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Do Acquirers Offer a Higher Bid Premium to Target Companies as Their Demand Increases?

The Effect of Percent Sought on the Announced Bid Premium

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ABSTRACT

This thesis investigates if microeconomic theory of supply and demand can explain financial markets by examining the effect of percent sought on the announced bid premium. However, to analogically apply the law of supply on financial markets is controversial due to the Efficient Market Hypothesis which implies that the supply curve for stocks should be flat. The results are obtained through multiple regression analysis and indicate a significant and positive relationship between percent sought and the announced bid premium. Moreover, the focal variable is significant and robust for a broad set of control variables. Thus, the results indicate that acquirers offer a higher price as their demand for a particular stock increases. We conclude that corporate investors perceive stocks of target firms as something more than a general right to future dividends. Management and company specific characteristics, such as selected rationality, unfeasible internal development, and diminishing marginal utility of wealth, are highlighted as likely explanations.

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1. INTRODUCTION

Is an acquisition the biggest and the most important investment decision a company can undertake? The answer to this question depends on who you ask. However, no matter the answer, it remains that the number and volume of announced mergers and acquisitions (henceforth M&As) have increased substantially over the past decades (Picot 2002). Consequently, the research in and the coverage of this diverse, complex, and developing field has increased simultaneously. Walker (2000) summarizes results from a vast number of previously published papers and identify five main motivations for M&As: first, increased efficiency as a result of economies of scale or by disciplining inefficient managers; second, exploitation of asymmetric information between the management of the two firms; third, reduction of agency problems associated with free cash flow; fourth, enhanced market power; and fifth, creation of tax benefits. In essence, M&As are no longer considered the sole domain of economists, market strategists and financial advisers. The perspective has widened and the management literature, for example, has also researched various aspects of M&A transactions in order to determine the effect on organizational culture, motivation and leadership styles (Cartwright & Cooper 1992). But an important question to ask is the comparability of the forces that drive the M&A market with other, more "classical" markets; is it possible to observe common patterns and themes?

1.2 Supply and Demand vs. Efficient Markets

Undergraduate students in business and economics across the world are taught basic microeconomics which establishes that the price of a product or good is a reflection of demand and supply. The law of demand establishes that, all else equal, a higher price will reduce the demanded quantity due to the fact that the opportunity cost increases; in order to buy a more expensive product, consumption of another product must be foregone. Therefore, the slope of the demand curve is downward sloping. The law of supply, on the other hand, implies an upward sloping curve since producers prefer to sell larger quantities at higher prices as this increases revenue. These curves will shift if the quantity supplied or demanded changes when price remains the same, i.e. the curves change if supply or demand is affected by factors other than price (Pindyck & Rubinfeld 2009).

In this paper, we aim to investigate if this theory holds true when applied on the financial markets, particularly in M&A transactions where an acquirer buys a stake in a target

company. More specifically, this paper examines the effect of percent sought on the offered bid premium, two variables which are made public by the acquirer on the announcement day. In terms of the demand curve, there is evidence which suggest that the demand curve for stocks is downward sloping (see for example Loderer & Zimmerman 1985; Jensen & Ruback 1983). Shleifer (1986) specifically research the demand curve. He finds permanent price increases for stocks added to the S&P 500 and argues that if this inclusion on the S&P is a result of an increased demand for the stock, then the price increase is consistent with a downward sloping demand curve. Kaul et al. (2000) provide evidence of a downward sloping demand curve when they investigate the redefinition of the public float[1] of stocks listed on the Toronto Stock Exchange (TSE). They find a significant mean price increase of 4.31 percent in those stocks on the TSE 300 index affected by the redefinition compared to an increase of 1.97 percent of other stocks on the same index. Moreover, these 31 stocks experienced unusually high trading volumes (consistent with index fund rebalancing) and the authors find a positive relationship with proxies that measure shift in demands. In short, they conclude that the demand curve for stocks slope down.[2]

From a classic supply and demand perspective, the supply curve of firms which are issuing shares is given by a willingness to raise capital, i.e. the lower the cost of capital, the more positive NPV-projects the firm wants to finance. Thus, more shares are issued. In regards to the demand for these issued shares (from the investors perspective), however, EMH implies that it should be perfectly elastic since there ought to be plenty of substitutes for a given stock. A rational investor should only consider the trade off of risk and return, i.e. beta and expected return. However, it should be noted that this paper is examining a setting where firms are demanding shares from individual investors. Therefore, the argument goes the other way around. Investors (which are supplying stocks) should portray perfect elasticity; no matter the quantity demanded by the acquirer, the investor should only care about risk and return and thus sell the shares at a fixed price. Hence, to analogically apply the law of supply on the financial markets is controversial. Please refer to Figure 1 (p. 57) for an illustrative description.

[1] Measured as the last price at which a stock was sold multiplied by the number of outstanding shares of voting and non-voting stocks that are held by public investors (not company directors or executives). This measure is used by stock exchanges to determine whether companies meet minimum listing standards Gao (2010).

[2] Hodrick (1999) also finds support for a downward sloping demand curve when he investigates Dutch auctions and find that such firms face greater stock elasticity. He concludes that stock price elasticity determines corporate decisions and affects the supply of and demand for the firm's stock.

Fama (1970) establishes the influential Efficient Market Hypothesis (henceforth EMH) which is an extension of the random walk model developed by Fama (1965)[3] and states that stock prices already reflect all available information. In short, price changes will occur due to the release of new information. There are three forms of the EMH: the weak form, the semi-strong form and the strong form. What separates the three forms is the definition of "all available information"; the weak form takes historical prices into account, the semi-strong form includes all publicly available information while the strong form also incorporates private information, i.e. insider information (Bodie et al. 2009). As mentioned by Shleifer (2000), this implies that all investors have access to the same information. If in fact all investors do have the same information, they will, as a result, also have the same valuation of a certain stock. This valuation, i.e. the price they believe the stock to be worth, will be the same no matter the amount of stocks considered. Therefore, this framework of theory implies that the supply curve should be flat, no matter the demand. Consequently, the value of a stock, given the current information, will be the same (Shleifer 2000; Shiller 2003).

This has long been the widely held belief of how financial markets work (Shiller, 2003). However, several papers provide evidence of market inefficiencies and criticize the applicability of EMH in real life (see for example De Bondt & Thaler 1985). Shiller (2003) maintains that it is difficult to measure the fundamental value of stocks, and states that it is unreasonable to use EMH as an accurate descriptor of the real world. Black (1986) was among the first to argue against the case of complete rationality from a theoretical perspective since investors more often trade on noise than on information. His position is that investors seldom pursue the strategies as implied by the EMH. However, Friedman (1953) and Fama (1965) maintain that even if we allow for irrational investors, the EMH holds true because irrational trades occur randomly and as such these trades cancel out. This is the very argument that Kahneman & Tvertsky (1973) provide psychological evidence against; investors deviate from rationality mostly in the same way, i.e. the same securities are traded in similar ways at roughly the same time. Other papers which find evidence that financial markets are affected by psychological behavior are: Jegadeesh & Titman (1993) who investigate momentum, Roll (1988) who finds that stock prices change due to other reasons than release of new information, and the previously discussed paper by Shleifer (1986) who examines share price increases after a stock is included on the S&P 500.

[3] Fama (1965) finds that past stock returns are unable to predict future stock returns (p.87): "...the past history of the series cannot be used to increase the investor's expected profits".

To fully document the arguments in favor and against the EMH is outside the scope of this paper. Here, we accept that there are differing opinions in regards to the efficiency of markets. Provided that it is efficient, we interpret its implications in the following way: the price of a stock will be indifferent to the amount of stocks considered (e.g. percent sought). On the other hand we interpret the implications from the inefficiencies accordingly: the price of a stock will be different as the amount of stocks considered changes (e.g. when percent sought increases). We aim to examine if acquirers in an M&A transaction will offer a higher price, and hence a higher premium, when they are intending to buy a higher percentage of the outstanding target shares. In essence, can basic microeconomics theory of supply and demand be analogically applied to M&A transactions? Considering that the outstanding target shares are fixed, do acquirers offer a higher bid premium as their demand increases?[4]

1.3 Percent Sought

In this paper, we use percent sought as a proxy for the demand of the target firm's shares. Percent sought is defined as the proportion of the target shares that the acquirers intends to buy. However, we need to consider if percent sought captures other effects than just a change in demand. In essence, we must control for eventual correlations between percent sought and how the acquirer is valuing the target. Such potential caveats will be addressed here.

First, we turn to the Free Rider Theory outlined by Grossman & Hart (1980) which establish that it is false to claim that a corporation not being run in the interest of its shareholders will be vulnerable to takeover bids, e.g. acquired cheaply and sold at a profit. The authors assume that the bidder and the shareholders have rational expectations about the outcome of the bid, i.e. both parties realize if there are potential synergies. Under this assumption, a small shareholder who is certain that a bid will succeed will not tender any shares if the offered price is lower than the intrinsic value. The simple reason for this is that the shareholder (albeit being small in size) realizes that the gains created by future stock price increases can be obtained by not tendering the owned shares. Therefore, any bids where price is lower than the true value will fail in this setting. However, under this theory the bidder will not make any profit since (p. 45) "he has to pay at least as much for the firm’s shares as they are worth to him". Under the additional assumption that the acquirer faces costs when initiating an M&A transaction, the bidder will in fact make a loss under this setup. Hence, this theory

[4] Please refer to Figure 1 (p. 57) for an illustrative description of the story of this paper.

implies that acquisitions should not take place since bidders always lose due to the target shareholders' possibility (p. 45) "to free ride on a potentially successful bid".[5] More importantly, it predicts that (i) bid premiums should be increasing in the size of synergies and (ii) that an acquirer seeks a larger stake of the target when there could be potential synergies.

In light of Walker's (2000) various motives for conducting M&As, there could be something more to the picture than the prevalence of free riders. In particular, there could be problems with the assumptions of complete rationality (in line with EMH), and that acquirers do not own a share of the target before the offer. Consequently, Choi (1991) investigates toehold acquisitions.[6] His paper starts from the empirical results that the share price of a target firm experiences substantial increases at the announcement of an M&A (see Jensen & Ruback 1983; Jarrell et al. 1988 for reviews of the literature). He hypothesizes (in accordance with Mikkelson & Ruback 1985) that a toehold acquisition is a first step in a full acquisition process and that the price increase at the announcement of a toehold acquisition could (p.393) "reflect investors' reassessment of the likelihood of a subsequent takeover, and the takeover premiums to be earned by the target shareholders [...]". He finds that toehold acquisitions facilitate value-enhancing control transfers since the examined firms earned significant positive abnormal returns during the one-year period after the toehold acquisition. In line with Martin & McConnell (1991), these results suggest that the market reacts positively to M&A news as it expects the acquirer to shortly announce that it seeks to consolidate the target firm as a result of potential synergies. In contrast to the Free Rider Theory, toehold acquisitions can explain why acquirers pursue M&As; by owning a share (a toehold) before initiating the full acquisition, the bidder does not have to pay the target shareholders a price which is equal to the value of all future gains. This is in line with Betton et al. (2005) who conclude that there are gains from toeholds even if the bidder is not winning the contest. This is because the toehold will then be acquired at a premium by the rival offering the winning bid. To have a toehold will only result in a downside "if all bidders fail *and* the market reduce the target share price to a level below the toehold-purchase price" (p. 25).[7]

[5] It should be noted that Grossman & Hart (1980) assume that the acquirer is not a shareholder before any bid is offered.
[6] An accumulated position of five percent or more of the common stock of a firm. U.S. law stipulates that such positions must be publicly disclosed. The threshold is the same in Sweden (Gregow 2010, Lag (1991:980) om handel med finansiella instrument 4 chapter 5 § 2).
[7] Betton et al. (2005) test Burkart's (1995) theory "that the introduction of toeholds into a bidding contest leads to overbidding by a party owing an initial stake" (p. 1510).

For this paper, the Free Rider Theory and the notion of toehold acquisitions could imply that our focal variable percent sought, in addition to demand, also captures the acquirer's willingness to consolidate with the target in order to realize future synergies. It is plausible that a higher percent sought captures synergy effects; the higher the potential synergies, the higher the announced premium. In panel (c) of Figure 1 (p. 57), this would result in a simultaneous change in supply and demand and we would thus not isolate any effects attributable to changes in demand. However, is this really the full picture? As cited, Walker (2000) discusses several other motivations in addition to synergies for why M&A transactions are initiated, all of which could explain the bid premiums. Instead, premiums could also illustrate: (i) a willingness to eliminate a discount of the target firm's stock price (Kraakman 1988), (ii) that the acquirer is overpaying (Black 1989; Varaiya & Ferris 1987), or (iii) as a result of wealth redistribution from corporate stakeholders such as employees, debt holders and suppliers to stockholders (Shleifer & Summers 1988). In short, M&A transactions are complex and can be analyzed from various perspectives. In regards to synergies, the literature uses different methods when accounting for synergies. Chang (1988, p.59) states the problems of empirically measuring synergies due to the "ex ante nature of anticipated synergy", i.e. not only are synergies hard to measure, it is not always the case that potential synergies are realized. Carlson (2002) argues in a similar manner when he examines M&As in the aerospace and defense industry and tries to find a proxy for measuring synergies. Due to issues with data availability in combination with the limited scope of this study, we have addressed synergies in accordance with Hayward & Hambrick (1997) (who investigate the effect of CEO hubris on the paid bid premium) by controlling for industry relatedness[8]; transactions which take place between two companies in the same industry. As such, we fixate supply by controlling for product synergies and analyze effects of changes in the acquirer's demand of the target company's stock, please refer to panel (d) of Figure 1.

In addition to this interrelationship between the acquirer and the target, this paper controls for characteristics of the acquiring firm, the target firm, and the transaction. Specifically for the acquirer, we account for the industry they are acting in, the size of the board and the number of previously made M&As. For the target firms, as for the acquirers, we examine the impact of the industry and the size of the board. For the transaction specific characteristics, we investigate the impact of the method of payment (cash, stock, or cash and stock), the nature

[8] In short, Hayward & Hambrick (1997) control for product synergies.

of the bid (friendly or hostile) and how much of the target that the acquirer already owns (percent owned). Finally, we control for the state of the overall economy through a variable which captures the development of the Nasdaq OMX Index the year prior to and up until the day before the announcement date.[9] Since our purpose is to investigate if the bid premium can be explained by factors up until the announcement date, we study the announced bid premium and not the premium eventually paid. This is also why our focus and benchmark for the variables is the announcement date and not the completion date. In line with Warren Buffet (2008, p. 5), we make a distinction between the bid premium and the value later created by the transaction: "*Price is what you pay. Value is what you get".* In short, we do not study post announcement performances, nor do we analyze abnormal returns.

1.4 Brief Overview of the Literature

If we compare our study to the current literature, King et al. (2004) should first be revisited. They summarize previous papers and establish that the literature focuses on studying the post acquisition performance of acquirers and targets, i.e. analyzing abnormal returns. In particular, the aim of scholarly articles can be divided into four groups: if the acquisition was conducted by a conglomerate, if the acquirer is buying a firm in a related industry, how the deal is financed, and whether the acquirer has any prior experience of M&As.[10] In regards to the bid premium, Lorange et al. (1994) discuss two initial considerations that acquirers take into account when deciding upon the size of the premium they are willing to pay. First, they state financial aspects, e.g. that the acquisition is an extension and/or development of the current business. Second, in line with Christensen et al. (2008), they mention non-financial reasons; e.g. acquisitions which are necessary for future existence since internal development is not possible. Baker et al. (2009), on the other hand, investigate if the selling investor portrays any bias. They develop a reference point theory of M&A by using reference prices to explain different characteristics of the transaction. These include the price, i.e. the bid premium, and firm types. The authors find a strong positive relationship between the target firm's 52-week high price and the price finally offered.

Other papers can be divided in two groups: (i) studying synergies as the underlying motive for offering premiums, and (ii) incorporating non-financial variables in order to control for possible influences by the behavior of management. Varaiya (1987) belongs to the first group

[9] Please refer to Section 3 for the theoretical motivation for these controls.
[10] Measured by the number of previously made M&As.

and constructs a model to predict the acquirer's forecasts of future gains by using the relative size of the bidder and the target as a proxy for possible synergies. He finds strong support regarding the effect of the relative size and mixed support for the effect of growth projections. Hayward & Hambrick (1997) investigate the effect of CEO hubris (exaggerated self-confidence) on the paid bid premium in large acquisition and thus belong to the second group. Their results support the hypothesis that CEO hubris plays a substantial role during the M&A process as well as in deciding the size of the bid premium. Slusky & Caves (1991) can be termed a mixture of both groups as they aim to explain the premium by both synergies and manager specific characteristics. They are unable to provide evidence of real synergies, but find significant effects of both agency and financial synergy. In sum, there are no published scholarly articles that examine the bid premium in order to draw conclusions about the applicability of the laws of supply and demand on the financial markets.

1.5 Summary of Results and Conclusions

To summarize the results of this paper, we find a significant positive relationship between percent sought and the announced bid premium. From the main statistical test, we observe that our focal variable is significant and robust for a broad set of control variables. Moreover, we split the sample on percent sought in three different ways and the results from these regressions support our findings of a positive relationship. Finally, we test for non-linear effects, but are unable to draw exhaustive conclusions due to the lack of significance for most coefficients. In essence, we are able to reject the null hypothesis that there is no relationship between percent sought and the announced bid premium, i.e. we have established that there is a positive relationship. In this setting with percent sought as an appropriate proxy for demand[11], we have thus found support for the reasoning that the supply curve for stocks is upward sloping. This is in contrast to the classical view on the financial markets, where the supply curve could be flat as a result of the viewpoint that the supply of stocks is deemed perfectly elastic. Thus, our results are interesting as they indicate a possible scenario where this standpoint may need to be modified. In essence, acquirers offer a higher price for the same stock as their demand for that particular stock increases. We discuss differences between individual and corporate investors and conclude that company investors perceive the target stock as something more than a general right to future dividends. We highlight both management and company specific characteristics, such as selected rationality, unfeasible

[11] We control for the alternative story that firm valuations are positively correlated with percent sought through a variable which captures possible product synergies. Please refer to Figure 1.

internal development, and diminishing marginal utility as possible explanations which should be investigated further by future papers.

1.6 Organization of Paper

This paper proceeds as follows. In the next section, we give a detailed overview of the M&A literature, both in terms of pricing and valuation, and in terms of the bid premium which we have divided on papers using either U.S. or Swedish data. The third section presents our hypothesis for our focal variable percent sought and previous research applicable to this specific variable. Moreover, we discuss research in the fields of the remaining independent variables, the controls, in order to motivate their inclusion in the statistical model. Section 4 and 5 outline and review the methodology and data sample used in this paper. In Section 6 we present and discuss the results from the different regression models. Lastly, we conclude this paper in Section 7 by discussing economic implications of our results and providing suggestions for future research.

2. PREVIOUS LITERATURE

The research within M&A has produced a substantial amount of theories and empirical evidence concerning various parts of a transaction. However, since this field is broad and many questions remain unanswered, there are lots of contradictory results and interpretations. For example, Reed et al. (2007, p.1) sees mergers and acquisitions as "[...] one of the most complex transactions one can undertake", while King et al. (2004, p. 196) argue that M&A transactions are "[…] no more difficult to successfully execute than other alternative strategies for business growth and development". Cooke (1986) illustrate the diversity within M&A by discussing the various motives of mergers and acquisition; synergies, reduction of capacity, managerial motives, growth prospects, acquisition of particular assets (including management), and taxation considerations to mention a few. In particular, he summarizes (p. 37) that "specific reasons for undertaking M&As can be categorized into efficiency, inefficiency, and strategic and monopoly theories". In short, the literature has not found a single motive for M&As. The transactions remain complex since they take place for more than one reason and the nature of how they are conducted also change over time. In this section, we outline and discuss theories as well as empirical findings.

2.2 Pricing and Valuation

From M&A theory, we learn that the valuation process constitutes an essential part of an M&A transaction. Hunt (2003) and Reis & Cory (1994) describe valuation frameworks based on the intrinsic, liquidation, and relative value (the latter of which, according to Koller et al. 2005, is often based on accounting measures). No matter the method, it is impossible to escape the fact that valuation is as much an art, as it is a science due to the substantial amount of judgmental assumptions and the complexity of forecasting future performance (see for example Baker et al. 2009; Hunt 2003; Moeller & Brady 2007; Reis & Cory 1994). In short, the pricing and valuation process is dynamic and changes with market conditions and the availability of data (Moeller & Brady 2007). Therefore, the inherent difficulties of valuation will result in difficulties in determining the price of the target.

In regards to the time period after the announcement date, plenty of research has been devoted to analyze the abnormal returns for acquirers and targets alike. Andrade et al. (2001) discuss winners and losers in the merger game and show that mergers create value for the stockholders of the new combined group. However, most of the benefits created by the mergers accrue to the shareholders of the target. With regards to acquiring shareholders, the evidence on profitability is somewhat more dispersed with short term negative abnormal returns. Since the results are not significant, it is hard to label the acquiring shareholders as either losers or winners. King et al. (2004) conducted a similar study and concluded that it cannot be established that acquisitions improve the financial performance of the acquirer the day following the announcement of an acquisition. Bruner's (2001) results are in line with these studies, but his conclusions are more detailed as he states that the returns to one third of the buyer firms in his sample experience value creation. However, he also concludes that on the aggregate, buyer firm returns are zero.

Bradley & Korn (1984) comment on the classical view that managers' main objective is to make investments which maximize the net present value. Furthermore, they discuss the difficulties of including all effects of an acquisition due to the many constituencies, in addition to the shareholders, that a firm needs to bear in mind. This perspective is in line with Christensen et al. (2008) who argue that the application of the net present value method needs to be adjusted. More specifically, they find it incorrect to assume an indefinite continuation of the present state of a company and that projections of future cash flows are full of estimation

errors. To summarize, when evaluating an investment, whether it is an M&A or not, recent research has found the need of applying a broad set of criteria.

2.3 The Bid Premium - U.S. Data

A higher price paid will, ceteris paribus, result in a lower net present value and a higher premium. Lorange et al. (1994) discuss two initial considerations that acquirers take into account when deciding upon the size of the premium. First, financial aspects are considered, i.e. the acquirer sees the acquisition as an extension and development of the current business. Examples mentioned include a new product line that better fits the present distribution channels or a manufacturer that integrates backwards. Secondly, they mention reasons that are not purely financial; the future existence of a company may perhaps be threatened since internal development is not feasible. Therefore, an acquisition with a negative net present value might still be carried out since remaining idle can result in greater losses, i.e. bankruptcy. This line of argumentation is in accordance with the previously mentioned paper by Christensen et al. (2008) who stress the importance of adopting a wide perspective when evaluating investments. In contrast to these studies, Baker et al. (2009) investigate if sellers portray biases. They develop a reference point theory of M&A by using various reference point stock prices to explain deal characteristics, including pricing (i.e. bid premium) and types of firms traded. They find that the target company's 52-week high price has a strong and significant effect in explaining the price offered by the acquiring firm. In fact, the results suggest that this price constitutes "the modal offer price" (p. 28).

The premium paid in an acquisition is one of the key determinants as to whether a company will acquire another company or not (see for example Lorange et al. 1994; Walker 2000). Varaiya (1987) establishes that acquiring firms are willing to pay a bid premium (i.e. a price over the market value), if they can foresee possible gains[12] with the target. Hayward & Hambrick (1997) in turn argues that by paying a bid premium, the managers of the acquirer believes the target to be worth more in their hands. The literature in this field can thus be divided into papers which take into account deal specific characteristics, and those which also aim to include other (broader) factors. When discussing the size of the bid premium, Varaiya (1987) is primarily interested in predicting the acquirer's forecasts of future gains and the relative size of the bidder and the target. As a result, the variables analyzed and discussed in

[12] Varaiya (1987) defines this broadly by referring to any form of synergy.

his study mainly cover the estimated acquisition gains. He finds strong support regarding the effect of the relative size and mixed support for the effect of growth projections. Similarly, Moeller et al. (2004a) study the relation between the uncertainty attained to growth prospects on the one hand and acquirer returns on the other. In particular, they investigate the form of payment (cash versus equity) and its effect on the acquirer's abnormal returns. They conclude that publicly traded firms with greater growth uncertainty experience lower abnormal returns when the method of payment is equity as opposed to when it is cash.

Hayward & Hambrick (1997) include corporate governance factors when they investigate the bid premium paid in large acquisitions (as measured by deal value). They examine the role of the chief executive officer (CEO) and if this individual portrays exaggerated self-confidence, called CEO hubris. More specifically, they investigate if this hubris variable affects the size of the paid bid premium and find strong support for this hypothesis. In Moeller et al. (2004b) the authors add managerial factors when investigating the size of the acquirer (as measured by market capitalization) and the effect it has on the abnormal returns following the announcement of an M&A transaction. They find that smaller firms experience significantly higher returns (2.24 percent) as opposed to larger firms and conclude, in line with Hayward & Hambrick (1997), that managers of large firms offer higher bid premiums.

Bargeron et al. (2008), investigate the bid premiums paid by public and private companies respectively and find that shareholders gain if the acquirer is a public company. Moreover, their results suggest that private companies, on average, pay less than public companies. They conclude that public companies tend to pay a higher premium because operating companies expect to benefit from synergies. The difference in paid premiums between public and private companies is, however, not significant when accounting for the percentage of managerial ownership in both company types. Slusky & Caves (1991) also addresses the question of explaining the paid bid premium in acquisitions. They use a sample of 100 recent acquisitions in the U.S. and aim to explain the premium by (i) synergies and (ii) manager specific characteristics. Their results do not provide evidence of real synergies, but clearly significant effects of both agency (measured by the fraction of shares owned by management) and financial synergy (relative size of target and bidder measured by annual sales and the debt-to-equity ratio).

2.4 The Bid Premium - Swedish Data

To the best of our knowledge, there are no published scholarly articles that use Swedish data to investigate the announced bid premium. However, there are two Master theses from the Stockholm School of Economics that research the paid bid premium in Swedish M&A transactions. Boström & Gustavsson (2000) use Swedish data from 1988 to 1998 and construct a regression model to explain the bid premiums in M&A transactions. They primarily find ownership structure and the bidder's future growth opportunities (as measured by Tobin's Q) to be the most important factors in determining the size of the bid premium. In addition, their results provide evidence that acquiring firms offer a higher premium in order to gain or retain control of target firms. Consequently, the premiums are lower when the bidder already possesses significant influence. Allerth & Åhr (2004) research if the current state of the economy, as measured by the development of the OMX, has an influence on the size of the offered bid premium. They provide significant evidence that the bid premium is higher: (i) during bull markets, (ii) when the acquirer does not own a share of the target beforehand, (iii) when there is a non-Swedish acquirer, and (iv) when the transaction (as measured by total transaction value) is relatively small.

2.5 A Wider Perspective

Our research question is tied to the M&A field. However, as cited, Cartwright & Cooper (1992) argue that M&As spans over several fields of research, not only finance. Therefore, we widen our perspective since we, in line with Christensen et al. (2008), believe that a firm's investment decision is affected by both the fundamentals (i.e. the financials) and the individuals involved in the decision making process. Consequently, we choose to include variables that account for corporate governance, namely the size of the board of directors. This is supported by (i) Kollegiet för svensk bolagsstyrning (2008), i.e. the Swedish Code of Corporate Governance, which establishes that the board of directors is one of the three decision-making bodies in a company (the CEO and the shareholders' meeting are the other two), and (ii) by Yermack (1996). Next, we will argue, with previous research as a base, why we include the various control variables and how we use and interpret the results from other studies in this paper. For now, we would just like to stress the findings of Cartwright & Cooper (1992) by reiterating that this paper uses a large number of variables in the statistical tests and thus draws on a wide array of research.

2.6 Relevance

The main question of this paper has, to the best of our knowledge, not been posed in a similar manner and there are no scholarly articles that use Swedish M&A data. Moreover, the offered bid premium has not been fully researched. In short, the current literature, as outlined in this section, does not address the aim of this paper and we find it important to use data from outside the U.S.

3. HYPOTHESIS AND MOTIVATION OF CONTROL VARIABLES

The results of this paper are obtained through multiple regressions and we will now outline the used variables. In this section, we first present our hypothesis for our focal variable percent sought and previous research applicable to this specific variable. Second, we present the remaining independent variables, the controls, and theoretical motivations for their inclusion in the statistical model. With this literature, we reason and interpret how the controls affect the announced bid premium.

3.2 Focal Variable: Percent Sought

This paper investigate the hypothesis that percent sought has a positive relationship with the announced bid premium. Previously, empirical research has used the percent sought as a selection criterion, i.e. deals where the percentage sought is below a pre-determined level have not been included in their studies. However, Muehlfield et al. (2006) investigate the likelihood of an announced transaction to be successfully completed. In addition to firm-specific characteristics, they primarily find that transaction-specific factors such as the nature of the bid (hostile vs. friendly), method of payment, and the percent sought constitute important influences in determining whether the deal is ultimately completed or not. They include percent sought as it (p.15) "is likely to confer information about the extent to which strategic or purely financial interests are pursued". Similarly, we are investigating this variable in light of this reasoning: as the percent sought increases, will the offered bid premium be higher? As discussed by Pindyck & Rubinfeld (2009), we are thinking in terms of basic supply and demand; as demand increases, while supply remains fixed, price will increase. Our main underlying assumption is that target shareholders will be more reluctant to give up their shares if the acquirer aims to buy a large stake, much in line with Shleifer

(1986). Holthausen et al. (1987) study if permanent and temporary price effects, associated with block transactions, are a function of the size of the block. They find that there is a mean permanent price effect, and that this effect increases with the size of the block for buyer-initiated transactions. Moreover, they conclude that these findings are consistent with supply curves that are less than perfectly elastic, i.e. they are not horizontal. Brealey & Myers (2003, p. 85) develop this argument and show that an investor can only buy large blocks of stock close to the market price "as long as you can convince other investors that you have no private information". Consequently, we believe that target shareholders will demand a higher premium when the acquirer aims to buy a relatively large stake of the target. On the other hand, we also assume that the acquirer is aware of this tendency and accounts for it when announcing the offered bid premium, i.e. bearing in mind the results of Brealey & Myers (2003) and thus offering a higher bid premium. Ceteris paribus, we therefore hypothesize that there is a positive relationship between percent sought and the announced bid premium.

Hypothesis*: Acquirers aiming to buy a larger share of a target firm will announce a higher bid premium.*

From a statistical point of view, we test the following hypothesis:

H_0: *No significant relationship between percent sought and the announced bid premium.*
H_1: *The relationship between percent sought and the announced bid premium is significantly different from zero.*

3.3 Motivation of Control Variables

3.3.2 Percent Owned and Total

From Bloomberg we obtain data of how much the acquirer owns of the target on the announcement date. To the best of our knowledge, however, this variable has not been the focal variable in previous papers, nor has it been used as a control. Since we are interested in analyzing effects up until the announcement date, we find it important to include this variable. Moreover, as a consequence of the toehold acquisitions theory outlined by Choi (1991) and that percent owned acts in opposite to percent sought (the total sum of the two can never be larger than 100 percent), we believe that our reasoning to include this variable is further supported. Lastly, we generate a variable that accounts for the sum of percent sought

and percent owned (called PerTotal). This variable is used as a dummy in order to control for transactions where PerTotal is above 90 percent to account for synergies in light of the Free Rider Theory and the reasoning regarding toehold acquisitions (please refer to Table 11). Moreover, it is used in a data split to further investigate potential issues with percent sought as a proxy for demand (see Table 18).

3.3.3 Number of Previously Made M&As

Hitt et al. (2001) state that past experience of M&As produce intra-organizational knowledge which can contribute to success in future acquisitions. They claim that managers become more effective in: deal negotiations, financing, integration and assimilation. In line with Reed et al. (2007), Haspeslagh & Jemison (1991) acknowledge the complexity of M&A transactions and emphasize that experience on both an individual and organizational level will enhance the integration process. When examining the influence of prior M&A experience on acquisition performance, Haleblian & Finkelstein (1999) find these experience effects to range from positive to negative. After the first few acquisitions, relatively inexperienced acquirers will wrongly generalize their experience to dissimilar transactions, while acquirers with more experience have a wider knowledge from various acquisitions which increases the tendency of applying the "right kind" of acquisition experience. Hayward & Hambrick (1997) find that acquisition performance relates positively to prior acquisitions which are not highly similar or dissimilar to the transaction in focus. They find that acquirers develop specialist skills to capitalize on currently existing opportunities and more general skills to assert new ones. In this paper, we control for this past experience accordingly: prior experience of M&A will result in a smoother transaction and post transaction integration. This in turn results in larger synergies since economies of scale, for example, are harvested quicker. Furthermore, experienced companies are willing to offer a higher bid premium since they prioritize a quickly completed transaction in order to initiate the integration process.

3.3.4 Industry Groups and Relatedness

Walker (2000) study the acquiring firm's strategic objective for initiating an M&A transaction and identifies six primary objectives.[13] He finds that the shareholders of the acquiring firm earn normal returns regardless of the takeover strategy. The exception is strategies where the acquirer claims that they are diversifying their operations and have

[13] Expanding geographically, broadening the product line, increasing market share, integrating vertically, diversifying with potential overlap, and diversifying with no overlap.

identified potential overlaps; their stocks experienced a negative market reaction. Cantwell & Santangelo (2002) find that some industries, on average, are characterized by a higher mean value per deal and a higher activity (measured as total number of deals per year). They conclude that consolidations are more common within industries than across industries. In addition to this, Andrade & Stafford (2004) find strong evidence that M&A activity cluster through time (i.e. in waves) and that it does so by industry. In this paper, we use the result from these two papers by adding industry dummies as it may be that acquirers in certain industries are more prone to offer higher bid premiums than acquirers in other industries.

According to Hitt et al. (2001), an acquirer which is familiar to the business of the target[14] reduces the need for the managers of the acquiring firms to learn a new industry. Compared to acquisition experience, this relatedness within industries captures business specific knowledge instead of general transaction specific knowledge. However, both of these variables contribute to a smoother integration process which may result in high synergies. This reasoning, that the relatedness is a measure of potential product synergies, is also in line with Hayward & Hambrick (1997) who control for industry relatedness as a measure of potential synergies. Roberts & Berry (1985) find that an M&A transaction between two companies of related industries, increases the probability that pre-existing resources are relevant for one of the parties; these assets can be more easily used in the other company and are thus valued higher. We interpret this as follows: the access to competence and assets increase the acquirer's willingness to pay a higher premium since potential synergies are deemed to be larger.

3.3.5 Method of Payment

Franks et al. (1988) discuss that shareholders should be indifferent to the method of payment if the market is characterized by symmetric information and there are no taxes. However, the financial markets are affected by taxes in the real world and hence the authors claim that markets are organized in ways that encourage financing depending on the type of deal. Consequently, it has been found that acquiring managers will finance the deal with cash if they believe the stock of their firm to be undervalued and with stock (i.e. equity) if they believe the stock to be overvalued (Travlos 1987; Shleifer & Vishny 2003). In pure stock offerings, the market reaction is significantly negative, while it is "normal" for cash bids

[14] Hitt et al. (2001) define this as belonging to the same industry.

(Travlos 1987; Walker 2000). Slusky & Caves (1991), on the other hand, state that it is hard to predict the sign of an all cash variable. This is because of a tax on capital gains levied on the target shareholders. If stocks are used, this tax is deferred until the swapped stocks are sold (as discussed similarly by Franks et al. 1988). Stocks, on the other hand, may be discounted by the target shareholders because of the uncertainty of their future value. In regards to the bid premium, Franks et al. (1988) and Slusky & Caves (1991) provide empirical evidence that the bid premium is higher in cash-financed transactions as opposed to all equity-financed transactions. In contrast, other papers find a strong and direct relationship between negative post announcement returns and when the deal is all equity financed due to the creation of information asymmetries regarding the state of the acquirer (see for example Asquith et al. 1983, Travlos 1987 and Asquith et al. 1990). To summarize, the empirical results are contradictory and there is no consensus in the literature. Therefore, due to the problem of asymmetric information, we believe the bid premium to be higher in transactions which are all equity-financed as opposed to all cash financed. In fact, this reasoning is proved by Boström & Gustavsson (2000) who find a positive relationship between stock-financing and the bid premium.

3.3.6 Nasdaq OMX Index Returns

Hayward & Hambrick (1997) use M&A data from two years; when the economy is in a boom and when the economy is in a downturn. They do this in order to test for robustness over widely varying economic downturns. Moreover, they adjust their acquisition premiums for movement in the Standard and Poor 500 Index so as to remove movements in stock prices that are attributable to market movements. We, in contrast, do not wish to remove this movement. In this paper (analogical to Dagnino 2001), the OMX variable captures the movement of the Swedish stock market from one year prior to and up until the announcement date. Becketti (1986), on the other hand, discusses how the tendency of M&As to hit the market in waves can be interpreted in two ways: either as unique occurrences attributable to specific changes in laws or governmental policies, or as pro-cyclical with the general state of the economy (i.e. increasing when the economy expands, decreasing as it shrinks). His empirical results illustrate a strong relationship in line with his discussion about merger activity and the business cycle. We interpret this accordingly: when the economy expands, more firms will be able to initiate an M&A process. Therefore, the willingness to initiate M&A transactions increases and this in turn drive up the announced premiums - shareholders of target firms will demand a higher premium as a result of this increased M&A activity in

the economy. In line with Miller (1999) and Dagnino (2001), we want to use a market capitalization weighted index for the country where the investigated stocks are listed to control for market movements. Hence, we use the OMX Index.[15]

3.3.7 Board Size

The Swedish Code of Corporate Governance (Kollegiet för svensk bolagsstyrning 1998) states (p.11) that "the board is responsible for the company's organization and the management of the company's business". Fama & Jensen (1983) see the board of directors as the core of a company's decision control system and argue that board members, "the decision agents", do not bear a large share of the wealth affected by their decisions. For a board to work efficiently[16], Dahlbäck (1990) states that there is more than finding the most competent board members; it is also about finding the correct composition, the optimum size, and nurturing an appropriate atmosphere suitable for decision making. In relation to size, he believes that a board must not be too large. Lipton & Lorsch (1992) maintain that directors will experience difficulties in expressing opinions and ideas when there are more than ten members, especially when accounting for a limited time schedule. Consequently, an inhibiting culture, which bars directors to speak freely, may be developed. They conclude that the benefit of a large board (more directors to monitor management) will be outweighed by increased costs due to a slower decision making process.

Svedberg (2003) discusses group psychology and presents characteristics that separate a small group from a large group. In terms of efficiency, he finds the optimum group size to lie somewhere between four and ten. His arguments are in line with the principle of least group size, developed by Thelen (1949). This principle establishes that a group has reached its optimum size when it includes individuals with all the relevant skills needed for solving the given problem. Hare (1962) further comments that larger groups decrease the opportunity for each member to speak, increases the required control and are less friendly, i.e. they are less efficient. Empirical studies[17] (Yermack 1996; Eisenberg et al. 1998; Eklund et al. 2009) have confirmed this and find that smaller boards with fewer directors are more effective than larger ones.[18]

[15] Analogous to Allerth & Åhr (2004).
[16] Jobber (2007, p. 999) defines efficiently as ”doing things right”.
[17] Please refer to Hermalin & Weisbach (2003) for an excellent review of the literature.
[18] As measured by Tobin’s Q; the ratio of a firm's market value divided by the replacement cost of its assets.

Since the connection between board size and its effect on the decision making in M&As has not been fully researched, we are unable to analogically apply established results. Therefore, we use the principle of least group size from the acquirer's perspective; at a certain point the board size maximizes efficiency, the aggregate knowledge of the board will offer a bid premium which is not too large (i.e. they are not overpaying) and not too low (i.e. the target shareholders will be sufficiently satisfied). From the target's perspective, this reasoning is not as clear because the premium is offered by the acquirer and should, ceteris paribus, be unrelated to the board size of the target. Nevertheless, we include this variable in our models as there might be an interaction between the two boards prior to the announcement date.

4. METHODOLOGY

Primarily, it should be noted that this paper limits itself by only examining completed M&A transactions in Sweden where investigated firms are domiciled in Sweden and where the target is a publicly traded company. We find it natural to limit our study to transactions from a specific country in order to make a sound analysis and draw clearer conclusions. Unlike the US, for example, where all the individual states are united in one federation, Europe is much more dispersed and characterized by national markets. Therefore, our limitation is due to the various laws and commercial climates that characterize the different countries in Europe.[19] Taqi & Holmes (1994, p. 493) illustrate our reasoning vividly:

> *"Viewed from an American acquirer's perspective, the European business environment is bewilderingly complex - a mosaic of national markets with different languages and commercial cultures, each with its own set of company laws, accounting practices, corporate tax structures, banking and financial systems, competition rules, and takeover regulations (if any*)."

Important to note is that we assume our data sample to be a random draw from the underlying population, all completed Swedish M&A transactions. The results are obtained through multiple regressions. This econometrical model is suitable when answering the question of this thesis as it is flexible and can incorporate several variables of various types (Wooldridge

[19] It should be noted that the integration within the European Union (EU) has created a more comparable European business environment which has decreased these dissimilarities, for example as a result of IFRS.

2009). Moreover, this method has been used in previous studies researching the bid premium (see for example Hayward & Hambrick 1997; Slusky & Caves 1991; Varaiya 1987). In short, this method facilitates comparability and a consistent methodology can thus be ensured.

4.2 Ordinary Least Squares (OLS)

In the statistical analysis we use ordinary least squares (henceforth OLS). Its primary strength is to minimize the sum of squared residuals when estimating fitted values on any sample of data (Wooldridge 2009). However, more important are the underlying assumptions and why we believe that the model is applicable in this paper. Table 1 summarizes the assumptions and their implications for interpretations and econometric inferences. As discussed below, we have been cautious to ensure that the explanatory variables have been measured as precisely as possible. However, we need to assume that our sample is a random draw from the underlying population. Also, from the correlation[20] matrix in Table 4 it is evident that there are no independent variables which suffer from perfect collinearity.[21] In sum, there are no strong indications that the assumptions are violated in this paper. It is, nevertheless, important to point out that violations of the normality and homoskedasticity assumptions will greatly impair the predictive power of the econometric model. We control for heteroskedasticity by using robust standard errors when running the regressions. In regards to normality, there is no consensus among statisticians on how it can be tested (Greene 2000). If we relate back to the aim of this paper, the importance of obtaining unbiased estimators is clear; we examine whether percent sought can explain the offered bid premium. To summarize, the OLS is based on a number of assumptions and we have, to the best of our knowledge and ability, taken them into account when gathering our data and running our regressions.

4.3 Regression Models

The regression analysis is divided in seven parts and the same five models are run in every part. In this section, we outline the various parts and models and the underlying reasoning for conducting the analysis in this manner. In addition, we specify the different equations for each of the regression models in the end of this section.

[20] Please note that this paper uses Spearman pair-wise correlation coefficients.
[21] Please refer to Table 2 for a complete definition of the variables used in this paper and their data sources.
[15] Table 3 provides an additional detailed definition of the industry specific variables.

When running the regressions, we start with our focal variable (Model 1), report its effect on the offered bid premium, and then gradually add more controls to test the robustness of the initial results. For the second model we only include percent owned (which captures the share of the target stocks owned by the acquirer on the announcement day) as it works in opposite to percent sought; the total sum is never greater than 100 percent, i.e. as percent owned increases, the possible percentage that can be sought decreases. For the third model, we add all control variables except the board size, which we add in the fourth model, and the industry dummies (added in the fifth model). As mentioned, the size of the board has been found to affect the firm's Tobin's Q (Yermack 1996; Eisenberg et al. 1998). Moreover, the connection between efficiency and value creation and the bid premium has, to the best of our knowledge, not yet been established. As such, we find it interesting to separately observe its effect in order to find possible relationships which can be developed by future studies.

In regards to the industry dummies, there are 32 industry groups in total. Consequently, the degrees of freedom decrease substantially when these variables are added. Additionally, there are a few industry groups with a small number of observations (in a few cases there is only one observation). Such industry dummies do not capture industry-fixed effects, but rather firm-fixed effects. Therefore, we distinguish the results from Model 1-4 from Model 5.

4.4 Addressing Possible Issues of Percent Sought Capturing Synergies

We have discussed eventual caveats with using percent sought: it may capture the acquirer's willingness to consolidate due to potential synergies. Consequently, we add two robustness tests to our main regression outlined in the previous paragraph. First, according to Swedish law (ABL 22:1, Gregow 2010), a shareholder, owning more than 90 percent of the outstanding shares of a company, has the right to initiate a compulsory purchase. More specifically, the law stipulates a right to such a shareholder to gain full (100 percent) control of the company should the shareholder wish to do so. Therefore, we first run the regression in Table 11 which is outlined in equation 6. There, we generate a dummy variable which takes on the value 1 (else zero) when the sum of percent sought and percent owned (PerTotal) is greater than 90 percent. Second, we analyze a subsample of observations where PerTotal is less than 100 percent. To summarize, we control for any possible tendencies of percent sought to capture a willingness to consolidate because of potential synergies.

4.5 Three Subsamples and Non-Linear Effects

To further test the robustness and stability of the initial results, we split the data in three different subsamples. First, when percent sought is equal to or smaller than 50 percent; second, we only include transactions where the acquirer is seeking a stake larger than 50 percent; and third, we analyze observations where percent sought is greater than 80 percent. The motivation for this division is to observe if the results from the main test are valid for the various subsamples, or if there is a significant difference. Lastly, we test for non-linear relationships in percent sought since OLS assumes the statistical relationship to be linear. Therefore, we wish to disentangle any possible non-linear effects and compare the results with the first regression. In accordance to the splits, dummy variables interacted with percent sought are constructed; one dummy for observations where percent sought is larger than 50 percent and one dummy where it is greater than 80 percent.

4.6 Specification of Equations

Below, we specify the equation for each model. For a complete definition of all variables and for a separate definition of the industry dummies (which range from 1 to 16 for the acquirer and the target respectively), please refer to Table 2 and 3 respectively. Equation (6) below specifies how we mathematically control for possible synergy motives captured by percent sought. It should be noted that we only add this dummy variable to each model. The same methodology is used for the dummies constructed for the test for non-linear effects.

Model 1: Simple model with percent sought on the announced premium (1)

$$AnPremium = \beta_0 + \beta_1 PerSought + u$$

Model 2: Adding percent owned (2)

$$AnPremium = \beta_0 + \beta_1 PerSought + \beta_2 PerOwned + u$$

Model 3: All control variables except for board size and industry dummies (3)

$$AnPremium = \beta_0 + \beta_1 PerSought + \beta_2 PerOwned + \beta_3 Experience + \beta_4 Cash + \beta_5 Stock + \beta_6 Friendly + \beta_7 OMX + \beta_8 Relatedness + u$$

Model 4: Adding board size (4)

$$AnPremium = \beta_0 + \beta_1 PerSought + \beta_2 PerOwned + \beta_3 Experience + \beta_4 Cash + \beta_5 Stock + \beta_6 Friendly + \beta_7 OMX + \beta_8 Relatedness + \beta_9 Aboard + \beta_{10} Tboard + u$$

Model 5: Completing the statistical model by adding the industry dummies (5)

$$AnPremium = \beta_0 + \beta_1 PerSought + \beta_2 PerOwned + \beta_3 Experience + \beta_4 Cash + \beta_5 Stock + \beta_6 Friendly + \beta_7 OMX + \beta_8 Relatedness + \beta_9 Aboard + \beta_{10} Tboard + \delta AInd + \delta TInd + u$$

Controlling for possible synergistic motives: (6)

$$AnPremium = \beta_0 + \beta_1 PerSought + \delta PerTotal_{>90} + u$$

Test for non-linear effects in percent sought: (7)

$$AnPremium = \beta_0 + \beta_1 PerSought + \delta(PerSought_{>50} * PerSought) + \delta(PerSought_{>80} * PerSought) + u$$

Testing for non-linear effects in percent sought and percent owned: (8)

$$AnPremium = \beta_0 + \beta_1 PerSought + \delta(PerSought_{>50} * PerSought) + \delta(PerSought_{>80} * PerSought) + \delta(PerOwned_{>50} * PerOwned) + \delta(PerOwned_{>80} * PerOwned) + u$$

5. DATA

In this section we describe how we obtained our data sample and how it is manipulated in order to conduct the analysis. In the end, we discuss data errors and potential selection biases with the used gathering methods and how we address such possible caveats.

5.2 Sample

The sample of deals is obtained from Bloomberg L.P. (henceforth Bloomberg). We start with 150 transactions reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms[22] and the target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Moreover Bloomberg does not distinguish between mergers and acquisitions. Please refer to Table 5 for a summary of criteria applied when obtaining the data from Bloomberg.

[22] The target and the acquirer are from Sweden when they have their domicile in Sweden, i.e. when their headquarters are situated in Sweden.

We use a cross-sectional data sample as it consists of a number of individual transactions, each occurring at a different point of time, and where we have recorded the same variables for all observations. The critical point is that we are not following the same observation over time, i.e. we are not working with a time series.

For some observations, Bloomberg terms the acquirer as either "Investor Group", "Multiple Acquirers" or "Consortium". For these transactions, we have consulted deal synopsis from Capital IQ and read news articles from Dagens Industri and Cision Wire in order to determine the actual name of the bidder. The true name is required for variables not obtained from Bloomberg.

5.3 Dependent Variable

Out of the first 150 deals, we obtain an announced premium for 115 transactions. Bloomberg calculates the premium by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share, and then dividing this difference with the 20 days average target stock price (please refer to equation (9) below).

How Bloomberg Calculates the Announced Bid Premium: (9)

$$AnPremium = \frac{Offer\ price\ per\ share - 20\ day\ target\ average}{20\ day\ target\ average}$$

We exclude 35 deals since for these deals there are often many days where the stock has not been traded which would force us to go much further back in time than 20 days to be able to compute a 20 day average target stock price. This price would thus not have been consistent to the rest of the sample. Furthermore, there is often a lack of price history which hinders us to compute the announced premium ourselves. It should be noted that our analysis is dependent on the 20 days average target stock price as this is the benchmark to which the premium is calculated. The use of another benchmark, the target stock price 30 days prior to the announcement date for example, could have resulted in different estimates and perhaps a different analysis.

5.4 Independent Variables

The number of previously made M&As is obtained by counting the number of M&A transactions listed for the acquirer prior to the announcement date. Where possible, we use Capital IQ since its historical records for previous acquisitions are larger than Bloomberg's. When only newer data is reported in Capital IQ or when the company is not found in Capital IQ, we use Bloomberg's transaction history for the companies. Of the final 115 transactions, we were unable to find any historical records for four observations.

For the board size, we first we use the books "Styrelser och revisorer i Svergies börsföretag" (Sundin & Sundqvist; Fristedt & Sundqvist). The reporting in these books is somewhat complex and need to be explained. The volume for 2002-2003, for example, covers the board of directors for all publicly listed companies in Sweden which have had their shareholders' meeting up until June 2002. For firms which have not yet had their meeting, the board elected on the closest previous shareholders' meeting is reported. However, we do not take into account *when* the company has had it latest shareholder meeting. Consequently, we use this book for all deals with an announcement date in 2002. Another aspect of these books is that they only include Sweden's major stock exchanges; Nasdaq OMX and NGM. Therefore, we use companies' annual reports for the year of the announcement to obtain the board size for target companies not listed on these stock exchanges. The same is valid for private acquirers. A second reason for using annual reports is the issue of name changes. Bloomberg sometimes report the current company name, and does not consider any name changes. Hence, we are unable to find these companies in the books. To obtain the annual reports we used the database Affärsdata, which records all annual reports sent to the Swedish Companies Registration Office (SCRO). When the number of board members was separately reported, we counted the number of members and when this was not the case we counted the number of signatures at the end of the annual report. According to Swedish law (Gregow 2010, p. B1467, Årsredovisningslagen 1995:1554 2 kap. 7 §) all ordinary members of the board and the CEO (for publicly traded firms) are required to sign the annual report before it is sent to the SCRO. This regulation has been in effect since 1975. However, this method has resulted in the following; there are a few observations where we have counted the number of signatures and included the CEO without being able to determine whether the CEO is an ordinary member of the board or not. Therefore, we address this by conducting a sensitivity analysis by running regressions where we subtract one board member from all observations.

We subtract one since the "true" board size lies somewhere between this reduced value and the values we have obtained. As is evident from a comparison between Table 9 and Table 10, there is no change in the coefficients between the two regressions. Our focal variable does not change in regards to explanatory power and level of significance due to the issue of board signatures in the annual reports. Thus, we conclude that this does not impair our results and we will henceforth use the board size as we obtained it.

From Bloomberg, we obtain an industry classification for each acquirer and target. However, since the method applied by Bloomberg has given us 40 rather narrow industry groups, we have chosen to reclassify each company into larger and broader groups by using the Zephus classification used in the database Zephyr. Therefore, we identify each company in Zephyr and note what industry it has been assigned. In those rare cases where the transaction is not reported in Zephyr, we manually code the company's industry group in accordance to the Zephus classification. Additionally, we extend the Zephus classification by adding a separate group for Real Estate. We have done this since our sample consists of several real estate firms and we find it interesting to distinguish this group and see if we can find any particular characteristics of the bid premium offered by such firms. After the industry classifications, we add a dummy variable equal to one (else zero) if the industry classification is identical for the two firms.

From Bloomberg we also obtain percent sought, percent owned, the method of payment and the nature of the bid. The percent sought variable is defined as the percent that the acquirer intends to buy on the announcement day. Bloomberg obtains this value from the deal terms, which in turn can be obtained through governmental filings, press releases, and confirmation letters from investment banks and law firms that worked on a particular deal. Percent owned is defined as the amount of target shares already owned by the acquirer on the announcement date. The method of payment for each deal is given by Bloomberg as either "cash", "stock", "cash and stock", "cash or stock" or "undisclosed". When an acquisition was labeled "cash or stock" or "undisclosed" we used the database Zephyr, read the transaction details in Capital IQ, and read news articles in the newspaper Dagens Industri and through Cision Wire to determine the method of payment. The nature of the bid is termed as either friendly or hostile where hostile is equivalent to the bid being rejected by the target firm's management.

From Thomson Datastream, we download daily price values for the OMX All Share Index from 1990-01-01 to 2010-03-09, i.e. for our sample period.[23] Thereafter, we calculate the number of trading days for each of these years and find the average to be 261 (please refer to Table 6). Lastly, for each announcement date, we calculate the return over the past year one day prior to the announcement date by using the average number of trading days, see equation (10). We do not include the actual announcement date, because we assume that the bid premium is announced before the closing of the stock exchange at the announcement date. Any possible announcement effect will be incorporated in the closing price on the announcement date and we want to use the market return "unaffected" by possible announcement effects. Hence, our end date is the day before the announcement date.

Calculation of the OMX Returns: (10)

$$Return\ of OMX\ Index = \frac{P_{t-1}}{P_{t-262}} - 1$$

5.5 Potential Selection Biases

A few possible selection biases should be noted since we are unable to analyze the whole population. First, Bloomberg only reports transactions with a minimum value of US$ 50 Million or where at least 5 percent of the outstanding target shares are sought, which could eliminate an unknown number of transactions. Second, we have a restricted time period of twenty years; there is a possibility that the bid premiums offered during the 1980s were different from those offered during the past decade and the 90s. Third, we only examine transactions which can be deemed 100 percent Swedish since one of our criteria is that both companies are domiciled in Sweden. Fourth, we are only observing completed deals. Had we been open for all deals, i.e. included deals that have been announced but not completed, we could have controlled for this status of the transaction and thus drawn conclusions based on such a criteria. That could have given the analysis a second dimension. Lastly, there are four acquirers for which we have been unable to obtain any experience data, i.e. number of previously made M&As. On the one hand we want to maximize the size of our data sample, and on the other we want to include a broad set of control variables. Consequently, these two interests sometimes work in opposite. Moreover, the used databases might perhaps not have a complete coverage of the investigated firms. Capital IQ, for example, may have started to

[23] We do not need to download price values for 1989 to obtain the return for the year prior to the announcement date since no acquisitions occur during 1990 in our data sample.

report acquisitions for a particular company at a randomly chosen point in time. Consequently, Capital IQ may indicate a specific transaction as the first for a firm despite the fact that the examined firm has pursued an unknown number of M&As prior to the particular date reported in Capital IQ.

6. RESULTS AND DISCUSSION

In this section, we present the result of the regression analysis. First, some basic summary statistics are discussed and we reason whether they give some first indication of what results the analysis will provide. Thereafter, we extend this to include a correlation matrix of all variables (except the industry dummies). Next, we run regressions in order to determine the effect of percent sought on the announced premium and to illustrate the robustness of our findings. The regressions have been divided in seven parts; first we use the whole sample, second, we control for synergistic motives in two ways; then we analyze three subsamples in order to affirm the robustness of the results, and finally we account for non-linear effects.

6.2 Descriptive Statistics

Table 7 summarizes descriptive statistics of the data sample. In addition to the mean and standard deviation, it includes minimum and maximum values, 95 percent confidence intervals, the number of observations for each variable and the various percentiles. "Dummy Count" indicates the number of observations taking on the value 1 for each dummy variable.

In regards to the announced premium, it is interesting to note the large spread among the observations; from a negative 18.14 percent to a positive 222.01 percent. This illustrate that some transactions have been announced at a discount and that some have been announced with a substantial positive premium. However, we must not forget that the announced premium has been calculated with the 20 day average one day prior to the announcement as a proxy for the "normal, unaffected" price. In light of this, it should be noted that the mean is 28.79 percent and the median 22.73 percent. The percentiles show that 80 percent of the observations in our sample lie in the range 0.26 to 57.95 percent, which implies that our sample contains a few outliers.[24]

[24] Defined as data values that are much larger or smaller than other values in the data set (Newbold et al. 2007).

Percent sought has a mean value of 82.34 percent and, in line with the announced premium, the difference between the highest and lowest value of this variable is large, the values range from 1.97 percent to 100 percent. However, the median of the percent sought is 100 percent (there are only 54 transactions in which less than 100 percent was sought, see Table 8), indicating that a majority of the acquirers in the investigated transactions have sought 100 percent. In terms of having a varied sample with a high variation in the explanatory variable (discussed by Wooldridge 2009), this could thus be problematic and ought to be taken into account in the analysis. To summarize, the descriptive statistics of percent sought depict that the acquirers in the population, on average, aim to buy a large part of the target firms.

It is interesting to first examine the variable percent sought, second percent owned, and then a third variable which accounts for the sum of percent owned and percent sought (PerTotal). Table 8 illustrate that there are 41 transactions in which percent owned is above 0 percent, 36 for which it is above 0 but below 50 percent, and 94 transactions for which PerTotal is 100 percent. Since percent sought takes on the value 100 for 61 transactions it is possible, from these statistics, to conclude that many acquirers (at least 33) own a share before announcing the investigated deals (i.e. before the deals are included in our sample). After the announcement, they then seek to buy a stake of the target firm in order to gain full control. Important to bear in mind is a potential selection bias since Bloomberg only reports transactions where the percent sought is at least 5 percent or if the deal value exceeds 50 million dollars; we are unable to identify when the acquirers bought the small shares. In principle then, there is a possibility that acquirers have bought small shares in the target during our sample period, but due to Bloomberg's threshold for what constitutes a transaction, it has not been reported and is not included in our sample. Lastly, Figure 2, which is a scatter plot of percent sought and the announced premium, illustrates a first indication (in line with our hypothesis) of the positive relationship between percent sought and the announced premium.

The variable capturing prior acquisition experience displays a large standard deviation, 20.75. Considering the large range of this variable, from 0 to 115, this is not surprising. The mean value is 10.20 and the 95 percent confidence interval is concentrated from 6.30 to 14.10. However, the median for this variable is only 2.

When examining transaction specific variables, there is a majority (70 out of 115 transactions) which has been financed by cash only. In addition, there are 35 transactions which have been all equity financed and 10 mixtures. Furthermore, there were 113 friendly bids and 2 hostile bids.

From the interrelationship between the acquirer and the target, we see that there are 52 observations in our sample where the acquirer is buying a company in the same industry. Moreover, there is an unproportionate distribution of the observation across the various industries. For the acquirers, there are 12 industry groups which only include seven observations or less. There are 37 transactions in Banking, Insurance and Financial Services, 21 in Computer, IT, and Internet Services, 14 for Holding Companies and 13 within Real Estate. For the target firms, there are 12 groups with 9 observations or less. The largest groups are Banking, Insurance and Financial Services with 18 transactions, Computer, IT and Internet Services contain 26 observations, in Miscellaneous Manufacturing there are 14 transactions, and finally, our sample contains 14 deals where the target is in Real Estate.

The OMX variable has a mean value of 13.02 percent and ranges from -47.06 percent to 96.19 percent. From the percentiles we see that 80 percent of the transactions have a return between -36.19 and 51.08 percent while 50 percent of the transactions have a return between -21.27 and 34.42 percent. In sum, it is evident that the return varies considerably and that transactions have been announced when the stock market has had a positive as well as a negative development.

The variables that control for corporate governance, the board size of the acquirer and the target, has a mean value of 6.86 and 5.94 respectively. These values are close to the median values, which are 7 for the acquirer and 6 for the target. This indicates that the spread between small and large boards in our data sample is quite evenly distributed. The percentiles show that 80 percent of the observations have an acquirer board size between 3 and 10 and a target board size between 3 and 9.

6.3 Correlation Matrix

Table 4 depicts the correlation matrix for all analyzed variables. However, since many industry groups only contain a hand full of observations, (sometimes only one transaction) we exclude the industry groups in the correlation matrix. As outlined, we do this since industry

groups with only a few observations will capture firm-fixed effects, not industry-specific effects.

It is primarily interesting to note how the variables correlate with the announced premium. The focal variable, percent sought, has the highest correlation (in absolute terms) at a value of 0.2585. In short, when the sought percentage increases, the announced premium also increases which is a result that provides some initial support for our hypothesis. Moreover, percent owned has a negative correlation of -0.1335 while the total variable capturing the sum of sought and owned displays the second highest correlation (again in absolute values) at 0.2171. Intriguingly, however, the OMX-returns are negatively correlated at -0.1973 with the announced premium as are the sizes of the two boards. To summarize, the correlation matrix provides initial support for our main hypothesis. However, correlation is not equal to causation; this must be investigated further.

6.4 Discussion of Potential Problems with Multicollinearity

If the independent variables in a statistical model are highly correlated it suffers from multicollinearity (Gujarati 2003). This does not lower the predictive power of a model as a whole but affects the results for individual predictors. The model is still able to explain the statistical relationship as defined by the model, but multicollinearity may yield insignificant coefficients for the explanatory variables, i.e. inference becomes problematic. Since multicollinearity is a question of degree, it is not meaningful to test for it. Instead, Wooldridge (2009) recommends examining to what extent there might be multicollinearity in the data sample. Unfortunately, there is not one single method for detecting this, but the authors suggest some rules of thumb. First, if R-squared is high, but the coefficients lack significance, this indicates multicollinearity. Second, the pair-wise correlation of the explanatory variables should be investigated. The correlation between any two regressors is "high" if it exceeds 0.80 and we can then conclude that the model suffers from a serious problem of multicollinearity. From Table 4, we observe that the highest value (in absolute terms) of the pair-wise correlations never exceeds 0.6847.[25] Since this is below the limit of 0.80, we can conclude that our model does not indicate any significant detection of multicollinearity for it to cause serious problems. However, we should be careful when

[25] This particular pair-wise correlation is between percent sought and percent owned).

drawing too strong conclusions because a high pair-wise correlation is an adequate but not a necessary condition for the existence of multicollinearity (Gujarati 2003).

6.5 Main Statistical Test

Table 9 displays the result from the main statistical test. In Model 1, where percent sought is regressed on the announced premium (both in decimal format), the coefficient is 0.320 and it is significant at 0.1 percent. The explanatory power, the R-squared is 0.067. In short, these initial results indicate that for every increase of percent sought (in percentage points), the announced premium increases with 0.320 percentage points.

In the second model, we add percent owned and note an increase of percent sought to 0.382 while it retains its level of significance (0.1 percent). Moreover, the R-squared has experienced a small increase to 0.070. Notably, the correlation between percent sought and percent owned (as seen in Table 4) is -0.6738. As we add the remaining control variables, first without the industry dummies and the board size, then with the board size, and finally with all controls (please refer to Models 3, 4 and 5), the coefficient of our focal variable has experienced an increase to first 0.413, then to 0.420, and finally decrease to 0.403. Moreover, the R-squared has nearly doubled in Model 3 and 4 to 0.138 and 0.142 respectively, and increases even more in Model 5 to 0.341.

6.5.2 Discussion of Control Variables

We will first discuss the results of the control variables in Table 9 to examine if they support our interpretations and application of previous research. Since the coming sections of our results are robustness tests of the focal variable percent sought, we will only discuss the results of the controls here.

Primarily, it is interesting to note that more or less all control variables in Table 9 are insignificant, which means that the null hypothesis that the coefficient is equal to zero cannot be rejected. This is interesting as previous papers have found these variables to be significant.[26] One exception is the OMX variable, which is significant at 10 percent in Model 3 and Model 4. However, the negative sign of its coefficient is in opposite to how we applied

[26] The control variables remained insignificant when we regressed all control variables on the announced bid premium, i.e. we excluded percent sought. This in itself is an interesting result and could perhaps be due to the Swedish data sample.

the results of Becketti (1986) and Dagnino (2001). The negative coefficient of the variable capturing experience, number of previously made M&As, on the other hand, confirms the proposition that more experienced acquirers offer a lower bid premium. Interestingly, there is a positive relationship with the announced bid premium when the method of payment is either cash or stock (except for the slightly negative coefficient for stock transactions in Model 4); a result which confirms the tendency of previous empirical work to reach contradicting conclusions. In regards to the industry variables, the results are varying and there are a few industry coefficients which are significant. Since we are not using this result any further, nor using it for our analysis and conclusions, we are not reporting the results for each separate industry dummy. Instead, we focus on the other controls and indicate clearly if the industry dummies have been used in the regressions, which they are in Model 5. Moreover, the industry relatedness variable has a negative coefficient. This result goes against our reasoning that the possibility of harvesting synergies quicker because of industry familiarity will increase the bid premium. Finally, the coefficient on the acquirer board size is negative and the coefficient on the target board size is positive, both of which are low in absolute value. These results imply that as the board size of the acquirer increases, the announced premium decreases, and as the board size of the target increases, the announced premium increases. However, to *fully* examine the effect of the board size on the announced bid premium is a study in itself and outside the scope of this paper. To summarize, there have been mixed results of the control variables; some are in line with our application and some are in contrast. However, since these variables are used as controls, we will not extend this analysis any further. Instead, we conclude that these control variables are important to include when researching M&A transactions (as proved by previous research), but that the interpretation and application varies due to the setup and, more importantly, the data sample in which they are being used.

6.5.3 Discussion of the Main Statistical Test

Table 9 illustrate that the coefficient of our focal variable percent sought varies between 0.320 and 0.420 and that it remains significant when more controls are added to the model. The results are robust for different controls and suggest that there is a positive relationship between percent sought and the announced premium; for a one percentage point increase in percent sought, the announced premium increases within the range of 0.320 and 0.420 percentage points. The coefficient of percent sought does indeed vary, however, considering that the results are significant at 0.1 percent in all regressions, the data provide evidence that

there is a positive relationship between the two variables. Due to the varying nature of the coefficient, we are unable to determine its exact value.

In regards to R-square, the value is quite low in the first model, indicating perhaps that it is insufficient with only one variable. In contrast, the R-squared in the complete model reaches the maximum level of 0.341. As a result of the mathematical construction of R-squared, however, some of this increase is due to the larger number of variables in the model. It is important to point out that the absolute value of R-squared should not be given too much of an emphasis. Strictly speaking, a low R-squared implies that there are other factors, unaccounted for in the model, which affect the announced premium. However, this does not imply that these omitted explanatory variables (that are currently included in the error term) are correlated with the independent variables. Therefore, we can still obtain unbiased estimators of the ceteris paribus effects of the independent variables (Wooldridge 2009). In our setup, we believe that this holds true to some extent because we have included control variables that previous research has found to have a significant effect on the announced bid premium. However, we are well aware that more controls could have been used (as in other studies) and as such this could be a problem which ought to be considered when interpreting our results. We try to consider this in the coming regressions where we "stress-test" our results presented in this part. Another common way to evaluate the robustness of the results is to run regressions on and between different percentiles of the focal variable. However, we are unable to conduct such regressions since the median of the percent sought variable is 1 in our data sample, i.e. a regression on for example the 25th percentile to the 75th (the middle 50 percent of our observations) will include all observations above the 25th percentile. Instead we will focus our analysis on (i) three data splits and (ii) when testing for potential non-linear effects. Before we do that however, we run two regressions to control for the possibility of percent sought to capture a willingness to consolidate because of potential synergies as mentioned previously (and theorized by Grossman & Hart 1980 and Choi 1991). First, we add a dummy variable equal to one when the sum of percent sought and percent owned is above 90 percent (else zero). Second, we split the sample and run regression on observations where the sum of percent sought and percent owned (PerTotal) is less than 100 percent.

6.6 Controlling for Consolidations with a Dummy where PerTotal > 90%

Here, we focus on the results of percent sought and the coefficient of the dummy variable equal to one when PerTotal is above 90 percent (please refer to Table 11). In Model 1,

percent sought is 0.244 and significant at 5 percent. In Model 2 to 4, the coefficient varies between 0.182 and 0.250, while the p-value increases, leaving us with significant coefficients on a 10 percent level in the final two models. However, in Model 5 the coefficient increases substantially to 0.458 and is again significant on a 5 percent level. The coefficient on the dummy variable is positive in Model 1 to 4, varies between 0.0964 and 0.128, and it is negative in Model 5 (-0.0342). Noteworthy is that this coefficient is never significant on a 10 percent level of significance.

6.6.2 Discussion "PerTotal" > 90%

Percent sought is still positive in all models, even though the p-values are higher than when we did not control for a willingness to consolidate. Moreover, the coefficients of percent sought are still significant on a 5 percent level (Model 1 and 5) and on a 10 percent level in the other models. The positive coefficients together with the p-values provide additional evidence for the positive relationship we found in the main test. That the coefficient of the dummy variable is positive, as it is in Model 1 to 4, is in line with the reasoning of an acquirer's willingness to offer a higher premium when there are possible synergies which are more likely to occur in the case of a consolidation. However, in Model 5, the Model with all our controls, the coefficient on the dummy variable is negative which stands in contrast to the just mentioned reasoning. Noticeable is that this coefficient is never significant on a 10 percent significance level. This implies that it cannot be rejected that this coefficient is not equal to zero. Thus, we are unable to conclude that a potential willingness to consolidate results in a higher announced premium. Therefore, we will not add this dummy in the coming regressions.

6.7 Controlling for Consolidations: Split Sample PerTotal < 100%

In addition to the previous regression, we analyze a subsample of observations where PerTotal is less than 100 percent. We do this in order to investigate whether the positive marginal effect of percent sought on the announced premium remains when the synergistic motives are less prevalent. Moreover, since there are several observations where percent sought is equal to 100 percent, we see this as yet another robustness test which is necessary in order to fully establish the positive relationship between percent sought and the announced premium.

In Model 1 the coefficient of percent sought is 0.263 and it is significant at 10 percent. In Model 2 and 3 this positive relationship remains and increases, while the significance level is 5 percent. Due to a large reduction of the degrees of freedom, several variables are dropped in the remaining models.

6.7.2 Discussion Split Sample PerTotal < 100%

It should first be noted that this subsample contains 21 observations. Hence, interpretation of the models with several control variables is problematic due to the fewer degrees of freedom. However, the most important conclusions to draw from these regressions is the fact that there still is a positive and significant relationship (even though the significance level is slightly higher) between percent sought and the announced premium even when the synergistic motives are less explicit. This is important as it provides further evidence that percent sought is an appropriate proxy for demand. We are able to conclude that the alternative story, where percent sought has a positive relationship with the announced premium due to synergistic aspects, is not so problematic. Instead, there seems to be support for the story of this paper. From now, we will not investigate this issue any further. Instead we focus on analyzing different subsamples of percent sought

6.8 Split Sample Percent Sought <= 50%

In this part, we analyze observations where percent sought is equal to or less than 50 percent (please refer to Table 12). We run the same models as previously, hence they are still called Model 1 to 5. Primarily, this split of the sample leaves us with 14 observations. Secondly, the coefficient of percent sought is 0.587 and it is significant at 5 percent in Model 1. Interestingly, the R-squared is 0.258 and it increases as we add more controls. In particular, it should be mentioned that the correlation between percent owned and percent sought is positive at 0.2285 (see Table 12). As we move through the different models and add more controls, the coefficient of percent sought first decreases to 0.474, then to 0.412 and finally to 0.346. It is never significant at 10 percent. In Model 5, most of the variables are dropped.

6.8.2 Discussion Percent Sought <= 50%

First, the very small number of observations constitutes a considerable problem in this part of the analysis. Not only does it obstruct the possibility to draw general conclusions, but it may also generate impaired results; this could explain the high p-values, for example. Moreover, a number of variables are dropped as more and more controls are added. In particular, we are

unable to obtain all results for the fifth model where we add the industry dummies since the degrees of freedom are completely exhausted. However, if we temporarily disregard this issue of a small subsample, it is primarily interesting to note the higher coefficient of percent sought in the first simple model. This could indicate that the marginal effect of percent sought on the announced bid premium is higher in transactions where the acquirer aims to buy less than 50 percent of the target's outstanding shares. Compared to the results from the whole samples, these results signal that the marginal effect on the bid premium is higher for low levels of percent sought and then stabilizes as it reaches higher levels. However, this needs to be further investigated as the small number of observations prevents us from testing the robustness of the results. An interesting contrast from the previous part is the correlation between percent sought and percent owned which is now both lower and positive, 0.2285. In regards to the implications for the announced bid premium, we have primarily reaffirmed the positive effect that percent sought has on the announced premium. Moreover, we have found a tendency of a higher marginal effect on the announced bid premium. As mentioned however, there are too few observations which make the validity of this tendency questionable. To summarize, a larger sample is needed in order to conclude any detailed effects that percent sought has on the announced premium when it is equal to or lower than 50 percent. Thus, this analysis is not extended further.

6.9 Split Sample Percent Sought > 50%

Table 13 displays the results from the regression with observations where percent sought is greater than 50 percent, i.e. the opposite of the previous part. There are 101 observations, (87.83 percent of all observations) which are included in this split. The coefficient of percent sought measures 0.382 and has a p-value below 5 percent in Model 1. Moreover, the R-squared of this simple model is 0.034. When we add percent owned, the R-squared experiences a small increase while the focal coefficient takes on the value of 0.431 and has a p-value above 10 percent. As more controls are added, the pattern repeats itself; the coefficient remains at around 0.40 and it is never significant at 10 percent while the R-squared increases gradually. Interestingly, when adding the industry dummies, percent sought falls dramatically to 0.0919 and remains insignificant at 10 percent.

6.9.2 Discussion Percent Sought > 50%

The most striking aspect of this subsample is the highly negative correlation, -0.9025, between percent sought and percent owned (please refer to Table 14). This causes

multicollinearity in our econometric model (Gujarati 2003). By construction, the variance of the coefficient goes to infinity when there is perfect correlation between the independent variables and this could perhaps shed some light on the increasing standard errors we observe in the five models compared to the standard errors in the regressions on the whole sample. Secondly, the dramatic decrease of the coefficient of percent sought when we add the industry dummies is quite surprising. Why this occurs is unclear. However, we will not analyze this further as it is not our main focus at this stage; we examine whether there are general tendencies of non-linear relationships or not. Instead, we would like to point out that the coefficient of percent sought lies between 0.382 and 0.431 (disregarding the coefficient in model five), which is a slightly higher range than for the whole sample. One plausible reason for this could be that only 14 observations have been dropped compared to when this regression was run on the whole sample. Therefore, this subsample is very similar to the whole sample. Also, even though the range for percent sought seems to be higher than for the whole sample, the high p-values makes it hard to draw clear conclusions whether there are different effects of percent sought on the announced premium when more than 50 percent is sought. What we do observe is a tendency of a larger coefficient when only accounting for transactions where a large stake is sought. As mentioned tough, this needs to be examined in greater detail with a subsample which is more different from the whole sample. Therefore, we next examine transactions where percent sought is greater than 80 percent.

6.10 Split Sample Percent Sought > 80%

Please refer to Table 15 for the results of this regression. The coefficient of percent sought is 0.876 and it is significant at 5 percent in Model 1. When percent owned is added in the second model, the coefficient increases substantially to 1.790. As more controls are added, the coefficient decreases while R-squared increases. Interestingly, the coefficient of percent sought remains significant, at 0.1 percent in Model 2, 3 and 4 and at 10 percent in Model 5.

6.10.2 Discussion Percent Sought > 80%

For this subsample, the coefficient varies between 0.876 and 1.790, which is a higher range than for both the whole sample and the previous split. This strengthens the reasoning that the coefficient is larger when we only examine deals with a high percent sought. Noteworthy is that the results are always significant; the p-values are always lower than 10 percent. However, the spread of percent sought is now much larger than what it has been in previous regressions which makes it even more difficult to fully determine the exact level of the

coefficient. The significant coefficients, in combination with the substantially higher values, support our reasoning that the marginal effect of percent sought on announced premium is higher when we split the sample and only account for higher levels of percent sought. This is interesting from an economic point of view because the results indicate that a one percentage point increase of the percent sought will result in an increase of the announced premium by approximately one percent, i.e. a positive one-to-one relationship between these variables. Disregarding eventual issues of a small sample and a risk of not including all potentially relevant control variables, we have found indications that there is an increase in the marginal effect of percent sought on the announced premium for higher levels of percent sought. This indicates a possibility of non-linear effects in percent sought. Such effects can be accounted for with different econometric techniques and in this paper we use dummies. A quadratic version can also be used to capture eventual decreasing or increasing marginal effects (Wooldridge 2009). However, our sample consists of relatively few observations and the correlation between percent sought and percent sought squared tends to be high. This results in multicollinearity leaving us with strange estimates. Therefore, it is more appropriate for this paper to use dummies to capture non-linear effects.

6.11 Testing for Non-Linearity with Dummy Variables

Table 16 depicts the results from the regression where we test for non-linear effects in percent sought. In Model 1, the coefficient on percent sought is 0.559 and it is significant at 5 percent. The additional effect of percent sought on the announced premium when it is larger than 50 percent is -0.216. When more than 80 percent is sought, this additional effect is 0.0198. However, none of these two coefficients are significant at 10 percent. For Model 2, the results are quite similar, both in terms of values and significance. In Model 3, the coefficient on percent sought decreases substantially to 0.259, but this is not significant at 10 percent. Percent sought remains negative when more than 50 percent is sought and positive when more than 80 percent is sought. This pattern largely repeats itself in Model 4 and 5, with the exception that percent sought when more than 50 percent is sought in Model 5 changes sign and becomes positive. The general lack of significant coefficients of percent sought in Table 16 is noteworthy; only two coefficients have p-values below 5 percent.

6.11.2 Discussion Non-Linearity with Dummy Variables

We find some support for our reasoning regarding non-linear relationships in our general econometric model because of the positive coefficient of percent sought when more than 80

percent is sought. This implies that the marginal effect of percent sought on the announced premium is higher when more than 80 percent is sought compared to when more than 50 percent is sought. This is a result in line with our findings and reasoning when we split the sample. However, the coefficient on percent sought when more than 50 percent is sought is negative in all models, except in Model 5. This can be interpreted as the marginal effect of percent sought on the announced premium being lower, though still positive, when more than 50 percent is sought compared to when less than 50 percent is sought. These results are thus in line with the results in Table 12 where we found a higher coefficient in the regression where percent sought was lower than or equal to 50 percent (see Table 11 and Table 13 respectively). By judging from the values of the coefficients, there seems to be a higher positive marginal effect when less than 50 percent is sought. However, this marginal effect decreases when more than 50 percent is sought, while at the same time remaining positive, and it finally increases when more than 80 percent is sought. As mentioned tough, there are too few observations in that subsample and the validity of those results is questionable. It is also important to stress that the discussion in this part suffers from a large drawback: only two coefficients of percent sought are significant at 5 percent. Moreover, they vary substantially between the regressions, indicating a lack of robustness. To summarize, we cannot conclude that there are non-linear effects due to a lack of significance and robustness.

Table 17 display the results from a regression where we add dummies to control for possible non-linear effects in percent owned. These regressions are run to see if the results and conclusions change in any way. We do this for percent owned because percent owned and percent sought are two closely related variables. Thus, if we are interested in evaluating non-linear effects in percent sought, it is also plausible that percent owned is non-linear. However, we do not analyze the results on percent owned since this variable is not of main interest. As evident from Table 17, the results are much in line with Table 16. A few exceptions are the positive coefficients of percent sought in Model 2 to 5 when more than 50 percent is sought. Noteworthy is also the negative coefficients of percent sought in Model 3 to 5. However, we do not want to stress these results since these coefficients are insignificant. In addition, these results have not occurred previously in the paper. Additionally, there are too few observations in this subsample. When more than 80 percent is sought, the focal variable is positive in all models (as in Table 16). To summarize, the marginal effect of percent sought is positive in all models for both dummies. However, the lack of significant coefficients should be noted as they result in difficulties in drawing any exhaustive conclusions regarding non-linear effects.

6.12 Summary of Results and Analysis

To summarize the results, they indicate a significantly positive relationship between percent sought and the announced bid premium. From the main statistical test, we observe that our focal variable is significant and robust for a broad set of control variables. In addition, this reasoning is supported by three data splits. However, there is often a lack of significance in these splits (the exception is when percent sought is larger than 80 percent). From the regressions where we control for synergistic motives we are unable to conclude that a potential willingness to consolidate results in a higher announced premium. Moreover these regressions indicate that the alternative story, where percent sought has a positive relationship with the announced premium due to synergistic aspects, is not so problematic. In regards to the test of non-linear effects, we are unable to draw exhaustive conclusions due to high p-values. In essence, we are able to reject the null hypothesis that there is no relationship between percent sought and the announced bid premium.

7. CONCLUSIONS

The overall aim of this paper has been to investigate if basic microeconomic theory of supply and demand can be analogically applied on the financial markets. More specifically, we have researched if we can find tendencies of an upward sloping supply curve when examining M&A transactions. This aim has been operationalized by analyzing the effect of percent sought on the announced bid premium. Percent sought has been used as a proxy for demand, and the announced bid premium is a measure of price. In short, the hypothesis is that acquirers who aim to buy a larger stake of a target firm will offer a higher bid premium. Important to bear in mind is that we base our study as an extension of papers such as Loderer & Zimmerman (1985), Jensen & Ruback (1983), Shleifer (1986), Kaul et al. (2000), and Hodrick (1999) who all provide evidence that the demand curve for stocks is downward sloping. Our results indicate a significant positive relationship between percent sought and the announced bid premium. Moreover, the focal variable is significant and robust for a broad set of control variables. The regressions on the three subsamples support this reasoning about a positive relationship. However, this support occasionally suffers from a lack of significance. In regards to non-linear effects, the lack of significance prevents us from arriving at exhaustive conclusions. In sum, we can reject the null hypothesis that there is no

relationship between percent sought and the announced bid premium. Now, however, it is important to establish the economic implications and interpretations of this study: what can we learn from our results?

Scholes (1972) and Shleifer (1986) outline the classical view of stocks as a good which has close (and nearly perfect) substitutes, i.e. the underlying value of stocks is not substantially dependent on supply. In such a world, the price (the announced bid premium) should not increase as a result of an increased demand (panel (b) of Figure 1). However, our results do not support this reasoning because there is a positive relationship between percent sought (the proxy for demand) and the announced bid premium (the proxy for price). Consequently, our results are interesting as they indicate a possible scenario where this classical standpoint may need to be modified. Ceteris paribus, a higher percent sought implies that the acquirer offer a higher bid premium when they intend to buy a larger stake of target firms. In essence, acquirers offer a higher price for the same stock as their demand for that particular stock increases. This relates back to the notion of perfect substitutes; can it be that investors in fact see a stock as something more than a general right to future dividends?

In order to grasp and discuss this tendency, we must distinguish between investors in the form of private individuals and corporate investors (companies). One reason for the anomaly to the EMH found in this paper could be that previous literature has examined the behavior of individual investors when formulating theories such as the EMH. Shefrin's (2007) discussion concerning selected rationality of managers might instead shed some light when investigating how corporate investors (i.e. managers) act in the name of a corporation. In line with Hayward & Hambrick (1997), Shefrin (2007) theorizes that individuals tend to appear overconfident when they perceive that they exert control of possible outcomes. Should this be applicable for the target firm's management, they might therefore demand a higher premium as a result of overestimating the value of their own company when the acquirer's demand increases. If the management of the acquirer instead displays selected rationality, it may result in an exceptionally large credence to accounting measures. As outlined by Koller at al. (2005), valuation multiples are extensively used when pricing M&A transactions and often based on some sort of accounting measure. Consequently, if the accounting numbers have been manipulated and the managers put a large emphasis on them, there is a risk that the selected rationality will result in a higher premium.

Irrational management behavior returns to Hayward & Hambrick (1997) and their hubris hypothesis. Instead of perceiving a stock as an investment, it might be that managers are seeking self-fulfillment by acquiring a specific target and thus accomplishing a personal goal, i.e. as their demand for a specific stock increases, hubris managers are willing to offer a higher bid premium. This argument is consistent with behavioral theories outlined by Kahneman & Tvertsky (1973) and in line with the anomaly to the EMH which have been found in our paper.

In contrast to behaviorist explanations, Christensen et al. (2008) open up for a wider perspective where acquirers are willing to engage in M&A transactions despite a negative NPV. They comment on the fact that the correct benchmark for evaluating investments might not always be "the normal course of the business" since the business might deteriorate without this investment. With their discussion as a base, it could be that acquiring firms offer higher bid premiums when they seek a large stake of target firms because the future existence of their company may be threatened since internal development is unfeasible. Therefore, the acquisition, despite having a negative net present value, will be carried out no matter the cost because remaining idle will result in greater losses, bankruptcy for example.

By adopting an even wider outlook, we find a last possible explanation in the theory of diminishing marginal utility of wealth as mentioned by Rabin (2000). In sum, this theory establishes that the marginal value of money is higher when we are poor than when we are rich, i.e. an additional dollar is more valuable if we have $5 compared to if we already have $5,000. For this setup, this theory could be applied accordingly: when the transaction value is high[27], the acquirer will be less affected for every additional dollar the target is offered, i.e. it will not matter if another million is added because the transaction value is already quite high. Thus, we can explain the tendency of announcing a higher bid premium as demand increases by the simple notion of diminishing marginal utility of wealth.

As is evident from the discussion in this section, there could be many reasons for investors to perceive stocks with less "efficient" eyes. Hence, there are ample opportunities for future studies to address these issues in numerous ways. Consequently, we offer suggestions for developing our results in the next section. However, no matter the reason for acquirers to act

[27] Not an unreasonable statement for this paper since Bloomberg only includes transactions that are valued at a minimum of $50 million (or where at least 5 percent of the target shares are sought).

inefficiently, we would like to reiterate that this study has contributed to the literature by finding a positive relationship between percent sought and the announced bid premium, i.e. an indication of an upward sloping supply curve.

7.2 Suggestions for Future Research

In this section, we discuss a few possible caveats with our study that we suggest future research to address. First, it ought to be stressed that our data sample suffers from a lack of variation in percent sought. Only 54 transactions have a percent sought below 100 percent and it would be interesting to perform this study with (i) a larger sample and (ii) a higher variation in percent sought. With such a sample we could have run our regressions on different percentiles of the data. However, the median of percent sought is 1 which prevents us from running such regressions. An additional data concern is that the premium has been calculated by using the 20 day average of the target firm (up until the day before the announcement day) as the price benchmark. Hence, our analysis is dependent on this benchmark. The estimates could perhaps have changed if we had used another benchmark, i.e. the target stock price 30 days prior to the announcement date. With another benchmark, there is a possibility that observations with a negative announced premium could have been positive. Consequently, we would like to stress that due to the limited scope of this paper, which in turn depends on difficulties in obtaining data, our results should be further investigated on a larger sample, a longer time period, perhaps with another geographical limitation, and with more control variables in order to fully establish the magnitude of the established positive relationship. In the following paragraphs, we will in particular discuss how future research can develop this study with a more developed set of control variables.

Second, as mentioned in the beginning of this paper and supported by Baker et al. (2009), it is difficult to empirically measure synergies and include them in a statistical model. Moreover, as illustrated by Hayward & Hambrick (1997), Slusky & Caves (1991) and Varaiya (1987), the literature lacks a common and consistent method to control for synergies when determining the bid premium in M&A transactions. In this study we chose to control for this with our industry relatedness variable. However, our relatedness variable is based on a rather broad industry classification. Therefore, it would be interesting to use a narrower classification in line with Bloomberg's classification to see if our results are confirmed. In short, it would be interesting for future research to (i) develop an appropriate measure of synergies which can be applied in a broad context, e.g. on a number of industries, and (ii) to

include such a control variable in a study similar to ours. This is important for the pursuance of fully separating any possible synergistic motives. As discussed in our introduction, there is a possibility that percent sought captures other effects than just a change in demand. Therefore, it would be interesting to include more variables which measure and control for eventual synergies between the target and the acquirer.

Third, Haspeslagh & Jemison (1991) acknowledge the complexity of an M&A transaction and emphasize that experience on both an individual and organizational level will enhance the integration process. In this paper, we find it interesting to control for corporate governance by adding the size of the board of both the target and the acquirer. With respect to the reasoning of Haspeslagh & Jemison (1991) it would thus be interesting to study the experience of individuals within the management team. The CEO tenure would, for example, perhaps shed additional light on the relationship between corporate governance and the determinants of bid premium. From our results it is evident that the size of the board is not a significant variable which is able to explain the variation in the announced bid premium (at least not in this setting). Therefore, there is a need for a more appropriate variable which can capture our discussion about board efficiency when investigating M&As.

Fourth, Franks et al. (1991) find that negative post merger performances are not related to the relative size of the two firms in the transaction *if* the target constitutes a small fraction of the acquirer. In line with this, we intended to add a variable which captures the relative size of the target and the acquirer. We thought of defining this as the quotient of the two companies' respective market capitalization. However, this would have required us to add an additional restriction on our data sample, namely that the target *and* the acquirer are publicly traded firms. Since we aimed to examine Swedish M&A transactions, this restriction would have left us with a very small sample since it is rarely the case in Sweden that a publicly traded firm buys another public firm. From basic econometrics, we learn that the variance of the estimated coefficient decreases with a larger sample. Hence, a small sample would have generated less significant results.

Fifth, as mentioned above, there are transactions in our sample in which the announced bid premium is substantially high. Therefore, it would be interesting to control for the nominal price of the target stock to differentiate between “penny stocks” which have a market value of

only a few SEK and other more "normally" priced stocks. The underlying assumption would be that it is easier to offer a higher bid premium for a stock with a low price.

Sixth, Schuster (2005, p. 77) makes a distinction between mergers and acquisitions. He states that the deal is termed a merger when one of the companies cannot be identified as an acquirer. Seen formally, however, he argues that one company acquires the shares of the other company. Thus, one part in the transaction can be categorized as the buyer. Consequently, previous finance research has not distinguished between mergers and acquisitions. Sherman & Hart (2006) and King et al. (2004) for example, claim that this distinction does not matter since the final result is the same for both a merger and an acquisition: two companies, which previously had separate ownership, now join forces and will operate as one firm. As such, this paper has not separated mergers from acquisitions. For future studies, it would be interesting to see if there in fact is a difference in our results provided that mergers can be distinguished from acquisitions.

Seventh, it would also be interesting to conduct a study similar to ours, namely determining the effect of percent sought on the announced bid premium, but to use a more qualitative approach. Interviews with key individuals at the target, acquirer and the financial advisor would then constitute important additions to a data sample similar to ours. A possible problem with such an approach is that management can be reluctant to disclose the underlying purpose of initiating the transaction. As established by Moeller & Brady (2007), there is a certain degree of secrecy around the announcement of M&A transaction; the true underlying intentions and purposes are rarely made public. Moreover, such a study requires immense resources in terms of time and access to contacts which is often beyond the scope of many scholarly papers.

Finally, we would like to return to Baker et al. (2009), Hayward & Hambrick (1997), Slusky & Caves (1991) and Varaiya (1987) who investigate different aspects of the bid premiums in M&A transactions (52-week high, CEO hubris, value creation, and cross-section variability). The two most important lessons from these studies are (i) there are a number of variables with a significant impact when explaining the bid premium and (ii) the exact magnitude of the different variables has not been determined. The reason for this is that their aggregate impact has not been examined in a single paper. This reasoning, that there are a large number of variables affecting the bid premium, is supported by Walker (2000) and Cooke (1986) and

their discussions regarding the motives for conducting M&A transactions. Moreover, the values of the R-squared of the models in the three previously mentioned papers is never higher than 0.449 (Slusky & Caves 1991, p. 292) which further supports this line of argument that the bid premium ought to be researched in greater detail. Ideally, the literature will eventually be able to fully determine what explains the bid premium in M&A transactions and to what extent. With this study, however, we have contributed by investigating a rather specific area of M&As and finding a positive relationship for a limited data sample and a restricted time period.

8. References

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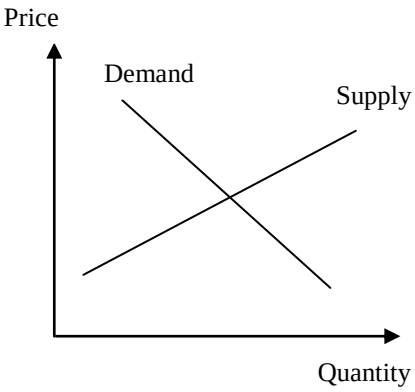
9. Appendix

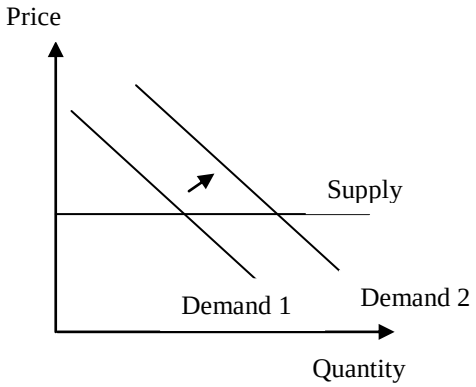
Figure 1: Theory of Supply and Demand and its Use in This Paper

Panel (a): Basic Supply and Demand



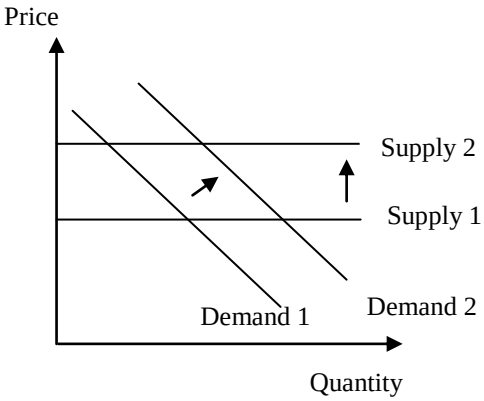
Theory of supply and demand as taught in basic microeconomics. Law of demand establishes that, all else equal, a higher price will reduce the demanded quantity The law of supply implies an upward sloping curve since producers prefer to sell larger quantities at higher prices as this revenue increases. These curves will shift if the quantity supplied or demanded changes when price remains the same, i.e. the curves change if the supply/demand is affected by factors other than price

Panel (b): Supply as Implied by EMH



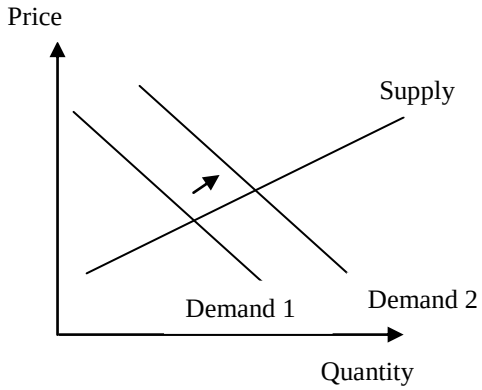
The classical perspective of supply and demand on financial markets. Investors which are supplying stocks should portray perfect elasticity; no matter the quantity demanded by the acquirer, the investor should only care about the trade off regarding risk and return and thus sell the shares at a fixed price.

Panel (c): Free-Rider Theory



This panel illustrate changes in supply and demand as implied by Grossman & Hart's (1980) free-rider theory. Percent sought might also capture acquirers' willingness to consolidate with the target in order to realize future synergies. Hence, the higher the potential synergies, the higher announced premium. Therefore, we would observe simultaneous changes in supply and demand. We would thus not isolate any effects attributable to changes in demand if we do not control for possible synergies.

Panel (d): The Story of This Paper



In light of the free-rider theory and Choi's (1991) findings regarding toe-hold acquisitions, we control for possible product synergistic in accordance with Hayward & Hambrick (1997). Consequently, supply is fixated and we can examine the underlying story; are there indications that the supply curve for stocks is upward sloping?

Figure 2: Scatter plot and trend line of the relationship between the announced premium and percent sought

Below is a scatter plot and a trend line showing the relationship between percent sought and the announced premium. The announced bid premium and percent sought is obtained from Bloomberg, and are then transformed into decimal format We start out with 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Out of the 150 deals, we obtain an announced premium from Bloomberg for 115 transactions, which is calculated by Bloomberg by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share, and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date.

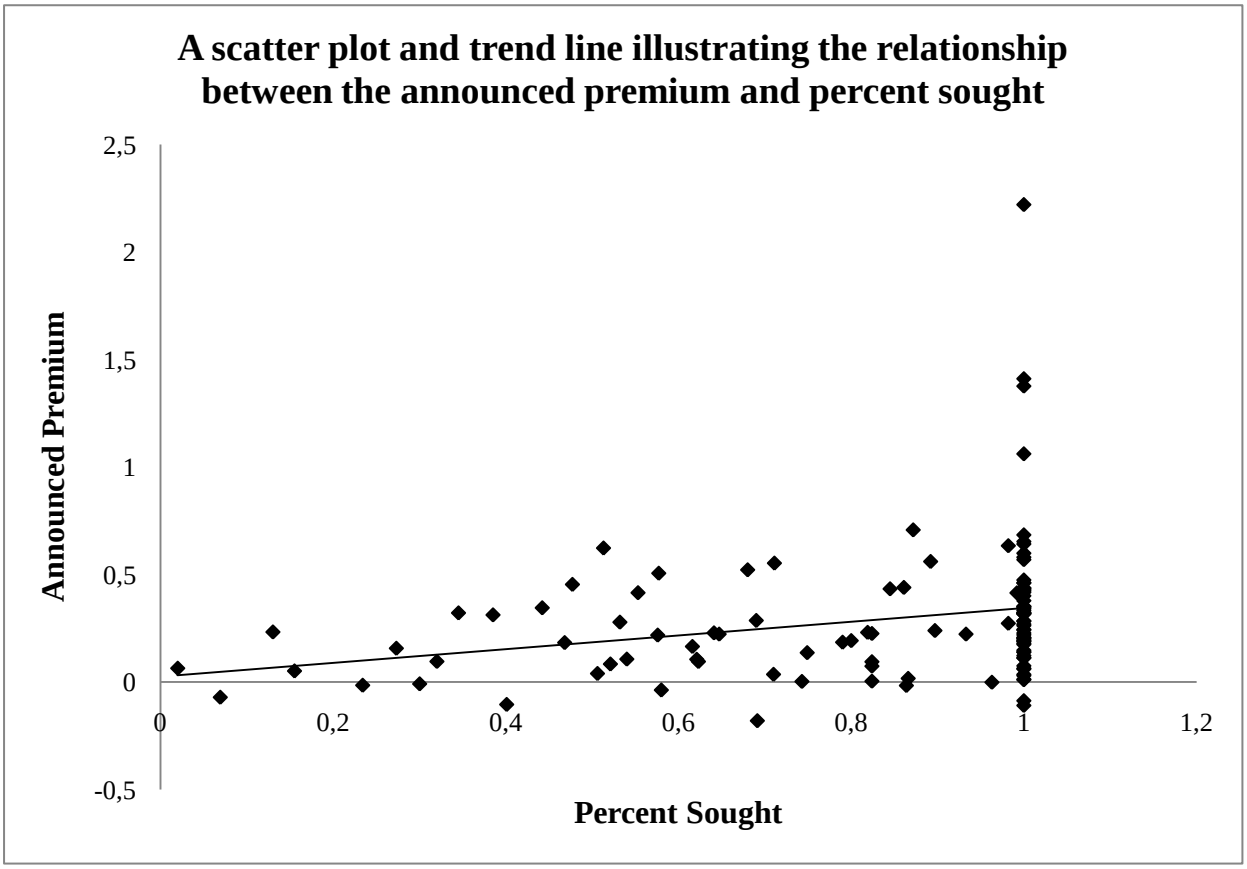


Table 1: The assumptions of the OLS and its implications
(Source: Wooldridge (2009))

Assumptions	**Implications**
1. Model is linear in parameters 2. Data is a random sample of the underlying population 3. No exact linear relationships among the independent variables and none of the independent variables is constant 4. Expected value of the error term is zero given any values of the explanatory variables 5. The error term have a constant variance given any value of the explanatory variables (Homoskedasticity) 6. The error term is normally distributed and independent of the explanatory variables	- When assumptions 1-4 are satisfied, the OLS estimators are unbiased estimators of the population parameters - When assumptions 1-5 are satisfied, a minimum variance of all unbiased estimators are obtained - If assumptions 6 is satisfied, hypothesis testing using t and F tests can be performed

Table2: Variable definitions, symbols and the sources for each variable

Below are the symbols and the definitions for the variables used. From Bloomberg, we download 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Out of the 150 deals, we obtain an announced premium from Bloomberg for 115 transactions, which is calculated by Bloomberg by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share, and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date. Percent sought, percent owned, method of payment (cash, stock, cash and stock) and nature of bid (friendly or hostile) are obtained from Bloomberg. The announced premium, percent sought and percent owned are transformed into decimal format. In addition, we generate a variable that is constructed by adding percent sought and percent owned. When the method of payment is not obtained from Bloomberg, we use the database Zephyr, read the transaction synopsis in Capital IQ, and consult news articles in the newspaper Dagens Industri and Cision Wire to determine the method of payment. Number of previously made M&As are obtained from Capital IQ and Bloomberg. Industry groups are obtained from the Zephus classification used in the database Zephyr. In those rare cases where the transaction is not reported in Zephyr, we manually code the company's industry group in accordance to the Zephus classification by using the Bloomberg industry classification as a benchmark. Additionally, we extend the Zephus classification by adding a separate group for Real Estate. Using the industry groups, we code if the acquisition is between two firms in the same industry to be able to account for relatedness. The return on the OMX for the year prior to the acquisition is calculated from the daily price values for the OMX All Share Index, downloaded from Thomson Datastream. Finally, the board sizes are obtained from the books "Styrelser och revisorer i Svergies börsföretag" or from annual reports.

Symbol	Definition	Source
AnPremium	The announced bid premium (in decimal format). (Offer price per share - 20 days average target stock price per share one day prior to the announcement date)/20 days average target stock price per share one day prior to the announcement date	Bloomberg L.P.
PerSought	The amount of shares the acquirer intends to buy (in decimal format).	Bloomberg L.P.
PerOwned	The amount of target shares already owned by the acquirer on the announcement date (in decimal format).	Bloomberg L.P.
PerTotal	The sum of percent sought and percent owned.	Bloomberg L.P.
Experience	Number of M&As made by the acquirer prior to the announcement date. Accounts for the experience of the acquirer.	Capital IQ Bloomberg L.P.
MixCS	Dummy that accounts for the method of payment in the transaction. Equal to one if the method of payment is a mixture of cash and stock, otherwise equal to zero.	Bloomberg L.P. Zephyr Capital IQ Dagens Industri Cision Wire
Cash	Dummy that accounts for the method of payment in the transaction. Equal to one if the method of payment is cash, otherwise equal to zero.	Bloomberg L.P. Zephyr Capital IQ Dagens Industri Cision Wire
Stock	Dummy that accounts for the method of payment in the transaction. Equal to one if the method of payment is stock, otherwise equal to zero.	Bloomberg L.P. Zephyr Capital IQ Dagens Industri Cision Wire
Friendly	Dummy that accounts for the nature of the bid. Equal to one if the nature of the bid is friendly, otherwise equal to zero.	Bloomberg L.P.
Hostile	Dummy that accounts for the nature of the bid. Equal to one if the nature of the bid is hostile, otherwise equal to zero.	Bloomberg L.P.
OMX	The return on the OMX All Share Index over the past year one day prior to the announcement day.	Thomson Datastream
Relatedness	Dummy that accounts for industry relatedness. Equal to one if the industry classification for the acquirer is identical to the industry classification for the target, otherwise equal to zero.	Zephyr Bloomberg L.P.
Aboard	The board size of the acquirer.	Styrelser och revisorer i Svergies börsföretag Annual reports
Tboard	The board size of the target.	Styrelser och revisorer i Svergies börsföretag Annual reports
AboardM1	The board size of the acquirer minus one.	Styrelser och revisorer i Svergies börsföretag Annual reports
TboardM1	The board size of the target minus one.	Styrelser och revisorer i Svergies börsföretag Annual reports
Industry dummies	Dummies that account for the industry of the acquirer and the target, see Table 3.	Zephyr Bloomberg L.P.
PerTotal_90	Dummy that accounts for the sum of percent sought and percent owned. Equal to one if the sum of percent sought and percent owned is above 90 percent, otherwise equal to zero.	Bloomberg L.P.
PerSought_50	Percent sought interacted with a dummy equal to one if percent sought is above 50 percent, otherwise equal to zero.	Bloomberg L.P.
PerSought_80	Percent sought interacted with a dummy equal to one if percent sought is above 80 percent, otherwise equal to zero.	Bloomberg L.P.
PerOwned_50	Percent owned interacted with a dummy equal to one if percent owned is above 50 percent, otherwise equal to zero.	Bloomberg L.P.
PerOwned_80	Percent owned interacted with a dummy equal to one if percent owned is above 80 percent, otherwise equal to zero.	Bloomberg L.P.

Table 3: Industry classification

Below are the industries for the acquirers and the targets, as well as the symbols used. Please refer to Table 2 for a detailed outline of how the data sample is obtained. Industry groups were obtained from the Zephus classification used in the database Zephyr. In those rare cases where the transaction is not reported in Zephyr, we manually code the company's industry group in accordance to the Zephus classification by using the Bloomberg industry classification as a benchmark. Additionally, we extend the Zephus classification by adding a separate group for Real Estate.

Acquirer Industry	Symbol	Freq.	Percent	Target Industry	Symbol	Freq.	Percent
Banking, Insurance & Financial Services	AInd1	37	32.17	Banking, Insurance & Financial Services	TInd1	18	15.65
Communications	AInd2	7	6.09	Chemicals, Petroleum, Rubber & Plastic	TInd2	1	0.87
Computer, IT, and Internet Services	AInd3	21	18.26	Communications	TInd3	5	4.35
Construction	AInd4	3	2.61	Computer, IT, and Internet Services	TInd4	26	22.61
Food & Tobacco Manufacturing	AInd5	1	0.87	Construction	TInd5	5	4.35
Holding Companies	AInd6	14	12.17	Food & Tobacco Manufacturing	TInd6	2	1.74
Hotels and Restaurants	AInd7	1	0.87	Holding Companies	TInd7	1	0.87
Industrial, Electric & Electronic Machinery	AInd8	6	5.22	Industrial, Electric & Electronic Machinery	TInd8	9	7.83
Metals & Metal Products	AInd9	2	1.74	Metals & Metal Products	TInd9	3	2.61
Miscellaneous Manufacturing	AInd10	4	3.48	Miscellaneous Manufacturing	TInd10	14	12.17
Personal, Leisure & Business Services	AInd11	2	1.74	Personal, Leisure & Business Services	TInd11	1	0.87
Public Administration, Education, Health Social Services	AInd12	1	0.87	Real Estate	TInd12	20	17.39
Real Estate	AInd13	13	11.30	Retailing	TInd13	3	2.61
Retailing	AInd14	1	0.87	Transport, Freight, Storage & Travel Services	TInd14	3	2.61
Transport, Freight, Storage & Travel Services	AInd15	1	0.87	Wholesaling	TInd15	2	1.74
Wood, Furniture & Paper Manufacturing	AInd16	1	0.87	Wood, Furniture & Paper Manufacturing	TInd16	2	1.74
Total		**115**	**100.00**	**Total**		**115**	**100.00**

Table 4: Spearman pair wise correlation coefficients

Below are the correlations between all our variables. The sample of deals is obtained from Bloomberg. We start out with 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Out of the 150 deals, we obtain an announced premium from Bloomberg for 115 transactions, which is calculated by Bloomberg by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date. Percent sought, percent owned, method of payment (cash, stock, cash and stock) and nature of bid (friendly or hostile) are obtained from Bloomberg. The announced premium, percent sought and percent owned are transformed into decimal format. In addition, we generate a variable that is constructed by adding percent sought and percent owned. When the method of payment is not obtained from Bloomberg we used the database Zephyr, read the transaction details in Capital IQ, and read news articles in the newspaper Dagens Industri and Cision Wire to determine the method of payment. Number of previously made M&As are obtained from Capital IQ and Bloomberg. Industry groups are obtained from the Zephus classification used in the database Zephyr. In those rare cases where the transaction is not reported in Zephyr, we manually code the company's industry group in accordance to the Zephus classification by using the Bloomberg industry classification as a benchmark. Additionally, we extend the Zephus classification by adding a separate group for Real Estate. Using the industry groups, we code if the transaction is between two firms in the same industry to be able to account for relatedness. The return of the OMX for the year prior to the acquisition is calculated from the daily price values for the OMX All Share Index, downloaded from Thomson Datastream. Finally the board sizes are obtained from the books "Styrelser och revisorer i Svergies börsföretag" or from annual reports.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. AnPremium	1.0000													
2. PerSought	0.2585***	1.0000												
	(0.0053)													
3. PerOwned	-0.1335	-0.6738***	1.0000											
	(0.1551)	(0.0000)												
4. PerTotal	0.2171**	0.6847***	0.0771	1.0000										
	(0.0198)	(0.0000)	(0.4127)											
5. Experience	-0.0532	-0.0356	-0.0291	-0.0756	1.0000									
	(0.5795)	(0.7104)	(0.7621)	(0.4303)										
6. MixCS	-0.0161	0.0755	-0.0299	0.0724	-0.0990	1.0000								
	(0.8642)	(0.4225)	(0.7509)	(0.4421)	(0.3012)									
7. Cash	0.0196	-0.2769***	0.2367**	-0.1401	0.0888	-0.3849***	1.0000							
	(0.8354)	(0.0027)	(0.0109)	(0.1352)	(0.3542)	(0.0000)								
8. Stock	-0.0109	0.2475***	-0.2328**	0.1043	-0.0328	-0.2041**	-0.8250***	1.0000						
	(0.9079)	(0.0077)	(0.0123)	(0.2672)	(0.7325)	(0.0287)	(0.0000)							
9. Friendly	-0.0462	-0.0930	0.0817	-0.0450	-0.0085	0.0411	-0.1067	0.0880	1.0000					
	(0.6240)	(0.3227)	(0.3856)	(0.6330)	(0.9291)	(0.6631)	(0.2565)	(0.3497)						
10. Hostile	0.0462	0.0930	-0.0817	0.0450	0.0085	-0.0411	0.1067	-0.0880	-1.0000***	1.0000				
	(0.6240)	(0.3227)	(0.3856)	(0.6330)	(0.9291)	(0.6631)	(0.2565)	(0.3497)	(0.0000)					
11. OMX	-0.1973**	0.0562	-0.0821	-0.0052	-0.0741	0.0847	-0.0423	-0.0070	-0.0656	0.0656	1.0000			
	(0.0346)	(0.5507)	(0.3828)	(0.9562)	(0.4397)	(0.3679)	(0.6534)	(0.9407)	(0.4859)	(0.4859)				
12. Relatedness	-0.0682	0.2749***	-0.2062**	0.1675	-0.1008	0.0917	-0.4887***	0.4623***	0.1209	-0.1209	0.0081	1.0000		
	(0.4688)	(0.0030)	(0.0270)	(0.0736)	(0.2925)	(0.3299)	(0.0000)	(0.0000)	(0.1982)	(0.1982)	(0.9313)			
13. Aboard	-0.0026	0.1689*	-0.1317	0.0980	-0.0008	0.0799	-0.1077	0.0653	-0.0298	0.0298	-0.0904	0.2278**	1.0000	
	(0.9781)	(0.0711)	(0.1605)	(0.2974)	(0.9931)	(0.3961)	(0.2519)	(0.4880)	(0.7521)	(0.7521)	(0.3368)	(0.0143)		
14. Tboard	0.0617	-0.1611*	0.1618*	-0.0578	0.0705	-0.1372	0.2840***	-0.2172**	-0.2026**	0.2026**	-0.1037	-0.2379**	0.0326	1.0000
	(0.5123)	(0.0854)	(0.0841)	(0.5394)	(0.4624)	(0.1438)	(0.0021)	(0.0197)	(0.0299)	(0.0299)	(0.2699)	(0.0105)	(0.7295)	

Note: P-values are in parentheses

*** p<0.01, ** p<0.05, * p<0.10

Table 5: Summary of Criteria for Selecting Empirical Data from Bloomberg

This table specifies the criteria with which the data sample from Bloomberg is obtained. In addition, the table specifies the number of observations that each criteria generate and how many of the previous observations that are excluded as a result of the additional selection criteria.

Selection Criteria	Sample	Excluded
1. Time Period (1990-01-01 to 2010-03-09)	300 819	
2. Target and acquirer firm are both domiciled in Sweden	2 328	298 491
3. Transaction is completed	1 783	545
4. The target firm is publically traded	194	1 589
5. Transaction is labeled an acquisition	150	44
6. Transaction has a publically announced bid premium	115	35
7. Final Data Sample	**115**	

Table 6: Number of trading days for the sample period

Below is the number of trading days on the OMX All Share Index during the sample period. The Index is downloaded from Thomson Datastream. We used STATA to count the number of trading days for each year. Then we calculate the average number of trading days. This is done in order to be able to calculate the return on the OMX for the year prior to the acquisition one day prior to the announcement date.

Year	Number of trading days
1990	261
1991	261
1992	262
1993	261
1994	260
1995	260
1996	262
1997	261
1998	261
1999	261
2000	260
2001	261
2002	261
2003	261
2004	262
2005	260
2006	260
2007	261
2008	262
2009	261
Average trading days	$260.95 \approx 261$

Table 7: Descriptive statistics

The sample of deals listed below is obtained from Bloomberg. We start out with 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Means, standard deviations, medians, extreme values, minimum and maximum values, 95 percent confidence intervals and the number of observations for each variable are shown. "Dummy Count" indicate how many observations that take on the value 1 for each dummy. Out of the 150 deals, we obtain an announced premium from Bloomberg for 115 transactions. Bloomberg calculates the premium by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date. Percent sought, percent owned, method of payment (cash, stock, cash and stock) and nature of bid (friendly or hostile) are obtained from Bloomberg. The announced premium, percent sought and percent owned are transformed into decimal format. In addition, we generate a variable that is constructed by adding percent sought and percent owned. When the method of payment is not obtained from Bloomberg we use the database Zephyr, read the transaction details in Capital IQ, and read news articles in the newspaper Dagens Industri and Cision Wire to determine the method of payment. Number of previously made M&As is obtained from Capital IQ and Bloomberg. Industry groups are obtained from the Zephus classification used in the database Zephyr. In those rare cases where the transaction is not reported in Zephyr, we manually code the company's industry group in accordance to the Zephus classification by using the Bloomberg industry classification as a benchmark. Additionally, we extend the Zephus classification by adding a separate group for Real Estate. Using the industry groups, we code if the transaction is between firms in the same industry to be able to account for relatedness. The return on the OMX for the year prior to the acquisition is calculated from the daily price values for the OMX All Share Index, downloaded from Thomson Datastream. Finally, the board sizes are obtained from the books "Styrelser och revisorer i Svergies börsföretag" or from annual reports.

Variable	N	Dummy Count	Mean	95% Confidence Interval		SD	min	max	10%	25%	Median	75%	90%
AnPremium	115	n.a.	.2879017	.2298882	.3459153	.3140478	-.1814	2.2201	.0026	.0944	.2273	.4141	.5795
PerSought	115	n.a.	.8234097	.7765554	.8702639	.2536387	.01969	1	.442	.68	1	1	1
PerOwned	115	n.a.	.113299	.07905	.1475479	.1854017	0	.845	0	0	0	.2	.4242
PerTotal	115	n.a.	.9367086	.9019848	.9714324	.1879719	.13	1	.824	1	1	1	1
Experience	111	n.a.	10.1982	6.295857	14.10054	20.74601	0	115	0	0	2	8	31
MixCS	115	10	.0869565	.0346775	.1392355	.2830045	0	1	0	0	0	0	0
Cash	115	70	.6086957	.5181458	.6992455	.4901781	0	1	0	0	1	1	1
Stock	115	35	.3043478	.2189766	.3897191	.4621444	0	1	0	0	0	1	1
Friendly	115	113	.9826087	.9583545	1.006863	.1312964	0	1	1	1	1	1	1
Hostile	115	2	.0173913	-.0068629	.0416455	.1312964	0	1	0	0	0	0	0
OMX	115	n.a.	.130193	.0643721	.1960139	.3563116	-.4706123	.9619399	-.3619494	-.2127021	.1964564	.3442094	.510817
Relatedness	115	52	.4521739	.3598308	.544517	.4998856	0	1	0	0	0	1	1
Aboard	115	n.a.	6.86087	6.331047	7.390692	2.868116	2	21	3	5	7	8	10
Tboard	115	n.a.	5.93913	5.50536	6.372901	2.34815	1	11	3	4	6	8	9
AInd1	115	37	.3217391	.2350668	.4084115	.4691879	0	1	0	0	0	1	1
AInd2	115	7	.0608696	.0165094	.1052298	.2401373	0	1	0	0	0	0	0
AInd3	115	21	.1826087	.1109274	.25429	.3880362	0	1	0	0	0	0	1
AInd4	115	3	.026087	-.0034865	.0556604	.1600915	0	1	0	0	0	0	0
AInd5	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
AInd6	115	14	.1217391	.0610715	.1824068	.3284153	0	1	0	0	0	0	1
AInd7	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
AInd8	115	6	.0521739	.0109147	.0934332	.2233508	0	1	0	0	0	0	0
AInd9	115	2	.0173913	-.0068629	.0416455	.1312964	0	1	0	0	0	0	0
AInd10	115	4	.0347826	.0007869	.0687783	.1840306	0	1	0	0	0	0	0
AInd11	115	2	.0173913	-.0068629	.0416455	.1312964	0	1	0	0	0	0	0
AInd12	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
AInd13	115	13	.1130435	.054294	.171793	.3180317	0	1	0	0	0	0	1
AInd14	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
AInd15	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
AInd16	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
TInd1	115	18	.1565217	.089107	.2239364	.3649394	0	1	0	0	0	0	1
TInd2	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
TInd3	115	5	.0434783	.0056415	.081315	.2048236	0	1	0	0	0	0	0
TInd4	115	26	.226087	.1484776	.3036963	.4201267	0	1	0	0	0	0	1
TInd5	115	5	.0434783	.0056415	.081315	.2048236	0	1	0	0	0	0	0
TInd6	115	2	.0173913	-.0068629	.0416455	.1312964	0	1	0	0	0	0	0
TInd7	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
TInd8	115	9	.0782609	.0284291	.1280927	.2697571	0	1	0	0	0	0	0
TInd9	115	3	.026087	-.0034865	.0556604	.1600915	0	1	0	0	0	0	0
TInd10	115	14	.1217391	.0610715	.1824068	.3284153	0	1	0	0	0	0	1
TInd11	115	1	.0086957	-.0085304	.0259217	.0932505	0	1	0	0	0	0	0
TInd12	115	20	.173913	.1035881	.244238	.3806935	0	1	0	0	0	0	1
TInd13	115	3	.026087	-.0034865	.0556604	.1600915	0	1	0	0	0	0	0
TInd14	115	3	.026087	-.0034865	.0556604	.1600915	0	1	0	0	0	0	0
TInd15	115	2	.0173913	-.0068629	.0416455	.1312964	0	1	0	0	0	0	0
TInd16	115	2	.0173913	-.0068629	.0416455	.1312964	0	1	0	0	0	0	0

Table 8: Further descriptive statistics of percent sought, percent owned and the sum of percent sought and percent owned, "PerTotal"

Below are additional descriptive statistics of percent sought, percent owned and the sum of percent sought and percent owned. The number of observations which satisfy the different conditions are shown. The sample of deals is obtained from Bloomberg. We start out with 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Out of the 150 deals we were able to obtain an announced premium from Bloomberg for 115 transactions, which is calculated by Bloomberg by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date. Percent sought and percent owned are obtained from Bloomberg and are transformed into decimal format.

Variable	0 % < x	x < 100 %	0 % < x < 50 %	x = 100 %
PerSought	115	54	14	61
PerOwned	41	115	36	0
PerTotal	115	21	8	94

Table 9 Regressions: Whole sample

OLS regressions of the announced premium on various independent variables. The sample of deals is obtained from Bloomberg. We start out with 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. Out of the 150 deals we were able to obtain an announced premium from Bloomberg for 115 transactions, which is calculated by Bloomberg by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date. Percent sought, percent owned, method of payment (cash, stock, cash and stock) and nature of bid (friendly or hostile) are obtained from Bloomberg. The announced premium, percent sought and percent owned are transformed into decimal format. When the method of payment wasn't obtained from Bloomberg we used the database Zephyr, read the transaction details in Capital IQ, and read news articles in the newspaper Dagens Industri and Cision Wire to determine the method of payment. Number of previously made M&As accounts for the experience of the acquirer and were obtained from Capital IQ and Bloomberg. Industry groups were obtained from the Zephus classification used in the database Zephyr. In those rare cases where the transaction is not reported in Zephyr, we manually code the company's industry group in accordance to the Zephus classification by using the Bloomberg industry classification as a benchmark. Additionally, we extend the Zephus classification by adding a separate group for Real Estate. Using the industry groups, we code if the acquisition was done between firms in the same industry to be able to account for relatedness. The return on the OMX for the year prior to the acquisition is calculated from the daily price values for the OMX All Share Index, downloaded from Thomson Datastream. Finally the board sizes are obtained from the books "Styrelser och revisorer i Svergies börsföretag" or from annual reports.

Dependent Variable: AnPremium

Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.320****	0.382****	0.413****	0.420****	0.403****
	(0.0849)	(0.0874)	(0.0819)	(0.0872)	(0.103)
PerOwned		0.126	0.0451	0.0387	0.169
		(0.120)	(0.128)	(0.134)	(0.170)
Experience			-0.00111	-0.00112	-0.000213
			(0.00115)	(0.00116)	(0.00172)
Cash			0.0184	0.00862	0.152
			(0.108)	(0.110)	(0.139)
Stock			0.00330	-0.00224	0.0455
			(0.116)	(0.118)	(0.155)
Friendly			-0.0365	-0.0164	0.00316
			(0.0577)	(0.0704)	(0.130)
OMX			-0.192*	-0.190*	-0.231
			(0.0985)	(0.103)	(0.160)
Relatedness			-0.0839	-0.0758	-0.110
			(0.0696)	(0.0720)	(0.0963)
Aboard				-0.00380	-0.00151
				(0.00668)	(0.00723)
Tboard				0.00717	0.0117
				(0.0109)	(0.0187)
Constant	0.0244	-0.0411	0.0365	-0.000922	-0.249
	(0.0576)	(0.0710)	(0.134)	(0.181)	(0.237)
Industry dummies	No	No	No	No	Yes
Observations	115	115	111	111	111
R-squared	0.067	0.070	0.138	0.142	0.341

Note: Robust standard errors in parentheses
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 10: Regressions: Whole sample, with board sizes minus one

OLS regressions of the announced premium on various independent variables. Note that the board sizes used are minus one. We do this in order to determine if the fact that we have included the CEO in some cases when it was not possible to establish if the CEO in fact was on the board, has any substantial impact on the regression results. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium

Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.320****	0.382****	0.413****	0.420****	0.403****
	(0.0849)	(0.0874)	(0.0819)	(0.0872)	(0.103)
PerOwned		0.126	0.0451	0.0387	0.169
		(0.120)	(0.128)	(0.134)	(0.170)
Experience			-0.00111	-0.00112	-0.000213
			(0.00115)	(0.00116)	(0.00172)
Cash			0.0184	0.00862	0.152
			(0.108)	(0.110)	(0.139)
Stock			0.00330	-0.00224	0.0455
			(0.116)	(0.118)	(0.155)
Friendly			-0.0365	-0.0164	0.00316
			(0.0577)	(0.0704)	(0.130)
OMX			-0.192*	-0.190*	-0.231
			(0.0985)	(0.103)	(0.160)
Relatedness			-0.0839	-0.0758	-0.110
			(0.0696)	(0.0720)	(0.0963)
AboardM1				-0.00380	-0.00151
				(0.00668)	(0.00723)
TboardM1				0.00717	0.0117
				(0.0109)	(0.0187)
Constant	0.0244	-0.0411	0.0365	0.00245	-0.239
	(0.0576)	(0.0710)	(0.134)	(0.173)	(0.229)
Industry dummies	No	No	No	No	Yes
Observations	115	115	111	111	111
R-squared	0.067	0.070	0.138	0.142	0.341

Note: Robust standard errors in parentheses

**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 11: Regressions: Whole sample including a dummy equal to one when the sum of percent sought and percent owned is above 90 percent

OLS regressions of the announced premium on the independent variables including a dummy equal to one if the sum of percent sought and percent owned is above 90 percent. We perform this regression in order to control for possibilities that acquirers aim to consolidate with the target as a result of possible future synergies. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides full and extensive definition of all variables.

Dependent Variable: AnPremium					
Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.244**	0.182	0.235*	0.250*	0.458**
	(0.104)	(0.176)	(0.132)	(0.139)	(0.173)
PerTotal_90	0.0964	0.128	0.114	0.109	-0.0342
	(0.0651)	(0.117)	(0.0826)	(0.0869)	(0.0979)
PerOwned		-0.0733	-0.133	-0.132	0.227
		(0.215)	(0.171)	(0.178)	(0.245)
Experience			-0.00112	-0.00113	-0.000211
			(0.00115)	(0.00115)	(0.00173)
Cash			0.0149	0.00630	0.156
			(0.108)	(0.110)	(0.142)
Stock			-0.00472	-0.0101	0.0494
			(0.116)	(0.119)	(0.159)
Friendly			-0.0341	-0.0182	0.00547
			(0.0579)	(0.0702)	(0.132)
OMX			-0.192*	-0.191*	-0.230
			(0.0990)	(0.103)	(0.161)
Relatedness			-0.0807	-0.0727	-0.111
			(0.0698)	(0.0721)	(0.0976)
Aboard				-0.00438	-0.00133
				(0.00680)	(0.00740)
Tboard				0.00605	0.0120
				(0.0111)	(0.0189)
Constant	0.00258	0.0334	0.104	0.0779	-0.273
	(0.0573)	(0.0826)	(0.142)	(0.200)	(0.243)
Industry dummies	No	No	No	No	Yes
Observations	115	115	111	111	111
R-squared	0.073	0.073	0.141	0.144	0.341

Note: Robust standard errors in parentheses
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 12: Regressions: Split sample, percent sought less than or equal to 50 percent

OLS regressions of the announced premium on various independent variables for transactions where percent sought is equal to or less than 50 percent. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium					
Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.587**	0.474	0.412	0.346	x
	(0.268)	(0.291)	(0.326)	(0.336)	x
PerOwned		0.253	0.125	0.167	0.260
		(0.161)	(0.122)	(0.154)	x
Experience			0.000654	0.000159	-0.00111
			(0.000771)	(0.000956)	x
Cash			x	x	x
			x	x	x
Stock			-0.268***	-0.244**	-0.196
			(0.0607)	(0.0814)	x
Friendly			x	x	x
			x	x	x
OMX			-0.416**	-0.363**	-0.629
			(0.123)	(0.0859)	x
Relatedness			0.291***	0.210*	0.241
			(0.0617)	(0.0852)	x
Aboard				0.0157	0.0256
				(0.0116)	x
Tboard				-0.0178	0.0155
				(0.0112)	x
Constant	-0.0257	-0.0695	-0.00762	0.0442	-0.177
	(0.0712)	(0.0918)	(0.0755)	(0.162)	x
Industry dummies	No	No	No	No	Yes
Observations	14	14	13	13	13
R-squared	0.258	0.433	0.769	0.835	1.000

Note: Robust standard errors in parentheses,
"x" denotes that STATA dropped the variable or the standard error
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 13: Regressions: Split sample, percent sought above 50 percent

OLS regressions of the announced premium on various independent variables for transactions where percent sought is above 50 percent. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium					
Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.382**	0.431	0.412	0.379	0.0919
	(0.169)	(0.359)	(0.276)	(0.268)	(0.203)
PerOwned		0.0575	-0.103	-0.152	-0.178
		(0.357)	(0.290)	(0.287)	(0.264)
Experience			-0.00157	-0.00166	-0.000458
			(0.00156)	(0.00156)	(0.00233)
Cash			0.0132	-0.000905	0.154
			(0.108)	(0.111)	(0.151)
Stock			-0.000972	-0.00787	0.0572
			(0.116)	(0.119)	(0.166)
Friendly			-0.0201	0.0145	0.0375
			(0.0590)	(0.0746)	(0.170)
OMX			-0.198*	-0.192*	-0.231
			(0.107)	(0.111)	(0.171)
Relatedness			-0.103	-0.0923	-0.115
			(0.0745)	(0.0769)	(0.105)
Aboard				-0.00491	-0.00139
				(0.00694)	(0.00807)
Tboard				0.0118	0.0152
				(0.0121)	(0.0208)
Constant	-0.0348	-0.0843	0.0494	0.0207	0.165
	(0.140)	(0.346)	(0.279)	(0.291)	(0.521)
Industry dummies	No	No	No	No	Yes
Observations	101	101	98	98	98
R-squared	0.034	0.034	0.110	0.117	0.317

Note: Robust standard errors in parentheses
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 14: Correlation between percent sought and percent owned in the split samples

Below are the correlations between percent sought and percent owned in the split samples. The sample of deals is obtained from Bloomberg. We start out with 150 deals reported as acquisitions, where the announcement and completion date is between January 1, 1990 and March 9, 2010. Both the target and the acquirer are categorized as Swedish firms (i.e. their headquarters are situated in Sweden), and in addition all target firms are publicly traded. In Bloomberg, transactions are reported as acquisitions when a minimum of 5 percent of the outstanding target shares are sought or when the deal value is at least $50 million dollars. Out of the 150 deals, we obtain an announced premium for 115 transactions, which is calculated by Bloomberg by subtracting the 20 days average target stock price per share one day prior to the announcement date from the offer price per share and dividing this difference with the 20 days average target stock price per share one day prior to the announcement date. Percent sought and percent owned are obtained from Bloomberg and transformed into decimal format.

	PerSought<=50%		PerSought>50%		PerSought>80%	
Variable	PerSought	PerOwned	PerSought	PerOwned	PerSought	PerOwned
PerSought	1.0000		1.0000		1.0000	
PerOwned	0.2285	1.0000	-0.9025***	1.0000	-0.8093***	1.0000
	(0.4320)		(0.0000)		(0.0000)	

Note: P-values are in parentheses
*** p<0.01, ** p<0.05, * p<0.10

Table 15: Regressions: Split sample, percent sought above 80 percent

OLS regressions of the announced premium on the independent variables for transactions where percent sought is above 80 percent. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium

Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.876**	1.790****	1.558****	1.476****	1.360*
	(0.439)	(0.330)	(0.376)	(0.391)	(0.677)
PerOwned		1.346***	0.825	0.674	2.098**
		(0.490)	(0.530)	(0.570)	(0.912)
Experience			-0.00149	-0.00158	0.000225
			(0.00176)	(0.00181)	(0.00285)
Cash			-0.0296	-0.0411	0.0556
			(0.134)	(0.140)	(0.200)
Stock			-0.0583	-0.0675	-0.0341
			(0.146)	(0.153)	(0.224)
Friendly			-0.0396	-0.0163	-0.107
			(0.0665)	(0.0923)	(0.206)
OMX			-0.233*	-0.232*	-0.336
			(0.129)	(0.132)	(0.223)
Relatedness			-0.0547	-0.0438	-0.111
			(0.0846)	(0.0895)	(0.136)
Aboard				-0.00481	-0.000357
				(0.00913)	(0.0140)
Tboard				0.00857	0.0198
				(0.0158)	(0.0263)
Constant	-0.516	-1.432****	-1.043***	-0.995***	-1.176**
	(0.410)	(0.293)	(0.348)	(0.326)	(0.574)
Industry dummies	No	No	No	No	Yes
Observations	79	79	76	76	76
R-squared	0.022	0.034	0.108	0.111	0.318

Note: Robust standard errors in parentheses
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 16: Regressions: Whole sample, dummies for non-linear effects of percent sought

OLS regressions of the announced premium on the independent variables, where we account for non-linear effects in percent sought. This is done by interacting percent sought with dummies that take on the value one if the percent sought is above 50 or above 80 percent respectively, and zero otherwise. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium

Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.559**	0.525**	0.259	0.241	0.219
	(0.268)	(0.262)	(0.306)	(0.336)	(0.471)
PerSought_50	-0.216	-0.198	-0.0318	-0.0157	0.0833
	(0.191)	(0.172)	(0.211)	(0.225)	(0.329)
PerSought_80	0.0198	0.0881	0.160	0.161	0.0629
	(0.0874)	(0.105)	(0.122)	(0.131)	(0.151)
PerOwned		0.197	0.172	0.166	0.200
		(0.145)	(0.157)	(0.167)	(0.186)
Experience			-0.00132	-0.00136	-0.000379
			(0.00129)	(0.00132)	(0.00205)
Cash			0.0171	0.00895	0.153
			(0.109)	(0.111)	(0.142)
Stock			0.00831	0.00558	0.0504
			(0.117)	(0.120)	(0.159)
Friendly			-0.0300	-0.00701	0.0104
			(0.0581)	(0.0745)	(0.132)
OMX			-0.199*	-0.195*	-0.233
			(0.101)	(0.104)	(0.163)
Relatedness			-0.0931	-0.0887	-0.115
			(0.0725)	(0.0762)	(0.101)
Aboard				-0.000732	-0.000213
				(0.00700)	(0.00861)
Tboard				0.00720	0.0116
				(0.0109)	(0.0190)
Constant	-0.0156	-0.0691	0.0682	0.0136	-0.230
	(0.0756)	(0.0871)	(0.139)	(0.180)	(0.242)
Industry dummies	No	No	No	No	Yes
Observations	115	115	111	111	111
R-squared	0.071	0.076	0.146	0.149	0.342

Note: Robust standard errors in parentheses
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 17: Regressions: Whole sample, dummies for non-linear effects of percent sought and percent owned

OLS regressions of the announced premium on various independent variables, where we take non-linear effects of percent sought and percent owned into account. This is done by interacting percent sought (percent owned) with dummies that take on the value one if percent sought (percent owned) is above 50 or above 80 percent respectively, and zero otherwise. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium

Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.559**	0.233	-0.299	-0.320	-0.126
	(0.268)	(0.355)	(0.377)	(0.387)	(0.576)
PerSought_50	-0.216	0.0172	0.396	0.430	0.316
	(0.191)	(0.282)	(0.284)	(0.293)	(0.417)
PerSought_80	0.0198	0.101	0.172	0.159	0.0979
	(0.0874)	(0.128)	(0.138)	(0.152)	(0.189)
PerOwned		0.154	0.0492	0.0225	0.150
		(0.251)	(0.238)	(0.261)	(0.302)
PerOwned_50		0.250	0.542**	0.570*	0.321
		(0.273)	(0.270)	(0.296)	(0.344)
PerOwned_80		-0.379**	-0.662***	-0.677***	-0.488
		(0.158)	(0.200)	(0.207)	(0.339)
Experience			-0.00157	-0.00159	-0.000589
			(0.00140)	(0.00141)	(0.00218)
Cash			0.0166	0.00720	0.146
			(0.111)	(0.113)	(0.150)
Stock			0.0102	0.00498	0.0563
			(0.119)	(0.122)	(0.163)
Friendly			-0.0252	-0.00382	0.0182
			(0.0577)	(0.0726)	(0.138)
OMX			-0.209**	-0.206*	-0.239
			(0.103)	(0.107)	(0.165)
Relatedness			-0.107	-0.1000	-0.126
			(0.0751)	(0.0782)	(0.107)
Aboard				-0.00290	-0.000858
				(0.00737)	(0.00908)
Tboard				0.00734	0.0127
				(0.0110)	(0.0194)
Constant	-0.0156	-0.00657	0.193	0.153	-0.150
	(0.0756)	(0.108)	(0.154)	(0.200)	(0.262)
Industry dummies	No	No	No	No	Yes
Observations	115	115	111	111	111
R-squared	0.071	0.080	0.159	0.161	0.346

Note: Robust standard errors in parentheses
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1

Table 18: Regressions: Split sample, PerTotal less than 100 percent

OLS regressions of the announced premium on various independent variables for transactions where the sum of percent sought and percent owned is less than 100 percent. Please refer to Table 9 for a detailed outline of how the data sample is obtained and how additional variables are generated. Table 2 provides a full and extensive definition of all variables.

Dependent Variable: AnPremium					
Independent Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
PerSought	0.263*	0.305**	0.324**	0.0851	0.499
	(0.126)	(0.133)	(0.142)	(0.169)	x
PerOwned		0.347	0.565	1.251**	x
		(0.212)	(0.466)	(0.462)	x
Experience			-0.00118	-0.00355*	-0.00397
			(0.000934)	(0.00187)	x
Cash			0.00757	0.150	0.242
			(0.173)	(0.139)	x
Stock			-0.160	-0.210	-0.237
			(0.183)	(0.182)	x
Friendly			x	x	x
			x	x	x
OMX			0.114	0.471*	-0.00594
			(0.264)	(0.257)	x
Relatedness			-0.0707	-0.0682	0.0567
			(0.119)	(0.115)	x
Aboard				0.0622**	-0.0516
				(0.0242)	x
Tboard				-0.00214	-0.0530
				(0.0223)	x
Constant	0.0213	-0.0329	-0.0174	-0.476*	0.940
	(0.0640)	(0.0832)	(0.238)	(0.223)	x
Industry dummies	No	No	No	No	Yes
Observations	21	21	20	20	20
R-squared	0.178	0.228	0.366	0.577	1.000

Note: Robust standard errors in parentheses,
"x" denotes that STATA dropped the variable or the standard error
**** p<0.001, *** p<0.01, ** p<0.05, * p<0.1