STOCKHOLM SCHOOL OF ECONOMICS
MASTER THESIS IN FINANCE

Understanding Swedish Board Recommendations

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In this study, we examine the determinants and impact of board recommendations in Swedish public offers. We combine findings from interviews with industry professionals and theory to strengthen the choice of variables included in our analysis. Using data from Swedish public offers during 2000-2013, we apply a logistic regression framework as well as univariate tests to conduct our analysis. Our model includes bid related (bid premium, payment method, raised bids), bidder related (toehold, nationality, and strategic profile), as well as target related (size, performance, and age of board chairman) characteristics. We find that a positive board recommendation is a significant determinant of bid outcome and increases the probability of bid completion by 30-35 percent. Further, bid premium and share-based payment have a positive and negative impact on the recommendation respectively. We also see tendencies towards a larger bidder toehold and smaller size of the target firm being more likely to achieve a board recommendation. Lastly, several interesting results regarding interaction effects of our variables are presented. Overall, our findings indicate that directors care about bid related characteristics, although the subject is difficult to generalize upon.

Keywords: Public takeovers, bid completion, board recommendations, bid premium, payment method.

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1. Introduction

"I don't think it's possible to realize structural transactions without the support of the executive group"[1]

Håkan Samuelsson, Chief Executive Officer, MAN AG

This quote from 2004 refers to the potential acquisition of Scania by European automotive giant MAN. Through this statement, Håkan Samuelsson, CEO of MAN, stressed the importance for the bidding firm to achieve comprehensive approval from the target management and board of directors in order to succeed in a structural acquisition. Two years following this statement, the CEO was to experience the essence of his own quote.

Uncertainty remains as to what may have changed his opinion; since in 2006, MAN launched a public offer for the outstanding shares of Scania while lacking consent from the Scania board of directors[2]. Without board- or main owner acceptance from either Investor or Volkswagen, MAN did not achieve 90 percent ownership in Scania and decided to withdraw the offer in January 2007.[3]

Internationally, the role of the board in public offers came to the forefront of discussion following a number of hostile takeover attempts that received extensive publicity in the 1980's (Holl and Kyriazis, 1996). In Sweden, the area was recognized during the last decade, after a number of high-profile events[4] on the Swedish public takeover market, such as the aforementioned takeover attempt of Scania by MAN. In these courses of events, the opinion of the board of directors becomes a central part of the processes, and is highly scrutinized by different stakeholders such as media, independent organizations like Aktiespararna, and not least by company shareholders. This is likely to stem from the board's perceived business concern, power and legitimacy, considered important attributes for stakeholders (Lindqvist and Pedersen, 2007).

While a number of international studies have attempted to identify underlying factors that are important for the opinion of the board (e.g. Walkling and Long, 1984), the Swedish context remains rather unexplored in this regard. In Swedish public takeovers, the board of directors is obliged to leave a recommendation to its shareholders. Whether financial aspects concerning the wealth of target shareholders are predominantly important for this

[1] Affärsvärlden: MAN förbereder bud på Scania (2006-09-13).
[2] Scania AB, Press release, (2006-09-18).
[3] MAN AG, Press release, (2007-01-24).
[4] E.g. the hostile takeover attempt of GANT by Maus Ferés (2007) and Munters by Alfa Laval (2010).

recommendation, or if other factors are more important when the board makes up its opinion, is however uncertain within a Swedish context. Given the attention that the board recommendation receives amongst stakeholders, it is important to increase the knowledge of what factors that drive the opinion of target company directors.

1.1. Purpose and Research Question

The overall purpose of this thesis is to increase the understanding of board recommendations in Swedish public offers. Primarily, we are interested at understanding the determinants that influence the decision of the board. We also study the impact that the publicly expressed board recommendation has on shareholder acceptance.

Hence, our research question is:

What underlying factors explain Swedish board recommendations; and what is the impact of board recommendations on the probability of bid success[5]?

The thesis aims to provide guidance to practitioners regarding board recommendations in general and, primarily, to understand what factors that influence the decision of the board.

1.2. Disposition

The thesis is structured as follows: In Chapter 2, we present a background to the subject. Chapter 3 presents previous findings within the area. Chapter 4 includes an overview and description of the used data as well as the selection criteria. Chapter 5 presents the main take-aways from our interviews, and in Chapter 6 we present the methodology applied to answer the research question. Chapter 7 displays the results from our study and in Chapter 8 we provide an analysis of these results. In Chapter 9, we summarize our findings and in Chapter 10 we discuss the limitations of the study. Finally, in Chapter 11 we provide suggestions for further research on the topic.

[5] In this thesis, bid success and bid completion are used interchangeably

2. Background

In this section, we first present specific features relating to the Swedish market for corporate control. Second, we elaborate on the governance structure and the role of the board of directors. Last, we will provide an international comparison in relation to the role of the board of directors in public offers.

2.1. Public takeover offers in Sweden

The Swedish market has experienced a large degree of proprietorial concentration with a significant amount of power allocated to institutions and public investment firms (Henrekson and Jakobsson, 2011). Moreover, the constitution of shares with multiple voting rights further enforces the concentration of control in Swedish public companies (Nachemson, 2012). This has rendered in an ownership sphere with large controlling blockholders, an aspect that differentiates the Swedish market in terms of public takeovers. In accordance with the Swedish Companies Act, it is required to achieve more than 90 percent of the target's voting rights in order to demand a compulsory redemption of the remaining shares and to delist the company. Hence, in order to succeed in public takeover attempts, it is often fundamental to construct a tender offer aligned with the interest of the investment companies and institutions involved, as they often possess substantial holdings and, in some situations, even corner positions[6] in listed companies.

Certain public offers may, in fact, not be with the acquirers' intention to achieve absolute ownership of the target company. The Swedish law of public takeovers prohibits acquisitions of large stakes in publicly listed companies without providing the same conditions to all remaining shareholders. The purpose of this regulation is to protect the interest of the remaining shareholders and to provide them with an exit opportunity when control is consolidated to one specific party. According to the Swedish law of public takeovers, acquiring a stake with the consequence of achieving more than 30 percent ownership in a public company renders in a mandatory offer for the remaining shares in the company. Hence, mandatory offers may, in many cases, be executed without a deliberate intention of the acquirer to achieve full ownership in the target.

[6] Refers to an ownership stake of 10 percent , or above, of the voting rights and the ability to exclusively prevent a public takeover

2.2. The role of the Board of Directors

The Swedish model of corporate governance evolved during the early 20th century and remains a fundamental part of the Swedish commercial and industrial market. The model is based on a hierarchal structure where each governance body has complete authority and, with a few exceptions[7], possesses the power to influence and govern the decisions of subsequent bodies.

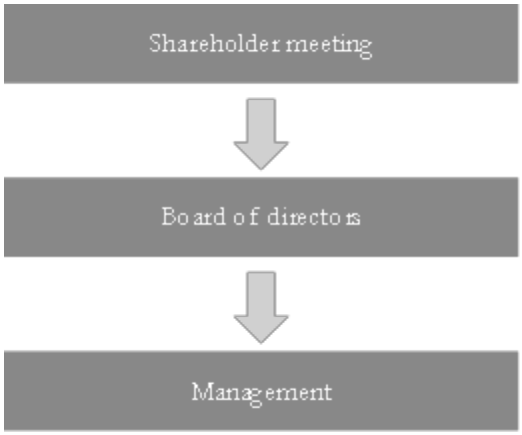

Figure 1: The Swedish two-tier governance structure

The shareholder meeting appoints the board of directors with the aim of forming a unified committee, representing all company shareholders. The board has the overall organisational and administrational responsibilities of the company and is predominantly formed by non-executives. Stock market regulations allows one management representative in the board, a position most commonly occupied by the chief executive officer. The stock exchange also emphasises the general neutrality of the board and that a majority of directors shall be independent from the company and its management. Moreover, the board shall consist of no fewer than three members with two being impartial from the company's major shareholders. Still, large owners may decide on the number of directors to be included in the board and thus possess direct influence by appointing a majority of representatives. While there is a common preference towards responsible and active ownership in the Swedish Companies Act, the overall objective of the board of directors remains to act in the interest of the entire company and not to seek personal benefit nor prioritise certain shareholders.

In order to assist shareholders in the assessment of a public offer, the board of directors shall no later than two weeks prior to the expiration of the acceptance period provide an official statement expressing their opinion in relation to the offer. According to stock mar-

[7] The board of directors has a veto position in relation to the shareholders in certain situations e.g. decisions regarding annual dividend payments to the company shareholders

ket regulations, the board shall also inform how the potential completion would affect the company in terms of corporate strategy, future employment and business locations. The statement also includes comments concerning the consideration and whether the price reflects the current value of the firm. Based on these strategic and financial aspects, the board either decides to recommend or not to recommend the shareholders to accept the public offer. Due to the general independence of the board, along with their substantial insight and knowledge in the company, the statement can be seen as an important indication of the quality of the offer and whether it is financially favourable for the current shareholders to accept the public offer.

2.3. International comparison

The concentrated ownership structure in Sweden and continental Europe stands in stark contrast to the more dispersed levels of ownership in the United States and United Kingdom (Henrekson and Jakobsson, 2011). Similar traits are prevalent on the Australian market, characterized by large blockholders and weak institutional owners (Nottage, 2007). In terms of public takeovers, it can be assumed that an ownership base dominated by strong and active industrial owners may limit the chances of a public takeover being successful as any of these owners, often with corner positions, has the ability to hinder a potential transaction. However, this has not been the case on the Australian nor on the Swedish market where public takeovers have been equally prevalent as in the UK. In Sweden, deregulation of the financial market in combination with the increased presence of foreign capital and private equity are seen as reasons for this development (Nachemson, 2012).

Additional diverging aspects, between Sweden and the Anglo-American markets, can be found in the approach to corporate governance. A significant difference between the Swedish two-tier model and the one-tier model practiced in the US, UK and Australia is the separation and managerial independence of the governing bodies in the firm. The Swedish two-tier model advocates a clear separation between the company board and management whilst the one-tier model in Anglo-American countries permits managerial presence in the board, where the chief executive officer, not uncommonly, may act in the position as board chairman (Henrekson and Jakobsson, 2011). Although demonstrating similar structural traits, the model of corporate governance in the UK, US and Australia diverge in certain aspects. The nomination procedure of new board members in the US is largely controlled by the board itself, which leads to a situation where the board may determine its own con-

stellation. This has decreased the influence of the shareholders and increased the managerial power within US companies (Nachemson, 2012).

In terms of public takeovers, the role and objective of the board of directors provide similar structural features in Sweden, Australia and the UK. In the official statement to shareholders, the target's board shall present the offer's effect on all interests of the company, their view on the bidders strategic plan and how a potential completion would affect employment and the company's places of business. The UK takeover code also requires the target board to obtain independent advice from a competent financial advisor. The fairness opinion is often practised on the Swedish market, although remains optional for the target company. The general practise of UK and Australian target boards is either to recommend the shareholders to accept or reject the offer. However, on these markets, the board is not obliged to provide a clear statement of acceptance or rejection in situations when offers comprise a significant degree of complexity; instead, the board shall provide pros and cons associated with the potential transaction. The shared view of the independent board to act as an advisor in favour of all shareholders is central both in Sweden and in the UK (Henrekson and Jakobsson, 2011).

In a similar manner, US regulations require the board of directors to provide a statement to the shareholders including a recommendation of acceptance or rejection. Another option is for the board to remain neutral or to admit that it is unable to take a position with respect to the offer. Whilst the general frameworks on the aforementioned markets may provide similar traits, the main differences rest in the power of the US boards to prevent certain takeovers. US boards has the mandate to utilise defence tactics (e.g. poison pills) without the direct approval of the shareholders (Bebchuk, 2002). These defence tactics are a way for the target company board to delay or even hinder completion of an offer. The authority to employ methods in order to prevent a potential takeover, along with the notion of managerial influence in US boards, has a risk of rendering in substantial agency costs according to researchers (Bebchuk, 2002).

Although the frameworks mentioned above provide certain differences with respect to the objectives and power of the board of directors, the question regarding the general importance of the board recommendation remains of great importance.

3. Previous research

In this section, we firstly examine the literature on public takeovers and its value-related implications for company shareholders. Secondly, we look at a number of studies focusing on variables that explain bid completion, with a special emphasis on the impact of board recommendations. Lastly, we review the literature explaining the board recommendations and hostility where we are especially interested in finding factors that previous research has shown to explain board recommendations in order to include such variables in our analysis.

3.1. Public offers and value creation

In the field of mergers and acquisitions, a large body of research has investigated whether or not a takeover is wealth creating for the involved target- and bidding firms (Firth, 1979; Jensen and Ruback, 1983; Jarrell et al., 1988; Jarrell and Poulsen 1987; Dodd, 1985; Walter, 1984; Bishop et. al., 1987). Takeovers should generally be wealth creating if they direct funds to their most productive use; i.e. the synergy aspect of takeovers, or transfer the control of funds and assets to the most efficient managers; i.e. the disciplining aspect of takeovers (Henry, 2005). Overall, evidence suggests that target shareholders benefit financially from takeovers, while the outcome for bidding shareholders is less positive (Jensen and Ruback, 1983; Jarell et al., 1988; Martynova and Renneboog, 2008). Thus, the board of the target firm should intuitively be positive towards a takeover if the phenomenon benefits its shareholders. A higher rate of takeover friendliness compared to hostility has indeed been documented in previous international studies such as in the UK and US (Weir and Laing; 2002, O'Sullivan and Wong 1998, North 2001) while target board hostility is more common in Australia (Eddey and Casey 1989; Henry, 2005). The high frequency of hostile takeovers on the Australian market is often explained by the recent booming economy in combination with a takeover law favouring bidding firms (Nottage, 2007). In Australia, Henry (2005) report a 51 % board recommendation rate in their sample of 400 takeover attempts. Comparably, on the Swedish market, Bonnier and Forsvik (2009) report a board recommendation rate of 80 % in their study on 216 public offers for the time period 1995-2008.

3.2. The determinants of bid completion

Several studies have focused on explaining the determinants of bid completion. One of the variables widely investigated in this regard is the bid premium, and Chapple and Treepongaruna (2006) argue that it is rational to believe that an overwhelming factor for bid success should be the size of the premium. However, early evidence in the that market suggests

that the premium does not have any significant impact for the outcome of a public offer (Hoffmeister and Dyl, 1981). The same result has been found for studies made in UK and Sweden (Sudarsanam 1994; Oddbjörn, 2013) and is, by academics, commonly referred to as "the bid premium puzzle".

Instead, the opinion and action of the target board has consistently been shown to be the single most important determinant for bid outcome (Walkling, 1985; Eddey and Casey, 1989; Holl and Kyrazis, 1996). Henry (2005) emphasizes that directors of target companies thus have a significant power over the takeover process relative to other variables that might affect the outcome. However, few Swedish studies have focused on board recommendations and its underlying determinants.

The bidder toehold, i.e. the bidder's holdings in the target prior to bid announcement, has also been found to have a positive impact on bid success in previous studies performed in the UK and US (Walkling, 1985; Betton and Eckbo, 2000; Grossman and Hart, 1980). In Sweden, Davidsson and Oddbjörn (2013) found a less clear link between toeholds and bid completion. Moreover, some researchers discriminate between short-term and long-term toeholds, where especially the latter has been found to have a positive impact on bid outcome. Short-term toeholds are more commonly acquired as a tool to challenge initial target rejection. In a recent study, Betton et al. (2009) find that toeholds are present in over 50% of the hostile cases in their sample of 10 000 control bids on US public targets, compared to 13% in the overall sample.

3.3. Studies on board recommendations and board hostility

Given the high importance of board recommendations for the outcome of a public offer, several international studies have focused on factors that explain whether the board will be positive or negative towards a takeover. These studies, and the variables found to have a significant impact on the recommendation, are presented below. As seen, a number of studies have been performed on the Australian context given the high rate of board hostility making it an interesting research environment.

3.3.1 Shareholder versus managerial welfare

In the US, Walkling and Long (1984) studied the underlying motives for managers to resist or accept a public offer by testing the managerial welfare, shareholder welfare, and public welfare hypotheses. In their study of 95 American cash tender offers, they find support for the managerial welfare hypothesis, which indicates that target managers act in their own self-interest rather than as to maximize the wealth of their shareholders. Support for the

shareholder welfare hypothesis would instead be given if the management, or board, had acted in the best interest of their shareholders.

Walkling and Long (1984) show that managerial resistance is significantly higher in cases when the management's wealth gain from a takeover is low. Further, they find no support for the argument that management rejects an offer because of an inadequate premium, and state that the premium is the least important variable in their analysis. From this combination of results, they draw the conclusion that management seems to act in their own interest, supporting the managerial welfare hypothesis. They also find that target executives are less likely to contest an offer as the degree of bidder toehold increases and that target managers are more likely to support non-conglomerate and foreign acquirers. Thus, they conclude that target management does not oppose foreign bids for reasons of the bidder's nationality.

In a study on the Australian market, Eddey and Casey (1989) examine board recommendations rather than managerial resistance in their sample of 400 public offers. Their findings provide mixed results for the shareholder and managerial welfare hypotheses. For example, they show that positive board recommendations are correlated with higher premiums, contrary to Walkling and Long (1984)'s findings. However, similar to the US researchers, they find a positive relationship between accept recommendations and the bidder toehold. They also show a positive relationship for accept recommendations and the magnitude of takeover-related wealth gains of target directors.

3.3.2 Target and CEO characteristics

In another Australian study, Maheswaran and Pinder (2005) use a slightly different research design as they combine two measures of hostility when examining the determinants and impact of bid resistance among target companies, in addition to its effect on shareholder wealth. Their results indicate that larger firms are more inclined to resist a takeover. Schwert (2000) reaches a similar conclusion and argues that such resistance may be explained by the higher relative bargaining power of larger firms. Another potential explanation lays in the entrenchment hypothesis; that managers in large targets might prefer guarding current employment, benefitting own personal interest at the expense of shareholders (Shivdasani, 1993).

Mahesvaran and Pinder(2005) also find that resistance towards the takeover is higher in poor performing targets[8]. In relation to this, Warner et al. (1988) argue that a poor performing share performance is correlated with poor management performance. Hence, in order to increase shareholder wealth, boards of such targets should be expected to favor a public takeover if it leads to management change. In line with Walkling and Long (1984) and Henry (2005), Mahesvaran and Pinder (2005) find no evidence for the bid premium being higher for accept recommendations.

Concerning the managerial aspects, Shivdasani, (1993) studied how the age and tenure of US CEO's affect the probability of hostile bids. These variables did not provide any significant results; however, the study shows that powerful CEO's[9] have a significantly lower probability of receiving a hostile bid.

3.3.3 Other variables of impact

In our study, we are interested in identifying variables that are important for the board recommendation without necessarily drawing general conclusions about the board of director's personal motives when recommending or rejecting a bid. Therefore, we will only test the shareholder and managerial welfare hypotheses implicitly. Henry (2005) had a similar approach when examining 440 Australian public offers between 1991-2000. His results are most similar to the ones of Walkling and Long (1984) as he finds no relationship between the bid premium and board recommendations, and a positive relation between the bidder toehold and accept recommendations. Further, Henrty (2005) shows that directors are more likely to reject public offers that include a cash consideration compared to those with a share-exchange component. He also finds that directors' personal shareholdings are higher in friendly takeovers. Interestingly, Henry (2005) also finds that directors are more likely to reject public offers where there is competition among multiple bidding firms. This relates to Schwert's (2000) findings, which indicate that the motivation for bid hostility is strategic bargaining rather than non-value maximizing behavior by target management. He argues that bid resistance is a bargaining tool used by target management to improve the terms of the offer.

[8] Poor performing in terms of low sales growth performance

[9] Characterized as powerful if one individual holds the position of CEO, president or chairman

3.4. Studies on the Swedish context and gap in research

Swedish corporate takeovers have been researched in several studies. For example, Thunell and Österlund (2009) investigated accounting-related variables' impact on the bid premium. Similarly, Allerth and Åhr (2004) investigated the importance of the market mood for the bid premium. Further, Davidsson and Oddbjörn (2013) discuss the relation between bidder toehold and bid success.

However, little research has been conducted on the determinants of board recommendations on the Swedish market. Somewhat related to the topic is the thesis from Jönköping Univeristy by Johansson and Torstensson (2008), in which they examine defense tactics used by Swedish companies in a set of public offers, or the one from Uppsala University by Berg et al. (2008), examining the reaction of Swedish boards in relation to public offers. Further, Bonnier and Forsvik (2009) study 40 bids with hostile board recommendations on the Swedish market and analyze the wealth effect for target shareholders. However, none of the above studies look at the determinants of board hostility or board recommendations.

Accordingly, it is highly interesting to examine board recommendations on a Swedish context and relate them to international findings. Previous research has shown ambiguous results in the variables affecting board recommendations, which further accentuates the need to test the international findings on a Swedish setting. Lastly, we have found no previous study that incorporates a practitioners' view on the determinants of board recommendations, which is an important part of this study.

4. Data

In this section, we present the data used throughout the study. We first present the interviews and thereafter the qualitative and quantitative data as well as the sources it was gathered from. Thereafter, we present the selection criteria applied when processing the data, leading up to our final sample. Finally, we provide descriptive statistics of our sample.

4.1. Interviews

We conduct five interviews in order to increase our knowledge in the public takeover process and to obtain a practitioners view on key-variables to include in our quantitative analysis. We follow a semi-structured interview scheme with a pre-specified interview guide[10] adapted to suit the specific profile of the interviewee (Bryman and Bell, 2003). We conduct five phone interviews, each ranging between 30-90 minutes.

Table 1a: Interviews description

Name	Company	Position
Anders Ilstam	Beijer Electronics(1)	Board Chairman
Johan Forssell	Investor	Head of Core Investments
Petra Hedengran	Investor	Head of Corporate Governance
Gustaf Slettengren	Lazard	Head of Nordic
John Abrahamson	SEB Enskilda	Global Head of Corporate Finance

1) Also, Svedbergs, Grimaldi Industri and Kellve Group

Table 1a: Description of the interviewed industry professionals.

The aim of the interviews is to obtain information containing different perspectives of the public takeover process and we have selected the interviewees in order to reflect this ambition. The group of interviewed market participants contains financial advisors, a board chairman, board directors and main owner representatives. The financial advisors possess extensive experience representing both acquirers and targets while the chairman and directors have board experience from several Swedish companies involved in public offers throughout the sample period.

4.2. Quantitative and qualitative data

The gathered information is based on both financial and non-financial data concerning Swedish public offers on the Stockholm Stock Exchange (SSE) within the time period 2000-2013YTD. The Swedish marketplace provides a well-defined sample region, representing a high volume takeover market and a two-tier governance model with significant shareholder influence. The SSE (A and O-list) is a EU-regulated stock exchange with char-

[10] See Appendix B for an example of such interview guide.

acteristics well representing the Swedish marketplace. Other equity markets operating in Sweden, such as the NGM Equity, First North and Aktietorget, have not been considered in the data sample due to market characteristics comprising less liquidity and regulations while companies traded on these markets provide less public information. Our chosen time period renders a sufficient transaction base containing 263 public offers. Further extending the time period would provide a higher quantity of data points, however, limited availability of financial information provides difficulties that would have a negative effect on the subsequent analysis.

Table 1b: Data sources

Data	**Sources**
Market data	
Currency exchange	OANDA
Market capitalization	Factset & Datastream
Market prices	Factset & Datastream
Market volumes	Factset & Datastream
Company data	
Age of board chairman	Company annual reports
Bidder and target information	Company filings
Number of outstanding shares	Company filings
Offer data	
Announcement date	Company press releases
Bid outcome	Company press releases
Bidder nationality	Company homepage
Offer price	Company press releases
Payment method (shares)	Company press releases
Pre-bid holdings (toehold)	Company press releases
Pre-bid rumours date	Mergermarket
Public offers 2000-2013	OMX homepage
Raised bids	Company press releases
Recommendaion	Company press releases
Bidder profile (strategic)	Company homepage & press releases

Table 1b: Specification of gathered data and respective source.

We utilize several sources in order to obtain the relevant data for the analysis. The list containing all public offers on the Stockholm Stock Exchange during the relevant time period is obtained from the OMX homepage[11]. Company filings and press releases, often obtained from Cision, are then investigated in order to increase the general knowledge of the circumstances surrounding the offer and to obtain information regarding the parties evolved in the transaction. Further information regarding the prevalence of market rumours prior to bid announcement and associated dates is gathered from Mergermarket. Moreover, mar-

[11] http://www.nasdaqomx.com/transactions/markets/nordic/corporate-actions/stockholm/public-takeover-offers (2013-08-23)

ket information is primarily obtained from FactSet,. however, Thomson Reuters Datastream is also utilized due to the procedure of certain databases to exclude market quotes of already delisted companies. The table below contains a description of all relevant data included in the composition of the variables and its respective source.

4.3. Selection criteria

While much time is spent on gathering information concerning the relevant public offers, considerable effort is also focused on processing the data in order to provide a robust foundation for the subsequent analysis. The data processing is a necessary procedure due to the overall complexity of the data and to reassure that every transaction is treated equally under the same framework.

A fundamental requirement for a public offer to be included in the final sample is the ability to distinguish a clear party relationship; hence, to differentiate the acquirer from the target. Therefore, merger of equals, where no party is seen as the evident transaction target is consequently excluded from the sample. Public offers with the ambition of achieving an ownership stake below 90 percent are also excluded from the final sample due to the fact that a potential completion does not transfer an equal degree of control to the acquirer whilst a bid completion may be achieved more easily compared to offers comprising a higher ownership objective.

Mandatory bids are problematic due to the notion that some of these offers are not with the intention of the bidder to actually achieve full ownership in the target; on the contrary, it can very well be that a full takeover is not desirable at all. The aim of the data is to reflect all offers, including mandatory bids, were the acquirer has an ambition to achieve full ownership of the target. The Swedish law of public offers prescribes that a mandatory offer has to be put forward as soon as an owner passes 30 percent of the voting rights in the target[12]. Further, regulations express that a mandatory bid may not comprise a price below the highest price that the bidder has acquired shares for during the preceding 6 months or, if not applicable, the volume weighted 3 month average of the target share price[13]. The unwillingness to offer a price in excess of what is required by regulations has a clear signaling value to the board while the offer is often seen as a consequence of regulations rather than a proper takeover attempt. Mandatory offers with a consideration that do not exceed regu-

[12] Regler rörande offentliga uppköpserbjudanden på aktiemarknaden, NASDAQ OMX, STHLM, 2012-07-01
[13] Regler rörande offentliga uppköpserbjudanden på aktiemarknaden, NASDAQ OMX, STHLM, 2012-07-01

latory requirements are seen as a sign of the acquirer's unwillingness to achieve full ownership and are consequently excluded from the final sample.

Situations comprising raised bids or competing bidders i.e. "bidding wars" are also problematic due to the additional complexity of the takeover procedure. The rapid process, comprising multiple offers in a relatively short time period, leads to shareholders not being able to decide on an offer before it is raised by the same, or a competing, bidder. Also, a final sample including these multiple offers would lead to an uneven distribution with a higher weight towards certain boards. Consequently, only the final offer, comprising the highest price and that the shareholders can decide either to accept or reject, is included in our sample. However, these offers have been denoted with a "raised" variable and controlled in the analysis.

The data revision process reassures the quality of the data and verifies the equal treatment of the information, although decreasing the final sample size to a total of 161 public offers.

4.4. Data description

As shown in Figure 2, there has been a general decline in the number of offers during our sample period, which can be explained by a variance in business cycles. During 2000-2001, there was a high volume of public offers due to the prospering economy and the rise of the technology sector. The subsequent crisis implied a decrease in the prevalence of public offers and it was not until 2006, when the economy had returned to a high growth path, that we could witness an increase in the amount of public takeover attempts. This pattern has re-emerged since the recent financial crises and no clear signs provide evidence of a commencing increase in public transactions.

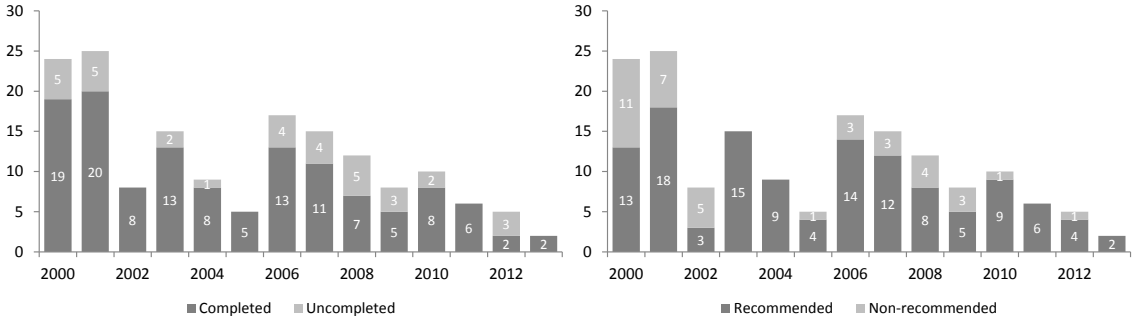

Figure 2. Yearly distribution of completed vs. uncompleted and recommended vs. non-recommended bids during the time period 2000-2013.

Interestingly, we can note that the completion rate has experienced a steady decrease throughout the time period, depicting a lower quality of bids or an increase in difficulty of

achieving acceptance from the shareholders. Meanwhile, the rate of recommended to non recommended bids has generally been high throughout the time period except for the volatile years of 2000-2002.

Table 2a: Dichotomous variable distribution

Category	Number of offers	Recommendation rate	Average premium
Completed	127 (78,9%)	83,5%	35,6%
Uncompleted	34 (21,1%)	47,1%	29,0%
Recommended	122 (75,8%)	n.a.	36,6%
Non-recommended	39 (24,2%)	n.a.	26,8%
All shares	31 (19,3%)	64,5%	36,2%
Cash	130 (80,7%)	78,5%	33,7%
Raised	24 (14,9%)	79,2%	39,5%
Not raised	137 (85,1%)	75,2%	33,9%
Strategic	126 (78,3%)	77,0%	34,9%
Financial	35 (21,7%)	71,4%	31,8%
Foreign	57 (35,4%)	80,7%	38,3%
Swedish	104 (64,6%)	73,1%	31,9%
Foreign & shares	7 (22,6%)	57,1%	37,2%
Swedish & shares	24 (77,4%)	66,7%	34,1%

Table 2a displays the frequency of each dichotomous variable, the recommendation rate and the average premium of the specific category. This table also includes the interaction effect of bidder nationality and payment method.

Table 2b: Continuous variable distribution

Category	Recommended	Non-recommended
Average target size (MSEK)	3 590	15 855
Average age of Chairman	56	55
Average target performance	0,3%	0,6%
Average toehold	11,6%	9,6%

Table 2b displays the means of the observed continuous variables categorized in recommended and non-recommended offers.

5. Interview takeaways

Considering the determinants of board recommendations, the general perspective of the interviewees seemed to be that the opinion of the board highly depends on each individual case and that it therefore is difficult to generalize on the variables affecting this decision. Some opinions regarding possible determinants and impact of the board recommendation could however still be distinguished.

The importance of board recommendations

Overall, the interviewees stated that the board recommendation is an important determinant for bid completion. Two interviewees mentioned that this should especially be the case in Sweden due to the high presence of large institutional owners on this market, and the policy of these to very rarely sell their shares in the target company in situations where the target board shows hostility towards a bidder. It was also mentioned that it is beneficial for the bidder to have a positive board recommendation already at bid announcement rather than receiving it post launch, as it increases the legitimacy of the bid if the board is initially positive.

Bid related factors

In the interviews, the premium was not considered to have an exclusive importance, although it was considered to have a positive impact for the recommendation if the bidder had first been identified as a suitable acquirer. Several interviewees claimed that a negative recommendation was often used as a bargaining tool by the board to increase the size of the premium. Whether a raised bid would result in a positive impact on the recommendation was however not clear-cut, since a raised bid could either be an effect of a suitable bidder raising the price (positive impact), or an unsuitable bidder raising the price (negative or unchanged impact on the recommendation).

Two interviewees mentioned that aspects complicating the valuation process might be negative for the board recommendation. One such consideration was payment in shares, since this requires a valuation of the equity of the bidder.

Bidder related factors

The nationality of the buyer per see was not mentioned to have an impact on the recommendation, but when combined with payment in shares this was thought to further complicate the process in terms of valuation and therefore be negative for the recommendation. Regarding characteristics of a 'suitable' acquirer, the interviewees mentioned that an

acquirer with the ability of providing synergy gains would have a larger possibility of receiving a recommendation.

Establishing a toehold position in the target company before launching a public offer is a common strategy employed by bidders. In line with findings from previous research, this variable was mentioned by some interviewees to have a positive impact on the recommendation. Meanwhile, the interviewees also mentioned that bidder toehold could create suspicion among institutional owners, since it might indicate that the bidder possesses an information advantage through the bidder's possible position on the target board.

Target related factors

The interviewees had mixed views regarding the importance of the target firm's performance prior to bid announcement. Researchers have argued that if the target has performed poorly prior to the public offer, it might be an indication of mis-management (Warner et al., 1988), why shareholders would benefit from an acquisition. This provides arguments for a positive impact on the recommendation given that the aim of the board is to maximize shareholder wealth. However, some interviewees brought up a contrary view. A temporary poor performance could also be an opportunity for the bidder to exploit the situation and acquire a good company at a low price, why it would instead be in the interest of shareholders if the board would to reject the bid. The overall market mood and size of the target were also mentioned as aspects that could potentially influence the recommendation.

Further, age was another determinant brought forward, although, comprised by contradicting views among the interviewees. Some argued that rejecting a takeover attempt puts the board under high pressure to enhance performance post rejection. Thus, older board representatives, being at the end of their careers, could make more independent decisions since their career is not at stake to the same extent as for young board representatives. Other interviewees, however, did not agree on this opinion.

6. Theory and Methodology

This section presents the theoretical and methodical framework used to examine the relationship between board recommendations and bid completion and, mainly, the determinants of board recommendations. First, we present the overall methodology that lays the foundation for our thesis. Thereafter, we explain the basis for the quantitative analysis, comprising of a univariate analysis and a logit-method. Lastly, we present the examined variables and their expected impact, leading up to our main specification.

6.1. General approach

Using triangulation methodology, we combine findings from interviews with industry professionals and quantitative and qualitative data from the sources mentioned in section 4.2 to answer our research question. Triangulation is a popular method used by researchers to strengthen the validity of the study by analyzing a research question from multiple perspectives (Patton, 2002).

Initially, we estimate the relation between board recommendations and bid completion, followed by an analysis of the determining factors explaining Swedish board recommendations. In line with previous researchers (eg. Henry, 2005), we have applied a two-step analysis, comprising of i) a univariate analysis and ii) a logit model, in order to assess the impact of our explanatory variables. To decide upon the explanatory variables to include in our analysis, we combine information gathered in our interviews together with theories and findings from previous research on the topic.

6.2. Univariate analysis

For the initial univariate analysis, we divide the sample into bids that are i) completed versus not completed and i) recommended versus not recommended. Thereafter, we compare the means of the variable under interest in each subsamples and formally test if the difference between the groups is statistically significant. Since the samples exceed 30 observations, the Central Limit Theorem can be applied, in which the sample variance is assumed to be the same as the population variance and the sample assumed to be normally distributed even if the true distribution is unknown (Newbold, 1995). Since the sample of non-recommended bids only marginally exceeds 30 observations[14], we perform Mann-Whitney tests for comparisons of medians as a robustness check to our t-test analysis. This is a non-parametric test which is suitable when the sample size is low and the Central Limit Theo-

[14] 39 non-recommended bids in the sample.

rem is not applicable. The univariate analysis is limited since it does not account for the impact that other variables might have on the dependent variable (in our case completion/recommendation) apart from the chosen variable under observation, which might cause an omitted variable bias. To address this, we proceed with a multivariate analysis.

6.3 The logit model

The logistic regression technique is our primary analysis tool, applied in similarity to other researchers in the field (eg. Eddey and Casey, 1989; Henry, 2005). We use a logit model since our dependent variables are dummy-variables and the logit model is an appropriate multivariate model when dealing with dichotomous variables. This allows us to investigate an explanatory variable's impact on the dependent variable while holding the effect of other explanatory variables constant.

The logit model estimates the probability of a positive outcome for the dependent dichotomous variable. The model assumes a log-normal distribution among the dichotomous outcomes as well as outcomes that are considered independent from each other. The model takes the form:

$$P_i = \frac{1}{[1 + exp - (\alpha + \beta' X_i)]}$$

Where $P_i$represents the probability of the bid being completed/recommended by the target company's board (we observe $Y_i = 1$ if bid i is completed/recommended and $Y_i = 0$ otherwise), exp represents the base of natural logarithms (approximately 2.718), α represents the intercept (constant) β' represents the vector of coefficients and represents X_i the vector of independent variables associated with bid i. The objective with the model is to find estimates for the regression coefficients (α) and (β) and we test their statistical significance with t-statistics and report p-values based on a two-tailed distribution.

While the logit model is powerful in estimating the significance of different variables, the obtained variable coefficients as log-odds or odds ratios[15], are not always intuitive to interpret. If the probability of the outcome is uncommon, the odds ratio can be interpreted as the perceived risk. However, since the probability of bid completion (78.9 %) and board recommendations(75.8%) are rather high for all bids in our sample, the interpretation of the odds ratio becomes more problematic. In order to circumvent this issue and interpret

[15] The odds ratio is the exponentiated coefficient of a dependent variable in the logit regression.

the economic impact of our significant variables we apply the method used by Schwert (2000) and Mahesvaran and Pinder (2005) and interpret the impact of a dependent variable in terms of marginal effects[16].

We perform logit regressions using Stata 12.0 and control for heteroskedasticity in our dataset through using White's(1980) robust standard errors. We also check for multicollinearity between our independent variables and use the tetrachoric and Pearson correlation commands in doing this. Also, we check the explanatory power of our different specifications using the Mac Faddens R^2 and use the Likelihood ratio test and Hosmer-Lemeshow test for the model fit. Finally, we examine the model accuracy of our preferred specification and across our different subsamples.

6.4 The dependent variables

6.4.1 Bid completion

As stated in previous research (see eg. Henry 2005, Walkling 1985, Chapple and Treeraponga 2006) and throughout our interviews, the board recommendation is an important factor for bid completion. To estimate the economic impact of board recommendations on bid completion, we start by regressing bid completion against board recommendation as our main dependent variable while incorporating additional control variables described below.

The variable Completion is dichotomous and takes on the value 1 if the bid is completed and 0 otherwise. In assessing whether or not a bid has been completed, we focus on the acquisition of voting rights in the target company. This decision is based on the acquiring company's presumed aim of achieving control of the target company. We determine an offer as completed if the acquirer achieves an ownership stake above 90 percent of the voting rights in the target company.

6.4.2 Board recommendations

Having examined the importance of board recommendations for bid completion, we continue with the main part of our analysis; the determinants of board recommendations. These are analyzed using univariate analysis, as well as through the logit regression.

We use three definitions of board recommendations. This distinction is made since, during the interviews, several interviewees mentioned the importance for the bidder to have a rec-

[16] Like Schwert(2000), when discussing the marginal effect for continuous variables, we normalize it to produce a 1 percent increase in the probability of the dependent variable because of a change in an independent variable from its sample mean. For dummy variables, the marginal effect is the percent change in the dependent variable when the dummy variable changes from 0 to 1 and the other variables are held at their sample means.

ommendation at bid announcement in order to get to bid completion. Therefore, we made the distinction between whether the bid was recommended at launch (Variable "At-launch"), post launch (Variable "Postlaunch") or recommended by the board either at launch or post launch (Variable "Recommend"). Each of the definitions is dichtonomous and takes on value 1 if the bid is recommended and 0 otherwise. Subsequently, we divide the sample of all bids into the three respective categories, where the "Recommended At launch" excludes bids that were recommended Post launch and vice versa for the "Recommended Post launch" subsample. The All bids sample thus includes all board recommendations; whether recommended At launch or Post launch. When performing our analysis, we are primary interested in the "Atlaunch" and "Recommended" variables due to the weight these were given in the interviews.

Expected impact: The interviewees claimed that receiving a board recommendation is an essential part for bid completion which, if true, would reinforce the findings from previous research (eg Chapple and Treeapongkaruna, 2006) on a Swedish setting. We therefore expect the impact of board recommendation on bid completion to be positive.

6.5 The independent variables

During the interviews, the variables mentioned to have an impact on board recommendations could be broadly divided into three set of categories: those related to the bid characteristics, those related to the bidding company and those related to the target company. We are primarily interested in the variables related to the bid characteristics as well as bidder characteristics to analyze their respective impact on board recommendations, but also include several controls for variables related to the size and financial performance of the target firm as well as to the overall market performance since these were mentioned in the interviews and have been found to have an impact by previous researchers. Below we present the chosen variables under interest and their expected impact on board recommendations.

6.5.1 Related to the bid

Bid premium

The bid premium is the most known indicator of financial benefit for target shareholders, why we include this variable in our analysis. As discussed earlier, the importance of the premium for the target's attitude towards the bid has shown mixed results in previous research (e.g. Henry, 2005; Walkling and Long 1984 find no relationship while Eddey and Casey, 1989 do find a positive relationship). We applied certain definitions in order to

achieve an equal treatment of the offers included in the sample. The bid date is defined as the announcement date of the public offer while accounting for situations of pre-bid rumours, triggering considerable price increases. We compute different versions of the initial bid premium ranging from the 1-day, 10 days, 1 month, 3 months and 6 months premium. Regardless of the time horizon, the premium is calculated as;

$$Bid\ premium_n = \frac{Bid\ price\ per\ share - \ Share\ price_n}{Share\ price_n}$$

Where n is the number of days prior to the bid announcement date that the calculation is based on and Share price refers to the average volume-weighted closing price of the share n trading days prior to bid announcement. We test all specifications of the premium; however, we include the 3 months premium in the final model to compensate for the high degree of volatility and lack of liquidity in less traded equities and to reduce noise from insider trading activities that might lead to price run-ups not entirely mitigated by the adjusted bid date. This procedure is in line with praxis from previous researchers (Eddey and Casey 1989; Chapple and Treepongkaruna, 2006).

Further, the sample was tested for the appearance of outliers, being a term which is 1,5 to 3 quartiles from the lower or upper boundary respectively (Edlund, 1995). These observations might distort the results since they are not representative for the sample. We correct for the abnormally high premiums in our dataset by winsorizing the values and replacing them to the next value counting inwards from the extremes[17]. This method is chosen instead of dropping the observations from the sample to avoid missing valuable data and since the logit model is sensitive to outliers.

Expected impact: In line with Eddey and Casey (1989), we expect a positive impact of the bid premium on the recommendation since a higher premium increases the wealth of target shareholders while one of the main objectives of the board is to act in the best interest of the shareholders. Also, target boards most frequent reason for resistance regarding Swedish public offers is an inadequate premium offered by the bidder (Berg et al., 2008). Hence, and insignificant premium would be inconsistent with the most commonly stated motive for bid rejection.

[17] 6 to 9 values have been winsorized depending on bid premium measure

Payment in Shares

We include the method of payment since it was mentioned in the interviews and has previously been identified as a determinant of board hostility (Chapple and Treeapongkaruna, 2006). Share-based payment has shown consistent evidence in prior research to be related to target resistance (Henry, 2005; Walkling and Long, 1984). The bidder overvaluation hypothesis suggests that if the bidding firm believes that their assets are overvalued, they are more likely to offer shares (Wickramanayake and Wood, 2010). This is a notion that the target firm is aware of. In the interviews, share-based payment was also mentioned to increase the complexity of the takeover process, due to a needed valuation of the acquirers equity, and thus be negative for the recommendation. The variable is dichtonomous and defined as 1 if the payment is share-based, and 0 if it is a full-cash offer or when the target shareholder choose freely between cash or shares.

Expected impact: We expect share-based payment to have a negative impact on the recommendation due to findings from previous research (eg. Henry, 2005; Walkling and Long, 1984) and statements in the interviews regarding increased complexity of the valuation process in share-based payments.

Raised bid

This variable is included for two reasons. The first is to control for the problematic characterization of multiple bids by the same bidder in the bidding process, a difficult task as stated by previous researchers (Walkling, 1984). The second is to capture the effect of whether raised bids provide incentives for the board to recommend the offer. A positive impact on the recommendation would support that price is an important factor in public takeovers and that target boards apply rejection as a bargaining tool to improve the terms of the offer, as suggested by Schwert(2000) and Mahesvaran and Pinder (2005). A negative impact on the recommendation could, however, signalize the importance of other aspects such as bidder profile, which was emphasized by the interviewees as an important aspect to consider. The variable raised bid is a dichotomous variable that takes on the value 1 if the bid was raised by the acquiring firm at some point during the bidding process, and 0 otherwise.

Expected impact: Due to ambivalent arguments regarding the impact of raised bids, we have no expected sign regarding the impact of this variable. A raised bid could have either positive or negative impact on the recommendation, depending on the reason why the board rejected the initial bid.

6.5.2 Related to the bidding firm

Strategic bidder

The interviewees mentioned a suitable acquirer with synergy potential to positively impact the recommendation. In Australia, however, Henry (2005) found no positive impact on the recommendation if the target and bidding firm were from matching industries.

As an ambition to capture the synergy effects and notion of being a "suitable acquirer" mentioned in the interviews, we include the variable Strategic which takes on value 1 if the bidder is strategic and 0 if it is categorized as financial. While this distinction is not always clear-cut, we have applied a decision criteria including qualitative assessments of the acquirer's profile. A strategic acquirer is presumed to have a clear industry focus with an aim of achieving synergies from the transaction by combining operations. A financial acquirer of a financial company is thus classified as strategic according to this definition. We also create a the variable Industryfit which aims at measuring the fit between the industry of the target and bidding firm, and takes on value 1 if there is industry fit and 0 otherwise.

Expected impact: We expect a positive impact of Strategic acquirers on the board recommendation due to the proxy of this as a "suitable acquirer" and the emphasis this was given in the interviews.

Foreign bidder

In terms of board recommendations, the interviewees did not argue for any clear isolated effect with regards to the nationality of the bidding firm. However, it was stated that an foreign bidder, combined with a share based payment structure, adds considerable complexity to the transaction. An additional reason for including this variable is that it has shown a positive impact in previous research (Henry, 2005; Walkling and Long, 1984). The variable is dichtonomous and takes on the value 1 if the bidder's legal domicile is outside of Sweden and 0 otherwise.

Expected impact: We have no expectation regarding the sign of impact of this variable. Previous researchers (e.g. Henry, 2005 and Walkling and Long, 1984) have found that target bid resistance is less likely for foreign acquirers, which is contrary to theories about nationalistic concerns (Eddey and Casey, 1989). Meanwhile, the interviewees did not perceive the nationality of the bidder to impact the recommendation.

Bidder toehold

The bidder toehold was mentioned in the interviews to potentially impact the recommendation, which is why we include it in our analysis. International findings show that the larg-

er the toehold, the more likely is it that directors will recommend the bid (Eddey and Casey, 1989). A large toehold bidder may have a position in the board and could influence the acceptance of the bid (ibid). Further, it is more challenging to attract new bidders when a bidder has a substantial toehold, since other potential bidders might be scared off when control seems difficult to achieve(ibid). However, Swedish findings have found no positive impact of this variable on bid completion (Oddbjörn, 2013). In addition, in the interviews, an offer from a large toehold bidder was mentioned to create suspicion amongst other shareholders. In our study, toehold is a continuous variable defined as the percentage of voting rights that the bidder holds in the target company prior to bid announcement. We measure the toehold right before bid announcement in order to capture possible short-term acquisitions by the bidder.

Expected sign: Due to the above argumentation, we believe that a larger bidder toehold has a positive impact on the board recommendation.

6.5.3 Related to the target firm

Target performance

The performance of the target company before bid announcement has been researched in prior studies and mentioned in the interviews to potentially influence the decision of the board. If inefficient target management is reflected in the share performance of the firm (Bujega and Walter, 1995), then directors, acting in shareholders' interests, should be more inclined to recommend bids with poor target share price performance. However, Eddey and Casey (1989) find no evidence of under-performing companies, characterized by a selection of financial performance metrics[18], to explain board recommendations. The interviewees also mentioned that a downward trend in the share-price of the target could be due to external factors and an opportunity for a bidder to exploit a temporarily poor performance. It would therefore be in shareholder's interests not to relinquish control. When incorporating target performance as a variable, we apply a method resembling the one of Bujega and Walter (1995)'s and control for the target share price development the last year prior to bid announcement. The targets share price performance is calculated as;

$$Share\ price\ performance = \frac{Share\ price_{d-10} - Share\ price_{d-250}}{Share\ price_{d-250}}$$

[18] Measures including return on assets, current ratio and debt to assets

Where d represents the date of bid announcement, adjusted with a 10 tradings-days pre-bid period to reduce the impact of insider speculations in line with the procedure of Allerth and Åhr (2004), and calculated with the target share price 250 days prior to bid announcement.

Expected impact: Due to the above argumentation and ambivalent arguments regarding target performance, we do not expect any particular impact of variable on the recommendation.

Target size

The size of the target is primarily included due to findings from previous research (Mahesvaran and Pinder, 2005 and Schwert, 2000), showing that the probability of bid hostility increases with the target size. As suggested by Mahesvaran and Pinder (2005), a larger target size could increase the relative bargaining strength of the target and hence facilitate target resistance. Similar to Schwert (2000) and Mahesvaran and Pinder (2005), we define the size variable as the natural logarithm of the target's market capitalization one day prior to bid announcement.

Expected impact: We expect the target size to be negatively related to board recommendations. In accordance to prior studies (Mahesvaran and Pinder, 2005 and Schwert, 2000) we believe that increased target resistance, based on the relative bargaining power of large companies, might also be prevalent on a Swedish context.

Age

The age of the board chairman is analyzed due to the reasoning of the interviewees of this being an influencing factor for the board recommendation. Also, prior studies (Shivdasani, 1993) have shown a similar interest, bud did not find any relationship when analyzing the age-effect of the CEO on the probability of receiving a hostile bid. Moreover, the relative independence of Swedish boards is a motive for studying this variable. Age is tested both continuously, as the age of the board chairman at bid announcement, as well as with a dummy variable with the value of 1 if the chairman of the board is above 63 at the year of bid announcement and 0 otherwise. The age of 63 is chosen since it can be considered close to retirement age.

Expected impact: We expect old board chairmen to have a negative impact on board recommendations, primarily, due to interview statements of old chairmen being less concerned about their future careers and therefore more able to resist takeovers compared to younger chairmen.

6.6 Interaction effects

In a later step of the analysis, we also investigate if there exist any interaction effects, which might occur if two variables interact and thereby impact the dependent variable. The interviews, for example, indicated that such effect could be present for foreign buyers paying in shares. The interviewees also mentioned that the effect of more independent decisions by old board chairmen (close to pension age) could be especially prevalent in cases of a bidder toehold. This, since older chairmen might be less effected by the pressure from a large toehold bidder as their career is less at risk. Likewise, the interaction between a strategic bidder and the bid premium could allow us to analyze the importance of the bid premium for financial and strategic acquirers respectively.

6.7 Fixed effects

Time and industry-effects were considered to capture firm- and year-specific differences that might affect the observations in the sample. Time fixed effects could, for example, be that board recommendations tend to be more positive in years when markets are booming, and industry-fixed effects could be prevalent if certain industries are systematically more likely to receive recommendations.

6.8 Dealing with missing values

In this data set the variable Age lacks 11 observations. One way of circumventing the problem of missing values is simply to exclude the variables that contains large amounts of missing values from the data, with the risk of creating a bias in the model if the variable is important. Another way is through mean-substitution, which however often leads to an underestimation of the standard error (Cohen et al., 2003). We applied both methods for different models. Since we are interested in analyzing the variable Age, we include this as a dummy variable in the main specification, which reduces our sample size to 150 obs.

6.9 Main specification

This leads us to our main specifications for bid completion and board recommendation respectively:

$$\text{Completion}_{i,t} = \alpha_{i,t} + \beta_1 Recommend_{i,t} + \beta_2 Pre3mwin_{i,t} + \beta_3 Shares_{i,t} + \beta_4 Raised_{i,t} + \beta_5 Strategic_{i,t} + \beta_6 Foreign_{i,t} + \beta_7 Toehold_{i,t} + \beta_8 Targetperf_{i,t} + \beta_9 lnsize_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$\text{Recommend}_{i,t} = \alpha_{i,t} + \beta_2 Pre3mwin_{i,t} + \beta_3 Shares_{i,t} + \beta_4 Raised_{i,t} + \beta_5 Strategic_{i,t} + \beta_6 Foreign_{i,t} + \beta_7 Toehold_{i,t} + \beta_8 Targetperf_{i,t} + \beta_9 lnsize_{i,t} + \beta_{10} Agedummy_{i,t} + \varepsilon_{i,t} \quad (2)$$

In equation (1), Completion is the log odds of the bid being completed as a function of the independent variables. "Recommend" represents the board recommendation, Pre3mwin represents the winsorized 3 months bid premium, Shares represents a share-based payment, Strategic represents a strategic bidder, Foreign represents a foreign bidder, Toehold represents the bidder toehold and Targetperf and Lnsize represent the target share price performance and the natural logarithm of the target market capitalization respectively. Further, $\alpha_{i,t}$ is the intercept and $\varepsilon_{i,t}$ is the error term.

Equation (2) is similar to equation (1) with the difference of Recommend now being the dependent variable as a function of the independent variables. Apart from the variables included in equation (1), the dummy variable Agedummy is included in the equation.

Table 3: Variable overview

Variable	Characteristic	Description	Exp. sign
Bid related			
Bid premium	Continuous	Percentage excess of offer above three month volume-weighted target share price prior to bid announcement	+
Payment in Shares	Dichotomous	Defined as share-based if the offer predominantly consists of payment in shares	-
Raised	Dichotomous	Defined as raised if the bid was increased by the acquiring firm during the bidding process	+/-
Bidder related			
Strategic buyer	Dichotomous	Defined as strategic if the bidder has a clear industry focus and if it has synergy potential	+
Bidder toehold	Continuous	Defined as the percentage of voting rights that the bidder holds in the target prior to bid announcement	+
Foreign buyer	Dichotomous	Defined as foreign if bidder company's legal domicile is outside of Sweden	+/-
Target related			
Target performance	Continuous	Defined as the target share price development 10 to 250 trading days prior to bid announcement	+/-
Target size	Continuous	Deined as the natural logarithm of the target's market capitalization one day prior to bid announcement	-
Age	Dichotomous	Defined as positive if chairman of the board is above 63 years of age at the year of bid announcement	-

Table 3: Displays an variable overview including characteristics, description and expected sign.

7. Results

We start by presenting the results from the regression of completion with board recommendation as main dependent variable. The main part of the analysis is further presented under Table 6a to 7b, showing the determinants of board recommendations. Lastly, we present the findings from the interaction-effect analysis. Each section includes a brief summary of the main results. For complete results please see Appendix.

7.1. The impact of Board recommendations on bid completion

Table 5 below reports the results from the logit regression with Bid completion as dependent variable and board recommendation as main independent variable. The reported standard errors are robust (White, 1980) and control for heteroskedasticity in the dataset. The fourth column in each regression displays the marginal effect, being the change in the probability of bid completion given a unit change in an independent variable, while holding the other variables at their sample means[19].

Table 5: Logit regression results for the determinants of Bid completion

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Main variable under interest													
Recommend	(+)	1.728***	(0.436)	7.48e-05	0.307	1.843***	(0.493)	0.000182	0.321	2.147***	(0.813)	0.00831	0.350
Controls													
Pre3mwin		1.185	(1.138)	0.297	0.163	1.670	(1.434)	0.244	0.240	0.488	(1.552)	0.753	0.0805
Shares		-0.729	(0.607)	0.230	-0.116	-1.259*	(0.700)	0.0722	-0.227	-0.358	(0.736)	0.627	-0.0621
Raised		-1.129*	(0.581)	0.0523	-0.197	-1.788***	(0.673)	0.00788	-0.357	-1.494*	(0.895)	0.0953	-0.307
Strategic		1.405***	(0.497)	0.00466	0.245	1.509**	(0.600)	0.0120	0.275	2.583***	(0.822)	0.00168	0.530
Toehold		0.956	(1.163)	0.411	0.132	-0.155	(1.380)	0.911	-0.0222	3.332**	(1.695)	0.0493	0.550
Foreignbuyer		-0.453	(0.535)	0.397	-0.0653	-1.143*	(0.626)	0.0680	-0.178	0.679	(0.734)	0.355	0.102
Targetperf		0.0713	(0.352)	0.840	0.00982	-0.334	(0.514)	0.516	-0.0480	0.0518	(0.370)	0.889	0.00854
Insize		0.0216	(0.139)	0.876	0.00298	0.143	(0.175)	0.412	0.0206	7.24e-05	(0.142)	1.000	1.19e-05
Constant		-0.954	(1.172)	0.416		-1.485	(1.435)	0.301	0.291	-2.100*	(1.217)	0.0845	0.0166
McFadden R^2		0.1760				0.2197				0.2918			
N		161				123				77			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Table 5 displays the regression results based on equation (1) and for the three different subsamples All bids, At launch, and Post launch. Bid completion is the dependent variable in each case and the main independent variable under interest is the board recommendation (Recommended). Additional controls have also been included. Each regression displays the coefficient in log-odds, standard errors in parenthesis, p-values, as well as the marginal effect

The left panel displays the results for All bids that were recommended either at bid announcement or after the bid was first announced by the bidder. The middle and right hand panel display the results for bids that were recommended At launch or Post launch, respectively[20]. We will focus on presenting the results of the middle and left hand panel and use

[19] The marginal effect is computed using the mfx compute command in Stata 12.0

[20] At launch refers to bids that were initially recommended by the board, regardless of whether it is an initial or follow-up bid. Further, the At launch and Post launch regressions do not sum to 161 bids due to the fact that non-recommended offers are included in both subsamples.

the Post launch results as a robustness check due to the small sample size[21] and less importance these recommendations were given in the interviews.

In general, the recommendation is highly significant across all regressions in spite of a considerably smaller sample in the At launch and Post launch regressions. The coefficient of the main variable under interest is significant at a 1 percent significance level across all regressions, including when controlling for several bid-related, target-related, as well as bidder-related characteristics. An economic interpretation of the results can be given by looking at the marginal effects. These show that everything else equal, a positive recommendation increases the probability of bid completion by 30.7 percent for the All bids regression and 32.1 percent for the At launch regression.

These results are in line with the findings of Mahesvaran and Pinder (2005) in Australia, Walkling (1985) in the US as well as Holl and Kyriazis (1996) in the UK. They all imply that the reaction of the target company in relation to a bid announcement is an important determinant for bid success. However, the definition of the main dependent variable varies across different researchers[22]. Our results of the economic impact can be compared to those of Mahesvaran and Pinder's (2005), showing that bid completion is 24.9 or 41.2 percent less likely for hostile bids in Australia, depending on which definition of hostility that is used.

Our results for the All bids regression also show that the impact of Strategic bidders is positively related to bid completion on a 1 percent significance level. A strategic profile increases the probability of bid completion by 24.5 percent. The At launch regression also provides some evidence to the occurrence of multiple bids during the bidding period being negatively related to bid completion on a 1 percent significance level.

Summary: The results based on equation (1) indicate that there is a significant and strong relationship between board recommendations and bid completion. The economic impact of a board recommendation is related to an increase in the probability of bid completion of 30-35 percent. Considering the other control variables, the effect of being a Strategic bidder is of strongest significance and positively related to the probability of bid completion.

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[21] Long (1997) states that a logit regression requires at least 100 observations and 10 observations per predictor which further motivates the emphasis on the Recommendation and At launch regressions.

[22] Holl and Kyriazis (1996), for example, use target management hostility as main dependent variable and Mahesvaran and Pinder (2005) use two definitions of hostility based on target management resistance as well target management resistance in combination with target board rejection.

7.2. The determinants of board recommendations

Having established the importance of board recommendations for bid completion, we continue to present our findings related to the determinants of board recommendations. Table 6a below reports the results from the logit regression for the main specification based on equation (2).

Table 6a: Logit regression results for the main specification - determinants of Board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		1.947*	(1.175)	0.0975		1.277	(1.162)	0.272		0.713	(1.458)	0.625	
Bid related													
Pre3Mwin	(+)	2.394*	(1.386)	0.0843	0.369	2.640*	(1.418)	0.0627	0.501	2.041	(1.582)	0.197	0.510
Shares	(-)	-1.113**	(0.508)	0.0284	-0.206	-1.199**	(0.560)	0.0322	-0.259	-0.841	(0.663)	0.204	-0.207
Raised	(+/-)	-0.136	(0.694)	0.845	-0.0216	-0.205	(0.757)	0.786	-0.0404	0.450	(0.868)	0.604	0.111
Bidder related													
Strategic	(+)	-0.00574	(0.551)	0.992	-0.000884	-0.0977	(0.576)	0.865	-0.0183	0.178	(0.711)	0.803	0.0444
Toehold	(+)	2.354*	(1.312)	0.0729	0.363	2.212	(1.393)	0.112	0.420	2.931*	(1.781)	0.0999	0.732
Foreignbuyer	(+/-)	0.700	(0.504)	0.165	0.102	0.980*	(0.550)	0.0749	0.176	-0.394	(0.768)	0.608	-0.0981
Target related													
Targetperf	(+)	-0.0179	(0.418)	0.966	-0.00275	0.0251	(0.433)	0.954	0.00477	0.116	(0.505)	0.818	0.0289
Insize	(-)	-0.226*	(0.137)	0.0976	-0.0349	-0.200	(0.141)	0.156	-0.0379	-0.214	(0.165)	0.195	-0.0535
Agedummy	(-)	0.239	(0.578)	0.679	0.0353	0.432	(0.658)	0.512	0.0766	0.297	(0.698)	0.671	0.0735
McFadden R^2		0.0969				0.1211				0.0951			
N		150				115				68			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Table 6a displays the regression results of the main specification based on equation (2) and for the three different subsamples All bids, At launch, and Post launch. Board recommendations is the dependent variable and the independent variables are divided into bid related, bidder related, and target related characteristics. Each regression displays the coefficient in log-odds, standard errors in parenthesis, p-values as well as the marginal effect.

The winsorized 3 month bid premium (Pre3mwin) as well as payment in shares (Shares) show significant and robust results across the All bids and At launch regressions, as well as for model specifications 1-5[23]. These results are also consistent with the findings from our univariate analysis[24]. It indicates that the average bid premium is higher for bids that are recommended versus not recommended, and that payment in shares is more common among bids that are not recommended versus recommended. This adds robustness to our results although the bid premium is only significant at the ten percent level in the All bids and At launch regressions. Our results for premium and shares are in line with the findings of Henry (2005) and Eddey and Casey (1989) in Australia.

Considering the economic impact, the All bids regression shows that an increase of 2.71 percentage points in bid premium, from its sample mean of 32.17 percent, increases the

[23] Apart from the main specification we have estimated a range of additional models (1-5) to provide robustness to our results. See table 6b-6f in Appendix for a presentation of these regressions.

[24] See appendix Table(4a-4c) for a presentation of the univariate analysis.

probability of board recommendation by 1 percent[25]. Regarding method of payment, shares instead of cash has a negative impact of 20.6 percent on the probability of recommendation. Moreover, the At launch regression shows a larger economic impact for the variables bid premium and payment in shares.

The bidder toehold also shows a tendency to be positively related to board recommendations. The coefficient in the main specification is positive and significant in the All bids regression, while being just below the 10 percent boundary on a two-tailed test for the At launch regression. Concerning the economic impact, the All bids regression shows that an increase of 2.75 percentage points in the bidder toehold from its sample mean of 11.11 percent increases the probability of recommendation by 1 percent. However, the positive relation between bidder toehold and board recommendation is not supported by the univariate analysis.

Target size also shows a tendency to be negatively related to recommendations in the univariate analysis, as well as in the main specification for the All bids regression. This is in line with the findings of Mahesvaran and Pinder (2005), showing that firms subject to hostile bids are larger than firms subject to non-hostile bids.

Further, we find no evidence for a close to, or above, pension age being negatively related to board recommendations. This is consistent through the univariate analysis, the logit regression for the main specification, as well as models 1-5[26]. Further, a strategic profile showed no significant impact on the board recommendation in any of the univariate or multivariate analysis. An alternative measure of Strategic has been tested (Industry fit), with similar insignificant results[27]. Therefore, according to our results, there is no evidence of Swedish boards favoring strategic bidders in public takeover attempts.

Overall, the scores of the Mac Fadden R^2 , ranging between 9-13%[28] shows that there is a large amount of unexplained variance in our model. This is not surprising considering the nature of the subject and similar findings in prior studies on the topic[29].

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[25] As discussed in the methodology section, the impact of a continuous variable on the recommendation is 0.01 divided by the marginal effect of that variable, while assuming that the other variables are held at their sample means.

[26] Showed similar results regardless of the inclusion of age as a dummy or continuous variable.

[27] See Model 4 (Table 3e) in Appendix.

[28] When including time fixed effects (see Model 6, Table 2f in Appendix) the Mac Fadden R^2 increases to levels above 19-25 %; however, we also lose a large amount of valuable information as many observations are excluded due to perfect collinearity between certain years and accept recommendations.

[29] Eg. Mahesvaran and Pinder (2005) report Mac Fadden R^2 of 10-11% in their hostility prediction models. However, these are not perfectly comparable to our results due to different definitions and model specifications.

Summary: The results based on equation (2) indicate that board recommendations are positively related to higher bid premiums and negatively related to payments in shares. These results are significant across all tested models, different measures of the bid premium, as well as in the univariate analysis. Therefore, in general, our findings indicate that directors care about bid related characteristics. The bidder toehold and size of the target firm show a tendency to have a positive and negative impact on board recommendations respectively, although this not consistent across all analyses. Overall, our results for the premium and the bidder toehold are most similar to the findings of Eddey and Casey (1989) in Australia. The results for share-based payment resemble those of Henry (2005), also in Australia.

7.2.1 Interaction effects

Moving on to the results for the interaction effects, Table 7a displays the results when an interaction variable between foreign bidders and share-based payment (For_S) has been added to the main specification.

Table 7a: Logit regression results for the determinants of board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		1.873	(1.213)	0.123		1.275	(1.173)	0.277		0.738	(1.479)	0.618	
For_S		-0.811	(1.307)	0.535	-0.152	-0.835	(1.367)	0.541	-0.183	-0.921	(1.688)	0.585	-0.220
Shares	(-)	-0.911	(0.610)	0.135	-0.163	-0.973	(0.643)	0.130	-0.207	-0.675	(0.753)	0.370	-0.167
Foreignbuyer	(+/-)	0.860*	(0.511)	0.0920	0.123	1.146**	(0.559)	0.0404	0.204	-0.141	(0.898)	0.875	-0.0353
Pre3mwin	(+)	2.450*	(1.333)	0.0661	0.377	2.675**	(1.354)	0.0482	0.506	2.216	(1.597)	0.165	0.553
Raised	(+/-)	-0.207	(0.699)	0.767	-0.0333	-0.260	(0.758)	0.732	-0.0515	0.343	(0.873)	0.695	0.0847
Strategic	(+)	-0.0720	(0.547)	0.895	-0.0109	-0.170	(0.572)	0.766	-0.0314	0.0621	(0.778)	0.936	0.0155
Toehold	(+)	2.431*	(1.319)	0.0653	0.374	2.185	(1.377)	0.113	0.413	3.220*	(1.939)	0.0968	0.804
Targetperf	(+)	0.0611	(0.444)	0.890	0.00940	0.107	(0.456)	0.815	0.0202	0.167	(0.537)	0.756	0.0417
Insize	(-)	-0.217	(0.143)	0.128	-0.0334	-0.200	(0.143)	0.162	-0.0378	-0.219	(0.169)	0.196	-0.0547
Agedummy	(-)	0.206	(0.580)	0.723	0.0304	0.405	(0.651)	0.534	0.0719	0.172	(0.740)	0.816	0.0428
McFadden R^2					0.0997				0.1243				0.0978
N					150				115				68

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Table 7a displays the regression results when an interaction variable between being foreign and share based payment has been added to the main specification and for the different subsamples All bids, At launch and Post launch. Board recommendation is the dependent variable and the interaction variable and the variables it is formed from are displayed first. Each regression displays the coefficient in log-odds, standard errors in parenthesis, p-values, as well as the marginal effect.

The results show that the negative impact of share-based payment turns insignificant when controlling for the combination of foreign bidders and shares. Also, when controlling for payment in shares, the effect of being foreign turns significantly positive. The sign of the interaction variable is negative but insignificant, which could be due to the low occurrence of share-based payments among foreign bidders in our sample[30]. The results indicate that some of the negative effect of share-based payment could be attributable to foreign bidders

[30] 7 observations in the All bids sample are from foreign bidders that pay in shares

which would be in line with statements from the interviews. However, they should be interpreted with great caution due to the low sample of foreign combined with shares. Also, interaction variables are naturally highly correlated with the variables they are formed of, why multicollinearity should be considered.

Table 7b below displays the results when an interaction variable between strategic acquirers and the bid premium has been added to the main specification.

Table 7b: Logit regression results for the determinants of board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		-1.186	(1.687)	0.482		-2.162	(1.967)	0.272		-2.485	(2.521)	0.324	
Stra_Pre3m		-15.06***	(5.728)	0.00855	-1.946	-15.43**	(7.077)	0.0293	-2.565	-18.08**	(8.532)	0.0341	-4.468
Pre3mwin	(+)	16.39***	(5.730)	0.00424	2.118	17.00**	(7.071)	0.0162	2.826	19.14**	(8.448)	0.0235	4.729
Strategic	(+)	3.567**	(1.405)	0.0111	0.674	3.552**	(1.669)	0.0333	0.703	4.303*	(2.220)	0.0526	0.711
Shares	(-)	-1.093**	(0.500)	0.0287	-0.175	-1.130**	(0.538)	0.0356	-0.222	-0.931	(0.683)	0.173	-0.229
Raised	(+/-)	-0.490	(0.717)	0.494	-0.0714	-0.502	(0.808)	0.534	-0.0923	0.0375	(0.905)	0.967	0.00926
Toehold	(+)	2.494*	(1.358)	0.0662	0.322	2.162	(1.374)	0.116	0.360	3.550*	(2.074)	0.0870	0.877
Foreignbuyer	(+/-)	0.938*	(0.549)	0.0876	0.112	1.099*	(0.568)	0.0532	0.172	0.129	(0.798)	0.872	0.0317
Targetperf	(+)	-0.0610	(0.403)	0.880	-0.00788	-0.0472	(0.429)	0.912	-0.00784	0.135	(0.542)	0.803	0.0334
Insize	(-)	-0.250*	(0.140)	0.0747	-0.0323	-0.185	(0.142)	0.192	-0.0307	-0.327*	(0.185)	0.0762	-0.0809
Agedummy	(-)	0.204	(0.567)	0.718	0.0253	0.397	(0.646)	0.539	0.0615	0.356	(0.677)	0.599	0.0865
McFadden R^2					0.1528				0.1747				0.1680
N					150				115				68

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Table 7b displays the regression results when an interaction variable between a strategic acquirer and the bid premium has been added to the main specification and for the different subsamples All bids, At launch and Post launch. Board recommendation is the dependent variable and the interaction variable and the variables it is formed from are displayed first. Each regression displays the coefficient in log-odds, standard errors in parenthesis, as well as the marginal effect.

The results show that Strategic, the bid premium (Pre3mwin) and the interaction variable (Stra_Pre3m) turn significant when controlling for strategic acquirers in combination with the bid premium. In line with the interviews, the isolated effect of being Strategic has a positive impact on the recommendation in this regression. However, the interaction effect is negative. Interpreting these results implies that both strategic and financial acquirers benefit the positive impact of the premium (marginal effect 2.118). This is however mitigated by a negative interaction effect for strategic acquirers. Hence, the effect of paying a higher premium is more important for financial than for strategic acquirers in increasing the probability of a positive board recommendation. As previously mentioned, multicollinearity should be considered when interpreting these results.

Finally, the results from the interaction regression of Agedummy and Toehold showed no significant results, indicating no such interaction effect in our sample.[31]

[31] See Appendix Table 4c.

Summary: The interaction results show that some of the negative effect of share-based payment, found in the previous sub-section, is attributable to the combination of foreign bidders offering shares. In accordance with the interviews, foreign acquirers offering shares implies an increased complexity in the valuation process, which has a negative impact on the board recommendation. Further, the results show that the effect of paying a higher premium is more important for financial than for strategic acquirers in order to receive a board recommendation.

7.2.2 Model accuracy

Looking at the prediction accuracy of the main specification, Table 4c below shows that our main specification has an overall model accuracy of 76.67% for the full sample and performs well in estimating the outcome of successful bids (87.18% accurate)[32]. However, for bids that are not recommended by the board, the power of the model is rather poor as it estimates only 14 out of 33 bids correctly (39.39 %). This skewness in the model accuracy for recommended and non-recommended bids is reduced in the At launch and Post launch subsamples, while the overall prediction accuracy decreases.

Table 8: Model performance

	Actual number	Correctly modelled in main
Recommended	117	102 (87.18%)
Not recommended	33	13 (39.39%)
Total	150	115 (76.67%)
At launch		
Recommended	82	70 (85.37%)
Not recommended	33	13 (39.39%)
Total	115	83 (72.17%)
Post launch		
Recommended	35	21 (60.00%)
Not recommended	33	18 (54.55%)
Total	68	39 (57.35%)

Table 8 displays the model performance and correctly modelled bids in the main specification.

[32] This is calculated using the estat classification command in STATA with the cut-off probability of 0.6568 calculated as $\sum P_i^2$ where P_i^2 are the percentage proportions of accept and reject board recommendations, as suggested by Holl and Kyriazis (1996).

7.2.3 Robustness checks

The model fit has been tested with Likelihood ratio Chi^2 and Hosmer-Lemeshow goodness of fit tests and show satisfactory results in that the independent variables are better at predicting board recommendations compared to an empty model. Further, there are no serious multicollinearity issues between our variables. For variables with a Pearson or Tetrachoric correlation above 0.3, additional caution has been taken before considering both variables in the same regression. The correlation between payment in shares and strategic bidders is for example 0.5[33]. However, the coefficients are similar when including one, the other, or both variables in the regression and are therefore included since both variables are deemed important for the analysis[34]. Lastly, as a robustness check, we compare the coefficients across the All bids, At launch and Post launch regressions to ensure that they provide consistent and similar results. All variables show similar results, apart from the variable Foreign bidder which shows opposite signs in the At launch and Post launch regressions. Caution is therefore taken when interpreting the impact of this variable.

[33] See Appendix table 9a and 9b for correlations between variables

[34] See for example Model 3 (Table 6d) and Model 4 (Table 6e) in Appendix where Strategic has been exchanged for the variable Industryfit or excluded from the model.

8. Analysis

In this section, we analyze the findings presented above by, first, discussing the importance of board recommendations for bid completion. Second, we analyze aspects determining the opinion of the board and possible explanations behind our results. Finally, we provide a discussion regarding the general findings in our study and how these relate to the view of practitioners.

8.1. The importance of board recommendations

Our findings provide evidence for the importance of board recommendations in Swedish public takeovers and establish it as a significant aspect to consider prior to bid announcement. The results are robust and in line with the general belief among the interviewees, considering the recommendation by the board as an important step in receiving acceptance from the target shareholders.

Apart from a strong statistical relationship, our findings imply that the economic impact of receiving a board recommendation is linked to an increase in the probability of bid completion of 30-35 percent. Further, the value for the bidder to receive a recommendation already at bid announcement has a similar impact on completion as a recommendation post launch. Therefore, the timing aspect of an early recommendation, emphasized in the interviews to have a positive effect on bid completion, cannot be supported by our findings.

8.1.2 Comparison to international findings

Our results confirm international findings that emphasize the opinion of the board as essential for bid outcome. Further, our results are interesting due to the independent structure of Swedish boards, inhibiting excessive managerial influence in takeover discussions, and allowing us to analyze the isolated effect of the board's opinion. This, in comparison to studies in Australia, US, and UK, where the one-tier governance structure implies that the board recommendation may be colored by managerial influence as the CEO might also be board chairman. Moreover, in the US, regulations regarding defense tactics are less strict than in Sweden, meaning that the negative impact of bid hostility cannot be entirely attributed the advice of the board.

A potential explanation to the importance of board recommendations in Sweden, even if the board has no explicit power in the takeover process, can be attributed to the ownership structure on the Swedish market. As emphasized by the interviewees, the large presence of institutional owners that very rarely challenge a negative board opinion, signals a large degree of trust towards Swedish boards. This implies that, in general, boards have earned a

significant degree of legitimacy among owners. Again, this might be linked to the independent governance structure in Sweden, which mitigates excessive management influence and self-serving bias in takeover discussions – an issue referred to in international studies as managerial entrenchment.

Lastly, our study differs from international findings partly due to different definitions of the dependent variable, where many international studies analyze the negative impact of the target firm being hostile towards a takeover attempt while our study focuses on the impact of receiving a recommendation. While these definitions certainly are interrelated, they are not equivalent.

8.2. Factors determining board recommendations

Our results regarding the factors determining board recommendations generally indicate that directors care about bid related characteristics. More specifically, bids with higher bid premiums are more likely to be recommended by the board, while share-based payments are less likely to receive a recommendation. This enforces the argument of price being an important determinant for the recommendation in Swedish public offers, and that directors aim at increasing the wealth of target shareholders. In relation to the legitimacy aspect of Swedish boards, a focus on shareholder wealth could have positive implications for the shareholder's trust in the board. This, in return, increases the implicit power of the board and the importance of their opinion, emphasized by the interviewees.

It is also interesting to note that while the bid premium is significantly related to the board recommendation in our study, it is not of significant importance for the outcome of bid completion. By looking solely at the regression of bid completion, one could be misled to believe that the bid premium is unimportant in takeover processes. The second part of our analysis, however, shows that the premium might have an indirect impact on completion through the board recommendation.

Our findings related to share-based payment are in line with what was stated in the interviews and international findings (Henry, 2005) concerning the negative implications for the recommendation when shares are offered. This is also in line with the bidder overvaluation hypothesis, suggesting that share-based payment is positively related to the bidder's perception of their equity as overvalued. As this is evident for the target board, it could consequently have implications for the probability of recommendation. The aspect of valuation complexity, mentioned in the interviews, is due to the need for valuation of both bidder and target company equity. This valuation complexity was mentioned to be further in-

creased when share-based payment is offered from a foreign acquirer. We find weak support for this in our analysis of interaction effects, since the negative impact of a share offer turns insignificant when controlling for bidder nationality.

Our results of the bid premium are robust and advocate an importance of the bid premium throughout the study. This is consistent with price being declared as the most common reason for bid rejection by Swedish boards[35]. Meanwhile, one could discuss the economic impact of the bid premium since an increase in the premium of 2.45 percentage points would alter the probability of recommendation by one percent in our sample. A significant, although not exclusively predominant, importance of the premium is also consistent with what was mentioned by the interviewees.

Although a higher bid premium may be considered self-evident in order to achieve a positive recommendation, findings from previous studies (Walkling and Long, 1984; Henry, 2005) along with statements from our interviews indicate that this is far from obvious. There are several reasons to why our results might vary from international findings. One aspect could be linked to managerial entrenchment, a factor less predominant in Sweden than in the US, due to lower managerial influence in board decisions. Another possible explanation to the difference in results are varying definitions of the bid premium across researchers[36]. We however deem this to have a small impact since we obtain similar results when performing the analysis with different versions of the variable.

We also find weak support for the bidder toehold and the size of the target firm having a positive and negative impact on accept board recommendations, respectively. Regarding the toehold, our findings provide a less predominant relationship compared to those found in an international context (e.g Henry, 2005). Explanations for these differences may lie in the presence of large blockholders on the Swedish market. It was stated in the interviews that a large shareholders making a public offer could result in suspiciousness among other shareholders. This could possibly also influence the decision of the board. Moreover, since we measure the toehold right before bid announcement, we include the toehold of such bidders that may have acquired shares as to oppose initial board resistance. It these cases, the board is more likely to be negative to the offer regardless of the toehold.

[35] Berg et. al (2008) show that Swedish boards' most common motive for rejection of a public takeover offer is a price which does not reflect market price.

[36] We, for example, use volume-weighted bid premiums and correct for outliers.

Regarding target size, our findings indicate the relative bargaining power of large firms, making boards of such firms more inclined to reject an offer. This is consistent with results from international studies (Mahesvaran and Pinder, 2005).

8.2.1 Suitable acquirers

Regarding our interaction results for strategic acquirers, we find that effect of paying a higher premium is more important for financial, than for strategic, acquirers in order to receive a board recommendation. The fact that price is less important for strategic acquires could possibly be due to strategic bidders being evaluated on other, more qualitative, grounds than financial bidders.

In relation, the notion of the bidder as a suitable acquirer was mentioned frequently throughout the interviews as important for the recommendation. Our study does not support this notion, as we cannot claim that "suitable acquirers", proxied by strategic bidders or industry fit, are more likely to receive a recommendation. However, this could simply depict the difficulty of assessing a proper proxy for a suitable acquirer. There are several aspects to consider when performing this assessment and the sole characteristic of being a strategic acquirer with synergy potential may simply be an inadequate decision criteria. Also, the large presence of financial acquirers on the Swedish market could have resulted in an increased acceptance towards this category of firms, decreasing the perceived difference in terms of strategic and financial bidders[37]. Although regional aspects may provide some explanations for the mentioned lack of relationship, international studies have reached similar findings (Henry, 2005).

8.2.2 General implications

In this study, we have not studied the shareholder welfare versus managerial welfare hypothesis explicitly. However, it could be partly inferred from our results that the link between board recommendations and a higher premium in combination with a higher toehold and share-based payment points towards the board acting in shareholder's interests. As Henry (2005) states; "support for the shareholder welfare hypothesis would be intimated from the finding of a positive relationship between the initial bid premium offered, the level of bidder toehold shareholdings and the method of payment", which is in line with our results. However, to have a clear view on these hypotheses, more information regarding the board's self-serving behavior would be needed.

[37] Berg et al. (2008) show that the reason for the board not to accept the offer due to synergy-related aspects was (1/15) in their sample of Swedish takeovers.

Lastly, it is important to emphasize the general difficulty of studying the subject of board recommendations in public takeover attempts. An often mentioned fact in the interviews was that public offers always are evaluated individually, and that it is very difficult to generalize on specific variable impact. The wide variety of factors affecting the outcome was mentioned to be an issue, along with qualitative aspects that are complicated to proxy quantitatively. Accordingly, our findings support the view of the interviewees, describing the relative nature of public takeovers. However, aspects concerning bid characteristics such as premium and payment structure, as well as bidder toehold and target size, seem to be of significant importance when the board assesses a takeover attempt.

9. Conclusion

Our findings show that public offers recommended by the board are more likely to achieve completion than not recommended offers. Further, our analysis shows a significant positive impact of the bid premium on board recommendations, whilst a share-based payment method impacts the recommendation negatively. We also see tendencies towards a larger bidder toehold and smaller size of the target firm being more likely to achieve a board recommendation, although this not consistent across all our analyses. Finally, the interaction analysis of share-based payment shows that some of the negative effect of paying in shares is attributable to foreign acquirers, which could stem from the increased complexity of these offers, as mentioned in the interviews. Also, we find that the effect of paying a higher premium is more important for financial than for strategic acquirers in order to gain acceptance from the board.

With the aim of increasing the understanding of Swedish board recommendations, we conclude that board recommendations have a significant importance for the outcome of public offers in Sweden. Further, our findings indicate that directors care about bid related characteristics as both the premium and payment in shares are significant in our analysis. Hence, directors are credible in their aim of increasing the wealth of target shareholders. A focus on shareholder wealth could, in turn, have positive implications for the shareholder's trust in the board. This explains the 30 to 35 percent higher probability of completion for recommended public offers. While this reinstates international findings, our results are interesting due to the two-tier Swedish governance structure, enabling an analysis of the isolated effect of board recommendations.

Finally, the interviewees emphasized the overall complexity associated with the subject, which is also prevalent in our analysis. In line with international studies, there is a large amount of unexplained variance in our model. This highlights the difficulty of generalizing upon specific factors that influence the opinion of the board among the ones tested in this study.

10. Limitations

A limitation of this study relates to the sample size. It would have been beneficial to study a larger sample, which could have been achieved with another, less strict selection criteria. Another limitation, related to the sample size, is the number of unknown cases where pre-negotiations with the board result in bids not reaching public announcement. These cases would have been interesting to include in our sample, but are obviously difficult to capture.

We could also have included a control sample to test the prediction accuracy of our model and to see if there were systematic differences that characterized the offers in our sample compared to a randomly drawn sample of bids. However, incorporating a control sample would decrease our sample size and, thus, harm the analysis. Nonetheless, our sample of 161 bids is satisfactory and very similar to the sample sizes of other researchers in the area.

The issue of endogenity is also a limitation of this study. If the bidder knows that the board has a history of resisting takeover attempts, this may impact the acquirer in terms of which price is offered. Hence, the board's history of resistance might impact the bid premium. The same limitation is applicable to the bidder toehold, where the toehold might be effected by the bidder's perception of the board's attitude prior to bid announcement. We attempted to mitigate this issue by including the variable raised in our analysis. However, we could possibly have considered the target's history of resistance in prior takeover attempts.

Another limitation related to our study strives from the nature of the subject. Since all data for the 161 bids is processed by ourselves, there is a potential risk that certain data-points have been erroneously classified. However, small deviations should have minor impact on the result and we have performed several cross-checks along the way to ensure that the risk of human error is minimized.

Also, the reviewed set of variables provides certain limitations where we could have controlled for more, or other, variables. It is possible that the relatively low explanatory power of the model would increase in such approach, even if other international studies reach similar levels. Different measures regarding the studied variables could also have been applied. However, our ambition was to, primarily, incorporate variables that were mentioned during the interviews, backed by findings from previous research.

Further, there is always a challenge to find good proxies for qualitative variables. The notion of the bidder being declared as "a suitable acquirer" was mentioned frequently throughout the interviews. While attempting do proxy for this through the Strategic and Industry-fit variables, we realize that these definitions are not entirely waterproof.

11. Suggestion for further research

Firstly, it would be interesting to further investigate the shareholder welfare versus managerial welfare hypothesis regarding board recommendations on a Swedish setting. Shares held by target directors could be an interesting variable to analyze in this regard. It could also be interesting to further analyze the interaction between foreign acquirers and share-based payments, as it showed signs of having a negative influence on the recommendation, both in the interviews as well as in the logit regression.

Another alternative for further research is to extend the logit model to a multinomial logit that allows for more than one characteristic of hostility; accordingly, different levels of hostility could be ranged and modelled at the same time. However, this would require dividing the data into several hostility characteristics, a method not considered applicable to our sample due to the limited amount of observations.

In this study, we limited the data to include a 90 percent takeover ambition of the target firm. It would be interesting to see if the findings hold for bidders with a lower takeover ambition, and for alternative markets, other than the SSE. Studying public offers on less liquid markets could provide interesting findings with targets subject to a considerably lower degree of media coverage regarding the offer.

It would also be interesting to make an international comparison between countries with a similar regulatory environment (e.g. Germany) to analyze potential variations in results for public offers within the same time period. Also, it would be relevant to compare the findings with current data from US and Australia as the recent economic development may have impacted the motives for boards to accept or reject offers.

Lastly, the examination of variables affecting bid completion and board recommendation could be further extended. We, for example, found no significant impact of the premium on bid outcome while it was important for all variants of board recommendations. This might have several different explanations, which could serve as an area of further research.

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13. Appendix A: Tables

Table 4a-4c display the univariate results of mean and median differences for recommended and non recommended bids for the subsamples All bids, At launch and Post launch. The fifth column shows the t-test statistic test of equality of means based on the hypothesis in the previous column, and the sixth column shows the Z statistic from a Wilcoxon rank sum test of equality of medians, with the same alternative hypothesis.

Table 4a: Univariate analysis for the All bids subsample

	All bids accept recommendations	All bids reject recommendations		Mean/median differences	
Variable	Mean	Mean	H_1	t-stat	Wilcoxon Z
Foreign bidder	0,38	0,28	diff ≠ 0	1.077	1.077
Strategic bidder	0,80	0,74	diff > 0	0.675	0.677
Bidder toehold	11,6%	9,6%	diff > 0	0.540	0.419
Bid Premium1D	32%	23%	diff > 0	1.966**	2.123**
Bid Premium 3M	37%	27%	diff > 0	1.967**	2.257**
Bid Premium 6M	33%	23%	diff > 0	2.222**	2.233**
Payment in shares	0,14	0,28	diff < 0	-1.632*	-1.623**
Raised bid	0,13	0,13	diff ≠ 0	0.418	0.419
Age	55,95	55,42	diff < 0	0.322	0.381
Target performance	-0,25%	0,65%	diff ≠ 0	-0.101	0.971
Target size (SEK, million)	3 590	15 855	diff < 0	-2.091**	0.219
Market performance	3,25%	0,84%	diff ≠ 0	0.614	2.221**

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

Table 4b: Univariate analysis for the At launch subsample

	At launch accept recommendations	At launch reject recommendations		Mean/Median differences	
Variable	Mean	Mean	H1	t-stat	Wilcoxon Z
Foreign bidder	0,44	0,28	diff ≠ 0	1.682*	1.669*
Strategic bidder	0,80	0,74	diff > 0	0.669	0.671
Bidder toehold	0,10	9,6%	diff > 0	0.0460	0.066
Bid Premium1D	32%	23%	diff > 0	1.966**	2.014**
Bid Premium 3M	38%	27%	diff > 0	1.967**	2.484***
Bid Premium 6M	34%	23%	diff > 0	2.222**	2.516***
Payment in shares	0,1428	0,28	diff < 0	-1.853**	-1.835**
Raised bid	0,1309	0,13	diff ≠ 0	0.0418	0.042
Age	55,67	55,424	diff < 0	0.140	0.214
Target performance	-0,36%	0,65%	diff ≠ 0	-0.103	-0.962
Target size (SEK, million)	3 660	15 855	diff < 0	-1.732**	-0.087
Market performance	3,32%	0,83%	diff ≠ 0	0.581	2.247**

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

Table 4c: Univariate analysis for the Post launch subsample

	Post launch accept recommendations	Post launch reject recommendations		Mean/Median differences	
Variable	Mean	Mean	H_1	t-stat	Wilcoxon Z
Foreign bidder	0,24	0,28	diff $\neq 0$	-0.447	-0.449
Strategic bidder	0,79	0,74	diff > 0	0.470	0.473
Bidder toehold	15,7%	9,6%	diff > 0	1.326	1.161
Bid Premium1D	33%	23%	diff > 0	1.966**	1.707**
Bid Premium 3M	34%	27%	diff > 0	1.967**	1.172
Bid Premium 6M	31%	23%	diff > 0	2.222**	1.049
Payment in shares	0,21	0,28	diff < 0	-0.721	-0.723
Raised bid	0,21	0,13	diff $\neq 0$	0.957	0.958
Age	56,6	55,424	diff < 0	0.648	0.608
Target performance	0,00%	0,65%	diff $\neq$ 0	-0.0508	0.703
Target size (SEK, million)	3 435	15 855	diff < 0	-1.190	-0.402
Market performance	3,1%	0,83%	diff $\neq 0$	0.38	1.523

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

Table 4d displays the univariate results of mean and median differences for completed and not completed bids. The fifth column shows the t-test statistic test of equality of means based on the hypothesis in the previous column, and the sixth column shows the Z statistic from a Wilcoxon rank sum test of equality of medians, with the same alternative hypothesis.

Table 4d: Univariate analysis for completed and non-completed bids

	Completed	Not completed		Mean/median	
Variable	Mean	Mean	H_1	t-stat	Wilcoxon Z
Recommend	83,46%	47,06%	diff > 0	4.66***	4.39***
At launch	77,66%	37,93%	diff > 0	4.27***	4.00***
Post launch	61,11%	21,74%	diff > 0	3.35***	3.14***

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

Table 6b-6f display the regression results for different models compared to the main specification and for the three different subsamples All bids, At launch, and Post launch. See note under each table for a specific description on how they differ from the main specification. Board recommendation is the dependent variable in each case and the independent variables are divided into Bid related, Bidder related, or Target related characteristics. Each regression displays the coefficient in log-odds, standard errors in parenthesis, p-values, as well as the marginal effect.

Table 6b: Logit regression results for Model 1 - the determinants of Board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		1.921*	(1.158)	0.0971		1.424	(1.126)	0.206		0.386	(1.415)	0.785	
Bid related													
Pre1Dwin	(+)	3.032**	(1.395)	0.0298	0.460	2.720*	(1.400)	0.0521	0.516	4.072**	(1.920)	0.0340	1.016
Shares	(-)	-1.175**	(0.498)	0.0184	-0.216	-1.177**	(0.552)	0.0331	-0.254	-1.106*	(0.652)	0.0901	-0.268
Raised	(+/-)	-0.0902	(0.683)	0.895	-0.0140	-0.158	(0.746)	0.832	-0.0309	0.459	(0.972)	0.637	0.112
Bidder related													
Strategic	(+)	-0.115	(0.554)	0.836	-0.0170	-0.229	(0.575)	0.691	-0.0420	0.181	(0.742)	0.808	0.0451
Toehold	(+)	2.189	(1.382)	0.113	0.332	1.923	(1.419)	0.176	0.365	2.580	(1.833)	0.159	0.644
Foreignbuyer	(+/-)	0.768	(0.513)	0.134	0.109	1.037*	(0.539)	0.0542	0.186	-0.464	(0.820)	0.571	-0.115
Target related													
Targetperf	(+/-)	0.0960	(0.410)	0.815	0.0146	0.0749	(0.421)	0.859	0.0142	0.489	(0.524)	0.351	0.122
Insize	(-)	-0.218	(0.138)	0.113	-0.0331	-0.191	(0.140)	0.174	-0.0362	-0.217	(0.159)	0.174	-0.0541
Agedummy	(-)	0.263	(0.571)	0.645	0.0380	0.431	(0.647)	0.505	0.0765	0.318	(0.718)	0.657	0.0787
McFadden R^2		0.1027				0.1163				0.1238			
N		150				115				68			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Note: Compared to the main specification, Model 1 includes the 1 day bid premium.

Table 6c: Logit regression results for Model 2 - the determinants of Board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		2.010*	(1.133)	0.0761		1.404	(1.126)	0.212		0.767	(1.424)	0.590	
Bid related													
Pre6Mwin	(+)	2.659*	(1.392)	0.0562	0.404	2.635*	(1.382)	0.0566	0.497	2.496	(1.582)	0.115	0.623
Shares	(-)	-1.017**	(0.517)	0.0492	-0.183	-1.053*	(0.567)	0.0632	-0.225	-0.829	(0.674)	0.219	-0.204
Raised	(+/-)	-0.0418	(0.654)	0.949	-0.00640	-0.0343	(0.712)	0.962	-0.00651	0.527	(0.833)	0.527	0.129
Bidder related													
Strategic	(+)	-0.0248	(0.547)	0.964	-0.00374	-0.103	(0.574)	0.857	-0.0192	0.0965	(0.709)	0.892	0.0241
Toehold	(+)	2.393*	(1.310)	0.0676	0.363	2.226	(1.388)	0.109	0.420	2.950*	(1.762)	0.0940	0.736
Foreignbuyer	(+/-)	0.703	(0.511)	0.169	0.100	1.008*	(0.551)	0.0676	0.180	-0.383	(0.770)	0.619	-0.0954
Target related													
Targetperf	(+/-)	-0.424	(0.440)	0.334	-0.0644	-0.373	(0.452)	0.410	-0.0703	-0.281	(0.524)	0.591	-0.0702
Insize	(-)	-0.241*	(0.139)	0.0820	-0.0366	-0.217	(0.141)	0.125	-0.0409	-0.226	(0.169)	0.181	-0.0563
Agedummy	(-)	0.223	(0.588)	0.705	0.0324	0.427	(0.671)	0.524	0.0754	0.226	(0.701)	0.747	0.0561
McFadden R^2		0.1073				0.1267				0.1106			
N		150				115				68			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Note: Compared to the main specification, Model 2 includes the 6 month bid premium.

Table 6d: Logit regression results for Model 3 - the determinants of board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		1.981**	(0.984)	0.0441		1.202	(0.976)	0.218		0.782	(1.158)	0.499	
Pre3mwin	(+)	2.339*	(1.285)	0.0687	0.361	2.544*	(1.329)	0.0556	0.483	2.132	(1.528)	0.163	0.532
Shares	(-)	-1.101**	(0.482)	0.0224	-0.204	-1.194**	(0.523)	0.0224	-0.258	-0.858	(0.625)	0.169	-0.210
Toehold	(+/-)	2.352*	(1.300)	0.0705	0.363	2.200	(1.375)	0.109	0.418	2.887	(1.788)	0.106	0.721
Foreignbuyer	(+)	0.696	(0.473)	0.141	0.101	0.970*	(0.507)	0.0555	0.175	-0.190	(0.685)	0.782	-0.0474
Insize	(+)	-0.232*	(0.129)	0.0720	-0.0359	-0.199	(0.133)	0.136	-0.0378	-0.205	(0.149)	0.169	-0.0511
Agedummy	(+/-)	0.234	(0.576)	0.684	0.0346	0.426	(0.650)	0.512	0.0757	0.347	(0.699)	0.620	0.0858
McFadden R^2		0.0966				0.1203				0.0912			
N		150				115				68			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Note: Compared to the main specification as well as a range of additional models, Model 3 is the best performing according to AIC and BIC criterions.

Table 6e: Logit regression results for Model 4 - the determinants of Board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		2.444**	(1.042)	0.0191		1.702*	(1.031)	0.0989		1.414	(1.299)	0.276	
Bid related													
Pre3Mwin	(+)	2.491*	(1.354)	0.0657	0.378	2.814**	(1.415)	0.0467	0.529	2.181	(1.609)	0.175	0.544
Shares	(-)	-0.913*	(0.527)	0.0829	-0.162	-0.995*	(0.579)	0.0858	-0.211	-0.690	(0.683)	0.312	-0.171
Raised	(+/-)	-0.184	(0.687)	0.789	-0.0291	-0.214	(0.745)	0.774	-0.0417	0.324	(0.888)	0.715	0.0800
Bidder related													
Industryfit	(+)	-0.676	(0.491)	0.168	-0.0963	-0.773	(0.515)	0.133	-0.136	-0.535	(0.678)	0.430	-0.132
Toehold	(+)	2.328*	(1.356)	0.0861	0.354	2.282	(1.469)	0.120	0.429	2.732	(1.846)	0.139	0.682
Foreignbuyer	(+/-)	0.805*	(0.487)	0.0981	0.114	1.074**	(0.539)	0.0463	0.190	-0.144	(0.777)	0.853	-0.0360
Target related													
Targetperf	(+/-)	-0.0222	(0.486)	0.964	-0.00337	0.0233	(0.502)	0.963	0.00438	0.119	(0.483)	0.805	0.0298
Insize	(-)	-0.248*	(0.135)	0.0652	-0.0377	-0.218	(0.141)	0.123	-0.0409	-0.258	(0.158)	0.101	-0.0644
Agedummy	(-)	0.323	(0.580)	0.578	0.0461	0.503	(0.660)	0.446	0.0872	0.390	(0.757)	0.606	0.0963
McFadden R^2		0.1088				0.1373				0.1012			
N		150				115				68			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Note: Compared to the main specification, Model 4 includes the Industryfit instead of the Strategic bidder variable

Table 6f: Logit regression results for Model 5 - the determinants of board recommendations

		All bids				At launch				Post launch			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant													
Bid related													
Pre3Mwin	(+)	3.828**	(1.902)	0.0441	0.681	4.238**	(1.763)	0.0162	0.894	2.766	(2.402)	0.249	0.681
Shares	(-)	-1.348**	(0.578)	0.0196	-0.283	-1.480**	(0.663)	0.0256	-0.341	-1.718*	(0.973)	0.0774	-0.367
Raised	(+/-)	-0.799	(0.854)	0.350	-0.163	-0.620	(1.164)	0.594	-0.141	-0.803	(1.189)	0.499	-0.186
Bidder related													
Industryfit	(+)	0.130	(0.741)	0.861	0.0236	0.328	(0.824)	0.690	0.0716	0.282	(0.995)	0.777	0.0685
Toehold	(+)	3.564*	(2.073)	0.0857	0.634	3.758	(2.431)	0.122	0.792	2.965	(2.415)	0.220	0.730
Foreignbuyer	(+/-)	0.754	(0.645)	0.243	0.128	0.910	(0.737)	0.217	0.183	0.490	(1.057)	0.643	0.121
Target related													
Targetperf	(+/-)	0.216	(0.447)	0.629	0.0384	0.662	(0.532)	0.213	0.140	-0.0171	(0.772)	0.982	-0.00420
Insize	(-)	-0.206	(0.175)	0.238	-0.0366	-0.249	(0.202)	0.217	-0.0525	-0.132	(0.238)	0.578	-0.0325
Agedummy	(-)	0.0601	(0.745)	0.936	0.0106	0.320	(0.825)	0.698	0.0648	0.0479	(0.931)	0.959	0.0118
Time fixed effects		x				x				x			
McFadden R^2		0.1946				0.2532				0.1271			
N		115				93				49			

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Note: Compared to the main specification, Model 5 includes time-fixed effects.

Table 7c displays the regression results when an interaction variable between old board chairmen (Agedummy) and the bidder toehold has been added to the main specification and for the different subsamples All bids, At launch and Post launch. Board recommendation is the dependent variable and the interaction variable and the variables it is formed from are displayed first. Each regression displays the coefficient in log-odds, standard errors in parenthesis, as well as the marginal effect.

Table 7c: Logit regression results for the determinants of board recommendations

		All bids				**At launch**				**Post launch**			
	Expected sign	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect	Coefficient	(s.e)	p-value	Marginal effect
Constant		1.780	(1.177)	0.131		1.148	(1.174)	0.328		0.405	(1.435)	0.778	
Age_Toe3		-2.379	(2.582)	0.357	-0.363	-1.791	(2.757)	0.516	-0.338	-6.670	(4.085)	0.103	-1.665
Toehold	(+)	3.207	(2.089)	0.125	0.490	2.904	(2.230)	0.193	0.548	4.501*	(2.611)	0.0847	1.124
Agedummy	(-)	0.482	(0.637)	0.449	0.0673	0.611	(0.721)	0.396	0.105	1.189	(0.874)	0.173	0.277
Pre3mwin	(+)	2.442*	(1.381)	0.0771	0.373	2.652*	(1.402)	0.0586	0.500	2.454	(1.569)	0.118	0.613
Shares	(-)	-1.048**	(0.509)	0.0396	-0.191	-1.157**	(0.559)	0.0386	-0.249	-0.578	(0.672)	0.390	-0.143
Raised	(+/-)	-0.114	(0.682)	0.867	-0.0178	-0.197	(0.744)	0.791	-0.0384	0.742	(0.868)	0.392	0.179
Strategic	(+)	-0.0316	(0.555)	0.955	-0.00479	-0.100	(0.579)	0.863	-0.0186	0.0182	(0.755)	0.981	0.00454
Foreignbuyer	(+/-)	0.654	(0.505)	0.195	0.0944	0.959*	(0.547)	0.0797	0.172	-0.839	(0.810)	0.300	-0.206
Targetperf	(+)	-0.0413	(0.418)	0.921	-0.00631	0.0130	(0.431)	0.976	0.00244	0.0763	(0.528)	0.885	0.0190
Insize	(-)	-0.209	(0.137)	0.128	-0.0319	-0.187	(0.143)	0.191	-0.0352	-0.187	(0.159)	0.241	-0.0467
McFadden R^2					0.1012				0.1239				0.1170
N					150				115				68

*** p<0.01, ** p<0.05, * p<0.1 two tailed test

Table 9a: Pearson correlations

	Recommend	Pre3mwin	Shares	Raised	Strategic	Toehold	Foreignbuyer	Targetperf	Insize	Agedummy
Recommend	1.0000									
Pre3mwin	0.1683	1.0000								
Shares	-0.1283	0.0024	1.0000							
Raised	0.0331	0.2015	-0.1602	1.0000						
Strategic	0.0535	0.0111	0.2192	-0.0754	1.0000					
Toehold	0.0428	-0.2174	-0.0422	-0.0109	-0.0697	1.0000				
Foreignbuyer	0.0851	0.1343	-0.1309	0.1277	0.1698	-0.0834	1.0000			
Targetperf	-0.0080	-0.0883	-0.0076	0.1718	-0.0244	-0.0472	0.2238	1.0000		
Insize	-0.0364	0.0093	-0.1229	0.2353	-0.0832	-0.0004	0.3804	0.3813	1.0000	
Agedummy	0.0723	0.1666	0.0329	0.1262	0.0572	0.1003	0.1317	-0.0029	0.0483	1.0000

Note: the table displays the Pearson correlation coefficients between the variables

Table 9b: Tetrachoric correlations

	Recommend	Atlaunch	Raised	Foreignbuyer	Strategic	Industryfit	Shares
Recommend	1.0000						
Atlaunch	1.0000	1.0000					
Raised	0.0079	0.0079	1.0000				
Foreignbuyer	0.2534	0.2534	0.0748	1.0000			
Strategic	0.1088	0.1088	-0.0617	0.3357	1.0000		
Industryfit	-0.1016	-0.1016	0.0624	0.2176	1.0000	1.0000	
Shares	-0.2950	-0.2950	-0.3480	-0.2416	0.5157	0.5526	1.0000

Note: the table displays the tetrachoric correlations coefficients between dummy variables

14. Appendix B:

14.1. Definitions

A public offer is a tender offer by one company (the bidder) to acquire another company's (the target) outstanding common stock, with the ambition to achieve control of the target.

Public takeover, bid success, and bid completion are used interchangeably throughout the thesis and refer to public offers accepted by above 90 percent of the target shareholders.

14.2. Interview guide

Bid completion

Please describe, if possible, important factors determining bid completion.

Board recommendations

- Please describe the role of board in public takeover processes.
- What are the most important aspects to consider when attempting to receive a recommendation from the board?
- What aspects are most discussed within the target board in relation to a public offer?
- What aspects of the bidding firm could influence the decision of the board? In which way?
- What aspects of the target firm could influence the decision of the board? In which way?
- What aspects of the bid could influence the decision of the board? In which way?
- What aspects of the board could influence its decision?