.70%), implying that most of the target firms are in financial difficulty. Therefore, it triggers the merger and acquisition occurrence. The target's leverage is also at high level with the average (median) value of 2.88 (2.19) times. The target's average (median) market to book value is relatively low at 1.26 (0.92) times which reflects the low price level, comparative to the book value. The target's average (median) 3-year market capitalization growth is at 6.75% (3.99%) and the target's average (median) Tobin Q is 0.52 (0.38) times. The target's average (median) free cash flow per share is at 0.62 (0.03) USD. Some efficiency indicators are also used in our study. The target's average (median) current ratio is at 1.74 (1.38) times, while the target's average (median) quick ratio is at 1.36 (1.07) times.

In the acquirer characteristics side, the acquirer's average (median) price to earnings ratio is 20.76 (17.50) times. The acquirer's average (median) market to book value is 1.84 (1.21) times which is higher than the target's market to book value. For the market growth perspective, the acquirer's average (median) 3-year market

capitalization is significantly higher than the target firms at 12.26% (9.20%). This implies that the rapid growth acquiring firms look for the expansion of business by acquiring the low growth target firms. The acquirer's average (median) Tobin Q is 0.71 (0.48), which is higher than the target's Tobin Q on average.

In the relative comparison between target's and acquirer's characteristics, the average natural logarithm (median) of relative total asset is -2.30 (-2.22) times and the average natural logarithm (median) of relative market value is -2.44 (-2.35) times, representing that on average target firms are much smaller market size compared to acquiring firms. On the other hand, the average natural logarithm (median) of relative Tobin Q is -0.18 (-0.20) times, demonstrating that on average target's Tobin Q is lower than acquirer's Tobin Q. In other words, this implies that these target firms are undervalued comparing to those acquiring firms.

Table 3.5 Descriptive Statistics of Dependent and Independent Variables

Variable	N	Mean	SD	Min	P25	P50	P75	Max
Dependent Variable								
PREMIUM	722	0.19	0.27	-0.48	0.01	0.15	0.33	1.07
Deal Characteristics								
COUNTRY	722	0.72	0.45	0.00	0.00	1.00	1.00	1.00
CROSS_BORDER	722	0.07	0.25	0.00	0.00	0.00	0.00	1.00
MERGER	722	0.54	0.50	0.00	0.00	1.00	1.00	1.00
CASH	722	0.53	0.50	0.00	0.00	1.00	1.00	1.00
RELATED_INDUSTRY	722	0.60	0.49	0.00	0.00	1.00	1.00	1.00
PERCENT_OWNED	722	0.84	0.20	0.50	0.63	0.97	1.00	1.00
Target's characteristics								
TAR_EBITDA	646	0.09	0.11	-0.24	0.03	0.06	0.06	0.55
TAR_ROE	639	0.00	0.22	-1.10	-0.02	0.05	0.11	0.36
TAR_LEVERAGE	630	2.88	2.15	1.11	1.63	2.19	3.17	16.38
TAR_MBV	601	1.26	0.97	0.16	0.58	0.92	1.63	5.71
TAR_MKT_CAPGR	539	0.07	0.24	-0.37	-0.10	0.04	0.22	0.74
TAR_CURRENT_RATIO	647	1.74	1.20	0.35	1.03	1.38	2.02	8.07
TAR_QUICK_RATIO	614	1.36	0.98	0.27	0.74	1.07	1.64	5.78
TAR_FCF	576	0.62	7.37	-44.65	-0.16	0.03	0.39	62.38
TAR_TOBINQ	589	0.52	0.43	0.00	0.23	0.38	0.68	2.26

Table 3.5 (Continued)

Variable	N	Mean	SD	Min	P25	P50	P75	Max
Acquirer's characteristics								
ACQ_PER	535	20.76	13.57	4.80	11.00	17.50	26.40	81.60
ACQ_MBV	615	1.84	2.91	-10.09	0.79	1.21	1.96	52.59
ACQ_MKT_CAPGR	580	0.12	0.26	-0.33	-0.06	0.09	0.26	1.13
ACQ_TOBINQ	623	0.71	0.85	0.00	0.26	0.48	0.81	8.27
Relative Characteristics (Natural Logarithm of Target to Acquirer)								
REL_TOTAL_ASSET	564	-2.30	1.58	-7.59	-1.14	-2.22	-3.40	3.09
REL_MARKET_VALUE	561	-2.44	1.65	2.61	-1.21	-2.35	3.60	-7.30
REL_TOBINQ	520	-0.18	0.81	-3.01	-0.68	-0.20	0.31	2.68

Note: TAR (ACQ) refers to the target (acquirer), while REL refers to the (relative) ratio of target to acquirer. PREMIUM is equal to the difference in bid price and target market price at four-week before acquisition announcement divided by the same target price at four-week before announcement. COUNTRY is the dummy variable and equals 1 if the target and the acquirer are Japanese firms, equals 0 otherwise. CROSS_BORDER is the dummy variable and equals 1 if the target and the acquirer are from the same country, equals 0 otherwise. MERGER is the dummy variable and equals 1 if it is the form of merger, equals 0 otherwise. CASH is the dummy variable and equals 1 if the transaction is paid by cash only, equal 0 otherwise. RELATED_INDUSTRY is the dummy variable and equals 1 if the target and the acquirer are from the same industry. PERCENT_OWNED is the percentage of shares owned by the acquirer after transaction. EBITDA is the percentage of EBITDA margin. ROE is the return on equity. LEVEREAGE is the total assets to total equity. MBV is the market to book value. MKT_CAPGR is the average 3-year market capitalization growth. CURRENT RATIO equals to current assets divided by current liabilities. QUICK RATIO equals to current assets minus inventory, divided by current liabilities. FCF is the free cash flow per share. TOBINQ is the summation of market capitalization over total assets. PER is the price to earnings ratio. REL_TOTAL_ASSET is the natural logarithm of total asset of target to total asset of acquirer. REL_MARKET_VALUE is the natural

logarithm of market value of target to market value of acquirer. REL_TOBINQ is the natural logarithm of Tobin's Q value of target to Tobin's Q value of acquirer. All data were collected from the latest available information before the announcement of acquisition. Each data was cut out by 2.5% from each tail to remove outliers.

Table 3.6 Correlation Matrix of Dependent Variable and other Independent Variables

Abbreviation		Correlation Matrix																						
PREMIUM	**A**	1.000																						
COUNTRY	**B**	.002	1.000																					
CROSS_BORDER	**C**	-.066	.399	1.000																				
MERGER	**D**	-.089	-.048	.031	1.000																			
CASH	**E**	.186	.010	-.209	-.810	1.000																		
RELATED_INDUSTRY	**F**	-.059	-.060	-.035	.160	-.161	1.000																	
PERCENT_OWNED	**G**	-.009	-.061	.023	.795	-.718	.110	1.000																
TAR_EBITDA	**H**	.055	-.272	-.127	-.030	.038	.050	.033	1.000															
TAR_ROE	**I**	.165	-.139	-.086	.013	.029	.010	.019	.379	1.000														
TAR_LEVERAGE	**J**	-.210	.148	.079	-.007	-.003	.022	-.031	-.223	-.331	1.000													
TAR_MBV	**K**	-.187	-.210	-.196	-.027	.083	.036	-.007	.199	.040	.155	1.000												
TAR_MKT_CAPGR	**L**	-.026	-.106	-.035	-.056	.052	.009	-.060	.190	.269	-.088	.257	1.000											
TAR_CURRENT_RATIO	**M**	.174	-.046	-.062	-.099	.129	-.008	-.015	.194	.154	-.393	-.071	-.055	1.000										
TAR_QUICK_RATIO	**N**	.205	.023	-.019	-.072	.109	-.009	-.014	.143	.139	-.385	-.080	-.054	.948	1.000									
TAR_FCF	**O**	-.060	.047	.017	.091	-.123	.041	.079	.141	.071	-.016	-.016	-.029	-.109	-.079	1.000								
TAR_TOBINQ	**P**	-.081	-.275	-.197	-.080	.127	-.018	-.056	.326	.239	-.238	.654	.292	.236	-.006	.039	1.000							
ACQ_PER	**Q**	.029	.143	.016	-.008	.020	.041	-.057	-.083	-.039	.017	.054	.057	-.032	-.024	.019	.041	1.000						
ACQ_MBV	**R**	.051	-.073	-.035	-.049	.086	-.008	-.050	.103	.015	-.032	.187	.202	.017	.051	-.051	.163	.163	1.000					
ACQ_MKT_CAPGR	**S**	-.069	-.164	-.017	.027	-.048	.029	.004	.048	.096	-.045	.093	.414	-.113	-.107	-.067	.152	.073	.189	1.000				
ACQ_TOBINQ	**T**	.075	-.053	-.138	-.033	.119	-.009	-.024	.149	.054	-.155	.227	.165	.208	.219	-.067	.382	.266	.436	.159	1.000			
REL_TOTAL_ASSET	**U**	.127	.163	-.023	-.255	.341	-.205	-.231	-.167	-.156	.061	.042	-.032	.048	-.105	.140	.059	.011	.002	-.079	-.099	1.000		
REL_MARKET_VALUE	**V**	.150	.259	-.021	-.231	.307	-.157	-.221	-.210	-.189	.103	-.125	-.100	.024	-.040	.119	-.182	.086	.084	-.099	.158	.865	1.000	
REL_TOBINQ	**W**	.089	.195	-.017	.059	-.034	.097	.030	-.159	-.101	.073	-.272	-.105	-.037	-.023	-.003	-.390	.162	.160	-.027	.444	-.127	.368	-
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**	**W**

The correlation matrix as shown in Table 3.6 that premium is highly correlated with cash payment (r = .186), return on equity of target (r = .165), leverage of target (r = -.210), market book value of target (r = -.187), current ratio of target (r = .174), relative total asset (r = .127) and relative market value (r = .150). Also, the premium is moderately correlated with type of merger (r = -.089) and relative Tobin Q value (r = .089). However, there is no correlation between premium and acquirer's characteristics.

CHAPTER 4

ANALYSIS OF RESULTS

4.1 Analysis of Premium and Dummy Variables

4.1.1 Premium Characteristics

In this section, the analysis of premium characteristics is investigated in order to examine the bargaining power between targets and acquirers throughout 15-year period. In our study, we use premium as a dependent variable to evaluate the bargaining power. Table 4.1 shows that between 2002 and 2016, the average premium and standard deviation are 19.21% and 27.43%, respectively. There is a wide range of premiums at 4-week prior to announcement from -48.07% to 106.90%. The table also reports the one-sample statistics Z-test (at premium return = 0) of the premium rate at 18.82, which shows statistically different from zero at 1% level of significance.

Table 4.1 Descriptive Summary of Premium Characteristics in the Sample from 2002 to 2016

	N	Min	Max	Mean	SD	S.E. Mean	Z-stat	df	P-value (2-tailed)
Premium	722	-48.07%	106.90%	19.21%	27.43%	1.02%	18.82	721	.000**

Note: * at 5% level of significance and ** at 1% level of significance.

Table 4.2 illustrates the premium classified by target country. The results show that Japan remains the top country with Japanese targets reporting the highest number of transactions from 2002 to 2016 with 517 out of 722 transactions or 71.61%. Also, it is seen that Chinese target firms yield the highest average (median) premium at 28.64% (19.26%), while Philippines target firms =show the lowest

average (median) premium at -2.99% (-2.99%). However, both Chinese and Philippines target firms report high fluctuation in standard deviation values at 40.44% and 59.23%, respectively. The second highest (median) premium belongs to Singapore target firms at 26.62% (22.41%). Interestingly, Thailand target firms reveal almost non-negative premium ranging from -.0.8% to 57.40% with the standard deviation at 18.18%.

Table 4.2 Premium Classified by Target Country

Premium By Target Country	**N**	**Mean**	**Median**	**Min**	**Max**	**SD**
Japan	517	19.25%	14.80%	-48.07%	106.90%	28.08%
South Korea	47	8.93%	6.25%	-17.42%	57.58%	15.21%
Taiwan	41	21.40%	22.01%	-19.29%	88.15%	21.86%
Singapore	30	26.62%	22.41%	-9.80%	76.88%	24.73%
Malaysia	26	24.94%	20.32%	-32.20%	103.26%	31.10%
Hong Kong	22	24.51%	20.81%	-36.01%	99.11%	29.77%
China	14	28.64%	19.26%	-41.64%	104.80%	40.44%
Thailand	9	17.39%	16.44%	-0.08%	57.40%	18.18%
Vietnam	9	6.29%	4.55%	-28.44%	45.13%	19.61%
Indonesia	5	4.82%	1.06%	-23.20%	28.49%	21.65%
Philippines	2	-2.99%	-2.99%	-44.87%	38.89%	59.23%
Total	722	19.21%	15.05%	-48.07%	106.90%	27.43%

Table 4.3 investigates the premium classified by target industry. The results show that Consumer goods, Industrials and Technology remain the top three highest number of target industries with 36.29%, 23.96% and 16.62% in our sample, respectively. Consumer goods target firms report the average (median) premium at 19.06% (14.83%) with the standard deviation of 26.82%. Meanwhile, Industrials and Technology target firms show the average (median) premium at 19.84% (15.71%) and 17.35% (12.03%), respectively. However, Healthcare target firms reveal the highest average (median) premium at 27.60% (20.55%), while Utilities target firms report the

lowest average (median) premium at 11.80% (11.80%). Interestingly, Financial target firms show the lowest value in average premium at 14.75%.

Table 4.3 Premium Classified by Target Industry

Premium By Target Industry	**N**	**Mean**	**Median**	**Min**	**Max**	**SD**
Consumer Goods	262	19.06%	14.83%	-43.18%	105.17%	26.82%
Industrials	173	19.84%	15.71%	-44.87%	106.90%	28.12%
Technology	120	17.35%	12.03%	-48.07%	105.25%	28.75%
Basic Materials	74	17.59%	17.77%	-42.08%	103.26%	26.83%
Healthcare	41	27.60%	20.55%	-10.28%	101.57%	27.49%
Financials	25	14.75%	6.02%	-9.84%	101.48%	26.75%
Telecommunications	13	21.65%	20.64%	-19.73%	57.58%	23.81%
Energy	12	20.95%	19.94%	-25.05%	67.74%	28.89%
Utilities	2	11.80%	11.80%	2.77%	20.83%	12.77%
Total	722	19.21%	15.05%	-48.07%	106.90%	27.43%

Table 4.4 examines the premium paid in acquisition classified by quantile deal value. The premium values are divided into four quadrants in order to investigate whether the deal value would have an effect on premium or not. The ANOVA analysis shows that the premiums are statistically significant between groups at 1% level of significance. In Q1, the deal value is ranging from 1.07 to 21.34 million USD, reports the lowest mean (median) premium is 13.28% (6.81%) with the standard deviation of 28.17%. Meanwhile, the other quantile deal values show similar mean premium at approximately 20%. The result implies that when the deal value is low, target firms would also have low bargaining power, and as a result showing the low premium paid in acquisition. On the other hand, when the deal value is high, target firms would have higher bargaining power to its acquirers as seen as the high premium paid in acquisition.

Table 4.4 Premium classified by Quantile Deal Value

Premium By Quantile Deal Value	**N**	**Mean**	**Median**	**Min**	**Max**	**SD**
Q1	180	13.28%	6.81%	-48.07%	105.25%	28.17%
Q2	181	22.40%	17.54%	-43.18%	106.90%	27.01%
Q3	181	20.66%	18.01%	-45.19%	99.29%	26.45%
Q4	180	20.47%	18.74%	-44.87%	105.17%	27.39%
Total	722	19.21%	15.05%	-48.07%	106.90%	27.43%

Premium	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	8840.74	3	2946.91	3.965	.008**
Within Groups	533601.95	718	743.18		
Total	542442.69	721			

Note: * at 5% level of significance and ** at 1% level of significance.

4.1.2 Country Variable

Since target nations in our study remain Japanese firms with 71.61%, we would want to evaluate whether there is any bias of target nation or not. Hence, we analyze the target nation for the effect of premium paid in acquisition. Table 4.5 shows that the independent sample t-test of our premium is not statistically different between target nations at 5% level of significance. The mean premium and standard deviation in cross-border acquisition is 19.25% and 28.08%, respectively. Meanwhile, the other target nations report the mean premium and standard deviation with 19.10% and 25.79%, respectively. This result implies that the mean premiums are not different between Japanese target firms and other countries.

Table 4.5 Descriptive Summary of Country Variable

Variable	Target Nation	N	Mean	SD	S.E. Mean
Premium	Japanese target firms	517	19.25%	28.08%	1.23%
	Other countries	205	19.10%	25.79%	1.80%
	Assumption	**F**	**Z-stat**	**df**	**P-Value (2-tailed)**
	Equal variances assume	3.07	.066	720.00	.947
	Equal variances not assumed		.069	405.32	.945

Note: * at 5% level of significance and ** at 1% level of significance.

4.1.3 Cross Border Variable

Table 4.6 shows that the independent sample t-test of our premium is not statistically different between cross-border perspectives at 5% level of significance. The mean premium and standard deviation in cross-border acquisition is 25.99% and 26.75%, respectively. Meanwhile, the other type of acquisition, e.g. domestic acquisition, reports the mean premium and standard deviation with 18.73% and 27.43%, respectively. This result implies that the mean premiums are not different between cross-border acquisition and domestic acquisition.

Table 4.6 Descriptive Summary of Cross Border Variable

Variable	Cross-Border Acquisition	N	Mean	SD	S.E. Mean
Premium	Cross-Border	48	25.99%	26.75%	3.86%
	Others e.g. domestic acquisition	674	18.73%	27.43%	1.06%
	Assumption	**F**	**Z-stat**	**df**	**P-Value (2-tailed)**
	Equal variances assume	.612	1.76	720.00	.076
	Equal variances not assumed		1.81	54.28	.075

Note: * at 5% level of significance and ** at 1% level of significance.

4.1.4 Merger Variable

Table 4.7 shows that the independent sample t-test of our premium is statistically different between types of acquisition at 5% level of significance. The mean premium and standard deviation in merger is 16.95% and 25.84%, respectively. Meanwhile, the other type of acquisition, e.g. partial acquisition, reports the mean premium and standard deviation with 21.83% and 28.99%, respectively. This result implies that the mean premiums are different between types of acquisition.

Table 4.7 Descriptive Summary of Merger Variable

Variable	Type of Acquisition	N	Mean	SD	S.E. Mean
Premium	Merger	388	16.95%	25.84%	1.31%
	Others e.g. partial acquisition	334	21.83%	28.99%	1.59%
	Assumption	**F**	**Z-stat**	**df**	**P-Value (2-tailed)**
	Equal variances assume	7.06	-2.39	720.00	.017*
	Equal variances not assumed		-2.37	673.22	.018*

Note: * at 5% level of significance and ** at 1% level of significance.

4.1.5 Cash Variable

Table 4.8 shows that the independent sample t-test of our premium is statistically different between methods of payment at 1% level of significance. The mean premium and standard deviation in the pure cash payment is 24.06% and 29.35%, respectively. Meanwhile, the other method of payment, e.g. mixed payment between stock and cash, reports the mean premium and standard deviation with 13.84% and 24.06%, respectively. This result implies that the mean premiums are different across methods of payment.

Table 4.8 Descriptive Summary of Cash Variable

Variable	Method of Payment	N	Mean	SD	S.E. Mean
Premium	Cash	379	24.06%	29.35%	1.51%
	Others e.g. mixed payment	343	13.84%	24.06%	1.30%
	Assumption	**F**	**Z-stat**	**df**	**P-Value (2-tailed)**
	Equal variances assume	15.12	5.08	720.00	.000**
	Equal variances not assumed		5.13	713.15	.000**

Note: * at 5% level of significance and ** at 1% level of significance.

4.1.6 Related Industry Variable

Table 4.9 shows that the independent sample t-test of our premium is not statistically different on industry relatedness at 5% level of significance. The mean premium and standard deviation in the related industry is 17.90% and 27.29%, respectively. Meanwhile, unrelated industry reports the mean premium and standard deviation with 21.18% and 27.57%, respectively. This result implies that the mean premiums are not different on industry relatedness.

Table 4.9 Descriptive Summary of Related Industry Variable

Variable	Industry Relatedness	N	Mean	SD	S.E. Mean
Premium	Related Industry	435	17.90%	27.29%	1.31%
	Unrelated Industry	287	21.18%	27.57%	1.63%
	Assumption	**F**	**Z-stat**	**df**	**P-Value (2-tailed)**
	Equal variances assume	.242	-1.57	720.00	.116
	Equal variances not assumed		-1.57	607.76	.117

Note: * at 5% level of significance and ** at 1% level of significance.

4.2 Analysis of Premium and Other Variables

The analysis of premium and other variables refer to the factors involving bargaining power between targets and acquirers. There are four main classifications which are deal characteristics, target's characteristics, acquirer's characteristics and relative characteristics. Table 4.10 shows the regression analysis result by using ordinary least squares (OLS) methodology. The OLS methodology is used for estimating the parameters in a linear regression model. This stepwise method in regression model points out the relationship between dependent variable (premium) and other independent variables. The results show that model 5 performs the highest explanatory power (adjusted R-square) with 18.5%, which is better than the other models.

For cash variables, it is seen that there is a positive relationship between premium and cash payment. This means that if cash payment is used, rather than other method of payment such as stock payment, there will be an increase in premium by 20.85%. This finding supports the result from Wansley et al.(1983)'s study that an acquirer may be inclined to pay higher premiums if it uses cash as a method of payment in M&A transaction. Pinkowitz, Sturgess, and Williamson (2013) and Burch, Nanda, and Silveri (2012) found that cash acquisition deals have higher premium due to the potential tax gains. The result is also supported by the free cash flow theory from Jensen (1986) that acquiring firms tend to use excessive cash in order to reduce the management's benefits from excessive cash on hand. Hence, if target firms know that acquiring firms have excessive cash on hand, there will be a high chance of using cash as a payment method. In this case, target firms would have more bargaining power to raise its premium to sell to its acquirers.

For percentage owned after transaction variable, it is seen that there is also a positive relationship between premium and the percentage owned after transaction. From the result of regression analysis, 1 percent increase in percentage owned after transaction will increase the acquisition premium by 0.40%. The result is supported by Bradley, Desai and Kim (1988) that the fraction of target shares purchased and owned after acquisition is associated with the premium paid in acquisition. Since target firms will lose its control after acquisition, then it requires higher premium to

compensate them. Walkling and Edmister (1985) also revealed that bidders pay higher premium when they seek for the majority control. Therefore, if an acquiring firm wants to acquire a high proportion of ownership, a target firm would know that it requires higher premium. In this case, the target firm would have higher bargaining power to negotiate with the acquirer.

For target's leverage ratio, the result shows that there is a negative relationship between premium and target's leverage ratio. In other words, if a target has high leverage status or high level of debt, it will have lower bargaining power to negotiate with its acquirer. From our result, one unit increases in target's leverage ratio will cause a decrease in premium by 3.06%. The target's leverage ratio also refers to the level of target's financial distress situation. Shleifer and Vishny (1992) supported that the market mechanism will push the price of target below its current value if the target firm is in financial distress. In this case, the target firm will have lower bargaining power in negotiation with its acquirer when its leverage level is high.

For target's current ratio, the finding reveals that there is a positive relationship between premium and target's current ratio. The current ratio measures the firm's ability to pay its debt obligations. In this case, if a target has high current ratio, it will push the disagreement price upwards, and resulting in high bargaining power, compared to a firm with low current ratio. Hence, based on our findings, the current ratio is an indicator for raising premium in acquisition for target firms that one unit increases in target's current ratio will cause an increase in premium by 2.72%.

For target's Tobin Q, the result reports that there is a negative relationship between premium and target's Tobin's Q. The higher rate of Tobin's Q implies that the stock becomes overvalued. From our finding, it is seen that one unit increases in Tobin's Q ratio will cause a decrease in premium by 11.12%. This is supported by our bargaining hypothesis that the target firm with high Tobin's Q value will become overvalued, and resulting in lowering the bargaining power of target firm. As a consequence, the premium in acquisition will become lower.

Lastly, for relative market value, the result shows that there is a negative relationship between premium and the relative market value. In our study, we use the natural logarithm of target's market value to acquirer's market value to evaluate in terms of relative value. Based on the finding, one unit increases in relative market

value will cause a decrease in premium by 2.07%. Hence, we reject our null hypothesis we firstly set that the higher relative market value, the higher bargaining power of target firm in terms of size, the higher premium paid in acquisition. A possible explanation can be related to the overconfidence theory that when an acquirer's market size is high, it tends to pay higher premium. In this case, the relative market value becomes low when the market size of acquirer is high, and as a result, the premium becomes high. Hence, there will be a negative relationship between premium and the relative market value. Gondhalekar et al. (2004) also reported the adverse effect of the relative market value on the premium.

From its application, based on our findings, if we are a target firm which is considering how much the premium could be, we would want to see if the acquiring firm has excessive cash on hand. Hence, there will be a high chance to negotiate with the acquirer since cash payment will result in higher premium paid in acquisition. Another reason is that the acquirer intends to pay higher premium when the transaction is made by cash payment due to the potential tax gains. Moreover, the higher percentage of shares owned after acquisition would also result in higher premium paid in negotiation. The target firm can use this information to bargain with its acquirer. The determinants of target's leverage ratio, target's current ratio, and target's Tobin's Q value can also be used in negotiation with its counterparty. Lastly, for the relative market value, if the acquirer holds a high size of market value, the relative value becomes small. Therefore, it will be a higher chance for the target to negotiate with increased premium.

Table 4.10 Regression Analysis of Premium on Other Independent Variables

Variables	**Model**				
	1	**2**	**3**	**4**	**5**
Constant	-20.825**	-33.748**	-31.876**	-19.332**	-19.075*
	(7.145)	(8.221)	(9.364)	(7.725)	(8.799)
COUNTRY					
CROSS_BORDER					
MERGER					
CASH	20.315**	21.232**	23.631**	24.702**	20.849**
	(2.840)	(3.314)	(3.811)	(3.045)	(3.435)
RELATED_INDUSTRY					
PERCENT_OWNED	.352**	.451**	.483**	.468**	.400**
	(.071)	(.080)	(.092)	(.075)	(.082)

Table 4.10 (Continued)

Variables	Model				
	1	**2**	**3**	**4**	**5**
TAR_EBITDA					
TAR_ROE					
TAR_LEVERAGE				-2.004**	-3.055**
				(.514)	(.552)
TAR_MBV				-5.969**	
				(1.097)	
TAR_MKT_CAPGR					
TAR_CURRENT_RATIO					2.716**
					(1.044)
TAR_QUICK_RATIO					
TAR_FCF					
TAR_TOBINQ					-11.119**
					(2.774)
ACQ_PER					
ACQ_MBV					
ACQ_MKT_CAPGR			-.098*		
			(.048)		
ACQ_TOBINQ					
REL_TOTAL_ASSET					
REL_MARKET_VALUE		-1.829**			-2.074**
		(.691)			(.733)
REL_TOBINQ			3.057*		
			(1.471)		
R-Square	.067	.093	.139	.167	.196
Adjusted R-Square	.064	.088	.125	.161	.185
F-Statistics	25.612	18.959	10.094	28.435	19.119
No. of Observation	722	561	382	574	479

Note: * at 5% level of significance and ** at 1% level of significance.

The OLS regression analysis presents the effect of independent variables on premium paid in acquisition. From Table 4.10, the 5 models are selected by using the stepwise method to find the highest explanatory power (adjusted R-square). These models are

1) $PREMIUM = B_0 + B_4CASH + B_6PERCENT\_OWNED$
2) $PREMIUM = B_0 + B_4CASH + B_6PERCENT\_OWNED + B_{19}REL\_MARKET\_VALUE$
3) $PREMIUM = B_0 + B_4CASH + B_6PERCENT\_OWNED + B_{16}ACQ\_MKT\_CAPGR + B_{20}REL\_TOBINQ$

4) PREMIUM = $B_0 + B_4CASH + B_6PERCENT\_OWNED + B_9TAR\_LEVERAGE + B_{10}TAR\_MBV$

5) PREMIUM = $B_0 + B_4CASH + B_6PERCENT\_OWNED + B_9TAR\_LEVERAGE + B_{12}TAR\_CURRENT\_RATIO + B_{13}TAR\_TOBINQ + B_{19}REL\_MARKET\_VALUE$

4.3 Multicollinearity and Heteroscedasticity Verification

Multicollinearity problem occurs when each independent variable has significant correlation. In this section, we test whether the result from the full model (model 5) is reliable or not. Hence, we use the Variance Inflation Factors (VIF) to detect the multicollinearity problem. VIF assesses the incremental change of variance of an estimated regression coefficient when independent variables are correlated. In the case where there is no factors correlated, the VIF value will be equal to 1. This implies that the predictors have no multicollinearity problem. When the VIF value is greater than 1 but less than 5, the independent variables may be moderately correlated. While in the case when VIF value is between 5 and 10, it indicates that the regression model has high correlation and multicollinearity problem. Table 4.11 demonstrates the VIF values in each independent variable. The results show that there is no multicollinearity problem between each independent variable since all VIF values are less than 3.

Table 4.11 Variance Inflations Factor (VIF)

Independent Variables	**Unstandardized Coefficients**		**t**	**Sig.**	**VIF**
	Beta	**Std. Error**			
CASH	20.849	3.435	6.070	.000	2.371
PERCENT_OWNED	.400	.082	4.892	.000	2.261
TAR_LEVERAGE	-3.055	.552	-5.535	.000	1.215
TAR_CURRENT_RATIO	2.716	1.044	2.601	.010	1.233
TAR_TOBINQ	-11.119	2.774	-4.008	.000	1.138
REL_MARKET_VALUE	-2.074	.733	-2.831	.005	1.142

The heteroscedasticity problem is also checked by adjusting data from Huber-White's methodology. By this methodology, we adjust White heteroscedasticity consistent standard errors and covariance terms. Table 4.12 shows that even though we adjusted the data, the significant statistical results still remain the same. This helps us confirm that even though we adjusted the data to reduce the heteroscedasticity problem, the estimated independent variables are not changed. Hence, we can use these variables to forecast the premium in the final model.

Table 4.12 Huber-White's Methodology

Independent Variables	Std. Error		t-Statistic		Sig.	
	Before	**After**	**Before**	**After**	**Before**	**After**
Constant	8.799	8.874	-2.168	-2.149	.031	.032
CASH	3.435	3.310	6.070	6.298	.000	.000
PERCENT_OWNED	.082	.084	4.892	4.773	.000	.000
TAR_LEVERAGE	.552	.472	-5.535	-6.479	.000	.000
TAR_CURRENT_RATIO	1.044	1.267	2.601	2.144	.010	.033
TAR_TOBINQ	2.774	2.604	-4.008	-4.270	.000	.000
REL_MARKET_VALUE	.733	.687	-2.831	-3.018	.005	.003

4.4 Robustness Check

4.4.1 Positive and Negative Premiums

In this section, we report the additional tests to examine whether our results are robust to evaluate the impact of independent variables by classifying into different approaches. Firstly, we evaluate the impact of independent variables on positive and negative premiums whether the results show different outcomes or not. Table 4.13 reports the premium classified by positive and negative premiums. The results show that there is the same sign and independent variables that affect the positive premium. The adjusted R-square is .175 with its F-statistics equals to 15.61. However, the result in negative premium shows different outcome. Only target's leverage ratio affects the negative premium. One unit increases in target's leverage ratio would cause a decrease in premium by -.77%. As discussed that the target's leverage ratio is

associated with the level of target's financial distress. Hence, it has a strong significant impact on the evaluation of negative premium. In this case, target firms with high leverage level would have lower bargaining power to negotiate with the counterparty. It is noticed that the independent variables are difficult to be used to forecast the effect on negative premium.

Table 4.13 Regression Analysis of Positive and Negative Premiums

Variables	Model		
	Full Model (Model 5)	**Positive Premium**	**Negative Premium**
Constant	-18.085*	-5.223	-8.884**
	(8.832)	(8.211)	(1.563)
COUNTRY			
CROSS_BORDER			
MERGER			
CASH	21.015**	18.398**	
	(3.438)	(3.158)	
RELATED_INDUSTRY			
PERCENT_OWNED	.400**	.287**	
	(.082)	(.076)	
TAR_EBITDA			
TAR_ROE			
TAR_LEVERAGE	-3.285**	-1.982**	-.774*
	(.591)	(.677)	(.325)
TAR_MBV			
TAR_MKT_CAPGR			
TAR_CURRENT_RATIO	2.619*		
	(1.049)		
TAR_QUICK_RATIO			
TAR_FCF			
TAR_TOBINQ	-11.419**	-12.413**	
	(2.782)	(2.755)	
ACQ_PER			
ACQ_MBV			
ACQ_MKT_CAPGR			
ACQ_TOBINQ			
REL_TOTAL_ASSET			
REL_MARKET_VALUE	-2.012**	-1.797**	
	(.735)	(.656)	
REL_TOBINQ			
R-Square	.197	.187	.041
Adjusted R-Square	.186	.175	.034
F-Statistics	19.127	15.606	5.663
Number of Observation	476	414	134

Note: * at 5% level of significance and ** at 1% level of significance.

The positive premium is associated with the model below

1) POSITIVE PREMIUM = $B_0 + B_4$CASH + B_6PERCENT_OWNED + B_9TAR_LEVERAGE + B_{12}TAR_CURRENT_RATIO+ B_{13}TAR_TOBINQ + B_{19}REL_MARKET_VALUE

While the negative premium is associated with the model below

2) NEGATIVE PREMIUM = $B_0 + B_9$TAR_LEVERAGE

4.4.2 Premium at 1-week and 1-day Prior to Announcement

In this section, we want to test whether the outcome differs across the premium period or not. In the normal model, we use premiums at 4-week prior to announcement from Louis (2004)'s study in order to avoid the information leakage during the announcement occurs. However, the window period is still unclear about how long it could take to be used for evaluating the premium. Hence, we will test the premium at 1-week and 1-day prior to acquisition announcement to confirm the results. Table 4.14 examines the independent variables that have an impact on premium in different periods. The results show that there is the same sign and independent variables to forecast the 1-week premium and 1-day premium prior to announcement. Interestingly, the 1-week premium shows the result of higher adjusted R-square with .234. Also, the 1-day premium reports the adjusted R-square at .224. Based on the adjusted R-square, it is seen that it is appropriate to use the 1-week premium prior to announcement since it yields the highest adjusted R-square in our sample of study. The results of difference in premium periods confirm that there is no difference in results from premium period change. It can be concluded that although there would be an information leakage before the announcement, the results of independent variables to be used to forecast the premium is not changed. The regression analysis of premium in different periods can be shown in Table 4.14.

Table 4.14 Regression Analysis of Premium in Sifferent Periods

Variables	Model		
	Premium at 4-week (Full Model)	**Premium at 1-week**	**Premium at 1-day**
Constant	-18.085*	-29.311**	-26.527**
	(8.832)	(8.741)	(8.778)
COUNTRY			
CROSS_BORDER			
MERGER			
CASH	21.015**	25.126**	23.431**
	(3.438)	(3.373)	(3.384)
RELATED_INDUSTRY			
PERCENT_OWNED	.400**	.478**	.446**
	(.082)	(.081)	(.081)
TAR_EBITDA			
TAR_ROE			
TAR_LEVERAGE	-3.285**	-2.901**	-3.208**
	(.591)	(.582)	(.600)
TAR_MBV			
TAR_MKT_CAPGR			
TAR_CURRENT_RATIO	2.619*	4.384**	3.468**
	(1.049)	(1.083)	(1.036)
TAR_QUICK_RATIO			
TAR_FCF			
TAR_TOBINQ	-11.419**	-14.352**	-13.278**
	(2.782)	(2.741)	(2.746)
ACQ_PER			
ACQ_MBV			
ACQ_MKT_CAPGR			
ACQ_TOBINQ			
REL_TOTAL_ASSET			
REL_MARKET_VALUE	-2.012**	-1.574*	-2.175**
	(.735)	(.724)	(.728)
REL_TOBINQ			
R-Square	.197	.243	.234
Adjusted R-Square	.186	.234	.224
F-Statistics	19.127	24.823	23.469
Number of Observation	476	470	468

Note: * at 5% level of significance and ** at 1% level of significance.

The premium at 1-week and 1-day prior to announcement are associated with

1) PREMIUM 1W = $B_0 + B_4$CASH + B_6PERCENT_OWNED + B_9TAR_LEVERAGE + B_{12}TAR_CURRENT_RATIO+ B_{13}TAR_TOBINQ + B_{19}REL_MARKET_VALUE

2) PREMIUM 1D = $B_0 + B_4$CASH + B_6PERCENT_OWNED + B_9TAR_LEVERAGE + B_{12}TAR_CURRENT_RATIO+ B_{13}TAR_TOBINQ + B_{19}REL_MARKET_VALUE

CHAPTER 5

CONCLUDING REMARKS

Understanding the bargaining power in mergers and acquisitions is important for various reasons. Firstly, a party with higher bargaining power over counterparty would receive a better outcome corresponding to the premium payoff. Secondly, understanding the determinants of bargaining power allows each party to evaluate the other party's components to accept, reject or renegotiate the terms. Thirdly, a party who knows more about bargaining power would be able to negotiate with more favorable terms with another party who knows less in bargaining situation. Fourthly, investors and fund managers may take advantage of the stock price movement caused by the acquisition announcement to purchase target's shares at relatively low price level. Fifthly, understanding bargaining power between both parties would allow investment bankers to evaluate the premium paid in acquisition more precisely. Last but not least, policy makers may also regulate the rules and regulations to protect the benefits from the asymmetric information in acquisition deals.

This study begins with the generality of the bargaining situation to explain about the situation between two parties in negotiating the deal. The bargaining situation can be used not only in the mergers and acquisitions deals, but also in negotiating with suppliers, labor union, landowners, start-up firms, or even for human resource department to negotiate with its new employees about compensation packages. The study then explains about the bargaining from the mergers and acquisition perspective to allow readers to understand how negotiations between both parties could impact the market for corporate control. The bargaining power and process are also discussed in this study.

The bargaining model in our study illustrates the premium that both parties will be satisfied with based on the agreement outcome or premium under the concept of bargaining power and disagreement point. This study refers to the Nash's theorem that each party would expect to maximize its bargaining position to receive the

maximization of expected utility. In other words, the bargaining power is used to determine one player to realize a gain or utility payoff over the disagreement outcome. The powerful party will be able to negotiate its position and expected payoff more efficiently than the powerless party who has less bargaining power.

In the section analysis of results, we collect the premium data throughout a 15-year period from 2002 to 2016. The study also cuts out the outlier by 2.5% in each tail in order to reduce the outlier bias. The result shows that the average premium of the total sample is 19.21% and the standard deviation is 27.43%. We also found that the premium is statistically different from zero at 1% level of significance.

On the other hand, the study examines the independent variables that are associated with the bargaining power between a target (seller) and an acquirer (buyer). The four main characteristics which are related to the bargaining power include deal characteristics, target's characteristics, acquirer's characteristics, and relative characteristics. These characteristics are classified from previous literature studies.

For the deal characteristics, the study highlights six main independent variables which are country of target, cross-border acquisition, type of acquisition, method of payment, industry relatedness and percentage of shares owned after acquisition. Target country involves country risk specifications which capture all relevant risks including economic, political and financial components. Hence, evaluating the country of the target should be a consideration. The results show that Japanese target firms remain the highest number in terms of transaction with the average (median) premium at 19.25% (14.80%). Chinese target firms report the highest average (median) premium at 28.64% (19.26%). Meanwhile, Thailand target firms report almost non-negative premium ranging from -0.80% to 57.40%.

In the cross-border perspective, the study shows that the premium is not statistically different between cross-border deals at 5% level of significance. In other words, the premiums are not different between cross-border acquisition and domestic acquisition. In the type of acquisition, it is found that the premium is statistically different between mergers and other type of acquisition e.g. partial acquisition. The average premium of merger deals is 16.95% with the standard deviation at 25.84%. The result implies that there is difference between types of acquisitions.

In the method of payment, we evaluate between the pure cash payment and other type of payment e.g. stock or mixed payment. It is found that the mean premium of the pure cash payment is 24.06%, while the other method has the mean premium at 13.84%. The study reports that the mean premiums differ between methods of payment.

In the industry relatedness perspective, the result shows that the mean premiums are not different between related industry and unrelated industry. The study also reveals that the percentage of shares owned after transaction is associated with the change in premium which will be discussed later in the regression analysis result.

The regression analysis results show that relationship between the premium and the independent variables, which are target's characteristics, acquirer's characteristics and relative characteristics. The analysis of results shows that there are six main independent variables that have significant impact on the premium paid in acquisition which are cash payment, percentage of shares owned after transaction, target's leverage ratio, target's current ratio, target's Tobin Q, and relative market value.

First, for cash payment, it is seen that the acquisition paid by cash offers greater premium than other methods of payment. If the deal is made by cash, it will create higher premium by 21.02%. This result is supported by Wansley, Lane and Yang (1983) that acquirers will have to pay more premiums if the transaction is made by cash method due to potential tax gains. Jensen (1986) supported that acquiring firms tend to use excessive cash to reduce the management's benefits from cash on hand. In this case, if the target firms know that acquirer has excessive cash on hand, target firms would have higher bargaining power to increase its premium to sell to the acquirer.

Second, based on the percentage of shares owned after transaction, we have found that the premium is positively correlated with the percentage of shares owned after transaction. One percent increases in percentage of shares owned after transaction would result in the increase in acquisition premium by 0.40%. Bradley, Desai and Kim (1988) found that the target shares purchased and owned after transaction is positively related to the premium paid in acquisition. As a result of the loss of control from target after being acquired by an acquirer, the target will require

higher premium to compensate its loss in control due to acquisition. Hence, the target would know that if an acquiring firm wants to acquire a high portion of ownership, it would require higher premium.

Third, target's leverage ratio is found to have negatively relation with premium. The result shows that one unit increases in target's leverage ratio would cause a decrease in premium by 3.29%. Since the target's leverage ratio can be seen as the level of target's financial distress. Shleifer and Vishny (1992) supported that the target firm will have lower bargaining power since the market mechanism will push the price of target below its current value when the firm has high level of debt level.

Fourth, target's current ratio can also have a positive impact on premium. The current ratio evaluates the ability of a firm to pay its debt obligations. If the target firm has high current ratio level, it means that the target can push the disagreement point upwards, resulting in higher bargaining power in negotiation. The analysis shows that one unit increases in target's current ratio would cause an increase in premium by 2.62%.

Fifth, target's Tobin Q is found to have negative effect on premium. If a target firm has high level of Tobin's Q value, it means that the target now becomes overvalued. From our analysis, it is seen that one unit increases in Tobin's Q value will cause a decrease in premium by 11.42%. When the target firm is overvalued, the acquirer will see that it is now overpriced, and as a consequence, the acquirer will push the premium downwards. In this case, the acquirer will have higher bargaining power over the target firm.

Last, the relative market value can also be an indicator that shows a negative relation between premium and the relative market value. From our finding, one unit increases in relative market value would cause a decrease in premium by 2.01%. However, our result is in contrast to the bargaining hypothesis that there will be a positive relation between premium and the relative market value. One possible explanation is that, if an acquirer's market size is high, the acquirer tends to pay higher premium. This is associated with the overconfidence theory. Gondhalekar et al. (2004) also supported the evidence of adverse effect between relative market value and premium.

From our study, we also analyze about the positive and negative premiums. The result shows that there is the same sign between the full model and positive premium model. However, the sign is considerably different from the negative premium. The negative premium analysis shows that only target's leverage ratio is associated with the result in negative premium. It is found that one unit increases in target's leverage ratio would cause a decrease in negative premium by -0.77%. The target's leverage ratio refers to the level of financial distress. The higher leverage ratio implies that the firm has financial problems. As a result, target firms would have lower bargaining power over the counterparty and resulting in lower premium received in acquisition.

Moreover, our analysis also tests whether the premium in a different period would have a significant impact or not. Our study uses the premium at 1-week and 1-day prior to announcement to evaluate the impact from independent variables. Interestingly, the results reveal the same sign and independent variables to forecast the premium. Moreover, the result shows that the adjusted R-square becomes higher in the case of 1-week premium and 1-day premium prior to announcement at 0.234 and 0.224, respectively. This means that the premiums in acquisition remain the same even though we change the time into different periods.

For the area of improvement of this study, more independent variables should be evaluated further in order to explain the bargaining power associated with the premium and independent variables. Although we use a number of independent variables in this study, it still shows relatively low adjusted R-square with about 0.186 in the case of 4-week premium, 0.234 for 1-week premium and 0.224 for 1-day premium. The corporate governance is not included in this study, which can be further investigated in the future research. Moreover, the evaluation of hidden valuable assets, such as prime land location and intangible asset, is not included in our analysis.

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