ERASMUS UNIVERSITY ROTTERDAM ERASMUS SCHOOL OF ECONOMICS MSc Economics & Business Master Specialisation Financial Economics

# The Influence of Institutional Ownership on the Outcome of Tender Offers

Master Thesis



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## Abstract

This paper investigates how institutional investors affect the outcome of tender offers. Using a sample of 1,141 deals and institutional ownership data drafted from the WRDS research database, several hypotheses are tested in order to answer the following research question: *What is the influence of institutional shareholders on the success rate of a tender offer?* The main finding of this paper is that a more dispersed and less concentrated shareholder base, positively affects the deal success rate. The percentage of institutional ownership and the amount of blockholders do not significantly affect the outcome of a tender offer. Suggesting that the equity stake size alone has no influence on success.

JEL classification: G34, G23

Keywords: Tender offers, deal success, institutional shareholders, mergers and acquisitions, blockholders

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# **1. Introduction**

At the end of February, Bloomberg rumoured about a potential takeover bid of Dutch chemical firm AkzoNobel by an American competitor PPG. Consequently, on the 9<sup>th</sup> of March, an official price of  $\in$  83 per share was offered by PPG, indicating a 31% premium on Akzo's pre-announcement closing price.

Following a resolute rejection of PPG's initial bid, Akzo's management stressed the importance of acting on behalf of all stakeholders, as opposed to merely maximizing shareholder wealth. After rejecting both another second (€ 88.72) (Financieel Dagblad, 2017) and third bid (€ 96.75) (Proper & Hammond, Bloomberg, 2017), the tide changed with management fearing the prospect of a hostile takeover. The clash has prompted Akzo's management to propose splitting up the Amsterdam-based company, and rewarding shareholders with a higher dividend (Economist, 2017). However, PPG countered this plan by indicating that its latest bid is superior to Akzo's stand-alone plans. Simultaneously, an activist fund called Elliott Management has made turmoil by activating shareholders to accept the bid and demanding the deposition of Akzo's chairman. Elliott even started a petition to force a shareholder vote on firing the chairman. The fund claimed that Akzo's Chairman, Antony Burgmans, was in a breach of his duties to investors for rejecting PPG's offers. Later on, the Commercial Court of the Netherlands ruled that Akzo is under no obligation to honour demands from Elliott or other activist shareholders (Proper, 2017). Finally, after months of going back and forth, it was announced in June that PPG abandoned its bid for Akzo. It happened after a last effort to start negotiations deemed unsuccessful. In the end, Akzo's chairman even refused a phone call with the head of its former suitor PPG.

Mergers or tender offers mean that the common stock of the target firm is bought by a bidding firm for a price that is usually bigger than the market value of a target. In other words, the corporate control or control rights are transferred to the acquiring company (Jensen & Ruback, 1983). It is well known that takeovers create value for target shareholders as bidding firms need to pay a substantial premium in order to convince target shareholders to tender their shares. Andrade et al. (2001) show that in the period 1973-1998 the median bid premium and average abnormal target return were 37.9% and 16.0% respectively, rising to 23.8% over a longer event window. PPG's latest and final offer of €96.75 per share, translated into a 52% premium over the pre-announcement share price.

As can be seen, discussion amongst shareholders, policy-makers and employees has been at an all-time high. This raises questions on both the acquirer's and the target's side. How can this situation come to place? Why does Akzo not accept this rather generous offer? But perhaps most importantly: Could this standoff have been prevented?

The case of Akzo raises questions regarding certain interesting Corporate Finance topics. First of all, one could question whether or not Akzo's current management team is doing the right thing by not accepting a tender offer that represents such a significant premium over the current market price. The rejection of the offers could indicate an agency problem, which can be caused by several underlying factors. The fact that Elliott demands the deposition of Akzo's Chairman of the Board, indicates the perceived existence of an agency problem in this case.

Furthermore, Elliot Management which merely owns a 3% stake in Akzo, is one of the few relatively large shareholders actively seeking to achieve a successful merger between the two firms. One could therefore argue that shareholder dispersion might also influence the fact that Akzo is not further pressured to accept PPG's tender offer by other shareholders.

This paper will investigate how the presence of institutional shareholders within the shareholder base of a takeover target affects the success rate of tender offers. With the following research question, this paper will go into deep regarding these issues:

#### What is the influence of institutional shareholders on the success rate of a tender offer?

This research is relevant because it might give both the share- and stakeholders an insight into what drives the factor of success of a tender offer. For investors such as Elliott, who wish to make returns on their capital, but are obstructed by factors researched in this paper. But also stakeholders such as company employees, the government or society as whole, as these parties are usually the ones who have to bear the external consequences of a takeover. It might also give future potential acquirers a better overview of what factors to take into account, before undertaking such a painstaking and expensive journey as PPG. Ideally, it would be interesting to draw conclusions on whether or not PPG could have foreseen the resistance it faced during this entire takeover process.

In order to answer this research question, several hypotheses regarding institutional shareholders will be tested. In this paper, the following hypotheses have been drafted:

H1: More institutional ownership increases the chance of a successful tender offer.

H2: More institutional blockholders increase the chance of a successful tender offer.

H3: More dispersed institutional ownership increases the chance of a successful tender offer.

H4: More stable institutional ownership increases the chance of a successful tender offer.

Institutional ownership is a factor that has been researched extensively over the past years. However, the effect that this institutional ownership has on the success rate of tender offers has been virtually untouched. This paper will try to open new doors in the research regarding this topic. In doing so, existing research and knowledge regarding institutional investors will be applied to the main variable of interest: the success of a tender offer.

# 2. Theoretical Framework

In this part of the paper, the theory behind the main factors that affect the hypotheses will be discussed. First, some general information regarding M&A will be given, after which the theory behind agency problems within firms is explained. Lastly, the existing literature regarding the effects of institutional shareholders on a firm's corporate governance practices are reviewed.

### 2.1 General M&A literature

### 2.1.1. Global M&A market

On the basis of completed deal volume, some 26,000 deals took place worldwide in 2016—a level similar to that of the previous year and approaching the boom years of 1999 and 2007. Aggregate deal value totalled about \$2.5 trillion, on par with 2015 (BCG, 2017). One of the most prominent trends that was seen over 2016 was the increasing Chinese appetite for overseas acquisitions, engaging in 258 transactions with a deal value of USD 185.3bn in 2016. The year 2018 remains uncertain, with factors such as Donald Trump's presidency, Brexit negotiations and upcoming elections throughout continental Europa all playing their parts (Merger Market, 2017). As can be seen, the global market for M&A is thriving as always, making further research in this topic all the more relevant.

### 2.1.2. Shareholder returns

Looking at the facts regarding the positive returns for target shareholders, one can start to wonder why target firms would resist takeovers. In his paper regarding post-merger performance Agrawal (2000) argues that investors in bidding firms often experience share price underperformance in the months following the acquisition, and negligible overall value gains for portfolio holders. On the other hand, it is found that target-firm shareholders generally experience positive short term returns. In another paper, Agrawal (2010) goes on to show that target firms generally enjoy large returns, due to the fact that significant premiums are being offered. It is often proposed that target firms resist takeovers, due to a management team that does not consider the transaction as favourable for themselves. In scenarios like these it would seem like the interests of management and shareholders are not aligned. If this would cause a takeover to be deterred, one could speak of potential agency problems.

### 2.1.3. Agency Theory

An agency relationship is defined as a contract under which one or more persons (the principal) engages another person (the agent) to perform some service on their behalf. This involves delegating some decision-making authority to the agent. If both parties to the relationship are

utility maximizers, there is a good reason to believe that the agent will not always act in the best interests of the principal. The principal can limit divergences from his interest by establishing appropriate incentives for the agent (Jensen & Meckling, 1976). As is well-known in modern day literature, exactly this relationship is established between the shareholders of a firm and the management team, which ought to act on behalf of the shareholders' interests. Agency problems that are present within a firm could definitely cause management to resist potential takeovers. In case of PPG and Akzo for example, one could wonder whether or not Akzo's management is acting in the best interests of its shareholders. After all, a significant premium and thus shareholder return is offered by PPG, as Elliott keeps pointing out. So why then does Akzo's management resist? Perhaps it is due to agency problems, a misalignment of interests between these (institutional) shareholders and the management team. Or maybe Akzo's management prefers long term above short term valuation creation and cares about all the stakeholders of the firm.

#### 2.1.4. Agency Theory second layer

The classic agent-principal relation between the shareholder and management, the so called *first layer*, has been thoroughly discussed over the past decades. Agency Theory's *second layer*, the relationship between society and shareholder, has been widely ignored in research (Dalton, Hitt, Certo, & Dalton, 2007). In their paper Kaen, Kaufman and Zacharias (1988) argue that the focus on alleviating agency problems between the shareholders and management has led to moral muteness. This essentially means that due to the value-maximizing nature of shareholders, potential negative consequences for society are ignored in decision-making within firms (Kaen, Kaufman, & Zacharias, 1988). One could argue that management might decide to deter potential takeovers, due to consequences for society or other stakeholders. Let's have a look at AkzoNobel's situation again. Concerns were raised that Akzo's sustainability measurements would be in peril if a foreign player would take over their activities. Furthermore, employees feared that job lay-offs in the Netherlands would be a consequence of the "economies of scale" that were to be realised within the combined company (Sterling, 2017). These implications are perfect examples of the so called second layer Agency problem.

#### 2.1.5. Managerial Ownership

A paper by Stulz (1988) analyses how managerial control of voting rights affects firm value and financing policies. The research shows that an increase in the fraction of voting rights controlled by management decreases the probability of a successful tender offer and increases the premium offered if a tender offer is made.

#### 2.1.6. Blockholders

Mehran (1995) classified outside blockholders as individuals or entities which own more than 5 percent of the stock of a firm. He found that 56 percent of a randomly selected manufacturing firms had outside blockholders, of which 54 percent were institutions, 23 percent were other corporations, and 23 percent were individuals (Mehran, 1995). What motivates investors to divert from the classical foundations of modern finance, which states that diversification is key to minimize risk and optimize portfolio returns? That is a question that one must ask when discussing the incentives of outside blockholders. Essentially, large block ownership can be motivated by two factors: the private benefits of control, and the shared benefits of control (Holderness, 2003).

Empirical evidence supporting the existence of shared benefits come from several sources. Firstly, blockholders usually have the power and opportunity to put their representatives in positions of influence within the company as directors or officers. This allows them to directly influence management decisions. Secondly, there is empirical evidence that shows that the formation of blocks in the shareholder structure of a firm, leads to abnormal stock price increases (Mikkelson & Ruback, 1985). Lastly, the trades of blocks alone are also associated with significant abnormal stock price increases (Barclays & Holderness, 1991). This is confirmed by Cohn et al. (2016), who find that valuations increase following increases in perceived control. This is especially the case for firms that are poorly performing, when acquiring a stake is relatively inexpensive and when they have shareholders that are likely to exercise control (Cohn, Gillan, & Hartzell, 2016).

Furthermore, certain blockholders are associated with increased profitability and better M&A results. This is especially the case when looking at activist hedge funds. Their acquisition of a 5% stake is associated with a short-term stock price rise that is not later reversed, and increased operating performance, labour productivity, a re-optimization of a firm's asset and patent portfolio, CEO turnover, pay-out, innovation, and the likelihood and terms of being acquired (Edmans & Holderness, 2016). Likewise, there is also proof for the existence of private benefits of control. Holderness (2003) argues that blockholders might have the incentive to use their voting power to consume corporate resources or enjoy corporate benefits that are not shared with minority shareholders.

#### 2.1.7. Anti-takeover voting

Brickley et al. (1988, 1994) examine the voting behaviour of different blockholders related to the proposition of antitakeover provisions by management. They find evidence that

institutional investors both vote more actively at these proposals and more often oppose these propositions by management. This indicates that institutional investors are indeed more actively engaged with the firm, especially when it comes down to takeovers.

They, however, also find differences in voting behaviour between different types of blockholders that support the conflict of interest hypothesis. In particular, they find that large shareholders that are likely to have other business ties or possible future business ties with a firm, such as banks, insurance companies and trusts are less likely to oppose management. More recent evidence by Davis and Kim (2007) shows that less direct business ties can also lead blockholders to more often vote with management, indicating less strict monitoring.

Whereas Brickley et al. (1988, 1994) find mutual funds to more often oppose management than financial institutions such as banks, Davis and Kim (2007) do find a positive relationship between these types of business ties and the probability of voting in favour of management proposals by mutual funds. Although management proposals do not have to be firm value reducing, the results might indicate that conflicts of interest can refrain blockholders from monitoring management, which potentially increases agency costs.

#### 2.2. Institutional Shareholders

The main factor of interest in this research is the effect that institutional shareholders have on the chance of success of a tender offer. There have been numerous previous research papers on the effect that institutional shareholders have on the monitoring of corporate governance structures and firm performance.

Starting with shareholder activism in general, it has been found that since the late 1980s, the world has seen shareholders take a dominant role in efforts to improve firm performance and improve corporate governance principles. It has been found that since 1986, more than 500 publicly traded companies received at least one shareholder proposal regarding corporate governance structures each (Biersach, 1990). Based on the findings of further papers that investigated the monitoring role of institutional investors specifically, it was possible to conclude that several hundred companies received these proposals from institutional shareholders (Carleton, Nelson, & Weisbach, 1998). Karpoff et al. (1996) found that firms that attract corporate governance proposals, usually have poor prior performance in terms of market-to-book ratio, sales growth and operating return. Despite the fact that proxy proposals became more and more popular during the 1980s, there is little evidence that they actually improve corporate performance or shareholder returns (Karpoff, Malatesta, & Walkling, 1996).

In general, more frequent observations of shareholder activism coincided with increased institutional shareholdings (Karpoff, 2001).

The past years, the ownership of firms has become increasingly concentrated as the number of institutional investors and their capital managed has rapidly expanded. Binay (2005) shows that the share of institutional investors in the US equity market increased from 35% in 1981 to 58% in 2002, which is consistent with findings of Huson et al. (2001). This rise in institutional ownership has affected the monitoring and governance of firms as these investors can impact managerial decisions through their large equity ownership. They can discipline management which is also known as 'voice', or they have the ability to dispose of shares when they are unhappy, also known as 'exit' (Gillan & Starks, 2003; Edmans, 2014). McCahery et al. (2016) show that institutional investors often use this voice option when dealing with their portfolio companies' decisions. They find that the most frequently applied methods of engagement are behind-the-scenes discussions with the management team or boards of directors. Investors do face several obstacles that restrict them in their disciplinary role such as liquidity concerns, free rider problems and legal concerns. McCahery et al. (2016) also find that most of their respondents believe the threat of exit disciplines management. The effectiveness of this threat depends on factors such as the investors's equity stake size, managerial equity ownership, the presence of other larger shareholders, and the likelihood that other investors exit for the same reason.

When looking at institutional shareholders, it is possible to distinguish them into two types. On the one hand, there are stable, long-term institutional investors. They are more likely to monitor and influence firm decision making due to their long investment horizon. Opposed to this are the unstable, short-term investors who tend to be involved in frequent trading based on information (Chen, Harford, & Li, 2007). It is important to note that within this distinction, it is the stable investor that has the strongest incentive to focus on monitoring and value creation in the long term. McCahery et al. (2016) find that long-term investors intervene more frequently and intensively than their short-term counterparts. They argue that for long-term investors, disciplinary engagements are mostly triggered by concerns regarding a firm's strategy or corporate governance, as opposed to short-term issues. Hartzell and Starks (2003) also suggest that the stable institutional shareholder is better capable of aligning the interests of the managers with those of the shareholders.

Besides from stable and unstable investors, there are also larger and smaller institutional investors. Larger investors often hold stakes in multiple companies, and may especially be able to benefit from company specific information by using it for strategies in other firms they own or hold a stake in (Dyck & Zingales, 2002). Moreover, as monitoring is costly and reduces agency costs for all investors, only large investors have sufficient incentives to carry out this monitoring (Shleifer & Vishny, 1986; Noe, 2002). Furthermore, as mentioned earlier, the effectiveness of the threat of exit increases as the equity stake of the investor is larger (McCahery, Sautner, & Starks, 2016). Although certain literature finds that large shareholders have the incentive and ability to monitor and control firms, it is not always evident that this has any effect on firm value. Various studies report no relationship between large shareholders and a firm's operating and stock market performance (Demsetz & Villalonga, 2001; Black, 1998; Loderer & Martin, 1997). This may be because the presence of a large shareholder has no influence on decision making (Holderness, 2003), or that institutional investors rarely engage in activism, and that if they do this barely makes a difference (Black, 1998). Institutional investors may engage less in activism if they are forced to diversify their holdings because they are not allowed to own a highly concentrated portfolio of stocks (Kahan & Rock, 2007). Additionally, Kahan & Rock (2007) describe that institutional investors might encounter political or regulatory problems and also experience conflicts of interest. This is because these investors often have existing and profitable business ties with portfolio companies. Investors' voting could for example be influenced by business ties such as when a mutual fund also manages the 401 (K) or retirement plan of a company of which it holds shares (Cvijanović et al., 2016). Hedge funds are not subject to the regulations that most other institutional investors have to comply with. They are therefore able to build more concentrated portfolios of a few stocks with large amounts of money (Greenwood & Schor, 2009). However, as Edmans & Holderness (2016) find, times are changing. Nowadays institutional investors increasingly engage in activism and are more prone to be hostile toward a firm's management.

As mentioned before, how and to which extend institutional investors affect the outcome of a tender-offer, is the main aim of this research. The following part of the paper will discuss in what ways this variable of interest – institutional shareholders – is defined.

#### 2.3. Determinants of Deal Success

The dependent variable in this research will be the deal success. In this paper, deal success is defined by the binary outcome on whether or not the tender offer has been successful or not. Earlier research towards the deal success rate has focused on numerous factors of influence.

Based on these papers, it has been decided that a number of control variables will be added to the regression, in order to try to root out any potential biases from conclusions made in this research. In the following part of the paper, the theory behind these control variables will be discussed.

#### 2.3.1. Deal attitude

A much-discussed variable in the field of deal success is the attitude that is held by the target with regards towards a takeover. As argued by Brealey, Myers and Allen (2011), a deal is characterized as hostile when the acquirer decides to surpass the management team in the negotiation process, and directly talks with the shareholders. In doing so, the bidder does not take into account the advice of the management with regards to the bid, and the management team tends to be replaced as soon as the acquisition is finalised.

Hostile takeovers usually take place when initial negotiations with the management team have failed. One can understand that failed negotiations with the management team, and the subsequent continuation of the negotiations directly with the shareholders could frustrate the entire takeover process. In many papers the deal attitude has emerged as one of the most significant factors in predicting tender offer success, with hostile takeover negatively affecting the outcome. Amongst one of these papers was Schwert (2000), who found that hostile offers are less likely to result in a successful takeover. Baker and Savasoglu (2002) also find that the acquirer attitude is the best single predictor for deal success.

#### 2.3.2. Firm Size

The firm size of the target company is another factor that usually comes up to mind rather quickly when the success rate of a deal is discussed. Hoffmeister and Dyl (1981) tried to measure this effect, by regressing the total market size of the target against the success rate of a tender offer. They tested their hypothesis on a sample of cash-only deals, and found that the target firm size has a significant negative influence on the outcome of a tender offer. Furthermore, Hasbrouck (1985) used the logarithm of the market cap to measure the effect on deal success. He also found that larger firm size reduces the likelihood of a takeover. One could argue that larger firms might have more stakeholders to contest a potential takeover. Also, it has been observed that target firms tend to be smaller in size than their respective acquirers, which could suggest a negative relationship between firm size and takeover success.

Later research opposes these results by showing that the logarithm of the target firm size has no significant effect on the success of a tender offer (Schwert, 2000). Another research method that has been used to measure firm size is the relative firm size, which is equal to the

logarithm of the target's market cap, over the logarithm of the acquirers (Branch & Yang, 2003). The information regarding the acquirers' market cap in this sample of deals in the research is rather limited. Besides this, many of the acquirers in this research are not publicly listed companies. Given the fact that the sample size would diminish significantly if the acquirer's market cap would get involved, it has been decided to use the logarithm of the target company's market cap as a proxy for target firm size in this research.

#### 2.3.3. Duration

The duration of the deal is defined as the number of days between the announcement of the tender offer, and the completion (withdrawal) date. Contrasting outcomes have resulted from earlier research on the effect of duration on deal success. Whereas Branch and Yang (2003) found that the duration of deals is shorter for successful tender offers, Jetley and Ji (2010) contradicted this outcome by finding the opposite to be true. One could argue that successful deals tend to be handled quicker and more efficient, with failed (often hostile) deals being more time consuming. Obviously, the opposite can be explained as well by arguing that it takes a lot of time to come to an agreement, making successful deals more time demanding.

Duration is a factor that can only be observed after the tender offer has been completed or withdrawn. As this paper aims to give potential investors an insight into what their chances are before they initiate a takeover process, it has been decided to leave this variable out of the regression.

#### 2.3.4. Premium

The bid premium is a controversial variable when deciding on its effect on the offer success rate. At first, one's intuition would immediately argue that a larger premium will most probably increase the likelihood of a takeover. Early on, Hoffmeister and Dyl (1981) were not able to find any significant relationship between the bid premium and deal success. They were contradicted by Walkling (1985) who found that increased bid premiums increase the probability of success. However, more recent publications by for example Branch and Yang (2003) were also not able to find any significant relationship between the bid premium and the success rate.

Despite these contradicting outcomes, it has been decided to add this factor to the research nonetheless. The premium will be defined as the bid price, divided by the share price four weeks prior to the announcement, minus 1.

#### **2.3.5.** Termination Fee

Another factor of influence is the presence of a so-called termination fee. A termination fee is a clause, which can be implemented during the negotiation process if agreed upon by both the acquirer and the target. The clause requires a payment from the acquirer to the target (or vice versa), depending which party failed to consummate the acquisition. A paper by Bates and Lemmon (2003) examined termination fee clauses in merger agreements between 1989 and 1998. They found that target termination fees benefit the target shareholders through higher deal completion rates and larger takeover premiums. On the acquirer side, they concluded that acquirer termination fees were higher if the costs of negotiations and deal cancellation were higher. Another paper by Officer (2003) found empirical evidence that deals with target termination fees involve significantly higher premiums and success rates than deals without these clauses.

#### 2.3.6. Cross-Border

It has not been possible to find any relevant papers on the influence that cross-border deals have on the chances of deal success. However, due to technological development and of course the vast globalization that has taken place over the past decades, cross-border mergers and acquisitions have become more common than scarce. Researchers have found that foreign buyers usually pay a higher premium when acquiring American companies, as compared to U.S. buyers (Inkpen, Sundaram, & Rockwood, 2000). Harris and Ravenscraft (1991) found that target shareholders of foreign buyers enjoyed higher shareholder returns than their counterparts from U.S. buyers. They suggested that this higher premium could be attributable to strong incentives for foreign buyers to expand operations into the U.S., which lead to more aggressive bidding. Given the importance of cross-border M&A in the literature, and the influence it has on the potential premium, it has been decided to take this factor it into account in this research.

#### 2.3.7. Payment Method

Another factor that comes to mind when trying to estimate the chance of a completed tender offer, is the method of payment that is applied. The first thing that needs to be discussed when talking about payment method, has to be the Pecking Order theory. Myers (1984) was the first person to argue that, due to adverse selection, firms prefer internal to external finance. Should a firm resort to outside funds, it would prefer debt over equity, due to the lower costs of information associated with debt. Thus, the Pecking Order theory was born. The next question that comes to mind is how this method of payment might affect the chances of deal success. One might argue that a stock payment for a target, could signal overvaluation of the bidder's

firm. In that case a target would prefer a cash payment. On the other hand, stock payment could allow the target to potentially benefit from future synergies. The existing research regarding this topic is controversial. Branch and Yang (2003) find that stock swaps have a significant negative impact on tender offer success. However, another paper by Baker et al. (2012) concludes that their cash payment dummy variable has a significant negative relationship with deal success.

#### 2.3.8. Strategic Fit

An increasingly important factor in deciding whether or not the outcome of a merger or acquisition can be deemed successful, is the strategic fit. The main thought is that a larger strategic fit enhances market power and productivity through economies of scale, and reduction of redundancies (Cartwright & Schoenberg, 2006). One could argue that this might make potential bidders more eager to consummate a deal. Opposing views have also been argued by numerous researchers. It has been found that not necessarily strategically similar companies, but deals in which the two parties complement each other are also value generating. The argument here is that through the interaction of complementary characteristics, value does not merely derive from cost savings, but also from growing turnover and market share (Helfat, 1997). No matter what the outcome or the general opinion regarding the strategic fit is, it has been decided to include this factor in this research as a control variable. The method as to how the strategic fit will be taken into account will be explained later on in this paper,

#### 2.3.9. Valuation

Walkling and Edmister (1985) found in their paper that a higher market to book value of a company, coincides with a lower share price premium. In case of overvaluation or a lot of growth value already taken into the target's share price, it could make sense that the premium might turn out to be lower than when a company is undervalued. Hence this target market price to book value could affect the success rate of the tender offer. Also, Dong et al. (2006) argue that targets might resist takeovers if they are undervalued, due to the fact that bidders will try to profit by offering less for a firm than its true value. This creates an incentive for the manager to fight hard to either block the offer or drive up the price. Which in turn results in a more hostile environment, potentially decreasing the chance of success (Dong, Hirshleifer, Richardson, & Teoh, 2006). Lastly, they argue that since overvaluation incentivizes target management to accept bids, it should also increase the probability of tender offer success.

#### **2.3.10.** Target performance

One can imagine that better performing firms could be more hesitant to accept potential takeover bids. They could either require a larger premium or shareholders might resist the takeover due to the fact that they are satisfied with the current owners. On the other hand, better performing firms tend to be more attractive takeover candidates. In order to take this effect into account, it has been decided to add some measurements of performance. A factor which has been applied often in recent literature is the Return on Assets (ROA) (Al-Matari, Al-Swidi, & Fadzil, 2014). The ROA can be calculated by dividing the net income over the total assets of a firm.

#### **2.4 Variables of Interest**

The dependent variable of success will also be subjected to certain variables of interest, which will be used to test the hypotheses proposed earlier in this paper. In the following part these variables will be discussed per hypothesis.

#### 2.4.1. Institutional Ownership

H1: More institutional ownership increases the chance of a successful tender offer.

In order to test the first hypothesis of this paper, the variable *institutional ownership* has to be defined. As per the paper by McConnell and Servaes (1990) this research will use the percentage of institutional ownership as a fraction of the total shares outstanding. Testing this variable on the success rate of tender offers, could allow making conclusions regarding the effects of institutional ownership in general. It could confirm earlier made statements by Karpoff (2001) arguing that increased shareholder activism, coincided with increasing institutional ownership. Furthermore, supposedly nowadays institutional shareholders increasingly engage in activism, and are more hostile towards the management team (Edmans & Holderness, 2016). This could affect the outcome of a tender offer.

#### 2.4.2. Number of Institutional Blockholders

H2: More institutional blockholders increases the chance of a successful tender offer.

The total number of Institutional Blockholders is another factor that can be used to measure potential effects of institutional ownership. In this paper, an entity or person who holds at least 5% of a firm's common equity is defined as a blockholder (Holderness C. , 2009). As seen earlier in the paper, blockholders tend to intervene more frequently and severely (Edmans & Holderness, 2016). Besides that, Brickley et al. (1988, 2994) explicitly find that institutional blockholders tend to oppose antitakeover propositions from management. Therefore, it seems relevant to factor in the effect of the number of blockholders on the outcome of a tender offer.

#### 2.4.3. Ownership Concentration

H3: More dispersed institutional ownership increases the chance of a successful tender offer.

The Herfindahl-Hirshman (HH) index will be used as a measure of ownership concentration within the institutional shareholder base. This index is equal to the sum of the squares of all the shareholdings of the target company. The higher this number, the more concentrated and less dispersed the shareholder base of the company is. This is relevant because it gives an indication as to how large the equity stakes of the target shareholders are. As mentioned before, large shareholders have the financial capabilities to monitor firms more intensively, as monitoring is considered rather costly (Shleifer & Vishny, 1986; Noe, 2002). Furthermore, the threat of *exit* is more substantial for larger shareholders (McCahery, Sautner, & Starks, 2016).

#### 2.4.4. Institutional Stability

#### H4: More stable institutional ownership increases the chance of a successful tender offer.

Lastly, as mentioned in the literature earlier in this paper, it is important to distinguish between stable and unstable investors. Due to different incentives these types of investors have, it seems likely that target firms with more stable institutional ownership will feel the weight of their influence more heavily. Stable investors focus more on monitoring and value creation in the long term (Chen, Harford, & Li, 2007). Besides this, long term shareholders intervene more frequently and intensively (McCahery, Sautner, & Starks, 2016), and are better capable of aligning shareholder interests with those of the management (Hartzell & Starks, 2003). Hence it would make sense to test the influence these stable investors have on the outcome of a tender offer. In order to analyse these effects on the deal success rate, the Institutional Ownership Persistence (IOP) measure will be used, as applied by Elyasiani and Jia (2008) in their research.

# 3. Data & Methodology

This section of the paper will give an insight into the data that has been collected to conduct this research, and the methods that have been applied to draw viable conclusions regarding the hypotheses. First, it will be explained how, and more importantly where the data has been drawn from. Later on, the Methodology will be discussed.

### 3.1. Deal Data

In order to draw conclusions regarding tender offers in the first place, the first step that was taken was the collection of deal data. Using the Thomson One Banker's SDC tool, it was possible to create a general database regarding numerous tender offers that have occurred over the years. The tender offer data points all had to meet the following criteria:

- Tender offers with a deal value of at least USD 10 million
- The tender offer had to either be completed or withdrawn
- The percentage of shares sought in the offer had to be at least 50.1 percent
- The target company has to be located in the United States
- The deals have occurred between 1986 and 2016

The SDC tool allows for most of the control variables to be collected. However, the data regarding institutional shareholder ownership had to be collected from a different source. Using the Wharton Research Data Services (WRDS) application, it was possible to gain access to the Thomson Reuters Institutional (13f) Holdings stock ownership database. This database allows for the collection of information regarding institutional stock ownership in US public companies. Lastly, target and acquirer firm financials were needed in order to control for certain effects in the regression. Compustat was used to collect this firm specific data.

Now that data from these three databases was collected, it was time to think about a way to match these datasets. The first problem was that the 13f information gave quarterly observations regarding the state of institutional ownership within target companies, at quarter end only. Given the fact that the tender offers took place throughout the year, it was impossible to pinpoint the institutional ownership at the exact time of the deal. In order to overcome this problem, and in order to remain constant throughout all sample points, it was decided to use the institutional ownership data, as of the end of the latest quarter previous to the moment the tender offer took place. To illustrate this: a deal that took place somewhere within Q3 2016, will use the institutional ownership data as of the end of Q2 2016. Now that is was possible to merge the two datasets based on a timing benchmark, it obviously was also needed to match

the target companies to their respective institutional ownership information. This was done using CUSIP codes, which were provided by both databases. Where one database applied 6-digit CUSIP codes, the other one used 8- or 9-digit CUSIP codes. After reformatting both datasets by generating identical, 6-digit CUSIPs, it was possible to merge the two based on CUSIP codes, quarter and year. Lastly, the data from Compustat had to be matched to this data as well. Since company fundamentals such a net income are only relevant when measured over the course of 12 months, it was decided to collect the data for this metric for every firm, every fiscal year end. This was then combined with the deal data by matching the latest completed fiscal year previous to the tender offer to the corresponding deal. To illustrate: financials of a target of a deal that took place somewhere in fiscal year 2016, are taken from the completed fiscal year 2015.

Further shedding was done by dropping deals that took place within the Financial, Real Estate and Utilities sectors. Given the different characteristics of companies active within these sectors, it would be hard to compare them with the remaining sample. For this same reason companies active in the public administration sector were excluded from this research as well. All in all, firms whose Standard Industrial Classification (SIC) codes started with the following two digits, were dropped from the sample: 40-49, 60-67, 90-99.

In the end, this led to a sample of 1,141 observations. Table 1 shows the number of deals per year, as well as the successes and failures. Table 4 is a legend in which the variables are explained. Table 3 shows the descriptive statistics of the continuous variables, and table 4 the dichotomous variables. In table 5 the correlation between the variables can be observed.

## Table 1. Success per year

This table shows the number of failed, successful and total tender offers that have occurred from 1986-2017. As can be seen, out of 1,141 tender offers, 90% were successfully completed, and 10% abandoned.

Year	Failure		Successful		Total Deals	(% of total)
1986	2	(20%)	8	(80%)	10	(1%)
1987	9	(16%)	49	(84%)	58	(5%)
1988	23	(29%)	55	(71%)	78	(7%)
1989	11	(18%)	50	(82%)	61	(5%)
1990	1	(6%)	17	(94%)	18	(2%)
1991	0	(0%)	8	(100%)	8	(1%)
1992	0	(0%)	4	(100%)	4	(0%)
1993	5	(25%)	15	(75%)	20	(2%)
1994	5	(25%)	15	(75%)	20	(2%)
1995	0	(0%)	45	(100%)	45	(4%)
1996	1	(4%)	27	(96%)	28	(2%)
1997	5	(7%)	68	(93%)	73	(6%)
1998	2	(3%)	59	(97%)	61	(5%)
1999	5	(6%)	81	(94%)	86	(8%)
2000	1	(1%)	75	(99%)	76	(7%)
2001	2	(5%)	36	(95%)	38	(3%)
2002	0	(0%)	18	(100%)	18	(2%)
2003	1	(3%)	31	(97%)	32	(3%)
2004	1	(6%)	17	(94%)	18	(2%)
2005	3	(21%)	11	(79%)	14	(1%)
2006	3	(14%)	18	(86%)	21	(2%)
2007	1	(3%)	39	(98%)	40	(4%)
2008	5	(13%)	34	(87%)	39	(3%)
2009	11	(27%)	30	(73%)	41	(4%)
2010	4	(9%)	40	(91%)	44	(4%)
2011	3	(8%)	34	(92%)	37	(3%)
2012	1	(3%)	37	(97%)	38	(3%)
2013	2	(7%)	26	(93%)	28	(2%)
2014	2	(7%)	26	(93%)	28	(2%)
2015	2	(6%)	31	(94%)	33	(3%)
2016	0	(0%)	23	(100%)	23	(2%)
2017	0	(0%)	3	(100%)	3	(0%)
Total	111	(10%)	1,030	(90%)	1,141	(100%)

VARIABLES	Definitions
success	Dummy variables for success, takes on value 1 in case of
	successful tender offer, 0 in case of withdrawal
attit	Dummy variables for deal attitude, takes on value 1 when
	tender offer is hostile, 0 if friendly
taterm	Dummy variable for target termination fee, takes on value 1 if
	the target has a termination fee in place
cross	Dummy variables for cross-border deal, takes on value 1 for
	cross-border, 0 for domestic deal
cash	Dummy variable for payment method, takes on value 1 if
	payment is done with 100% cash
roa	Target return on assets, equal to net income or loss, divided
	by total assets
mpbv	Target market-price-to-book value
premium	Premium offered over the share price four weeks prior to deal
	announcement
mc	Target market cap four weeks prior to deal announcement
instown	Institutional ownership, as a percentage of total shares
	outstanding
blockholders	Number of institutional investors that hold five percent of
	total equity or more
HH	Herfindahl-Hirschman index, a measurement for market
	concentration
IOP	Institutional ownership persistence measurement, indicator of
	the stability of the institutional ownership

Table 2. Variables Legend

## Table 3. Continuous variables

This table depicts the distribution of the continuous variables of this research.

Variable	Mean	Std. Dev.	Min	Max
roa_w	0.00	0.10	-0.22	0.15
mpbv_w	1.16	0.92	0.21	3.72
premium_w	0.50	0.29	0.06	1.02
lnmc	5.04	1.64	0.57	10.52
instown	0.46	0.27	0.00	1.31
blockholders	2.02	1.59	0.00	8.00
HH	0.17	0.18	0.02	1.00
IOP	0.14	0.08	0.00	0.41

#### Table 4. Binomial variables

This table shows the distribution of the dummy variables that have been included in this paper. As can be seen, a majority of 89% of tender offers were friendly, 65% had a target termination fee in place, 78% were hundred percent cash financed, 23% cross-border and

Friendly	Hostile	Total
1,017	124	1,141
89.1%	10.9%	100%
Term. Fee	No Term. Fee	Total
741	400	1,141
64.9%	35.1%	100%
Cash	Other	Total
888	253	1,141
77.8%	22.2%	100%
Cross-border	Domestic	Total
267	874	1,141
23.4%	76.6%	100%
Strategic Fit	Other	Total
749	392	1,141
65.6%	34.4%	100%

66% had a strategic fit.

#### **3.1.2.** Multicollinearity

As can be seen in the correlation table 5 below, there is some observed significant correlation between certain variables within the dataset. Because of this, it is important to check whether or not multicollinearity problems arise. In this paper, the variance inflator factors (VIFs) will be calculated in order to check whether problems are present in this model. In table 6, it is possible to observe the VIFs for all the respective variables. As one can see *instown* has a relatively large VIF. Besides these, but to a lesser extent, it is possible to observe a marginally large VIF for the *blockholders* and *lnmc* variables. Despite these observations, the VIF values all fall below 5, meaning that they still have explanatory value of well above 20%. Given that tolerance levels above 20% are perfectly acceptable, one cannot speak of multicollinearity problems in this research.

## Table 5. Correlation table

This table shows the correlation between the variables in the regression, with the \* indicating significance at a 5% critical level.

VARIABLES	success	infit	attit	taterm	cross	cash	roa_w	mpbv_w	premium_w	lnmc	instown	block- holders	HH	IOP
success	1.00													
infit	0.09*	1.00												
attit	-0.46*	0.02	1.00											
taterm	0.36*	0.07*	-0.36*	1.00										
cross	0.07*	0.13*	0.01	0.01	1.00									
cash	0.01	-0.04	-0.03	0.01	0.01	1.00								
roa_w	0.00	0.00	0.10*	0.02	0.05	0.00	1.00							
mpbv_w	0.11*	0.14*	-0.08*	0.18*	0.04	0.06	0.06*	1.00						
premium_w	-0.03	0.03	0.05	-0.07*	0.03	0.05	-0.15*	-0.13*	1.00					
lnmc	-0.08*	0.02	0.16*	0.07*	0.12*	-0.13*	0.22*	0.29*	-0.13*	1.00				
instown	0.00	0.00	0.04	0.13*	0.03	-0.02	0.12*	0.23*	-0.09*	0.59*	1.00			
blockholders	0.05	0.00	-0.07*	0.15*	0.01	0.04	-0.02	0.08*	-0.07*	0.21*	0.72*	1.00		
HH	-0.06	-0.04	-0.08*	-0.04	-0.04	0.04	-0.19*	-0.13*	0.03	-0.51*	-0.57*	-0.33*	1.00	
IOP	-0.05	-0.02	0.02	0.10*	-0.03	-0.01	0.00	0.20*	-0.08*	0.36*	0.63*	0.47*	-0.38*	1.00
							*	p<.05						

VARIABLES	VIF	1/VIF
instown	4.49	0.22
lnmc	2.45	0.41
blockholders	2.27	0.44
IOP	1.69	0.59
HH	1.66	0.60
mpbv_w	1.23	0.81
attit	1.22	0.82
taterm	1.2	0.83
roa_w	1.11	0.90
premium_w	1.07	0.94
cash	1.05	0.95
cross	1.04	0.96
Mean VIF	1.66	

Table 6. VIF values

#### 3.2 Methodology

The next part of the paper will give information about the methods that have been used to create certain variables, as well as the statistical methods that have been applied to generate results.

As mentioned earlier, *success* (failure) is measured by the completion (withdrawal) of a tender offer. This means that the dependent *success* factor has a binary outcome, 1 in case of a successful completion of the tender offer, and 0 if the tender offer did not go through. Due to the binary nature of this dependent variable, this research will apply a *probit* model. In the following part the independent variables will be discussed, after which the resulting regression will be shown.

#### **3.2.1. Dummy Variables**

The first dummy that needs to be discussed is the *attit* dummy. In case of a friendly takeover attempt, the dummy variable for *attit* will take on the value of 0, and vice versa for the hostile takeover attempt. The target termination fee (*taterm*) dummy will take on a value of 1 if the target has a termination fee in place, and 0 if this is not the case. The *cross* dummy takes on value 1 in case the acquirer's country of origin is not the United States. Likewise, it will take on 0 if the tender offer concerns a domestic deal. Furthermore, as mentioned earlier in the paper, a dummy variable for the strategic fit between two firms is generated. In order to test for this, the *infit* dummy variable takes on value 1 when the target and acquirer originate from the same industry. Lastly, a dummy variable was added to control for the payment method proposed in the tender offer. The *cash* dummy will take on value 1 if the proposed payment is done in cash only, and 0 in case of an alternative method.

#### 3.2.2. Continuous Variables

Now that the dummy variables have been defined, it is time to discuss the remainder of relevant variables. Starting with firm size, which is equal to the market cap (mc) of the target four weeks prior to the tender offer announcement. This controls for potential discrepancies regarding this metric around the announcement date of the deal. Furthermore, a factor will be added for firm performance. In this paper the target firm performance is measured by the so-called Return on Assets (roa), which is equal to the net income or loss, divided by the total assets. Both the net income and the total assets will be taken from the latest completed fiscal year, prior to the deal. The market price-to-book ratio (mpbv) will be used in this research to factor in the effects of potential over- or undervaluation. As with the market cap metric, the market cap four weeks prior to the announcement date will be used as a benchmark for the target firm's market value. Then again, the book value of assets will be equal to the book value of the latest completed fiscal year, prior to the deal.

#### 3.2.3. Variables of interest

At last, the variables regarding institutional ownership will be added to the equation. As mentioned before, all the information regarding institutional ownership is based on the state of the institutional ownership at the end of the quarter prior to the deal date. Firstly, the total institutional ownership which will be measured as a percentage of the total institutional ownership, divided by the total shares outstanding. This leads to the variable instown, depicting the percentage of total institutional ownership. Then there is the total amount of institutional *blockholders*, which is simply a whole number equal to the number of institutions that hold more than 5% of the target firm's equity. Then follows the Herfindahl-Hirshman (HH) index which, as explained, will be equal to the sum of all the squares of the separate ownership fractions. Logically, a larger HH number indicates a more concentrated shareholder base. Lastly, a factor is added which indicates the level of stability of the institutional shareholder base. This factor is equal to the Institutional Ownership Persistence (IOP) factor. This factor is defined as the mean ownership proportion standardized by standard deviation, over a sample period of three years as observed in the database (Elyasiani & Jia, 2008). Given the fact that three years (with four quarters each year) result in 12 observations on which to base the standard deviation on, there is a significant control for short term shocks in the stability. A larger *IOP* level indicates a more unstable institutional shareholder base.

#### 3.2.4. Outliers

Due to the fact that kurtosis and skewness have been observed in certain variables, it was decided to apply multiple methods to adjust for this. Winsorizing is a method developed by Charles P. Winsor which essentially censors the effect of outliers by setting outliers to a certain percentile. Starting with *roa*, due to a high level of kurtosis and skewness it was decided to winsorize the bottom and top 5 percent of the data, leading to a new variable *roa\_w*. The same was done with *premium* and the *mpbv* variable, leading to *premium\_w* and *mpbv\_w*. Lastly, in order to normalize the extremely high levels of kurtosis in the market cap, it was decided to generate the natural logarithm of the market cap. This led to the creation of *lnmc*. In table 7 the effects of these transformations are shown.

#### Table 7. Variable transformations

In this table the levels of skewness and kurtosis before and after the respective transformations can be observed

	Before tran	sformation	After transformation			
VARIABLES	Skewness	Kurtosis	Skewness	Kurtosis		
roa	-1.82	6.07	-0.92	3.04		
premium	14.11	352.45	0.39	2.16		
mpbv	4.01	44.97	0.81	2.49		
mc	11.85	243.83	0.17	2.56		

#### 3.2.5. Regression

The regression that can be created in order to test these variables on the possibility of deal success is as follows:

$$\begin{aligned} Success &= \beta_0 + \beta_1 * infit + \beta_2 * attit + \beta_3 * taterm + \beta_4 * cross + \beta_5 * cash + \beta_6 \\ &* roa_w + \beta_7 * mpbv_w + \beta_8 * premium_w + \beta_9 * lnmc + \beta_{10} * instown \\ &+ \beta_{11} * blockholders + \beta_{12} * HH + \beta_{13} * IOP + \varepsilon \end{aligned}$$

Besides from running the regression simply once, it has been decided to also control these variables for time- and industry fixed effects. This means that the regression will be run once with a dummy for every year and once more with dummy variables that differentiate between the industries. At last the regression will also be run using both year and industry fixed effects simultaneously. This could be important because it might give information regarding certain findings which are year- or industry specific. Also, it might give information regarding industry trends concerning success. This could improve the significance of the variables and the strength of the regression.

# 4. Results

Now that all necessities have been defined and collected it is possible to regress the variables against the dependent variables of deal success. In table 8 the results can be observed and consequently the results will be discussed into deep. As can be seen, the regression has been run with year- and industry fixed effects in order control for the effects they have on the dependent variable. Furthermore, it was concluded that there is an absence of homoscedasticity within the variance of the regression. In order to adjust for this, heteroscedasticity-consistent (i.e. robust) standard errors have been added to the model. This lead to a model with a pseudo R-squared of 0.439, in a scenario in which all variables of interest have been added. In the following part of the paper, the control variables are discussed first, after which the variables of interest will be looked into.

## Table 8.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	success	success	success	success	success	success
infit	0.234	0.232	0.236*	0.228	0.239*	0.221
	(0.142)	(0.142)	(0.142)	(0.144)	(0.143)	(0.145)
attit	-1.666***	-1.663***	-1.666***	-1.650***	-1.643***	-1.609***
	(0.188)	(0.188)	(0.188)	(0.188)	(0.190)	(0.190)
taterm	1.130***	1.132***	1.129***	1.134***	1.138***	1.167***
	(0.168)	(0.167)	(0.168)	(0.168)	(0.169)	(0.165)
cross	0.401**	0.402**	0.404**	0.410**	0.369*	0.376**
	(0.192)	(0.192)	(0.191)	(0.188)	(0.192)	(0.186)
cash	0.157	0.155	0.160	0.160	0.152	0.165
	(0.166)	(0.166)	(0.166)	(0.167)	(0.166)	(0.166)
roa_w	-0.607	-0.611	-0.617	-0.595	-0.635	-0.724
	(0.803)	(0.800)	(0.803)	(0.799)	(0.813)	(0.805)
mpbv_w	0.215**	0.214**	0.213**	0.230**	0.233**	0.264**
	(0.100)	(0.100)	(0.100)	(0.101)	(0.101)	(0.106)
premium w	0.336	0.337	0.328	0.315	0.356	0.313
	(0.252)	(0.252)	(0.250)	(0.254)	(0.249)	(0.246)
lnmc	-0.046	-0.048	-0.044	-0.107*	-0.017	-0.127**
	(0.048)	(0.058)	(0.049)	(0.056)	(0.052)	(0.063)
instown		0.026				0.492
		(0.309)				(0.507)
blockholders			-0.016			-0.046
			(0.043)			(0.063)
HH			()	-0.877**		-1.200***
				(0.412)		(0.462)
IOP					-2.141**	-3.139***
					(0.974)	(1.116)
Constant	1.085*	1.086*	1.092*	1.596**	1.125*	1.909***
	(0.625)	(0.628)	(0.626)	(0.662)	(0.633)	(0.671)
	(000-0)	(***=*)	(000-0)	(****=)	(	(0000-)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						
Observations	1,034	1,032	1,034	1,034	1,033	1,032
chi2	290.8	299.3	292.2	300.7	279.0	298.2
р	0	0	0	0	0	0
r2 p	0.426	0.426	0.426	0.429	0.431	0.439

Probit model with robust standard errors, adjusted for year and industry fixed effects. In the results section, model (6) will be discussed into deep

Robust standard errors in parentheses

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

#### **4.1 Control variables**

The first variable that can be observed in table 7 is the industry fit between the target and acquiring firm (*infit*). As can be seen in the table, there is a relatively large increase in the chance of a successful tender offer if the two firms hail from the same industry. This could indicate that complementary benefits of combining two companies within the same industry make a merger more mutually attractive (Cartwright & Schoenberg, 2006). This could increase the likelihood of a successful tender offer. However, the variable is marginally significant in some of the regressions, and becomes insignificant in the last one.

What immediately becomes clear is that the attitude of the deal has a substantial negative and significant influence on the outcome of a tender offer. A hostile tender offer decreases the probability of success of a tender offer with more than 1.6. This outcome is in line with previous research, which states that the deal attitude is the single most reliable predictor when looking at success (Baker & Savasoglu, 2002). Even throughout all six regressions, the effect remains persistently large and significant.

The next effect that can be observed is the termination fee. As one can observe, the presence of a termination fee for the target significantly increases the chance of success. The existence of a termination fee for the target during a tender offer process, increases the success with around 1.2. The factor remains significant, constantly throughout the six regressions. Logically, and in line with previous research, a termination fee increases deal success because a termination fee creates an incentive for the target to accept the offer (Officer, 2003).

A more surprising outcome of this research is that cross-border tender offers are significantly more likely to be completed than US domestic deals. This might be attributable to the fact that foreign buyers are eager to expand into the US, which leads to more persistence and aggressive bidding (Harris & Ravenscraft, 1991). The magnitude of this effect is also rather substantial, with an increase of probability with almost 0.4. Its significance remains stable throughout the six regressions

Then let's have a look at the dummy variable *cash*, indicating a pure cash payment method. As can be seen, the dummy for cash payments has a positive effect on the outcome of a deal. Despite the fact that this contradicts Baker et al. (2012), it is in line with other research that finds that stock swaps have a significant negative impact on tender offer success (Branch & Yang, 2003). However, the effect is not significant throughout the model.

Consequently, it is time to have a look at the performance indicator; *roa\_w*. As can be seen, the return on assets seemingly has a negative effect on the outcome of a tender offer. As said in the literature review, one could argue that better performing firms are not eager to be taken over. The effect however, is substantially insignificant, making it hard to draw conclusions regarding this.

The  $mpbv_w$  variable affects the deal outcome positively and significantly throughout the regressions. This confirms the theory proposed by Dong et al. (2006) that undervalued companies could more often be the target of bidders who seek to underpay, which could again lead to frictions decreasing the chance of success. It also underpins their theory that in case of overvaluation, the management team is incentivized to accept tender offers.

The premium has a positive effect on the outcome of a tender offer. Although intuitively this might make sense, the effect is not significant for the sample used in this research. This is also in line with what has been discussed in previous papers. Hoffmeister and Yill (1981) weren't able to find any significant relationship between the premium and success, and this was later reaffirmed by Branch and Yang (2003).

The natural logarithm of the target's market cap, *lnmc*, has a negative influence on the deal success. This is in line with the earlier research which states that the negative relationship between firm size and takeover success can be attributed to the fact that target firms tend to be smaller in size than the acquirers. This suggests a negative relationship between target firm size and takeover success (Hoffmeister & Dyl, 1981; Hasbrouck, 1985). The measured effect is marginally significant throughout the regressions, and most significant in the latest model (6).

#### 4.2 Variables of interest

Now that the results regarding the control variables have been discussed, it is time to move on to the variables that are of importance for this research specifically. In this section the results regarding the variables of interest will be shown and whether the hypotheses will be accepted or not.

#### H1: More institutional ownership increases the chance of a successful tender offer.

The first variable observed is the percentage of institutional ownership. As argued, it can be seen that the larger the number of shares owned by institutions, the larger the likelihood of a successful tender offer. 100% institutional ownership, affects the deal success with a factor of almost 0.5. It was argued that more institutional ownership leads to more shareholder

activism (Karpoff, 2001; Edmans & Holderness, 2016). The effect however is not significant, and thus it is not possible to accept nor reject this hypothesis.

#### H2: More institutional blockholders increases the chance of a successful tender offer.

The following variable is the number of institutional blockholders that hold more than 5% of the shares outstanding. The variable has a negative influence on the tender offer outcome. Given that blockholders tend to intervene more frequently and severely (Edmans & Holderness, 2016), this effect seems rather unexpected. As can be seen however, the magnitude of this factor is small, and its significance is not even close to the 10% level.

#### H3: More dispersed institutional ownership increases the chance of a successful tender offer.

Then, in order to test the third hypothesis, the Herfindahl-Hirschman ratio will be discussed. Based on the model output it is possible to conclude that a larger *HH* ratio leads to a smaller chance of deal success. A larger HH is an indicator of a more concentrated shareholders base. Hence, the negative relation between *HH* and *success* means that if the shareholder base of the target firm is more dispersed, the chance of a takeover increases. Due to the fact that this effect is significant, it is possible to accept the third hypothesis.

#### H4: More stable institutional ownership increases the chance of a successful tender offer.

Lastly, there is the stability of the institutional shareholder ownership, necessary for the fourth hypothesis. The *IOP* variable has a significant negative influence on the deal outcome. This is an interesting finding, because it indicates that firms with less stable institutional shareholders are less likely to be successfully taken over. In other words, long term, stable institutional investors increase the chances of success, and hence the fourth hypothesis can be accepted.

# **5.** Conclusion

This paper tries to investigate how institutional investors affect the outcome of tender offers. Using a sample of 1,141 deals and institutional ownership data drafted from the WRDS research database, several hypotheses are tested in order to answer the following research question:

#### What is the influence of institutional shareholders on the success rate of a tender offer?

The first hypothesis tests whether or not institutional ownership in general has any influence on the success rate of a tender offer. Current theories argue that institutional shareholders act differently than private shareholders, which could potentially affect the deal outcome of tender offers. Using the shares in hands of institutions as a percentage of the total shares outstanding, this hypothesis has been tested. No significant relationship was found between the institutional ownership and the success rate of tender offers, making it impossible to draw conclusions regarding this hypothesis. Intuitively this could be because institutional ownership might be too much of a broad concept. Different kinds of institutional shareholders have different interests and incentives. Perhaps more information is needed about the characteristics of these institutional shareholders.

This brings the reader to the second hypothesis, which states that more blockholders in the institutional shareholder base, increase the chance of success of a tender offer. Blockholders are shareholders that hold at least 5 percent of the shares outstanding. Large shareholders might affect tender offer outcomes because they have a stronger voice and generally intervene more intensively than smaller ones. They have a stronger voice because a potential exit is more threatening to a firm if it concerns a large shareholder. Also, they are more active shareholders due to the fact that monitoring is costly, making it less accessible to smaller institutions. Furthermore, it is found that institutional blockholders more often oppose antitakeover provisions proposed by management. Despite these theories, this paper could not find any significant relationship between the number of blockholders and the success rate. Again, besides the ownership size, it seems that more specifics are needed to draw conclusions regarding institutional shareholders.

Consequently the third hypothesis is introduced, which states that a more dispersed shareholder base, increases the chance of a successful tender offer. The results obtained in this paper indicate that a more concentrated shareholders base, decrease the chance of success. It is therefore possible to accept the third hypothesis. This can be explained by the fact that institutions are limited as to how large their shareholdings within multiple different firms can be. They might face political or regulatory constraints, forcing them to diversify and disperse their holdings. Shareholders that do manage to own significant equity stakes might encounter conflicts of interests. They often have existing and profitable business ties with their portfolio companies, which leads them to vote with management instead of opposing them, decreasing monitoring capabilities.

Lastly, it is time to discuss what can be concluded based on hypothesis four. The last hypothesis tests the effect of institutional shareholder stability on deal success. The results show that more stable institutional ownership increases the likelihood of a successful tender offer. Research already stressed the importance of stable, long term investors in a company's shareholder base. This is because stable investors intervene more intensively and frequently, and because their focus lies on long-term value creation. The fact that more stability increases the deal success rate indicates that this long-term focus of monitoring and intervening, actually leads to more tender offers being completed.

All in all the main finding of this paper is that it is not possible to make any conclusions regarding the size of total institutional shareholder ownership or blockholders in general. More information about their characteristics is needed. Furthermore, it seems critical to be able to diversify blockholders in terms of their incentives. This paper shows that a more dispersed, stable institutional shareholder base, has a significant positive influence on the success rate of tender offers. This is something that investors can take into account before undertaking the potentially long and painful journey of a tender offer. But also share- and stakeholders of target companies can use this information to estimate the likelihood of firms being taken over.

# 6. Limitations and Suggestions

One of the main limitations of this research the absence of information regarding insider (institutional) ownership. As argued in this paper, blockholders who hold significant ownership in a firm, might have a variety of incentives and interests besides the maximization of the return on their investment. Institutions with alternative interests in target companies, could have senior officers in place that affect the outcome of tender offers. Besides this, managerial share ownership in general would contribute largely to this paper. Managers who also act as shareholders can use their influence to potentially change the outcome of tender offers.

Furthermore, the classification of the type of institutional shareholder would be an interesting factor to take into account in future research. Besides from monetary incentives to interfere in tender offers, other external factors could be of interest too. It is known that banks and pension funds behave differently than hedge funds and mutual funds. After all, earlier research has shown that mutual funds more often oppose management than financial institutions such as banks. Being able to distinguish between these types of institutions within the institutional shareholder base, could potentially explain the fact that institutional ownership size by itself has no explanatory value in this research.

On a more practical note, it should be acknowledged that this paper focuses purely on tender offers on targets located in the US. This has to do with the fact that the database that was used to collect institutional shareholder information, derives its data solely from 13f releases. In order to draw conclusions around the theories discussed in this paper, it would be necessary to test them for other geographies as well.

I suggest future researchers increase their focus on the characteristics and classifications of the respective institutional shareholders. It is essential to be able to diversify between the specifics of the types of blockholders. Insider owners, activist blockholders and institutions with different horizons, all affect the corporate governance structures of a company in a different way. This paper has shown that too much concentration of ownership is not beneficial for the outcome of deal success. Contrary to this, there are the stable investors who positively affect the outcome of a tender offer. However, there is still much ground to cover in terms of the effects of activism on deal success. And an increased emphasis is needed on the motives behind this activism.

# 7. Appendix

VARIABLES	Definitions
success	Dummy variables for success, takes on value 1 in case of successful tender offer. 0 in case of withdrawal
attit	Dummy variables for deal attitude, takes on value 1 when tender of is hostile, 0 if friendly
taterm	Dummy variable for target termination fee, takes on value 1 if the target has a termination fee in place
cross	Dummy variables for cross-border deal, takes on value 1 for cross-border, 0 for domestic deal
cash	Dummy variable for payment method, takes on value 1 if payment is done with 100% cash
roa	Target return on assets, equal to net income or loss, divided by total assets
mpbv	Target market-price-to-book value, market cap four weeks prior to deal announcement
premium	Premium offered over the share price four weeks prior to deal announcement
mc	Target market cap four weeks prior to deal announcement
instown	Institutional ownership, as a percentage of total shares outstanding
blockholders	Number of institutional investors that hold five percent of total equity or more
HH	Herfindahl-Hirschman index, a measurement for market concentration
IOP	Institutional ownership persistence measurement, indicator of the stability of the institutional ownership

Table 9. Variables legend

Industry	Failure		Success		Total Deals	(% of total)
Agriculture, Forestry and	0	(0%)	6	(100%)	6	(1%)
Fishing						
Mining	8	(21%)	31	(79%)	39	(3%)
Construction	1	(13%)	7	(88%)	8	(1%)
Manufacturing	63	(9%)	616	(91%)	679	(60%)
Wholesale Trade	2	(6%)	31	(94%)	33	(3%)
Retail Trade	10	(10%)	88	(90%)	98	(9%)
Services	27	(10%)	251	(90%)	278	(24%)
Total	111	(10%)	1,030	(90%)	1,141	

Table 10. Success per industry

### Table 11.

Probit model with significant variables only. This model is the one with the highest r2\_p. It includes year and industry fixed effects, it has robust standard errors, and it only includes the variables that are deemed significant.

	(1)				
VARIABLES	success				
attit	-1.539***				
	(0.185)				
taterm	1.197***				
	(0.174)				
cross	0.460**				
	(0.190)				
mpbv w	0.281***				
	(0.101)				
lnmc	-0.157***				
	(0.052)				
HH	-1.684***				
	(0.334)				
IOP	-2.626***				
	(0.985)				
Constant	2.469***				
	(0.617)				
	· · · ·				
Year FE	Yes				
Industry FE	Yes				
Observations	1,039				
chi2	288.5				
р	0				
r2_p	0.448				
Standard errors in parentheses					
*** p<0.01, ** p<	0.05, * p<0.1				
	· •				

# Table 12.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	success	success	success	success	success	success
infit	0.223*	0.219*	0.221*	0.222*	0.214	0.209
	(0.131)	(0.131)	(0.131)	(0.131)	(0.132)	(0.133)
attit	-1.248***	-1.255***	-1.260***	-1.239***	-1.271***	-1.258***
	(0.152)	(0.153)	(0.153)	(0.153)	(0.155)	(0.156)
taterm	0.957***	0.966***	0.970***	0.966***	1.008***	1.031***
	(0.142)	(0.143)	(0.143)	(0.143)	(0.146)	(0.149)
cross	0.376**	0.370**	0.380**	0.379**	0.342**	0.340**
	(0.167)	(0.167)	(0.167)	(0.167)	(0.170)	(0.171)
cash	-0.052	-0.047	-0.042	-0.056	-0.046	-0.051
	(0.153)	(0.153)	(0.153)	(0.153)	(0.155)	(0.155)
roa_w	0.156	0.113	0.083	0.144	-0.241	-0.343
	(0.695)	(0.699)	(0.702)	(0.695)	(0.725)	(0.736)
mpbv_w	0.160*	0.165*	0.164*	0.168*	0.207**	0.228**
	(0.093)	(0.094)	(0.094)	(0.094)	(0.098)	(0.100)
premium_w	0.053	0.058	0.035	0.029	0.039	-0.003
	(0.220)	(0.221)	(0.221)	(0.221)	(0.223)	(0.228)
lnmc	-0.085**	-0.056	-0.078*	-0.122**	-0.039	-0.106*
	(0.043)	(0.052)	(0.044)	(0.052)	(0.046)	(0.061)
instown		-0.294				0.213
		(0.302)				(0.523)
blockholders			-0.037			-0.006
			(0.041)			(0.063)
HH				-0.574		-0.938**
				(0.440)		(0.463)
IOP					-3.164***	-3.866***
					(0.900)	(1.062)
Constant	1.227***	1.201***	1.258***	1.508***	1.412***	1.922***
	(0.298)	(0.299)	(0.301)	(0.371)	(0.309)	(0.395)
Year FE	No	No	No	No	No	No
Industry FE	No	No	No	No	No	No
Observations	1,141	1,139	1,141	1,141	1,140	1,139
chi2	233.2	234.0	234.1	234.9	245.6	250.5
p	0	0	0	0	0	0
r2_p	0.320	0.322	0.321	0.323	0.337	0.344

Probit model without year and industry fixed effects

# Table 13.

# Probit model with year fixed effects

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	success	success	success	success	success	success
infit	0.225	0.223	0.226	0.218	0.230	0.213
	(0.148)	(0.149)	(0.148)	(0.149)	(0.150)	(0.151)
attit	-1.603***	-1.601***	-1.603***	-1.587***	-1.581***	-1.549***
	(0.185)	(0.185)	(0.185)	(0.185)	(0.186)	(0.187)
taterm	1.101***	1.102***	1.102***	1.101***	1.110***	1.132***
	(0.174)	(0.174)	(0.174)	(0.174)	(0.175)	(0.178)
cross	0.419**	0.418**	0.423**	0.428**	0.381*	0.390**
	(0.195)	(0.195)	(0.195)	(0.195)	(0.196)	(0.199)
cash	0.166	0.164	0.169	0.170	0.159	0.176
	(0.179)	(0.179)	(0.179)	(0.179)	(0.179)	(0.180)
roa w	-0.527	-0.527	-0.539	-0.518	-0.554	-0.653
—	(0.856)	(0.858)	(0.858)	(0.856)	(0.865)	(0.882)
mpbv w	0.170	0.170	0.169	0.184	0.193	0.221*
1 _	(0.116)	(0.116)	(0.116)	(0.117)	(0.119)	(0.122)
premium w	0.300	0.302	0.292	0.271	0.321	0.265
· _	(0.269)	(0.269)	(0.270)	(0.270)	(0.271)	(0.276)
lnmc	-0.035	-0.033	-0.032	-0.091	-0.005	-0.113
	(0.051)	(0.063)	(0.051)	(0.063)	(0.053)	(0.076)
instown		-0.011	× ,		× ,	0.505
		(0.384)				(0.641)
blockholders		( )	-0.019			-0.047
			(0.050)			(0.076)
HH			( )	-0.811		-1.154**
				(0.529)		(0.572)
IOP					-2.287**	-3.289***
					(1.073)	(1.250)
Constant	1.565**	1.559**	1.567**	2.036***	1.603**	2.347***
	(0.631)	(0.632)	(0.630)	(0.710)	(0.634)	(0.727)
	~ /	~ /	~ /	· · · ·	× ,	
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	No	No	No	No	No	No
Observations	1,040	1,038	1,040	1,040	1,039	1,038
chi2	292.4	292.1	292.5	294.6	296.7	302.2
р	0	0	0	0	0	0
r2_p	0.414	0.414	0.414	0.417	0.420	0.428

# Table 14.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	success	success	success	success	success	success
infit	0.256*	0.256*	0.257*	0.253*	0.248*	0.239*
	(0.137)	(0.137)	(0.137)	(0.137)	(0.138)	(0.139)
attit	-1.315***	-1.321***	-1.325***	-1.306***	-1.332***	-1.317***
	(0.157)	(0.158)	(0.158)	(0.158)	(0.159)	(0.161)
taterm	0.984***	0.992***	0.994***	0.997***	1.029***	1.057***
	(0.145)	(0.145)	(0.146)	(0.146)	(0.149)	(0.151)
cross	0.362**	0.359**	0.365**	0.366**	0.333*	0.332*
	(0.168)	(0.169)	(0.169)	(0.168)	(0.172)	(0.172)
cash	-0.058	-0.052	-0.048	-0.063	-0.048	-0.055
	(0.156)	(0.156)	(0.156)	(0.156)	(0.158)	(0.158)
roa w	0.002	-0.040	-0.064	-0.008	-0.401	-0.483
-	(0.713)	(0.716)	(0.719)	(0.714)	(0.742)	(0.753)
mpbv w	0.208**	0.208**	0.209**	0.218**	0.249**	0.275***
	(0.099)	(0.099)	(0.099)	(0.099)	(0.103)	(0.105)
premium w	0.070	0.071	0.051	0.050	0.050	0.022
1 <u> </u>	(0.229)	(0.229)	(0.230)	(0.229)	(0.232)	(0.236)
lnmc	-0.096**	-0.066	-0.089**	-0.137**	-0.048	-0.112*
	(0.044)	(0.054)	(0.045)	(0.053)	(0.047)	(0.063)
instown	( )	-0.291		× ,		0.122
		(0.313)				(0.531)
blockholders		()	-0.034			0.002
			(0.042)			(0.064)
НН			()	-0 633		-0 991**
				(0.449)		(0.468)
IOP				((((()))))	-3.079***	-3.711***
					(0.922)	(1.077)
Constant	1 039***	1 024***	1 077***	1 339***	1 228***	1 724***
	(0.320)	(0.320)	(0.324)	(0.386)	(0.331)	(0.411)
	(0.020)	(0.020)	(0.02.)	(0.200)	(0.001)	(0)
Year FE	No	No	No	No	No	No
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,135	1,133	1,135	1,135	1,134	1,133
chi2	244.8	245.6	245.5	246.7	255.9	261.0
р	0	0	0	0	0	0
r2 p	0.337	0.338	0.338	0.339	0.352	0.359

# Probit model with industry fixed effects

# Table 15.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	success	success	success	success	success	success
infit	0.234	0.232	0.236	0.228	0.239	0.221
	(0.154)	(0.155)	(0.154)	(0.155)	(0.156)	(0.157)
attit	-1.666***	-1.663***	-1.666***	-1.650***	-1.643***	-1.609***
	(0.190)	(0.190)	(0.190)	(0.191)	(0.191)	(0.192)
taterm	1.130***	1.132***	1.129***	1.134***	1.138***	1.167***
	(0.178)	(0.178)	(0.178)	(0.178)	(0.179)	(0.183)
cross	0.401**	0.402**	0.404**	0.410**	0.369*	0.376*
	(0.196)	(0.196)	(0.197)	(0.196)	(0.198)	(0.200)
cash	0.157	0.155	0.160	0.160	0.152	0.165
	(0.182)	(0.182)	(0.182)	(0.183)	(0.182)	(0.183)
roa_w	-0.607	-0.611	-0.617	-0.595	-0.635	-0.724
_	(0.876)	(0.877)	(0.877)	(0.876)	(0.882)	(0.899)
mpbv_w	0.215*	0.214*	0.213*	0.230*	0.233*	0.264**
	(0.122)	(0.122)	(0.122)	(0.123)	(0.124)	(0.128)
premium w	0.336	0.337	0.328	0.315	0.356	0.313
	(0.277)	(0.277)	(0.278)	(0.278)	(0.279)	(0.284)
lnmc	-0.046	-0.048	-0.044	-0.107*	-0.017	-0.127*
	(0.051)	(0.064)	(0.052)	(0.064)	(0.054)	(0.077)
instown		0.026	· · · ·			0.492
		(0.396)				(0.653)
blockholders		× ,	-0.016			-0.046
			(0.051)			(0.077)
HH				-0.877		-1.200**
				(0.535)		(0.578)
IOP				<b>``</b>	-2.141**	-3.139**
					(1.091)	(1.266)
Constant	1.085	1.086	1.092	1.596**	1.125*	1.909**
	(0.676)	(0.678)	(0.676)	(0.752)	(0.680)	(0.772)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1.024	1.022	1.024	1.024	1 022	1.022
Ubservations	1,034	1,032	1,034	1,034	1,033	1,032
cm12	300.1	299.9	300.2	302.7	303.8	309.5
p v2 v	0 426	0 426	0 426	U 0.420	U 0.421	0 420
r∠_p	0.426	0.426	0.426	0.429	0.431	0.439

Probit model with year and industry fixed effects

# Table 16.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	success	success	success	success	success	success
infit	0.223*	0.219*	0.221*	0.222*	0.214*	0.209*
	(0.123)	(0.123)	(0.123)	(0.124)	(0.125)	(0.126)
attit	-1.248***	-1.255***	-1.260***	-1.239***	-1.271***	-1.258***
	(0.148)	(0.149)	(0.150)	(0.148)	(0.152)	(0.153)
taterm	0.957***	0.966***	0.970***	0.966***	1.008***	1.031***
	(0.140)	(0.142)	(0.141)	(0.141)	(0.144)	(0.146)
cross	0.376**	0.370**	0.380**	0.379**	0.342*	0.340*
	(0.183)	(0.183)	(0.181)	(0.183)	(0.184)	(0.181)
cash	-0.052	-0.047	-0.042	-0.056	-0.046	-0.051
	(0.149)	(0.150)	(0.150)	(0.148)	(0.152)	(0.150)
roa_w	0.156	0.113	0.083	0.144	-0.241	-0.343
	(0.676)	(0.681)	(0.686)	(0.671)	(0.710)	(0.699)
mpbv_w	0.160*	0.165*	0.164*	0.168*	0.207**	0.228**
	(0.086)	(0.086)	(0.086)	(0.087)	(0.087)	(0.089)
premium w	0.053	0.058	0.035	0.029	0.039	-0.003
	(0.215)	(0.215)	(0.216)	(0.216)	(0.216)	(0.220)
lnmc	-0.085**	-0.056	-0.078*	-0.122**	-0.039	-0.106*
	(0.043)	(0.054)	(0.045)	(0.048)	(0.049)	(0.055)
instown		-0.294		× ,	~ /	0.213
		(0.276)				(0.436)
blockholders			-0.037			-0.006
			(0.039)			(0.057)
HH				-0.574		-0.938**
				(0.384)		(0.413)
IOP				()	-3.164***	-3.866***
-					(0.876)	(0.951)
Constant	1.227***	1.201***	1.258***	1.508***	1.412***	1.922***
	(0.281)	(0.282)	(0.281)	(0.325)	(0.284)	(0.332)
	(*****)	(**=*=)	(**=**)	(***=*)	(**=**)	(*****=)
Year FE	No	No	No	No	No	No
Industry FE	No	No	No	No	No	No
2						
Observations	1,141	1,139	1,141	1,141	1,140	1,139
chi2	172.9	173.4	174.4	171.5	181.5	196.0
р	0	0	0	0	0	0
r2_p	0.320	0.322	0.321	0.323	0.337	0.344

# Probit model with robust standard errors

# Table 17.

Probit model with year and industry fixed effects shown. As can be seen, model (2) has the highest r2\_p, because it includes the significant variables only.

	(1)	(2)	(3)
VARIABLES	success	success	success
infit			0.221
			(0.145)
attit	-1.235***	-1.539***	-1.617***
	(0.153)	(0.185)	(0.190)
taterm	1.052***	1.197***	1.159***
	(0.147)	(0.174)	(0.165)
cross	$0.3/8^{**}$	0.460**	$0.3/3^{**}$
aash	(0.168)	(0.190)	(0.185)
cash			0.164
roo W			(0.107)
10a_w			(0.792)
mnhy w	0 241**	0 281***	(0.752) 0.272**
mpov_w	(0.097)	(0.101)	(0.125)
premium w	(0.097)	(0.101)	0.313
premium_w			(0.247)
lnmc	-0.099*	-0.157***	-0.126**
	(0.051)	(0.052)	(0.064)
instown	× ,	~ /	0.523
			(0.505)
blockholders			-0.051
			(0.063)
HH	-1.001**	-1.684***	-1.172**
	(0.442)	(0.334)	(0.460)
IOP	-3.608***	-2.626***	-3.057***
	(0.912)	(0.985)	(1.110)
1987.dealyear		-0.109	-0.088
1000 1 1		(0.584)	(0.603)
1988.dealyear		-0./53	-0.868
1000 dealwaan		(0.552)	(0.568)
1989.dealyear		-0.488	-0.340
1000 doolwoor		(0.380)	(0.393)
1990.ucalycal		(0.082)	(0.751)
1991o.dealyear		-	-
10020 dealvear		_	_
17720.ucarytai		-	-
1993.dealyear		-0.695	-0.785
		(0.636)	(0.652)
1994.dealyear		-1.221*	-1.410**
		(0.664)	(0.678)

1995o.dealyear	-	-	
1996.dealyear	0.690	0.720	
	(0.697)	(0.716)	
1997.dealyear	-0.242	-0.252	
	(0.629)	(0.652)	
1998.dealyear	0.224	0.076	
	(0.608)	(0.635)	
1999.dealyear	-0.580	-0.650	
	(0.614)	(0.633)	
2000.dealyear	0.409	0.265	
	(0.656)	(0.671)	
2001.dealyear	-0.352	-0.463	
	(0.714)	(0.714)	
2002o.dealyear	-	-	
2003.dealyear	0.644	0.352	
	(0.772)	(0.770)	
2004.dealyear	-0.428	-0.486	
<b>2</b> 00 <b>5</b> 1 1	(0.737)	(0.764)	
2005.dealyear	-1.919***	-1.941***	
	(0.666)	(0.677)	
2006.dealyear	-0.813	-0.911	
	(0.719)	(0.727)	
2007.dealyear	-0.180	-0.154	
• • • • • • • •	(0.751)	(0.771)	
2008.dealyear	-0.831	-0.874	
	(0.617)	(0.636)	
2009.dealyear	-1.351**	-1.428**	
0010 1 1	(0.580)	(0.615)	
2010.dealyear	-0.644	-0.770	
0011 1 1	(0.626)	(0.636)	
2011.dealyear	-0.154	-0.246	
0010 1 1	(0.635)	(0.635)	
2012.dealyear	0.243	0.158	
2012 1 1	(0.667)	(0.680)	
2013.dealyear	-0.851	-0.882	
2014 1 1	(0./06)	(0./11)	
2014.dealyear	-0.279	-0.283	
2015 1 1	(0.680)	(0.691)	
2015.dealyear	-0.020	-0.121	
2016o.dealyear	(0.647) -	(0.669) -	
2017o.dealyear	-	-	
Mining	-0 028	-0.038	
141111112	(0.020)	(0.030)	
Construction	(0.272) 0.100	0.200j	
Construction	(0.170)	(0.510)	
	(0.313)	(0.337)	

Manufacturing		0.247	0.220
Wholesale trade		(0.165) -0.124	(0.165) -0.023
<b>N</b> . <b>1</b>		(0.438)	(0.430)
Retail trade		0.594** (0.248)	0.617**
Services		-	-
Constant	2.001***	2.469***	1.883***
	(0.313)	(0.617)	(0.669)
Observations	1,140	1,039	1,032
chi2	247.4	288.5	303.4
р	0	0	0
r2_p	0.340	0.448	0.438

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