ERASMUS UNIVERSITEIT ROTTERDAM

CEO characteristics: the determinants of a serial acquisition strategy

Real options thinking in M&A

Master's Thesis Financial Economics

Author: A. Rotering
Student number: 605559
Supervisor: Dr. J. Kil
Date: April 28th, 2023
Second reader: TBD

Abstract

This thesis investigates the relation between CEO characteristics and their influence on the acquiring strategy that a manager executes from a real options thinking perspective. In order to identify which characteristics lead to multiple acquisitions, this paper derives hypotheses from three behavioural categories: preferences (1), market timing (2) and experience (3). The categories consider the status (public or private) of the initial target (1), the deal market intensity (2), and the CEO´s prior experience and tenure (3). To fit the binary nature of the dependent variable, whether someone is a serial acquirer, the hypotheses are tested in a probit regression model. The sample consists of 2,285 CEO-firm combinations of which 1,493 identify as serial acquirers and 792 as single acquirers. These US bidders account for 9,622 public-to-public and private-to-public acquisitions. From this dataset, the research finds evidence that the status of the target has a significant influence on the likelihood of a CEO becoming a serial acquirer. If a target is privately held, this likelihood increases, suggesting that the advantages of information asymmetry surrounding those targets is preferred over the advantages of public targets. Furthermore, the CEO tenure is found to have a significant effect. The U-shaped relationship indicates that CEOs in the early stage of their tenure are more likely to initiate a multiple acquisition sequence, which also applies to their highly seasoned peers. The higher risk-seeking behaviour of the first group and the power of the second group could explain this relationship. These results are robust to alternative definitions of acquisitions and serial acquirers, and to treatment for endogeneity.

Keywords: Behavioural Finance, Mergers and Acquisitions, Real Options Thinking, Buy-and-Build

Acknowledgements

Table of contents

Chapter I: Introduction

The decision making process of corporate takeovers contains a high level of uncertainty. Many factors are involved in the process, such as changing market conditions (Smit & Lovallo, 2014), which make it hard to estimate the value of future growth opportunities. One of these factors that receives great attention in economic literature is the human factor and its related biases. When a CEO is driven by overconfidence or empire building, takeovers are not necessarily in the best interest of shareholders. Malmendier and Tate (2005a) find that overconfident CEOs overestimate the return of investment projects, especially when corporate governance allows for it and cash flows are abundant. The opportunistic estimations lead to distortions of corporate investment and are most likely to occur in hot deal markets (Rhodes–Kropf et al., 2005). Chidambaran et al. (2009) compared the intensity of merger markets, or the merger waves, to the acquisition premiums and found that the larger premiums in hot deal markets led to lower returns for shareholders. In addition to overconfidence, herding behaviour increases the urge to act upon the decreasing set of investment opportunities in hot deal markets which amplifies the investment distortion (Smit & Lovallo, 2014). Contrarily, during economic downturns and a less intensive merger market, conservatism increases, and firms fail to see opportunities due to loss aversion (Smit & Moraitis, 2015).

One way of dealing with uncertainty in combination with executive biases is through real options thinking. Smit and Trigeorgis (2004) describe this perspective on investment opportunities as a dynamic valuation method that allows for staging or deferring an investment. Taking this into consideration, investments are not seen as now or never deals in which high uncertainty leads to high costs. By approaching uncertainty as a set of real options, a single investment is not only valuable based on its standalone value, but also on the future investment opportunities it could create. The optionality of these opportunities decreases downward risk and increases upward potential. A practical example of this approach is the buy-and-build strategy. A company that targets to consolidate a new industry could acquire a company with high competencies, the 'platform', which creates a pathway for further follow-on acquisitions. While the value of the platform is not captured by its standalone value, but also by the potential value of the synergies created through follow-on acquisitions, this should be included in the valuation. Consequently, an executive could justify a higher premium paid (Smit & Moraitis, 2010).

Different views exist whether staging an investment increases the accuracy of valuations or not. Researchers have analysed the performance of serial deals and most

remarkable was that cumulative aggregate returns declined from deal to deal at the firm (e.g., Guest et al., 2004) and CEO level (e.g., Aktas et al., 2007). Although the majority of papers trying to explain this phenomenon attribute it to hubris, Aktas et al. (2009) state that learning provides a better explanation. According to this paper, CEO hubris would make sense if the deals showed a high probability of negative CARs. However, the returns found in the papers are either positive or insignificant. Learning behaviour from deal to deal leads to more accurate forecasting and encourages CEOs to bid more aggressively and to increase acquisition prices. A third explanation for engaging in serial acquisitions is related to the skill level of managers, with superior skills leading to positive CARs (Croci & Petmezas, 2009).

The latter is most consistent with real options thinking theory, while CEOs with superior managerial skills should be able to value the options in a serial acquisition framework. Which specific skills initially determine whether a CEO becomes a serial acquirer and consequently exhibits real options thinking has to date received little attention in economic literature. To bridge this gap, this paper extends the literature on CEO behaviour during acquisitions and contributes to debiasing this behaviour to support actual decision-making processes. Hence, this paper will construct a model of managerial characteristics based on the following research question:

Which CEO characteristics determine whether a CEO initiates a serial acquisition strategy?

To answer this question, this paper applies a probit regression methodology to deal data from 2000 till 2020. The sample of deals consists of US acquirers and US and Western European targets. From this sample, the number of deals that are made by unique CEO-firm combinations determines whether a CEO qualifies as a single or a serial acquirer. The research finds that the public status of the target company and the tenure of the CEO act as important determinants for the initiation of a serial acquisition strategy. More specifically, these results indicate that CEOs prefer private over public targets as platform investments. This preference suggests that the decision makers value heterogenous information over the availability of financial resources. For the Tenure variable, the relation is negative for short tenure, but positive for long tenure. Hence, shortly tenured CEOs and highly seasoned CEOs are most likely to initiate a multiple acquisition strategy. An explanation can be found in the higher preference for risk of new managers, and the increasing power in decision-making processes of old managers. While the Public Status variable is endogenously determined, a treatment 'biprobit' model is applied. The results remain significant, which also applies to the

results after robustness checks for different definitions of serial acquirers and acquisitions. These findings contribute to a broader framework of real options thinking theory that addresses CEO behaviour and provides guidance in valuation practices.

The remainder of this paper consists of the following elements. Chapter II provides an overview of the relevant literature related to CEO characteristics, M&A and real options thinking theory. In the same chapter, the literature acts as input for the hypotheses which form the building blocks to the answer the research question. In the next chapter, Data & Methodology, a description of the data shows how the sample size is restricted. Additionally, a description of the methodology explains how the probit model is applied to the data. This chapter ends with an overview of the sample's summary statistics. Thereafter, Chapter IV follows including the results of the tests. From these results, a conclusion is drafted in Chapter V and the remainder of that chapter discusses the implications for further research. References can be found in Chapter VI and are immediately followed by the Appendices.

Chapter II: Literature Review

To comprehensively answer the research question, this paper categorizes CEO characteristics in three ways: CEO preferences, market timing and experience.

2.1 Preferences

The category of CEO preferences relates to the pool of companies that an acquiring manager is most likely to target. In a real options context, this category provides insights in which companies CEOs consider to be the best platforms for a buy-and-build strategy. This results in a clear distinction between the preferences of single acquirers, that only do isolated deals, versus frequent acquirers.

In this study the distinction between target companies is based on whether they are publicly listed or privately owned. Whether a target company is publicly or privately owned has large implications for the M&A process and the way investors perceive the deals. Therefore, first it is important to elaborate on these differences before linking the preferences to a real options perspective. Capron and Shen (2007) divide the existing literature on the differences between private and public deals into two categories: strategy and finance studies.

The first category focuses on answering the question what drives acquirers to do either public or private deals. Adverse selection plays an important role in this consideration, because the costs of adverse selection are positively related to transaction costs (Akerlof, 1970). Private companies do not have the same information disclosure regulations as public companies and their stock prices are not observable. Hence, valuation difficulties arise that increase transaction costs. The preference for public over private target companies is primarily present when acquirers target young firms and inter-industry firms, while both firm characteristics are accompanied with high information asymmetry (Shen & Reuer, 2005). Not only young firms experience high uncertainty in value, this also applies to companies that have high intangible assets.

The second category, the finance studies, focuses on the stock market reactions on both deal types. The abnormal returns to acquiring firms tend to be positive when acquiring private companies, but negative when buying public companies (e.g., Travlos, 1987; Chang, 1998; Fuller et al., 2002; Faccio et al., 2006). The differences in short-term stock reactions can be attributed to factors such as acquirer's bargaining power, information leakage before announcement day, and management's strategic incentives. Furthermore, Chang and Tsai (2013) found that the returns of firms acquiring privately held companies are reverting in the

long run. This suggests that investors over-extrapolate prior performance surrounding the announcement date, which is corrected in the long run.

Similarities in both categories can be found in information economics (Capron & Shen, 2007). The availability of information has two main implications for private deals. The lack of information increases the risk of the deal, because it limits how thoroughly the value of the target company can be examined (Reuer & Ragozzino, 2008). On the other hand, the heterogeneity between firms in information acquisition could create competitive advantages. Hence, lower availability of information on private firms leads to an increase in opportunities to exploit private information (Makadok & Barney, 2001).

In order to link the characteristics of private and public companies to real options thinking theory, the characteristics are tested against a framework of platform investments. Kogut and Kulatilaka (1994) provide such a framework based on numerous heuristics. The key advantage of a platform as an option is the flexibility that arises. This flexibility is valuable when the platform meets four conditions: uncertainty, opportunity, time dependence and discretion. In a market with high uncertainty, the option to abandon is valuable to avoid missing out on opportunities, and similarly, avoid facing high losses. Second, the availability of a broad set of growth opportunities, i.e. with the presence of follow-on acquisitions, increases the attractivity of the investment. To exploit the growth opportunities, the company should have a good reputation among customers, and technological advantages (Fombrun & Shanley, 1990). The third condition, time dependence, points out the risk that an investment strategy is quickly imitated or that a competitor pre-empts a market. Both decrease the value of the option. Finally, discretion surrounding the capabilities of a platform ensures that competitors do not profit from copying technologies.

Based on the aforementioned conditions and the characteristics of public and private targets, CEOs that exhibit real options thinking are expected to prefer public over private deals as the initial platform investment. The platform investment as an option is valuable when there is uncertainty surrounding the investment, which is more prevailing among private targets (Shen & Reuer, 2005). According to the finance studies, this higher uncertainty translates into a higher premium. However, the value of the platform investment not only stems from the uncertainty surrounding the platform investment itself, i.e. the standalone value, but also from options on follow-on acquisitions it provides and the firms capabilities to exploit these options. These opportunities are highest in new industries, while they allow acquirers to exploit a wider geography and a larger customer base (Smit & Moraitis, 2010).

Companies with a good reputation and large financial resources manage to exploit these newly acquired competencies better. Public firms qualify best to be a respectable company, while they can more easily signal quality to their customers (Fombrun & Shanley, 1990) and they are more subject to regulations for information disclosure. Additionally, public targets soften the issues related to time dependence, while established distribution channels are harder to imitate. This prevents competitors to pre-empt the market and subsequently destroy the value of the option. Only for the fourth condition, discretion, private targets suit better as a platform investment, due to their lower and heterogeneous availability of public information (Makadok & Barney, 2001). It is expected, however, that the capabilities of public targets such as financial resources outweigh the value of discretion, while they provide the opportunity to exploit homogeneous information. In conclusion, this results in the following hypothesis:

Hypothesis 1: CEOs that prefer public over private deals as initial acquisition are more likely to become serial acquirers.

2.2 Market timing

The second category of the CEO characteristics, the market timing, is centred around the phenomenon of merger waves. These waves are the result of clustered acquisition activity during multiple periods of the past decades. Neoclassical theory aims to explain these clusters by industry shocks and changes in technology and regulation (e.g., Andrade et al., 2001; Holmstrom & Kaplan, 2001), while behavioural theory argues that the waves are correlated with economic expansions and high stock-market returns (e.g., Shleifer & Vishny, 2003; Betton et al., 2008).

In the behavioural explanation for merger waves the literature provides two different perspectives regarding irrationality. The hubris hypothesis proposes a theory where financial markets are rational, but the managers are not (Roll, 1986; Hayward & Hambrick, 1997). From this perspective, a bid above the current market price is considered to be an error, while gains above the market price are not possible in a strong-form efficient market. Contrarily, when markets are inefficient and managers are rational, takeovers are a form of arbitrage as a response to incorrectly valued firms (Shleifer & Vishny, 2003). Firms with overvalued stocks act as acquirers in this market, where undervalued firms become targets.

Both sides of the coin can be supported, but the assumptions are merely used to keep the model simple and point out the bias of interest (Malmendier, 2018). If both investors and managers are irrational, there could be some correlation between the biases. Malmendier and Tate (2005b) argue this by showing that CEO overconfidence interacts with investor sentiment. High investor sentiment would in this case lead to increasing CEO overconfidence and vice versa, presuming procyclicality.

Scharfstein and Stein (1990) provide an alternative behavioural explanation for the clusters in merger activity. When managers copy other managers' investment behaviour, without individually assessing import market information, herding occurs. Although managers act rational from a personal standpoint by manipulating the labour market to make inferences about their abilities, their aggregate behaviour could lead to incorrect valuations in hot and cold deal markets.

Similarities between the neoclassical and behavioural theories utter themselves through the higher takeover premia in hot merger markets and lower for cold merger markets. Following the view that these premia are caused by irrational managerial behaviour, and therefore destroy shareholder value, highlights the importance of market timing. CEOs with a real options view on market developments should be less prone to these errors, while they are paying for growth options instead of depending on takeover activity (Smit & Moraitis, 2015). As mentioned under the preferences paragraph, the value of a platform is highly dependent on the growth options it provides. A CEO that exhibits a real options thinking perspective is most likely to time the initial investment in such a way that the value of the growth options is highest. This is the case in the early stage of a consolidating industry (Smit & Moraitis, 2010). Investing in the early stage results in major advantages over late movers and therefore increases the probability that a CEO becomes a serial acquirer. If an acquirer only acts when the deal market is already hot and the industry consolidates rapidly, bidding wars decrease the potential benefits from an acquisition. Thus, a potential serial acquirer is better off avoiding a clash with late movers or, as Smit and Moriatis (2010) define them, 'irrational' rivals. Bidding further against these overconfident and over-optimistic rivals increases costs and makes exiting the bidding game a valuable option.

Therefore, real options theory suggests two approaches to deal with clustered merger activity: caution in hot deal markets and a focus on longer-term growth option in cold deal markets (Smit & Lovallo, 2014). In practice, caution can be exercised by using a minority stake as toehold. The application of minority stakes is the bridge between doing nothing, and

potentially missing out on opportunities, or doing a full acquisition and overpay (Smit & Kil, 2017). In cold deal markets, real options thinking should result in less cautious behaviour expressed through full acquisitions, while others use minority stakes or do not act at all. Hence, the second hypothesis can be formed as follows:

Hypothesis 2: A CEO that makes an initial investment when a cold deal market shifts to a hot deal market is more likely to become a serial acquirer than a CEO that makes an initial investment when merger activity is already high.

2.3 Experience

In literature about repetitive acquisitions, experience has already been used as an explanation for performance between deals through the learning hypothesis (Aktas et al., 2007, 2013). How experience effects whether a CEO becomes a serial acquirer has, however, not been subject to research. This paper addresses experience in two ways: the effect of the road towards a CEO position on the acquisition behaviour and the effect of tenure at the company where the executive exhibits a single or serial acquisition strategy.

2.3.1 Prior experience

To predict which CEOs qualify to become a serial acquirer, first, this paragraph clarifies which considerations a board of directors makes when appointing a CEO. Literature provides two types of CEO origins: inside CEOs and outside CEOs (Zhang, 2008). Advantages of appointing an insider are mostly present in the form of a relay succession. In a relay succession, the CEO that will be replaced already works with his heir and can therefore pass on the knowledge inherent to the position (Vancil, 1987). This form of succession potentially reduces the organizational turbulence surrounding a leadership change (Cannella & Lubatkin, 1993) and gives the successor the opportunity to gain experience in a job before entering it (Ocasio, 1999). Additionally, the assumed control on the process signals stability to the stakeholders (Cannella & Lubatkin, 1993). An advantage of an inside candidate in general is that the board members and the candidate have joint work experience, which decreases information asymmetry (Zajac, 1990).

Despite these advantages of choosing an inside candidate, Hamori and Koyuncu (2015) describe a trend of increasing appointments of prior CEOs. This trend can be explained by the tendency to place outsiders at positions for which they have job-specific experience

instead of assigning them to a completely new function or promoting them to a higher level (Charan, 2005). Furthermore, hiring organizations would accept prior CEOs earlier due to their strong track record and assumed understanding of the job (Khurana, 2001). The latter lowers the information asymmetry that is associated with outside candidates (Zajac, 1990). The confidence of board members in the capabilities of prior CEOs displays itself in the lower "noise" that is generated surrounding the announcement of the new CEO. This noise involves the release of confounding information to distract the market from a certain event. The lower noise suggests that the board is less worried about a negative portrayal of an experienced CEO than of a first time CEO (Graffin et al., 2011).

Empirical evidence shows that prior CEO experience and post-succession firm performance are negatively correlated (Zhang, 2008) or that increasing stock returns are accompanied by lower return on assets, higher debt ratios, and higher chances of bankruptcy (Elsaid et al., 2011). Hamori and Koyuncu (2015) provide three possible explanations for this predominantly negative relation. First of all, prior CEOs could be hired for more difficult assignments, i.e. the hiring firms are already troubled, which makes it more difficult for new executives to turn the tide. Second, while the CEOs are outsiders, they lack firm-specific experience, and third, the human capital that is acquired at the previous job might not be so easily transferable. Studies on the portability of managerial human capital move away from the relative importance of firm-specific managerial capital due to the digitalization of firm-specific information (Murphy & Zabojnik, 2004, 2006). However, Hamori & Koyuncu (2015) find contrasting results that highlight the importance of contextual knowledge and a potential negative transfer of human capital where prior experience interferes with the executive's new job performance. They do not find evidence that pre-succession performance or CEOs being outsiders explain the negative relation between prior experience and post-succession performance.

Although the relation between acquisition experience of outside directors on firm acquisition performance has been studied (McDonald et al., 2008), literature does not focus on prior CEO experience in the same strategic context. The negative transfer of human capital or negative learning effect could however be significantly present in this context. Previously successful managers that are hired to replicate the same task, more specifically acquiring firms, might neglect the deviating aspects of the new environment. From a real options perspective, this neglect limits the executive to identify the long-term growth opportunities.

Therefore, it is expected that there is a negative effect between prior CEO acquisition experience and becoming a serial acquirer. This leads to the following hypothesis:

Hypothesis 3.1.1: Prior acquisition experience in a CEO role decreases the likelihood of a CEO becoming a serial acquirer.

A second significant effect of prior CEO experience could be the industry-specific experience. As mentioned under paragraph 2.1, to exploit the opportunities of a platform, one should be able to identify the long-term growth opportunities of an acquisition (Kogut & Kulatilaka, 1994). Custodio & Metzger (2013) find that in a context of diversifying mergers, the acquirer's abnormal announcement returns are higher for CEOs with working experience in the target industry than for CEOs that do not have this experience. This relationship is especially strong when information asymmetry is high. The main explanation for the higher returns are the superior negotiation skills of the experienced CEOs. The experience could namely increase bargaining power through a higher accessibility of information and a better ability to process this information. Also in the private equity and venture capital sectors the relevance of industry-specific knowledge is significantly present, while in both sectors investors turn to industry experts before making an acquisition (Kaplan & Strömberg, 2009).

Custodio & Metzger (2013) only focus on diversifying mergers and do not focus on the consequences of industry-specific knowledge on follow-on acquisitions. However, following from their findings, the experience is expected to have a positive effect on the chance of making follow-on acquisitions, because it creates an advantage in markets where information asymmetry is high. This uncertainty was again found to increase the value of a platform (Kogut & Kulatilaka, 1994). Additionally, the explanation of the positive abnormal returns through superior skills is in line with the theory that superior managerial skills lead to CEOs becoming serial acquirers (Croci & Petmezas, 2009). Therefore, the second hypothesis related to prior CEO experience goes as follows:

Hypothesis 3.1.2: CEOs that have CEO experience in the industry of the initial target are more likely to become serial acquirers.

2.3.2 Tenure

The first two or three years of the CEO in a new firm are characterized by a steep learning curve (Harris & Helfat, 1997). This is also the period that CEOs face the highest chance of losing their job, because during this period, the board could more easily correct a wrong appointment (Shen, 2003; Zhang, 2017). This lack of security decreases the likelihood that CEOs make beneficial acquisitions and the short tenure might cause a shortage of knowledge to execute these acquisitions. With an increasing tenure, the knowledgebase of the CEO increases, which has positive effects on the quality of acquisitions (Hambrick & Fukutomi, 1991).

Long-tenured CEOs, however, do not show learning at the same rate throughout their tenure. This is the result of decreasing knowledge acquisition, growth and development (Audia et al., 2000; Hambrick & Fukutomi, 1991; Kroll et al., 2000). Generalizing previous situations to new ones could lead to managers missing out on environmental changes. Additionally, when executive have higher personal stakes they may misinterpret new information, either undervaluing negative information or overvaluing positive information (Walters et al., 2007).

Walters et al. (2007) find that a curvilinear relationship exists between CEO tenure and acquisition profitability. The optimum tenure they find is just over eights years. From a real options perspective, it is likely that this low to moderate period of tenure is the period a CEO develops from a single acquirer to being a serial acquirer. Based on the foregoing, during this period, the CEO has enough knowledge to assess beneficial acquisition opportunities, but is not yet as entrenched to deviate from shareholders' interests.

Hypothesis 3.2: Tenure has a positive effect on the chance that a CEO becomes a serial acquirer for low levels of tenure, but a negative effect for high levels of tenure.

Chapter III: Data & Methodology

3.1 Data

The research focuses on data from the US deal market, which is obtained from the Refinitiv Eikon and Execucomp databases. The acquirer in the sample origins from the US, while public, US companies are obliged to report information about their CEO compensation packages via the DEF14A SEC form. Hence, the Execucomp database provides reliable information about the tenure of the CEOs. CEO data are required to be available, because the manager as decision maker is the unit of analysis. The targets of the deals that these CEOs made are either publicly listed or privately owned and range from a period of 20 years, from January 1st, 2000 to December 31st, 2019. The location of the targets is limited to North America and Western Europe, while the characteristics of these targets are relatively similar.

This results in the following list of criteria that the deals need to meet to be included in the sample:

1. The initial announcement date needs to lie between January 1st, 2000 and December 31st, 2019.
2. The acquirer is a publicly listed US firm.
3. The target is a North American or Western European firm.
4. The target is publicly or privately owned.
5. The transaction is completed.
6. The bidder and the target cannot be the same firm, i.e. no share repurchases.
7. The bidder acquires 100% of the target firm in the acquisition.

For these conditions, the Eikon database contains 39,648 public-to-public or private-to-public deals. After merging the deals with the CEO Execucomp data, 9,622 deals remain, that are performed by 2,285 unique CEO-firm combinations. The reduction is mainly due to entirely missing data on the executives, but also due to partially missing information. If the starting date of the CEO is missing, these observations are left out, because it is not possible to say whether they are single or serial acquirers. CEOs that started before 2000 are also excluded from the sample, because it is not possible to determine whether the deals they make from January 1st, 2000 on are their first deals.

3.2 Methodology

In order to test the hypotheses, this paper could either apply a logistic or a probit regression model to the data. These models fit the data best, because the dependent variable in the regression is a binary variable (Brooks, 2019). An alternative of dealing with binary dependent variables is the linear probability model (LPM). This is the simplest methodology for dealing with binary dependent variables, however, probabilities in this model do not lie within the range (0,1). The probit and logit model overcome this limitation by transforming the regression model into a function where 0 and 1 are asymptotes. This transformation makes the model non-linear, and therefore, OLS cannot be applied. Instead, maximum likelihood is used. Literature on econometrics does not clearly describe a preference for the probit over the logit model, because in the majority of applications, the characterisations of the data will be similar (Brooks, 2019). Preliminary results do not show significant differences between the application of the two regression models, which have similar directions of coefficients and a similar pseudo R-squared. However, in a later stage, the probit model is preferred to deal with issues relating endogeneity (Freedman & Sekhon, 2008), which justifies the choice for this model.

3.2.1 Dependent variable

The dependent variable in the regression illustrates if a CEO is a single or a serial acquirer. Although the definition of someone being a serial acquirer is not conclusive, in this paper, an executive is classified as a serial acquirer when he did at least two consecutive acquisitions at the same firm (Billett & Qian, 2008; Aktas et al., 2011). The variable takes on a value of zero if the number of acquisitions an acquirer made is limited to one and one if the CEO classifies as a serial acquirer.

3.2.2 Independent variables

In order to test which CEO preference leads to frequent acquiring behaviour a distinction is made between targets that are publicly listed and privately owned. A dummy variable is constructed for which the regressor takes on a value of one if the target is publicly listed and zero if the target is privately owned. For this variable, the first deal of the serial acquirer at a firm is considered as the unit of analysis, leaving out the subsequent deals.

The second hypothesis can be analysed via a measure of deal market intensity. This measure defines if a market is in a bullish or a bearish state regarding acquisition activity. In

order to separate the hot deal market deals from the cold ones, Chidambaran et al. (2009) provide two ways of measuring the merger market intensity. One takes the natural log of all completed acquisitions in the trailing twelve months prior to the acquisition announcement date. The second measure takes the natural log of the total value of all completed acquisitions in the trailing twelve months prior to the acquisition announcement date. If the derived value of the trailing twelve months prior to the announcement date is above natural log of the median value of the variables across the whole sample, the market intensity qualifies as hot. In all other cases, the market is considered to be a cold deal market. The dummy variable that captures the clusters in the market has a value of zero in a cold deal market and a value of one in a hot deal market. For each measure, this dummy variable is created, and the dummy variables generate two probit regression models, one for each measure of deal market intensity.

The next regressors that are included in the model relate to the prior experience a CEO has. Prior experience is a dummy variable that has the value of zero when the CEO does not have experience and the value of one when the CEO had at least one similar position at a different company (Hamori & Koyuncu, 2015). It is not expected that this variable on itself has any explanatory power, however, if one of the following criteria is applied, a significant effect could be observed. In order to test the first criterium, the effect of prior CEO acquisition experience, another dummy variable is created that takes on the value of one if the CEO made at least one acquisition at a different company where he had a similar position. If not, the variable takes on a value of zero.

The second criterium that relates to prior CEO experience is the target industry specific working experience. Similar to Custodio and Metzger (2013), a dummy variable is created that equals one if the CEO had experience in the target industry for at least one company. The variable differs in its definition by only taking the experience of being a CEO at another company, while Custodio and Metzger (2013) use all top management positions/roles. The other positions/roles are excluded in order to match the variable with the prior CEO experience variable. The target industry is identified by taking the 2-digit Refinitiv Business Classification (TRBC).

Finally, a measure of tenure is added to the regression. This variable takes the number of days a CEO is at his position at the time that his first acquisition is announced (Walters et al., 2007). The predicted inverted "U" shaped relationship between tenure and the likelihood of becoming a serial acquirer can be tested by including the quadratic form of the tenure in

addition to the non-quadratic form. If the relationship holds, the quadratic form should be negatively related to the likelihood of becoming a serial acquirer and the non-quadratic form positively.

3.2.3 Control variables

While the relationship between the dependent and independent variables is not isolated, several control variables are added to the model. To control for characteristics of the acquiring firm, four variables indicate the presence of financial resources. The size of the company, measured in terms of total assets, is significantly negatively related to the chance that a CEO-firm combination makes multiple acquisitions (Guest et al., 2004). The distribution of the total assets is skewed, therefore, the model considers the logarithmic form of the values.

A second control variable that has a positive relation to the dependent variable is the Market-to-Book-Value (MTBV). Highly acquisitive firms have a significantly higher average MTBV than single acquirers (Guest et al., 2004). The significance of the firm performance is supported by Bradley and Sundaram (2004) who state that acquisitions are driven by stock performance and that good prior acquisition performance initiates additional acquisitions. This is in line with theories on merger waves where higher valuations drive acquisitions (Rhodes-Kropf & Viswanathan, 2004). To calculate the pre-announcement return, an event-study methodology is applied that estimates the Cumulative Abnormal Returns (CARs). These CARs are based on a pre-event window that spans from 12 months to 1 month prior to the acquisition announcement (Bradley & Sundaram, 2004).

The same applies to acquirers with a large cash position (Jensen, 1986). Following this free cash flow hypothesis, managers would rather make more acquisitions than paying out dividends to shareholders. Similar to the Assets variable, this control considers the logarithmic form of the total cash to adjust for the skewness of the cash positions among the observations. According to the same theory, the leverage of an acquiring firm decreases the chance of making multiple acquisitions. This variable is measured as a ratio of the total debt to the total equity.

Additionally, the regression controls for industry and time characteristics by incorporating industry and year dummies. The 2-digit TRBC forms the input of the industry dummies. The data of the control variables are obtained from the Refinitiv Datastream database. A list which comprehensively describes all variables can be found in Appendix A.

The following probit regression model is used to put in the dependent variable, independent variables and control variables:

$$E(Y|X) = P(Y = 1|X) = \Phi(\beta_0 + \beta_1 X) \tag{1}$$

where $\Phi(\cdot)$ is the cumulative standard normal distribution function:

$$\Phi(z) = P(Z \leq z), Z \sim N(0,1)$$

such that β_1 represents the change in z which is associated with a one unit change in X. Adjusting the standard probit regression model (1) to the variables in this paper results in the following two full functional forms:

$$P(Serial\ Acquirer = 1|X) \tag{2}$$
$$= \Phi(\beta_0 + \beta_1 Public\ Status + \beta_2 Deal\ Market\ Intensity$$
$$- Deals + \beta_3 Acquisition\ Experience$$
$$+ \beta_4 Industry\ Experience + \beta_5 Tenure + \beta_6 Tenure$$
$$- squared + \beta_7 Assets + \beta_8 MTBV + \beta_9 Leverage$$
$$+ \beta_{10} Industry\ Dummies + \beta_{11} Year\ Dummies)$$

$$P(Serial\ Acquirer = 1|X) \tag{3}$$
$$= \Phi(\beta_0 + \beta_1 Public\ Status + \beta_2 Deal\ Market\ Intensity$$
$$- Value + \beta_3 Acquisition\ Experience$$
$$+ \beta_4 Industry\ Experience + \beta_5 Tenure + \beta_6 Tenure$$
$$- squared + \beta_7 Assets + \beta_8 MTBV + \beta_9 Leverage$$
$$+ \beta_{10} Industry\ Dummies + \beta_{11} Year\ Dummies)$$

3.3 Statistical tests

As aforementioned, this paper uses maximum likelihood instead of OLS to estimate the model. While the probit model is a non-linear model, different assumptions apply to the maximum likelihood approach than to the OLS approach. Similarly, maximum likelihood implies that the standard errors are normally distributed, which can be tested via a Jarque-Bera test (Brooks, 2019). Appendix B shows the results of this test. The chi-squared of the test is 4.9e-76 and 1.9e-77 for the deal and value based market intensity model respectively. The results are lower than the p-value of 0.05 and therefore, the null hypothesis of normality is rejected. This does not necessarily lead to a problem for the model, however, the usual standard error estimates will be inappropriate. A different variance-covariance matrix estimator is used that is robust to non-normality (Bollerslev & Wooldridge, 1992). This

maximum likelihood with Bollerslev-Wooldrige standard errors is known as quasi-maximum likelihood (QML) (Brooks, 2019).

Additionally, it is assumed that the sequence of random variables is "Independent and Identically Distributed" (IID). The IID assumption simplifies the calculation of the probability of all the observations occurring together by calculating the joint probability through taking the product of the marginal probabilities of each individual observation. Furthermore, due to the assumption that the variables are identically distributed, the marginal densities in the product are the same (Taboga, 2021).

Furthermore, via a Pearson correlation matrix the assumption of no multicollinearity is examined. Appendix C displays the correlation between the explanatory variables. Two sets of variables are correlated because of the way the value of the variables is determined from within the dataset. The Acquisition Experience and the Industry Experience have a medium correlation, because both variables could only take on a value of one if the CEO already has experience as a CEO. Second, the Tenure variable and the Tenure-Squared variable are highly correlated (0.921), because the second is derived from the other. Both sets do not form any problems for the model. A third set of explanatory variables that is correlated, consists of the Assets and Cash variables (0.620). This positive correlation can also be explained, because cash is part of the current assets and a larger cash position, ceteris paribus, implies a higher amount of assets.

All control variables have missing values which would result in a large loss of observations if they are not adjusted, because statistical software packages use listwise deletion. In order to keep these observations without affecting the results by unavailable values, missing values are replaced using the dummy variable adjusted method (Cohen et al., 2002). The method replaces the missing values by the mean of the available values and creates a dummy variable that takes on the value of 1 if the observation has a missing value and the value of 0 if all values are available. The difference in effect between the missing and available values on the expected value of the dependent variable is represented by the coefficient of this dummy variable. Consequently, the missing values only measures the effect of the available values. In the sample, the variables Assets, Market-to-Book-Value, Cash and Leverage have 66, 223, 657 and 68 missing values respectively. These missing values are replaced by their respective means of 8963155, 2.948, 594111.6 and 77.820. Afterwards, the logarithmic form of the Assets and Cash variable is calculated, which is used in the regression. Implementing the dummy variable adjusted method does not yield significantly

different results from the model without the implementation, indicating that the method can safely be used.

3.4 Summary statistics

In addition to the application of the dummy variable adjusted method, the control variables are winsorized on a 5% upper and lower level to exclude extreme values from the data. The variables Market-to-Book-Value and Leverage had some negative values, which could be an indication that these companies act under extreme circumstances. Winsorizing the data entirely replaces the negative values, so no other action needs to be taken. This results in a total number of 2,285 observations, which are described in detail in Table 1. 1,493 of these unique CEO-firm combinations consist of serial acquirers and the remaining 792 are single acquirers. The serial acquirer with the most acquisitions has a total of 130 acquisitions in the sample period. The average number of acquisitions per acquirer is 4.21 (median 2). Furthermore, only few CEOs have prior experience as a CEO and consequently, only few observations have acquisition experience (49) and industry experience (58). This suggests that inferences from the explanatory effect of these variables might not have high external validity.

Table 1: Summary statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max
Serial Acquirer	2285	.653	.476	0	1
Public Status	2285	.158	.365	0	1
Intensity – Deals	2285	.393	.489	0	1
Intensity – Value	2285	.47	.499	0	1
Acquisition Experience	2285	.021	.145	0	1
Industry Experience	2285	.025	.157	0	1
Tenure	2285	926.161	967.12	1	6452
Assets	2285	14.678	1.691	11.779	17.96
MTBV	2285	2.885	2.026	.67	8.93
Cash	2285	12.333	1.616	8.541	15.156
Leverage	2285	75.158	91.273	0	350.4

Chapter IV: Results

Table 2 displays the results of the probit regression. Applying the year and industry fixed effects makes Stata delete 16 observations, therefore, 2,269 observations remain. The goodness of fit cannot be determined via a standard R-squared, because the fitted values can take on any value, but the actual values can only be 0 or 1. An alternative measure is the pseudo R-squared. If the value of the pseudo R-squared is 1, the model fits the data perfectly. However, the statistic does not measure the proportion of variation in the dependent variable explained by the model. Consequently, it cannot be stated that the pseudo R-squared explains a percentage of the variation, it can only be compared to other pseudo R-squared values (Brooks, 2019). In the first model, a probit regression model without explanatory variables is regressed on the dependent variable and in the second model, the explanatory variables are included. The inclusion increases the pseudo R-squared from 0.119 to 0.139, preliminary indicating that the explanatory power increases. However, conclusions on the model cannot be determined solely by the pseudo R-squared. Hence, subsequently in this chapter, other tests are performed to evaluate the model.

Only the Cash control variable is significant in the full regression and shows the expected, positive relation with the likelihood of becoming a serial acquirer. The other control variables are not significant, although the MTBV and Leverage variables have the hypothesized direction. The Assets variable is insignificant and its coefficient has a positive instead of negative sign. Consequently, it can be concluded that the last three control variables do not play an important role in this sample.

4.1 Preferences

To test whether a serial acquirer prefers a public or a private target as an initial investment, the public status of the target is regressed against the dependent variable. It was expected that CEOs that become serial acquirers prefer public targets over private targets as platform investments. The main reason for that expectation was that public platforms are more qualified to exploit growth opportunities in new industries due to their better reputation and abundance of financial resources (Fombrun & Shanley, 1990). The results from the probit regression seem to point into another direction. The negative coefficient of 0.396 indicates that there is a negative relation between acquiring a public target as initial investment and the chance of becoming a serial acquirer. This relation is significant on a 1% significance level.

19

Table 2: Probit regression results. This table presents the results of the probit regression model only including the control variables (1), the full model with the deal market intensity measure based on the number of transactions (2) and the full model with the deal market intensity measure based on the value of the transactions (3). Due to size restrictions, the results for the missing value dummies, and the year and industry dummies are not fully displayed. An extensive version of this table can be found in Appendix E.

VARIABLES	(1)	(2)	(3)
Public Status		-0.396***	-0.396***
		(0.0813)	(0.0813)
Deal Market Intensity - Deals		-0.0195	
		(0.173)	
Deal Market Intensity - Value			0.0469
			(0.103)
Acquisition Experience		-0.0299	-0.0285
		(0.240)	(0.239)
Industry Experience		-0.172	-0.175
		(0.207)	(0.207)
Tenure		-0.000389***	-0.000389***
		(7.84e-05)	(7.84e-05)
Tenure-squared		6.48e-08***	6.49e-08***
		(1.85e-08)	(1.85e-08)
Assets	0.0437*	0.0426	0.0426
	(0.0259)	(0.0267)	(0.0267)
MTBV	0.00687	0.0104	0.01000
	(0.0167)	(0.0169)	(0.0169)
Cash	0.0672**	0.0703***	0.0705***
	(0.0262)	(0.0266)	(0.0266)
Leverage	-0.000465	-0.000387	-0.000385
	(0.000375)	(0.000381)	(0.000381)
Constant	-0.451	-0.345	-0.414
	(0.389)	(0.434)	(0.412)
Observations	2,269	2,269	2,269
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Pseudo R2	0.119	0.139	0.139

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

Apparently, based on this sample, CEOs prefer private targets over public targets as initial investments. This result suggests that the weight CEOs appoint to the conditions provided by Kogut & Kulatilaka (1994) differs from the expectations. The conditions of uncertainty and discretion were (partially) in favour of private targets as platform investments. A corresponding characteristic between those two conditions is the information availability. Private targets have a lower and more heterogeneous public information availability, which increases their value to the acquirer (Makadok & Barney, 2001).

In literature on real options thinking theory, an explanation can be found related to the availability of information. One of the pitfalls in bidding that affects the company's strategy is the winner's curse (Thaler, 1988). This bias comes down to acquirers bidding based on inaccurate information and eventually exceeding the value of the acquisition. In a bidding market where this inaccurate information is accompanied by asymmetric information, bidders that do not consider this asymmetry are more likely to be subject to the winner's curse. To avoid this pitfall, it is important to gather information and develop an independent view on the fundamental value of a target, which would ideally result in superior information to that of rivals. The winner's curse is most likely to occur in a market that is already considered to be hot. In a market where consolidation is in its early stages, contradictory behaviour leads to biased rivals underestimating the value of a target (Smit & Moraitis, 2010). Based on the results of the regression, the CEOs that include the value of the follow-on acquisitions are bidding more aggressively on private targets than their rivals, because they are aware of the potential strategic value.

An interaction term could further examine this relation. If the abovementioned theory on real options thinking applies, serial acquiring CEOs are more likely to target private companies in deal markets in early stages of consolidation, i.e. in cold deal markets. In hot deal markets, biased bidders overestimate the value of the private targets and therefore, CEOs that have serial acquiring ambitions are less likely to acquire private targets compared to cold deal markets. The decline in preference can be explained by the higher uncertainty and information asymmetry for private targets. Table 3 displays the coefficients of the Public Status variable in the two original models and two new models, where the interaction term between the two measures of Deal Market Intensity and the Public Status are added. The Public Status coefficient is still negative on a 1% significance level in both models. In the model where the deal market intensity is based on the number of transactions in the trailing twelve months prior to the announcement, the positive direction of the coefficient of the

interaction term is in line with the predictions from options theory. This result is significant on a 5% significance level. The interaction term should be interpreted as the excess effect of a deal market considered to be hot when the target is a public company on the chance of becoming a serial acquirer. For the measure based on the deal value, the coefficient is not significant.

Table 3: Probit regression results - Moderating effect deal market intensity. This table displays the original probit regression results (2-3) and the extended models where an interaction term is added to test the moderating effect of the deal market intensity on the relation between the Serial Acquirer and Public Status variables. In model 4, an interaction term is included for the measure of market intensity based on the number of transactions and in model 5, an interaction term is included for the measure of market intensity based on the value of the transactions. In these models, all original regressors are included, but due to sizing restrictions, these are not fully displayed. The full table can be found in Appendix F.

VARIABLES	(2)	(3)	(4)	(5)
Public Status	-0.396***	-0.396***	-0.567***	-0.304***
	(0.0813)	(0.0813)	(0.107)	(0.109)
Deal Market Intensity - Deals	-0.0195		-0.0988	
	(0.173)		(0.177)	
Public Status * Deal Market Intensity (D)			0.394**	
			(0.159)	
Deal Market Intensity - Value		0.0469		0.0783
		(0.103)		(0.107)
Public Status * Deal Market Intensity (V)				-0.189
				(0.155)
Constant	-0.345	-0.414	-0.340	-0.430
	(0.434)	(0.412)	(0.432)	(0.414)
Observations	2,269	2,269	2,269	2,269
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.139	0.139	0.141	0.139

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

A second direction where the importance of information availability could appear, is the industry focus of the CEO. Public companies are expected to be better at exploiting the wider geography and the larger customer base of new industries (Smit & Moraitis, 2010). In new industries, opportunities for follow-on acquisitions are highest. Hence, serial acquirers might have a preference for public companies, but only when they expand their activities beyond their own industry. In contrast to this view on public targets, bidding firms are better aware of private targets that are close to their core business and more confident in the valuation of those targets. Evidence shows that only 8 percent of private targets was in a new industry, where 24 percent of public targets had a diversifying nature (Capron & Shen, 2007).

This relation could be tested by introducing another interaction term between Public Status and a newly created binary variable, New Industry. For this variable, the observations are assigned a value of 1 if the target industry of the initial acquisition differs from that of the acquirer's industry. If the target and the acquirer's industry match, the observations are assigned a value of 0. The industry classifications are again based on the TRBC. If the preference for private companies over public companies for serial acquirers is weakened by a renewed industry focus, the coefficient of the interaction term should have a positive sign.

In Table 4, the two new models are displayed, where the interaction term between the Public Status and industry focus is introduced. The interaction term is not significant, which means that targeting a new industry does not have a significant effect on the preference that a serial acquirer has for public or private company targets. Moreover, the direction of the coefficient is the opposite of what was expected. The negative sign indicates that a CEO has a higher chance of becoming a serial acquirer when a private company is acquired in a new industry. Here, the information availability again might play a large role in the value of a private platform for follow-on acquisitions. Inter-industry firms have higher information asymmetry (Shen & Reuer, 2005), which could create competitive advantages when private information is acquired. The results suggest that these advantages are superior to the increased risk of the deal due to a lack of information (Reuer & Ragozzino, 2008).

Table 4: Probit regression results - Moderating effect target industry. This table shows the two original probit regression models (2-3) and two new models where the interaction term between Public Status and New Industry is included (6-7). Due to sizing restrictions, the other regressors of the full model are not displayed. However, they are included in the model and can be fully viewed in Appendix G.

VARIABLES	(2)	(3)	(6)	(7)
Public Status	-0.396***	-0.396***	-0.321***	-0.321***
	(0.0813)	(0.0813)	(0.101)	(0.101)
New Industry			0.0636	0.0630
			(0.0688)	(0.0688)
Public Status * New Industry			-0.192	-0.191
			(0.170)	(0.170)
Constant	-0.345	-0.414	-0.364	-0.428
	(0.434)	(0.412)	(0.434)	(0.412)
Observations	2,269	2,269	2,269	2,269
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.139	0.139	0.139	0.139

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

4.2 Market timing

The second hypothesis that is tested in the model relates to how the deal market intensity influences the chance of a CEO becoming a serial acquirer. From a real options perspective, a CEO that wants to apply a successful repetitive acquisition strategy should act early in a consolidating industry via full acquisitions. Contrarily, the manager should hold back in making an initial investment when the market is perceived to be hot (Smit & Lovallo, 2014). Appendix D shows a graph that presents how the deal market intensity fluctuates over the sample period. Additionally, it shows how the hot and cold deal market intensities are spread over the period by comparing the trailing twelve month's measures to the mean of the entire sample. The waves do not always occur at the same time for both measures, which justifies the use of both, instead of limiting it to one.

In Table 2, only the recorded result from the intensity based on the number of deals does indicate the expected direction of the coefficient (-0.0195). For the deal market intensity measure based on the deal value (0.0469) the coefficient is positively related to the chance of becoming a serial acquirer. The positive coefficient suggests that serial acquirers could also be subject to certain herding behaviour and therefore not entirely able to individually respond to important information about the market intensity, i.e. if a market is overvalued or not (Scharfstein & Stein, 1990). Other behavioural explanations, such as the hubris hypothesis (Roll, 1986; Hayward & Hambrick, 1997) and arbitrage opportunities from stock market misvaluations (Shleifer & Vishny, 2003), would have similar, positive results. However, the results in the regression do not offer a decisive answer on whether the acquirers act rationally or not. This relationship could be further investigated by including a measure of performance. If serial acquirers are found to perform better during hot deal markets than single acquirers, this could indicate that they make rational choices. Furthermore, the coefficient is not significant, so no strong conclusions can be drawn from this result.

Alternatively, Griffin et al. (2011) provide a view where both rational and irrational investors act in a bullish market. During the tech bubble, both institutional and individual investors bought technology stocks in a consolidating market. The institutional investors, which were considered more sophisticated than individuals, did not move against mispricing, and actively bought during the run-up period. They accounted for 63.6% of all technology purchases. Heavy institutional buying drove individual demand, but institutions reversed their strategy when the demand reached a peak. This resulted in a collapse of the technology stocks, which mainly negatively affected individual investors. From a real options view, it

could be the case that the sophisticated buyers, the serial acquirers, first move together with the single acquirers, but hold back when a market is in an advanced stage of consolidation. To test whether this alternative explanation holds, the deal market intensity is further split up into four categories: extremely cold, moderately cold, moderately hot and extremely hot. Each category consists of the initial deals that fall between the values of each 25th percentile of all observed deals during the sample period. For each category, a dummy variable is created which takes on a value of 1 if the observation falls in this category and a value of 0 otherwise.

The results of the regression including the four categorical variables are shown in Table 5. In this table, the Extremely Hot variable for the deal and the value measure is omitted and its coefficient is reflected in the constant. The coefficient of all categorical variables is insignificant. If the alternative explanation based on Griffin et al. (2011) would hold, the categorical variables would be positive, because serial acquirers are expected to hold back in consolidating markets in an advanced stage. For both measures, however, the direction of all coefficients is negative. Moreover, the Moderately Hot variable for the transaction amount measure is significantly negative on a 10% level, indicating that single acquirers are more likely to make in initial acquisition when markets start to consolidate. The evidence is however not present for all other categorical variables, which means that the null hypothesis cannot be rejected solely on this analysis.

4.3 Experience

4.3.1 Prior experience

For this part of the hypotheses considering the experience, the effect of a CEO having prior experience as a CEO in forms of acquisition and industry experience is examined. The negative response of shareholders on the appointment of prior CEOs was mainly expected to origin from the negative transfer of human capital, specifically when a CEO was ought to replicate a task in a new environment (Hamori & Koyuncu, 2015). Because the negative transferability of human capital prevents the CEO from adapting to this environment, acquisition experience would limit the CEO to focus on the long term growth opportunities. The results in Table 2 show a matching result on these expectations, while the direction of the coefficient is negative. However, the negative relation between acquisition experience and the chance of becoming a serial acquirer is not strong, because the results are not significant.

Table 5: Probit regression results - Deal market intensity breakdown. This table displays the two original probit regression models (2-3) and the new models, including the categorical variables to break down the deal market intensity. The first one (8) is based on the measure related to the number of transactions, and in the second one (9), the measure is based on the deal value. Although considered, due to sizing reasons, the other regressors are left out, but they can be found in Appendix H.

VARIABLES	(2)	(3)	(8)	(9)
Deal Market Intensity - Deals	-0.0195			
	(0.173)			
Extremely Cold (D)			-0.280	
			(0.264)	
Moderately Cold (D)			-0.227	
			(0.225)	
Moderately Hot (D)			-0.254*	
			(0.146)	
Deal Market Intensity - Value		0.0469		
		(0.103)		
Extremely Cold (V)				-0.191
				(0.177)
Moderately Cold (V)				-0.0581
				(0.132)
Moderately Hot (V)				-0.0350
				(0.109)
Constant	-0.345	-0.414	-0.363	-0.371
	(0.434)	(0.412)	(0.398)	(0.398)
Observations	2,269	2,269	2,269	2,269
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.139	0.139	0.140	0.139

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

In industries where information asymmetry is high, it was expected that industry experience would have a positive effect on the likelihood that a CEO becomes a serial acquirer. Mainly due to an increased bargaining power and ability to process information, managers with experience in the target industry should have had superior negotiation skills (Custodio & Metzger, 2013). However, this expectation cannot be supported by the model. The insignificant coefficients of -0.172 (model 3) and -0.175 (model 4) show an opposite direction of the variable, similar to the Acquisition Experience variable. This could indicate that the same explanation applies to industry experience. The negative transfer of human capital might lead to a generalization of the environment, and therefore, the manager is not able to adapt different information and to adjust his valuations to this changed environment

(Hamori & Koyuncu, 2015). However, due to the insignificance of the coefficients, it cannot be stated that this relationship is strong.

4.3.2 Tenure

The tenure of the CEO is the second category that relates to experience. In the first years of the CEOs tenure, it was not expected that the CEO would initiate acquisition sequences, because he had a higher chance of losing his job after a mistake (i.e., Shen, 2003). Due to a steep learning curve (Harris & Helfat, 1997), the quality of the acquisitions would increase and therefore increase the chance on making multiple acquisitions. The learning rate was however expected to decline (i.e., Hambrick & Fukutomi, 1991), eventually decreasing the chance of a CEO becoming a serial acquirer. If this hypothesis is correct, a curvilinear relationship should appear in the data, expressed through a positive sign in the Tenure variable and a negative sign in the Tenure-squared variable.

The coefficients of the probit regression in Table 2, however, show a strong opposing result. The Tenure coefficient of -0.0004 is highly significant (1% significance level), while the Tenure-squared coefficient is significantly positive (6.48e-08). The predicted inverted U-shaped relationship does not occur in the data; the relationship is mirrored and shows a U-shaped relationship. This could be interpreted as a declining likelihood of applying a serial acquisition strategy when tenure increases from a negligible to moderate level, while increasing when CEOs meet the level of a long tenure. An explanation for the higher acquisition urge of the short-tenured CEOs could be their risk preference. Short-tenured CEOs are willing to take more risks, while CEOs with a longer tenure are more conservative. The difference in risk preference origins from a longer decision-making horizon, higher psychological commitment to the organizational status quo and a higher value for financial and career security of long-tenured CEOs (Hambrick & Mason, 1984). This suggests that the higher chance of being replaced does not withhold a short-tenured CEO from making multiple acquisitions and inevitably taking more risk.

The abovementioned explanation assumes the CEO to be the only decision maker. Alternatively, the decision to initiate a buy-and-build strategy could have already been made before the appointment of the manager, however, the prior CEO was not able to execute this strategy. If this is the case, the new CEO is specifically appointed to initiate the sequential acquisition strategy, and is therefore likely to start this in the early stages of his tenure. One of the robustness checks in the next paragraph of this chapter supports this finding. Including a

dormant period, which assures that the acquisition sequence was not already initiated by a previous CEO, does not alter the significance or direction of the Tenure coefficient (Croci & Petmezas, 2009). This explanation is also more in line with the higher chance of dismissal for shorter-tenured CEOs (Shen, 2003). If the CEO does not conform to the determined buy-and-build strategy, he increases the chance of being fired.

Both explanations only explain the direction of the Tenure coefficient, they do not explain why the Tenure-squared coefficient is significantly positive, and CEOs apparently regain their likelihood of applying a serial acquisition strategy after a few years of tenure. To interpret that result, the development of the power a CEO has over the years becomes of importance. An incumbent CEO is likely to have more power than a CEO that is newly appointed to a leading position, and therefore, could more easily initiate an acquisition sequence (Wright et al., 2002). Additionally, although the CEO has a decreasing learning rate, the CEO still has a larger knowledgebase on the firm and the industry than his shorter-tenured peers (Hambrick & Fukutomi, 1991). Both increase the likelihood of a CEO becoming a serial acquirer later during his tenure.

4.4 Robustness

In order to test the robustness of the results, alternative measures are applied to the data. In literature, different definitions exist of when a CEO is a single or a serial acquirer. In this paper, a CEO qualifies if he did at least two consecutive deals at the same firm. This differs from the definition of Billett and Qian (2008) and Aktas et al. (2011), who only qualify a CEO as a serial acquirer when he performed at least two successive public deals. Therefore, for the first robustness test, a serial acquirer is defined as a CEO that makes at least two consecutive public-to-public deals at the same firm. While the first hypothesis considers the difference in preference between a public and a private initial target between single and serial acquirers, this hypothesis cannot be tested in the new model.

Appendix I shows the regression output for the new models. After excluding the private-to-public deals, 732 observations remain of which 662 observations are included in the regression due to omittance of the industries where the model predicts failure perfectly (collinearity). 188 CEO-firm combinations of the 732 observations are serial acquirers and 544 single acquirers. This sample split is in line with other successive acquisition research based on public-to-public deals (i.e., Billett & Qian, 2008). Although the model predicts the same direction of the tenure-related variables, these coefficients are not significant anymore.

Therefore, it can be concluded that the results are not robust to the alternative measure of a serial acquirer only making public-to-public deals.

A second alternative measure of a CEO initiating a multiple acquisition sequence or not depends on the number of deals that a CEO needs to make to qualify as a serial acquirer. Fuller et al. (2002) set a minimum for the number of deals to be made by a CEO at five instead of two, while Laamanen & Keil (2008) perceive a CEO to be a serial acquirer from a number of four completed deals. In this paper, robustness is tested for a level of at least three, four and five deals. With these new definitions of a serial acquirer, respectively 1,048, 792 and 607 serial-acquiring CEO-firm combinations remain. As displayed in Appendix J, Appendix K and Appendix L, for all of these new definitions, the Public Status, the Tenure and the Tenure-squared coefficients are significant on a 1% significance level. Consequently, the results are robust to a different level of the minimum number of deals to be made.

Thirdly, this paper only considers full acquisitions, i.e. acquisitions in which the bidder obtains 100% of the shares in the transaction. This definition differs from literature where the focus is more heavily on the transfer of control. An acquiring company is considered to have control over another company when it possesses at least 50% of the shares. Additionally, the bidder should have less than 30% of the shares of the target company before he gains control over the target (Croci & Petmezas, 2009). The results of the broader definition of which transactions are qualified as an acquisition can be found in Appendix M. These results are similar to the results from the original probit regression, which makes them robust to this alternative definition of an acquisition.

Finally, Croci and Petmezas (2009) try to isolate the acquisition sequence in their sample. The possibility exists that the previous CEO of a firm already initiated a multiple acquisition strategy, which makes the CEO that is included in the sample not the initiator of the strategy. This continuation could negatively affect the current manager being the unit of analysis. To prevent this, the time between the announcement date of the first acquisition of each CEO-firm combination and the previous deal of this firm has to be longer than two years (Song & Walkling, 2000; Croci & Petmezas, 2009). Considering this dormant period of two years yields the results presented in Appendix N. The direction of the coefficients does not change and only the significance of the Tenure-squared variable changes, and declines from a 1% to a 5% significance level. This slightly different result compared to the full sample is no evidence that including a dormant period drastically affects the conclusions.

4.5 Endogeneity concerns

Endogeneity concerns could occur in the analysis when unobserved variables that estimate the independent variables also correlate with the error term of the probit regression. This endogeneity bias would negatively affect the validity of the inferences from the model (Brooks, 2019) and harm the assumption of the independent and identically distributed sequence of random variables. Capron and Shen (2007) suggest that the public status of the target is endogenously determined through the degree of information asymmetry, which asks for a statistical remedy to obtain unbiased estimates. A widely used procedure is the two-step estimation procedure (Heckman, 1979). However, this method performs best with linear response models and is not satisfying for probit response models (Freedman & Sekhon, 2008). Maximum likelihood methods (MLEs) are preferred over the standard two-step estimation procedure. Fitting the full model by maximum likelihood creates a 'bivariate probit' or 'biprobit' model (Heckman, 1978).

For the MLE, similar to the two-step Heckman procedure, a selection equation is estimated that determines whether a bidder acquires a private or a public target. In this probit model, the method of instrumental variables (IV) is used for parameter estimation. This technique considers other variables, instruments, that are correlated to the endogenous independent variable, but not to the error term. Capron and Shen (2007) construct five independent variables related to information asymmetry. These are all found to have a significant effect on the likelihood of a target to be either private or public on different levels of significance. It is common to use at least two instruments in the IV method, therefore, the two most significant variables of the Capron and Shen paper are used.

The first variable is the Target Age. Targets are more likely to be private than public when they are young. This is due to a 'population effect', which means that companies have more opportunities to become publicly listed when they are older (Capron & Shen, 2007). The Target Age variable is measured on a scale from 1-5 and is expected to be positively related to the likelihood of being a public target. A more detailed description of the variable can be found in Appendix A. A second instrument is the binary variable New Industry, which defines if a target is in the core business of the acquirer or not. The expectation is that this variable is also positively related to the likelihood of being a public target, while it is easier to identify private targets when business proximity is high (Chatterjee, 1986; Singh & Montgomery, 1987; Shen & Reuer, 2005). This dummy variable has the value of 1 when the acquirer is

diversifying, i.e. targeting a different industry than its core industry. The variable takes on a value of 0 when the target industry matches the core business.

The selection equation is run simultaneously with the outcome equation. This differs from the Heckman procedure, where the first and second equation are run sequentially. In the outcome equation, the instrumental variables are left out and the model should yield unbiased estimates of the coefficients. Appendix O shows the results of this procedure. Including both instrumental variables, however, does not generate the unbiased results that were expected. The parameter rho indicates the correlation between the instrumental variables and the error term of the outcome model. In the models, the rho of 0.359 and 0.354 are significant on a 5% significance level and indicates that the set of instrumental variables does not qualify for dealing with endogeneity issues. This is supported by the results from the Wald test for exogeneity, which are displayed in Appendix P. The test statistics of 0.0412 and 0.0438 are lower than the significance level of 5%, which rejects the null hypothesis of exogeneity.

Removing the New Industry variable improves the model substantially. Table 6 displays the results for the biprobit model with Target Age as only instrumental variable. The rho decreased to 0.186 and 0.185 and is not significant anymore. Additionally, the Wald tests for exogeneity yield test statistics of 0.4257 and 0.4255, which cannot reject the null hypothesis of exogeneity. Therefore, it can be concluded that the biprobit model including Target Age as instrumental variable effectively deals with the endogeneity of the Public Status variable. The results of this model are therefore less biased than the results of the original probit regression.

Considering the endogeneity issues has consequences for the results, however, the direction of the coefficients does not change. The Tenure coefficient remains negatively significant on a 1% level and the Tenure-squared coefficient decreases in significance to a 5% level. This does not alter the implications for the relationship between CEO tenure and the likelihood of becoming a serial acquirer. The endogeneity treatment mostly affects the significance of the Public Status coefficient, declining to a 10% significance level. This change justifies the concerns about endogeneity, but it does not remove the negative relationship between a serial bidder and the likelihood that he acquires a public target as sequence initiation.

31

Table 6: Biprobit regression results - Instrumental variable Target Age. This table presents the results of the biprobit regression model with one instrumental variable, Target Age. In model 1, 2 and 3, the measure of the deal market intensity based on the number of transactions is included and model 4, 5 and 6 consider the results including the deal market intensity based on the value of the deals. In model 1 and 4, Serial Acquirer is the dependent variable (outcome equation). In model 2 and 5, Public Status is the dependent variable (selection equation). Model 3 and 6 present the correlation and homoskedasticity of the results. Due to sizing limitations, controls, and year and industry dummies are not fully displayed. However, an extended version can be found in Appendix Q.

VARIABLES	(1) Serial Acquirer	(2) Public Status	(3) /	(4) Serial Acquirer	(5) Public Status	(6) /
Public Status	-0.987*			-0.987*		
	(0.576)			(0.574)		
Deal Market Intensity - Deals	0.0487	0.0313				
	(0.253)	(0.0637)				
Deal Market Intensity - Value				0.137	-0.00762	
				(0.153)	(0.0452)	
Acquisition Experience	0.376	-0.0526		0.391	-0.0537	
	(0.403)	(0.0879)		(0.407)	(0.0873)	
Industry Experience	-0.0740	0.0180		-0.0927	0.0183	
	(0.266)	(0.0708)		(0.266)	(0.0708)	
Tenure	-0.000378***	7.49e-05**		-0.000380***	7.54e-05**	
	(0.000125)	(3.27e-05)		(0.000125)	(3.26e-05)	
Tenure-squared	6.41e-08**	-9.15e-09		6.48e-08**	-9.22e-09	
	(2.58e-08)	(7.86e-09)		(2.60e-08)	(7.84e-09)	
Target Age		0.0625***			0.0626***	
		(0.0107)			(0.0107)	
ρ			0.186			0.185
			(0.233)			(0.232)
σ			-0.990***			-0.990***
			(0.0223)			(0.0223)
Constant	0.311	-0.565***		0.191	-0.526**	
	(0.885)	(0.208)		(0.864)	(0.205)	
Observations	1,037	1,037	1,037	1,037	1,037	1,037
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

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

Chapter V: Conclusion & Discussion

5.1 Conclusion

This paper contributes to literature on behavioural finance by improving the framework for debiasing valuations (Smit & Lovallo, 2014). A real options thinking perspective enables decision-makers to deal with the uncertainty that is associated with the process of corporate takeovers. More specifically, the application of real options thinking makes CEOs see the uncertainty as options that could be explored through staging an investment. Consequently, an acquisition is not considered to be a standalone event. Instead, it should be linked to the future opportunities that it creates. Which CEOs are most likely to apply this strategy was not yet subject to research. Therefore, this paper tries to answer which CEO characteristics determine whether a manager becomes a serial acquirer or only makes one acquisition at a firm, and stays a single acquirer. The characteristics are divided in three categories: preferences, market timing and experience.

In the first category, the hypothesis was tested whether highly acquisitive CEOs prefer public over private initial targets. Although the public targets should be preferred over the private targets from a real options view, the results from the probit regression deviated from this expectation. They strongly pointed towards a preference for non listed companies, which suggests that serial acquirers value the advantages of information asymmetry for private targets over the advantages, such as financial capabilities, for public targets. This suggestion is supported by the evidence that arises when a distinction is made between the behaviour in cold and hot deal markets. In cold deal markets, serial acquirers have a stronger preference for private targets than in hot deal markets, because high valuations in hot deal markets make them drop out of the deal market. Due to the high information asymmetry, the valuations of private targets move away from their fundamental values, which makes them less attractive to serial acquirers. In contrast, CEOs that apply a real options view value the targets higher than their rivals do in a cold deal market, because they are able to identify the long-term growth opportunities.

A second potential explanation of the importance of information availability, through the acquirer-target industry match, was not found to be significant. It was expected that public companies were more attractive as platform investments in new industries, due to their wider geography and larger customer base. However, there is no evidence in this sample that the preference for private targets is dependent on whether the acquirer diversifies its activities in a new industry or consolidates in their own, familiar industry.

The measures of market intensity regarding the number of transactions and the deal value address to the second category, the market timing. Via these two measures, the hypothesis was tested whether serial acquirers rather start their acquisition sequence in a hot or a cold deal market. Based on real options theory, CEOs executing such a strategy were expected to make their initial acquisition in a cold deal market to avoid clashes with irrational rivals. Neither of the two measures confirmed this expectation, and the, insignificant, positive coefficients pointed towards an opposite direction. This could be a sign that serial acquirers are also subject to herding behaviour or that differences in behaviour lie within the hot deal market. Additionally, within the hot deal market, there were no strong differences between the likelihood of becoming a single or a serial acquirer. Therefore, it cannot be concluded that the market timing determines whether a CEO initiates a serial acquisition strategy.

Finally, in the third category, the paper focuses on the CEO characteristics related to experience. The experience is divided in two subcategories: prior CEO experience and tenure. The prior CEO experience relates to the experience that a manager obtained at a different company, but in the same function. If a CEO made acquisitions in this function, the CEO was considered to have acquisition experience. Due to the negative transfer of human capital, this acquisition experience was hypothesised to have a negative effect on the likelihood of becoming a serial acquirer. The human capital that was acquired at the previous firm deviated to such an extend from the new environment, that it was hard for a CEO to replicate the task at a new position. This relationship does not hold in the results of this paper. This might indicate that the negative transfer of human capital does not apply to the specific task of acquiring firms. Furthermore, evidence of the contrary is missing, the coefficients do not point to a positive complementary value of acquisition experience to the likelihood of becoming a serial acquirer.

The probit regression model was also not able to identify a significant relationship between industry experience and a multiple acquisition strategy. If the CEO had a prior CEO function in the same industry as the target, it was expected that this would positively influence his interests for applying this strategy. The negative direction of the coefficient suggests that industry experience also leads to a negative transfer of human capital, and a CEO being unable to identify the long-term value of follow-up acquisitions. However, due to its insignificance, no strong inferences could be made from this result.

For the second subcategory, the tenure, the direction of the results is stronger, although it diverged from the expectations. The risk that short-tenured CEOs had of losing their job

was expected to withhold them from initiating acquisition sequences. However, the likelihood of these CEOs to perform such a strategy is higher than that of moderately tenured peers. This result suggests that the different risk preference of newly appointed managers makes them better at identifying growth opportunities, when others miss out. Consequently, the expected inverted U-shape of the relationship of tenure and the likelihood of becoming a serial acquiring does not occur. Contrarily, after a period where moderately tenured CEOs show lower sequential acquisition activity, the coefficients become positive when the tenure shifts from moderate to long. Although the seasoned CEOs have a lower risk preference than their new peers, their large knowledgebase and the increase in power they experience over time, increases the likelihood of initiating an acquisition sequence again.

In conclusion, the three categories do not show the same significance in explaining which CEOs limit themselves in the number of acquisition they make and which CEOs evolve to apply a serial acquiring strategy. The deal market intensity and the prior CEO experience do not seem to have a significant effect, which leaves the public status and the tenure as the most important determinants. CEOs that initially target private companies and that are newly appointed or highly seasoned have the highest chance of becoming a serial acquirer. The preference for private targets over public targets is stronger when the acquisition activity in the market qualifies as cold. Managers seem to value heterogeneous information over the advantages of public firms, such as their financial resources. The results for the preference for private targets and the influence of the tenure are robust to different requirements for the deals a CEO-firm combination needs to complete to qualify as a serial acquirer. Additionally, when controlling for the endogeneity that is related to the Public Status variable, the results hold, although the preference for private targets as platform investments decreases.

5.2 Discussion

The second part of this chapter presents the implications and the limitations of the results and the possibilities for further research following the paper. One important implication of this research is how the results contribute to real options thinking theory. Although it can be concluded that CEO characteristics differ between single and serial acquirers, not all significant relations or the lack of significant relations could be justified from a real options view. While options theory for example predicts a difference in market timing, this is not supported by the data. Single and serial acquirers seem to move together in bullish markets, which implies that serial acquirers are not able to accurately value their

targets. Moreover, they might be subject to the same herding behaviour that real options thinking theory only attributes to irrational rivals (Smit & Moraitis, 2010). Hence, the extend to which valuation difficulties disappear by focusing on long term growth opportunities arising from the optionality of investments might be limited. Other theories related to behavioural biases in finance might have higher explanatory power for serial acquiring behaviour, for example overconfidence (Malmendier & Tate, 2005a). The results of this paper however do not exclude another possibility. Real options thinking theory holds when irrational rivals are subject to herding behaviour, while rational bidders simply value a target higher because of the long term growth opportunities. In that case, rational and irrational bidders move together during periods of high market activity. Further research on the characteristics of serial acquiring bidders could clarify this debate.

One of the limitations of the paper is the scope that is considered for testing the effect of the first subcategory of experience, the prior CEO experience. This research only focuses on the effect of acquisition and industry experience when the CEO has prior experience for the same function. The scope can be broadened by not only focusing on prior CEOs, but also including experience on other top management level positions (Custodio & Metzger, 2013). Furthermore, the difference between insider and outsider experience might also have implications for the likelihood of a manager turning into a serial acquirer. These limitations could be generalised to the limitation of using proxies instead of directly measuring experience.

In addition to possibilities for further research on the specific CEO characteristics, this research might motivate others to focus on how these characteristics influence the performance of the acquiring firms. The performance between sequential deals has already been subject to research (i.e., Laamanen & Keil, 2008; Croci & Petmezas, 2009), but how this is influenced by the characteristics in this paper might make significant contributions to behavioural finance literature.

Chapter VI: References

Akerlof, G. A. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism*. *The Quarterly Journal of Economics*, *84*(3), 488-500. https://doi.org/10.2307/1879431

Aktas, N., de Bodt, E., & Roll, R. (2007). *Corporate Serial Acquisitions: An Empirical Test of the Learning Hypothesis* (SSRN Scholarly Paper Nr. 885507). https://doi.org/10.2139/ssrn.885507

Aktas, N., de Bodt, E., & Roll, R. (2009). Learning, hubris and corporate serial acquisitions. *Journal of Corporate Finance*, *15*(5), 543-561. https://doi.org/10.1016/j.jcorpfin.2009.01.006

Aktas, N., de Bodt, E., & Roll, R. (2011). Serial acquirer bidding: An empirical test of the learning hypothesis. *Journal of Corporate Finance*, *17*(1), 18-32. https://doi.org/10.1016/j.jcorpfin.2010.07.002

Aktas, N., de Bodt, E., & Roll, R. (2013). Learning from repetitive acquisitions: Evidence from the time between deals. *Journal of Financial Economics*, *108*(1), 99-117. https://doi.org/10.1016/j.jfineco.2012.10.010

Andrade, G., Mitchell, M., & Stafford, E. (2001). New Evidence and Perspectives on Mergers. *The Journal of Economic Perspectives*, *15*(2), 103-120.

Audia, P. G., Locke, E. A., & Smith, K. G. (2000). The Paradox of Success: An Archival and a Laboratory Study of Strategic Persistence Following Radical Environmental Change. *Academy of Management Journal*, *43*(5), 837-853. https://doi.org/10.5465/1556413

Betton, S., Eckbo, B. E., & Thorburn, K. S. (2008). *Corporate Takeovers* (SSRN Scholarly Paper Nr. 1131033). https://papers.ssrn.com/abstract=1131033

Billett, M. T., & Qian, Y. (2008). Are Overconfident CEOs Born or Made? Evidence of Self-Attribution Bias from Frequent Acquirers. *Management Science*, *54*(6), 1037-1051.

Bollerslev, T., & Wooldridge, J. M. (1992). Quasi-maximum likelihood estimation and inference in dynamic models with time-varying covariances. *Econometric Reviews*, *11*(2), 143-172. https://doi.org/10.1080/07474939208800229

Bradley, M., & Sundaram, A. (2004). Do Acquisitions Drive Performance or Does Performance Drive Acquisitions? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.592761

Brooks, C. (2019, maart 28). *Introductory Econometrics for Finance*. Higher Education from Cambridge University Press; Cambridge University Press. https://doi.org/10.1017/9781108524872

Cannella, A. A., & Lubatkin, M. (1993). Succession as a Sociopolitical Process: Internal Impediments to Outsider Selection. *The Academy of Management Journal*, *36*(4), 763-793. https://doi.org/10.2307/256758

Capron, L., & Shen, J.-C. (2007). Acquisitions of Private vs. Public Firms: Private Information, Target Selection, and Acquirer Returns. *Strategic Management Journal*, *28*(9), 891-911.

Chang, S. (1998). Takeovers of Privately Held Targets, Methods of Payment, and Bidder Returns. *The Journal of Finance*, *53*(2), 773-784.

Chang, S.-C., & Tsai, M.-T. (2013). Long-run performance of mergers and acquisition of privately held targets: Evidence in the USA. *Applied Economics Letters*, *20*(6), 520-524. https://doi.org/10.1080/13504851.2012.718060

Charan, R. (2005). Ending the CEO Succession Crisis. *Harvard Business Review*. https://hbr.org/2005/02/ending-the-ceo-succession-crisis

Chatterjee, S. (1986). Types of synergy and economic value: The impact of acquisitions on merging and rival firms. *Strategic Management Journal*, *7*(2), 119-139.

Chidambaran, N. K., John, K., Shangguan, Z., & Vasudevan, G. (2009). Hot and cold merger markets. *Review of Quantitative Finance and Accounting*, *34*, 327-349. https://doi.org/10.1007/s11156-009-0133-z

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2002). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (3de dr.). Routledge. https://doi.org/10.4324/9780203774441

Croci, E., & Petmezas, D. (2009). *Why Do Managers Make Serial Acquisitions? An Investigation of Performance Predictability in Serial Acquisitions* (SSRN Scholarly Paper Nr. 727503). Social Science Research Network. https://doi.org/10.2139/ssrn.727503

Custodio, C., & Metzger, D. (2013). *How do CEOs Matter? The Effect of Industry Expertise on Acquisition Returns* (SSRN Scholarly Paper Nr. 1647073). https://doi.org/10.2139/ssrn.1647073

Elsaid, E., Wang, X., & Davidson, W. N. (2011). Does experience matter? CEO successions by former CEOs. *Managerial Finance*, *37*(10), 915-939. https://doi.org/10.1108/03074351111161583

Faccio, M., McConnell, J. J., & Stolin, D. (2006). Returns to Acquirers of Listed and Unlisted Targets. *Journal of Financial and Quantitative Analysis*, *41*(1), 197-220. https://doi.org/10.1017/S0022109000002477

Fombrun, C., & Shanley, M. (1990). What's in a Name? Reputation Building and Corporate Strategy. *The Academy of Management Journal*, *33*(2), 233-258. https://doi.org/10.2307/256324

Freedman, D. A., & Sekhon, J. S. (2008). Endogeneity in Probit Response Models. *U.C. Berkeley CA*, 13.

Fuller, K., Netter, J., & Stegemoller, M. (2002). What Do Returns to Acquiring Firms Tell Us? Evidence from Firms That Make Many Acquisitions. *The Journal of Finance*, *57*(4), 1763-1793. https://doi.org/10.1111/1540-6261.00477

Graffin, S. D., Carpenter, M. A., & Boivie, S. (2011). What's All That (strategic) Noise? Anticipatory Impression Management in Ceo Succession. *Strategic Management Journal*, *32*(7), 748-770.

Griffin, J. M., Harris, J. H., Shu, T., & Topaloglu, S. (2011). Who Drove and Burst the Tech Bubble? *The Journal of Finance*, *66*(4), 1251-1290. https://doi.org/10.1111/j.1540-6261.2011.01663.x

Guest, P. M., Cosh, A., Hughes, A., & Conn, R. L. (2004). Why must all good things come to an end? The performance of multiple acquirers. *Academy of Management Proceedings*, *2004*(1), S1-S6. https://doi.org/10.5465/ambpp.2004.13863814

Hambrick, D. C., & Fukutomi, G. D. S. (1991). The Seasons of a CEO's Tenure. *The Academy of Management Review*, *16*(4), 719-742. https://doi.org/10.2307/258978

Hambrick, D. C., & Mason, P. A. (1984). Upper Echelons: The Organization as a Reflection of Its Top Managers. *The Academy of Management Review*, *9*(2), 193-206. https://doi.org/10.2307/258434

Hamori, M., & Koyuncu, B. (2015). Experience Matters? The Impact of Prior CEO Experience on Firm Performance. *Human Resource Management*, *54*(1), 23-44. https://doi.org/10.1002/hrm.21617

Harris, D., & Helfat, C. (1997). Specificity of CEO human capital and compensation. *Strategic Management Journal*, *18*(11), 895-920. https://doi.org/10.1002/(SICI)1097-0266(199712)18:11<895::AID-SMJ931>3.0.CO;2-R

Hayward, M. L. A., & Hambrick, D. C. (1997). Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris. *Administrative Science Quarterly*, *42*(1), 103-127. https://doi.org/10.2307/2393810

Heckman, J. J. (1978). Dummy Endogenous Variables in a Simultaneous Equation System. *Econometrica*, *46*(4), 931-959. https://doi.org/10.2307/1909757

Heckman, J. J. (1979). Sample Selection Bias as a Specification Error. *Econometrica*, *47*(1), 153-161. https://doi.org/10.2307/1912352

Holmstrom, B., & Kaplan, S. N. (2001). Corporate Governance and Merger Activity in the United States: Making Sense of the 1980s and 1990s. *The Journal of Economic Perspectives*, *15*(2), 121-144.

Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *The American Economic Review*, *76*(2), 323-329.

Kaplan, S. N., & Strömberg, P. (2009). Leveraged Buyouts and Private Equity. *The Journal of Economic Perspectives*, *23*(1), 121-146.

Khurana, R. (2001). Finding the Right CEO: Why Boards Often Make Poor Choices. *MIT Sloan Management Review*. https://sloanreview.mit.edu/article/finding-the-right-ceo-why-boards-often-make-poor-choices/

Kogut, B., & Kulatilaka, N. (1994). Options Thinking and Platform Investments: Investing in Opportunity. *California Management Review*, *36*(2), 52-71. https://doi.org/10.2307/41165744

Kroll, M. J., Toombs, L. A., & Wright, P. (2000). Napoleon's Tragic March Home from Moscow: Lessons in Hubris. *The Academy of Management Executive (1993-2005)*, *14*(1), 117-128.

Laamanen, T., & Keil, T. (2008). Performance of Serial Acquirers: Toward an Acquisition Program Perspective. *Strategic Management Journal*, *29*(6), 663-672.

Makadok, R., & Barney, J. B. (2001). Strategic Factor Market Intelligence: An Application of Information Economics to Strategy Formulation and Competitor Intelligence. *Management Science*, *47*(12), 1621-1638. https://doi.org/10.1287/mnsc.47.12.1621.10245

Malmendier, U. (2018). *Behavioral Corporate Finance* (Working Paper Nr. 25162). National Bureau of Economic Research. https://doi.org/10.3386/w25162

Malmendier, U., & Tate, G. (2005a). CEO Overconfidence and Corporate Investment. *The Journal of Finance*, *60*(6), 2661-2700. https://doi.org/10.1111/j.1540-6261.2005.00813.x

Malmendier, U., & Tate, G. (2005b). Does Overconfidence Affect Corporate Investment? CEO Overconfidence Measures Revisited. *European Financial Management*, *11*(5), 649-659. https://doi.org/10.1111/j.1354-7798.2005.00302.x

McDonald, M. L., Westphal, J. D., & Graebner, M. E. (2008). What do they know? The effects of outside director acquisition experience on firm acquisition performance. *Strategic Management Journal*, *29*(11), 1155-1177. https://doi.org/10.1002/smj.704

Murphy, K. J., & Zábojník, J. (2004). CEO Pay and Appointments: A Market-Based Explanation for Recent Trends. *The American Economic Review*, *94*(2), 192-196.

Murphy, K. J., & Zabojnik, J. (2006). *Managerial Capital and the Market for CEOs* (Working Paper Nr. 1110). Queen's Economics Department Working Paper. https://www.econstor.eu/handle/10419/189386

Ocasio, W. (1999). Institutionalized Action and Corporate Governance: The Reliance on Rules of CEO Succession. *Administrative Science Quarterly*, *44*(2), 384-416. https://doi.org/10.2307/2667000

Reuer, J. J., & Ragozzino, R. (2008). Adverse selection and M&A design: The roles of alliances and IPOs. *Journal of Economic Behavior & Organization*, *66*(2), 195-212. https://doi.org/10.1016/j.jebo.2006.04.003

Rhodes–Kropf, M., Robinson, D. T., & Viswanathan, S. (2005). Valuation waves and merger activity: The empirical evidence. *Journal of Financial Economics*, *77*(3), 561-603. https://doi.org/10.1016/j.jfineco.2004.06.015

Rhodes-Kropf, M., & Viswanathan, S. (2004). Market Valuation and Merger Waves. *The Journal of Finance*, *59*(6), 2685-2718.

Roll, R. (1986). The Hubris Hypothesis of Corporate Takeovers. *The Journal of Business*, *59*(2), 197-216.

Scharfstein, D. S., & Stein, J. C. (1990). Herd Behavior and Investment. *The American Economic Review*, *80*(3), 465-479.

Shen, J.-C., & Reuer, J. J. (2005). Adverse Selection in Acquisitions of Small Manufacturing Firms: A Comparison of Private and Public Targets. *Small Business Economics*, *24*(4), 393-407. https://doi.org/10.1007/s11187-005-5332-y

Shen, W. (2003). The Dynamics of the CEO-Board Relationship: An Evolutionary Perspective. *The Academy of Management Review*, *28*(3), 466-476. https://doi.org/10.2307/30040733

Shleifer, A., & Vishny, R. W. (2003). Stock market driven acquisitions. *Journal of Financial Economics*, *70*(3), 295-311. https://doi.org/10.1016/S0304-405X(03)00211-3

Singh, H., & Montgomery, C. A. (1987). Corporate Acquisition Strategies and Economic Performance. *Strategic Management Journal*, *8*(4), 377-386.

Smit, H., & Lovallo, D. (2014). Creating More Accurate Acquisition Valuations. *MIT Sloan Management Review*, *56*(1), 63-71.

Smit, H., & Moraitis, T. (2010). Playing at Serial Acquisitions. *California Management Review*, *53*(1), 56-89. https://doi.org/10.1525/cmr.2010.53.1.56

Smit, H., & Moraitis, T. (2015). *Playing at Acquisitions: Behavioral Option Games* (STU-Student edition). Princeton University Press. https://www.jstor.org/stable/j.ctt9qh0nc

Smit, H. T. J., & Kil, J. C. M. (2017). Toehold Acquisitions as Behavioral Real Options. *California Management Review*, *59*(3), 42-73. https://doi.org/10.1177/0008125617712255

Smit, H. T. J., & Trigeorgis, L. (2004). *Strategic Investment: Real Options and Games*. Princeton University Press. https://doi.org/10.2307/j.ctvcm4hg0

Song, M. H., & Walkling, R. A. (2000). Abnormal returns to rivals of acquisition targets: A test of the `acquisition probability hypothesis'. *Journal of Financial Economics*, *55*(2), 143-171. https://doi.org/10.1016/S0304-405X(99)00048-3

Taboga, M. (2021). *IID Sequence* [Online appendix]. Lectures on probability theory and mathematical statistics. https://www.statlect.com/glossary/IID-sequence

Thaler, R. H. (1988). Anomalies: The Winner's Curse. *Journal of Economic Perspectives*, *2*(1), 191-202. https://doi.org/10.1257/jep.2.1.191

Travlos, N. G. (1987). Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. *The Journal of Finance*, *42*(4), 943-963. https://doi.org/10.2307/2328300

Vancil, R. F. (1987). *Passing the baton: Managing the process of CEO succession*. Harvard Business School Press.

Walters, B. A., Kroll, M. J., & Wright, P. (2007). CEO tenure, boards of directors, and acquisition performance. *Journal of Business Research*, *60*(4), 331-338. https://doi.org/10.1016/j.jbusres.2006.12.001

Wright, P., Kroll, M., & Elenkov, D. (2002). Acquisition Returns, Increase in Firm Size, and Chief Executive Officer Compensation: The Moderating Role of Monitoring. *The Academy of Management Journal*, *45*(3), 599-608. https://doi.org/10.2307/3069384

Zajac, E. J. (1990). Ceo selection, succession, compensation and firm performance: A theoretical integration and empirical analysis. *Strategic Management Journal*, *11*(3), 217-230. https://doi.org/10.1002/smj.4250110304

Zhang, Y. (2008). Information Asymmetry and the Dismissal of Newly Appointed CEOs: An Empirical Investigation. *Strategic Management Journal*, *29*(8), 859-872.

Zhang, Y. (2017). A Selection that Cannot Stand the Test: Succession Contexts and New CEO Dismissal. *Academy of Management Proceedings*. https://doi.org/10.5465/ambpp.2005.18778386

Appendices

Appendix A: Variable List

Denotation	Name	Type	Definition / Computation	Description	Source
Panel A: Dependent Variable					
serial_acquirer	Serial Acquirer	Dummy	1 = Serial Acquirer 0 = Single Acquirer	Dummy variable that identifies if a CEO-firm combinations qualifies as a serial acquirer based on the number of deals made.	Refinitiv Eikon / Execucomp
Panel B: Independent Variables					
public_status	Public Status	Dummy	1 = Private Target 0 = Public Target	Dummy variable that identifies if a target company is listed or non listed.	Refinitiv Eikon
industry_new	New Industry	Dummy	1 = New Industry 0 = Same Industry	Dummy variable that identifies if a target company operates in the same industry as the acquiring company.	Refinitiv Eikon
intensity_deals	Deal Market Intensity – Deals	Dummy	1 = Hot Deal Market 0 = Cold Deal Market	Dummy variable that identifies if the natural log of the number of transactions in the trailing twelve months prior to the announcement date is higher than natural log of the median of the number of transactions in the entire sample.	Refinitiv Eikon
intensity_value	Deal Market Intensity – Value	Dummy	1 = Hot Deal Market 0 = Cold Deal Market	Dummy variable that identifies if the natural log of the total transaction value in the trailing twelve months prior to the announcement date is higher than natural log of the median of the transaction value in the entire sample.	Refinitiv Eikon
acquisition_experience	Acquisition Experience	Dummy	1 = Experience 0 = No Experience	Dummy variable that identifies if a CEO made an acquisition at another firm prior to the announcement date.	Refinitiv Eikon / Execucomp
industry_experience	Industry Experience	Dummy	1 = Experience 0 = No Experience	Dummy variable that identifies if a CEO has experience as a CEO in the same industry as the observed CEO-firm combination.	Refinitiv Eikon / Execucomp
tenure	Tenure	Continuous	Term of employment as a CEO	The number of days between the date of appointment of a CEO and the announcement date of the first acquisition.	Refinitiv Eikon / Execucomp
tenure-squared	Tenure-squared	Continuous	(Term of employment as a CEO)^2	The quadratic form of the number of days between the date of appointment of a CEO and the announcement date of the first acquisition.	Refinitiv Eikon / Execucomp

Appendix A: Variable List (continued)

Denotation	Name	Type	Definition / Computation	Description	Source
Panel C: Instrumental Variables					
target_age	Target Age	Categorical	Scale of announcement year – founding year	Scale from 1-5 that categorizes the number of years between the year of the target founding and the announcement date of the initial target. 1 = < 2 years, 2 = 2-5 years, 3 = 6-10 years, 4 = 11-15 years, 5 = > 15 years.	Refinitiv Eikon
industry_new	New Industry	Dummy	1 = New Industry 0 = Same Industry	Dummy variable that indicates if the industry of the acquirer and the initial target match. The industry is based on the TRBC 2-digit industry code.	Refinitiv Eikon
Panel D: Control Variables					
assets	Assets	Continuous	Total Assets	The sum of the total current assets, long term receivables, investment in unconsolidated subsidiaries, other investment, net property, plant and equipment, and other assets.	Datastream
MTBV	Market-to-Book Value	Continuous	Market Value / Book Value	The market value of the ordinary (common) equity divided by the balance sheet of the ordinary (common) equity in the company.	Datastream
cash	Cash	Continuous	Monetary value of liquid assets	The money available for use in normal operations of the company.	Datastream
leverage	Leverage	Continuous	(Debt/Equity)*100%	The percentage of long term debt plus short term debt and the current portion of long term debt relative to the common equity	Datastream
year	Year	Dummy	Year of the announcement date	The year in which the first deal of the CEO-firm combination is announced.	Refinitiv Eikon
industry	Industry	Dummy	TRBC Industry Group	The industry group of the acquirer that is based on the Refinitiv Business Classification Code.	Refinitiv Eikon

Appendix B: Jarque-Bera Normality Tests

    1. Model Deal Market Intensity - Deals

Jarque-Bera normality test: **346.8** Chi(**2**) **4.9e-76**

Jarque-Bera test for Ho: normality:

    2. Model Deal Market Intensity - Value

Jarque-Bera normality test: **353.3** Chi(**2**) **1.9e-77**

Jarque-Bera test for Ho: normality:

Appendix C: Pearson Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Serial Acquirer	1.000													
(2) Public Status	-0.174*	1.000												
(3) Intensity – Deals	0.134*	0.032	1.000											
(4) Intensity – Value	0.036	0.027	0.286*	1.000										
(5) Acquisition Experience	0.030	-0.012	-0.052	-0.030	1.000									
(6) Industry Experience	0.012	0.002	-0.019	0.048	0.259*	1.000								
(7) Tenure	-0.177*	0.093*	-0.150*	-0.034	-0.035	-0.073	1.000							
(8) Tenure-squared	-0.127*	0.062	-0.145*	-0.026	-0.039	-0.052	0.921*	1.000						
(9) Assets	-0.039	0.152*	-0.051	0.032	0.052	0.014	-0.094*	-0.084*	1.000					
(10) MTBV	0.005	0.000	0.014	0.087*	0.041	-0.009	0.006	0.002	0.000	1.000				
(11) Cash	0.013	0.075	-0.005	-0.100*	0.016	0.063	-0.050	-0.055	0.620*	0.028	1.000			
(12) Leverage	-0.094*	0.124*	-0.068	0.076	0.032	0.031	0.053	0.034	0.306*	0.293*	0.098*	1.000		
(13) New Industry	0.079	-0.177*	0.025	-0.009	0.033	-0.089*	-0.058	-0.063	0.013	0.050	0.044	0.014	1.000	
(14) Target Age	-0.049	0.145*	0.000	0.042	0.006	-0.045	0.013	-0.021	0.020	-0.033	-0.020	0.059	-0.076	1.000

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

Appendix D: Deal Market Intensity by Deal and Value
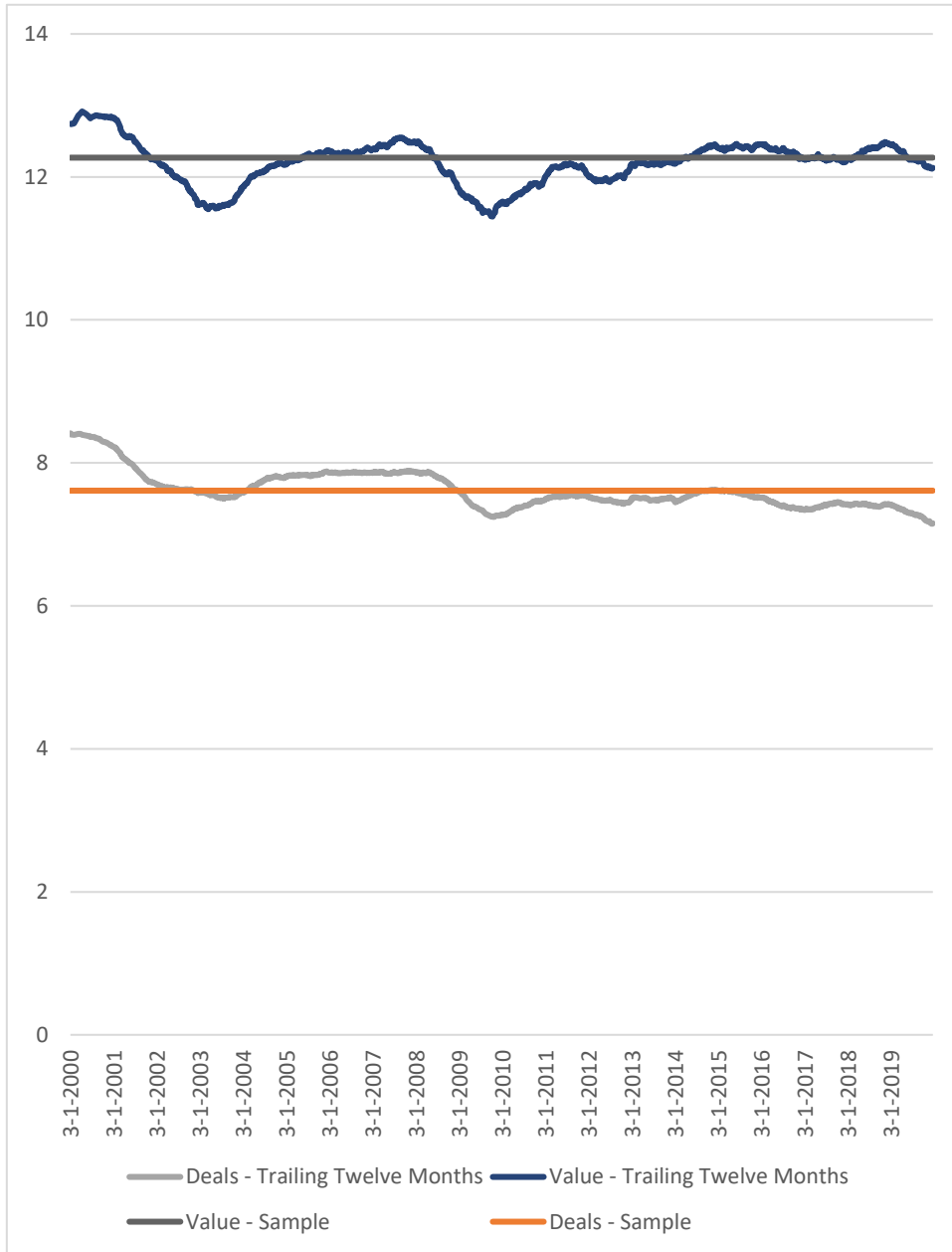
Appendix E: Probit regression results. This table presents the results of the probit regression model only including the control variables (1), the full model with the deal market intensity measure based on the number of transactions (2) and the full model with the deal market intensity measure based on the value of the transactions (3). Due to size restrictions, the results for the year and industry dummies are not fully displayed.

VARIABLES	(1)	(2)	(3)
Public Status		-0.396***	-0.396***
		(0.0813)	(0.0813)
Deal Market Intensity - Deals		-0.0195	
		(0.173)	
Deal Market Intensity - Value			0.0469
			(0.103)
Acquisition Experience		-0.0299	-0.0285
		(0.240)	(0.239)
Industry Experience		-0.172	-0.175
		(0.207)	(0.207)
Tenure		-0.000389***	-0.000389***
		(7.84e-05)	(7.84e-05)
Tenure-squared		6.48e-08***	6.49e-08***
		(1.85e-08)	(1.85e-08)
Assets	0.0437*	0.0426	0.0426
	(0.0259)	(0.0267)	(0.0267)
MTBV	0.00687	0.0104	0.01000
	(0.0167)	(0.0169)	(0.0169)
Cash	0.0672**	0.0703***	0.0705***
	(0.0262)	(0.0266)	(0.0266)
Leverage	-0.000465	-0.000387	-0.000385
	(0.000375)	(0.000381)	(0.000381)
Dummy Assets	-0.122	-0.303	-0.287
	(0.896)	(0.829)	(0.835)
Dummy MTBV	0.267***	0.302***	0.301***
	(0.103)	(0.103)	(0.103)
Dummy Cash	-0.0737	-0.0793	-0.0811
	(0.0962)	(0.0982)	(0.0985)
Dummy Leverage	-0.381	-0.172	-0.184
	(0.867)	(0.796)	(0.801)
Constant	-0.451	-0.345	-0.414
	(0.389)	(0.434)	(0.412)
Observations	2,269	2,269	2,269
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Pseudo R2	0.119	0.139	0.139

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

Appendix F: Probit regression results - Moderating effect deal market intensity. This table displays the original probit regression results (2-3) and the extended models where an interaction term is added to test the moderating effect of the deal market intensity on the relation between the Serial Acquirer and Public Status variables. In model 4, an interaction term is included for the measure of market intensity based on the number of transactions and in model 5, an interaction term is included for the measure of market intensity based on the value of the transactions. Due to sizing restrictions, the results of the year and industry dummies are not fully displayed.

VARIABLES	(2)	(3)	(4)	(5)
Public Status	-0.396***	-0.396***	-0.567***	-0.304***
	(0.0813)	(0.0813)	(0.107)	(0.109)
Deal Market Intensity - Deals	-0.0195		-0.0988	
	(0.173)		(0.177)	
Public Status * Deal Market Intensity (D)			0.394**	
			(0.159)	
Deal Market Intensity - Value		0.0469		0.0783
		(0.103)		(0.107)
Public Status * Deal Market Intensity (V)				-0.189
				(0.155)
Acquisition Experience	-0.0299	-0.0285	-0.0247	-0.0218
	(0.240)	(0.239)	(0.240)	(0.239)
Industry Experience	-0.172	-0.175	-0.166	-0.175
	(0.207)	(0.207)	(0.208)	(0.207)
Tenure	-0.000389***	-0.000389***	-0.000385***	-0.000388***
	(7.84e-05)	(7.84e-05)	(7.86e-05)	(7.84e-05)
Tenure-squared	6.48e-08***	6.49e-08***	6.40e-08***	6.45e-08***
	(1.85e-08)	(1.85e-08)	(1.85e-08)	(1.85e-08)
Assets	0.0426	0.0426	0.0430	0.0435
	(0.0267)	(0.0267)	(0.0267)	(0.0267)
MTBV	0.0104	0.01000	0.0119	0.0102
	(0.0169)	(0.0169)	(0.0169)	(0.0169)
Cash	0.0703***	0.0705***	0.0706***	0.0700***
	(0.0266)	(0.0266)	(0.0266)	(0.0266)
Leverage	-0.000387	-0.000385	-0.000364	-0.000384
	(0.000381)	(0.000381)	(0.000382)	(0.000382)
Dummy Assets	-0.303	-0.287	-0.191	-0.348
	(0.829)	(0.835)	(0.856)	(0.825)
Dummy MTBV	0.302***	0.301***	0.304***	0.299***
	(0.103)	(0.103)	(0.104)	(0.103)
Dummy Cash	-0.0793	-0.0811	-0.0728	-0.0808
	(0.0982)	(0.0985)	(0.0982)	(0.0984)
Dummy Leverage	-0.172	-0.184	-0.283	-0.131
	(0.796)	(0.801)	(0.824)	(0.790)
Constant	-0.345	-0.414	-0.340	-0.430
	(0.434)	(0.412)	(0.432)	(0.414)
Observations	2,269	2,269	2,269	2,269
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.139	0.139	0.141	0.139

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

Appendix G: Probit regression results - Moderating effect target industry. This table shows the two original probit regression models (2-3) and two new models where the interaction term between Public Status and New Industry is included (6-7). Due to sizing restrictions, year and industry dummies are not fully displayed.

VARIABLES	(2)	(3)	(6)	(7)
Public Status	-0.396***	-0.396***	-0.321***	-0.321***
	(0.0813)	(0.0813)	(0.101)	(0.101)
New Industry			0.0636	0.0630
			(0.0688)	(0.0688)
Public Status * New Industry			-0.192	-0.191
			(0.170)	(0.170)
Deal Market Intensity - Deals	-0.0195		-0.0190	
	(0.173)		(0.173)	
Deal Market Intensity - Value		0.0469		0.0433
		(0.103)		(0.103)
Acquisition Experience	-0.0299	-0.0285	-0.0518	-0.0504
	(0.240)	(0.239)	(0.241)	(0.240)
Industry Experience	-0.172	-0.175	-0.147	-0.151
	(0.207)	(0.207)	(0.207)	(0.208)
Tenure	-0.000389***	-0.000389***	-0.000389***	-0.000389***
	(7.84e-05)	(7.84e-05)	(7.84e-05)	(7.84e-05)
Tenure-squared	6.48e-08***	6.49e-08***	6.49e-08***	6.50e-08***
	(1.85e-08)	(1.85e-08)	(1.85e-08)	(1.85e-08)
Assets	0.0426	0.0426	0.0415	0.0415
	(0.0267)	(0.0267)	(0.0268)	(0.0268)
MTBV	0.0104	0.01000	0.00942	0.00904
	(0.0169)	(0.0169)	(0.0169)	(0.0169)
Cash	0.0703***	0.0705***	0.0707***	0.0708***
	(0.0266)	(0.0266)	(0.0266)	(0.0266)
Leverage	-0.000387	-0.000385	-0.000349	-0.000348
	(0.000381)	(0.000381)	(0.000383)	(0.000383)
Dummy Assets	-0.303	-0.287	-0.300	-0.284
	(0.829)	(0.835)	(0.842)	(0.846)
Dummy MTBV	0.302***	0.301***	0.298***	0.297***
	(0.103)	(0.103)	(0.103)	(0.103)
Dummy Cash	-0.0793	-0.0811	-0.0770	-0.0787
	(0.0982)	(0.0985)	(0.0986)	(0.0988)
Dummy Leverage	-0.172	-0.184	-0.178	-0.189
	(0.796)	(0.801)	(0.808)	(0.813)
Constant	-0.345	-0.414	-0.364	-0.428
	(0.434)	(0.412)	(0.434)	(0.412)
Observations	2,269	2,269	2,269	2,269
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.139	0.139	0.139	0.139

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

Appendix H: Probit regression results - Deal market intensity breakdown. This table displays the two original probit regression models (2-3) and the new models, including the categorical variables to break down the deal market intensity. The first one (8) is based on the measure related to the number of transactions, and in the second one (9), the measure is based on the deal value. Although considered, due to sizing reasons, the missing value dummies, and year and industry dummies are not fully displayed.

VARIABLES	(2)	(3)	(8)	(9)
Public Status	-0.396***	-0.396***	-0.396***	-0.396***
	(0.0813)	(0.0813)	(0.0815)	(0.0814)
Deal Market Intensity - Deals	-0.0195			
	(0.173)			
Extremely Cold (D)			-0.280	
			(0.264)	
Moderately Cold (D)			-0.227	
			(0.225)	
Moderately Hot (D)			-0.254*	
			(0.146)	
Deal Market Intensity - Value		0.0469		
		(0.103)		
Extremely Cold (V)				-0.191
				(0.177)
Moderately Cold (V)				-0.0581
				(0.132)
Moderately Hot (V)				-0.0350
				(0.109)
Acquisition Experience	-0.0299	-0.0285	-0.0288	-0.0257
	(0.240)	(0.239)	(0.239)	(0.239)
Industry Experience	-0.172	-0.175	-0.162	-0.179
	(0.207)	(0.207)	(0.205)	(0.207)
Tenure	-0.000389***	-0.000389***	-0.000390***	-0.000388***
	(7.84e-05)	(7.84e-05)	(7.85e-05)	(7.84e-05)
Tenure-squared	6.48e-08***	6.49e-08***	6.50e-08***	6.44e-08***
	(1.85e-08)	(1.85e-08)	(1.85e-08)	(1.85e-08)
Assets	0.0426	0.0426	0.0420	0.0423
	(0.0267)	(0.0267)	(0.0268)	(0.0267)
MTBV	0.0104	0.01000	0.0103	0.00979
	(0.0169)	(0.0169)	(0.0169)	(0.0169)
Cash	0.0703***	0.0705***	0.0700***	0.0711***
	(0.0266)	(0.0266)	(0.0266)	(0.0266)
Leverage	-0.000387	-0.000385	-0.000382	-0.000374
	(0.000381)	(0.000381)	(0.000382)	(0.000382)
Constant	-0.345	-0.414	-0.363	-0.371
	(0.434)	(0.412)	(0.398)	(0.398)
Observations	2,269	2,269	2,269	2,269
Missing value controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.139	0.139	0.140	0.139

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

Appendix I: Robustness check – Public-to-public deals. This table presents the probit regression models with the dependent variable, Serial Acquirer, defined as a bidder making at least two consecutive public deals. Model 1 displays the model only containing controls, model 2 and 3 are the full models, and in model 4 and 5, the categorizations for deal market intensity are included. Due to limited space, year and industry dummies are not fully displayed.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Deal Market Intensity - Deals		-0.0932			
		(0.321)			
Extremely Cold (D)				0.0163	
				(0.532)	
Moderately Cold (D)				0.0830	
				(0.411)	
Moderately Hot (D)				-0.0126	
				(0.254)	
Deal Market Intensity - Value			0.480*		
			(0.245)		
Extremely Cold (V)					-0.436
					(0.419)
Moderately Cold (V)					-0.524*
					(0.313)
Moderately Hot (V)					0.0545
					(0.259)
Acquisition Experience		1.465*	1.600*	1.476*	1.633*
		(0.829)	(0.879)	(0.845)	(0.882)
Industry Experience		-0.0647	-0.116	-0.0607	-0.131
		(0.400)	(0.397)	(0.401)	(0.394)
Tenure		-0.000150	-0.000161	-0.000150	-0.000159
		(0.000150)	(0.000151)	(0.000150)	(0.000150)
Tenure-squared		3.67e-08	3.74e-08	3.68e-08	3.74e-08
		(3.12e-08)	(3.12e-08)	(3.13e-08)	(3.11e-08)
Assets	0.0759	0.0761	0.0725	0.0772	0.0733
	(0.0554)	(0.0556)	(0.0555)	(0.0559)	(0.0555)
MTBV	0.0635**	0.0679**	0.0700**	0.0685**	0.0694**
	(0.0299)	(0.0301)	(0.0302)	(0.0303)	(0.0302)
Cash	0.157***	0.148**	0.148**	0.148**	0.147**
	(0.0596)	(0.0598)	(0.0598)	(0.0602)	(0.0597)
Leverage	-0.000881	-0.000884	-0.000944	-0.000890	-0.00103
	(0.000713)	(0.000722)	(0.000721)	(0.000723)	(0.000719)
Dummy Assets	3.338***	3.309***	3.592***	3.317***	3.585***
	(0.669)	(0.673)	(0.679)	(0.714)	(0.695)
Dummy MTBV	0.0377	-0.0124	0.00774	-0.0150	0.0202
	(0.285)	(0.281)	(0.283)	(0.280)	(0.285)
Dummy Cash	-0.196	-0.154	-0.149	-0.152	-0.153
	(0.200)	(0.201)	(0.200)	(0.202)	(0.200)
Dummy Leverage	-3.124***	-3.104***	-3.374***	-3.111***	-3.361***
	(0.541)	(0.540)	(0.544)	(0.566)	(0.562)
Constant	-2.417***	-2.166**	-2.687***	-2.275***	-2.188**
	(0.857)	(0.914)	(0.874)	(0.854)	(0.850)
Observations	662	662	662	662	662
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.210	0.217	0.221	0.217	0.223

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

Appendix J: Robustness check – Serial acquirer (three deals). In this table, the results are presented with the dependent variable, Serial Acquirer, defined as a bidder making at least three consecutive deals. Model 1 shows the model without independent variables, model 2 and 3 include them, and in model 4 & 5, the moderating effect of Deal Market Intensity is addressed. Year and industry dummies are not fully displayed to safe space.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Public Status		-0.425***	-0.426***	-0.472***	-0.330***
		(0.0848)	(0.0851)	(0.114)	(0.114)
Deal Market Intensity - Deals		-0.147		-0.165	
		(0.176)		(0.178)	
Deal Market Intensity - Value			-0.180*		-0.150
			(0.109)		(0.112)
Public Status * Deal Market Intensity (D)				0.0969	
				(0.162)	
Public Status * Deal Market Intensity (V)					-0.203
					(0.163)
Acquisition Experience		-0.0122	-0.00856	-0.0152	-0.00973
		(0.229)	(0.230)	(0.230)	(0.230)
Industry Experience		-0.284	-0.272	-0.280	-0.268
		(0.212)	(0.212)	(0.212)	(0.213)
Tenure		-0.000489***	-0.000490***	-0.000488***	-0.000489***
		(7.95e-05)	(7.92e-05)	(7.96e-05)	(7.92e-05)
Tenure-squared		8.48e-08***	8.45e-08***	8.45e-08***	8.43e-08***
		(1.91e-08)	(1.90e-08)	(1.92e-08)	(1.90e-08)
Assets	0.0421	0.0339	0.0339	0.0341	0.0349
	(0.0259)	(0.0268)	(0.0268)	(0.0268)	(0.0268)
MTBV	0.0131	0.0169	0.0178	0.0171	0.0182
	(0.0162)	(0.0164)	(0.0165)	(0.0164)	(0.0165)
Cash	0.0859***	0.0913***	0.0905***	0.0913***	0.0901***
	(0.0262)	(0.0268)	(0.0269)	(0.0268)	(0.0269)
Leverage	-0.000720*	-0.000646*	-0.000650*	-0.000641*	-0.000658*
	(0.000376)	(0.000384)	(0.000384)	(0.000384)	(0.000384)
Dummy Assets	-0.695	-0.879	-0.934	-0.853	-0.999
	(0.867)	(0.794)	(0.782)	(0.800)	(0.772)
Dummy MTBV	0.249**	0.284***	0.287***	0.285***	0.285***
	(0.0974)	(0.0990)	(0.0990)	(0.0991)	(0.0989)
Dummy Cash	-0.0703	-0.0860	-0.0786	-0.0843	-0.0785
	(0.0924)	(0.0939)	(0.0942)	(0.0939)	(0.0941)
Dummy Leverage	0.0187	0.259	0.301	0.233	0.359
	(0.840)	(0.763)	(0.750)	(0.769)	(0.738)
Constant	-0.771**	-0.436	-0.399	-0.435	-0.413
	(0.377)	(0.421)	(0.401)	(0.421)	(0.402)
Observations	2,271	2,271	2,271	2,271	2,271
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.128	0.153	0.153	0.153	0.154

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

Appendix J: Robustness check – Serial acquirer (three deals) (continued). In this table, the results are presented with the dependent variable, Serial Acquirer, defined as a bidder making at least three consecutive deals. Model 6 and 7 present the moderating effect of the New Industry variable and model 8 and 9 include the categorizations for the Deal Market Intensity variable. For sizing issues, missing value controls, and year and industry dummies are not fully displayed.

VARIABLES	(6)	(7)	(8)	(9)
Public Status	-0.378***	-0.376***	-0.424***	-0.425***
	(0.105)	(0.105)	(0.0850)	(0.0851)
New Industry	-0.00755	-0.00682		
	(0.0671)	(0.0671)		
Public Status * New Industry	-0.147	-0.158		
	(0.177)	(0.178)		
Deal Market Intensity - Deals	-0.146			
	(0.176)			
Extremely Cold (D)			-0.0808	
			(0.258)	
Moderately Cold (D)			-0.148	
			(0.221)	
Moderately Hot (D)			-0.296**	
			(0.136)	
Deal Market Intensity - Value		-0.184*		
		(0.109)		
Extremely Cold (V)				0.0991
				(0.174)
Moderately Cold (V)				0.194
				(0.137)
Moderately Hot (V)				0.00439
				(0.110)
Acquisition Experience	-0.0108	-0.00703	-0.0271	-0.00892
	(0.230)	(0.230)	(0.229)	(0.230)
Industry Experience	-0.287	-0.275	-0.264	-0.273
	(0.213)	(0.213)	(0.212)	(0.212)
Tenure	-0.000490***	-0.000490***	-0.000491***	-0.000490***
	(7.94e-05)	(7.91e-05)	(7.97e-05)	(7.91e-05)
Tenure-squared	8.49e-08***	8.46e-08***	8.52e-08***	8.44e-08***
	(1.91e-08)	(1.90e-08)	(1.91e-08)	(1.90e-08)
Assets	0.0335	0.0334	0.0341	0.0338
	(0.0268)	(0.0268)	(0.0268)	(0.0268)
MTBV	0.0169	0.0178	0.0173	0.0176
	(0.0164)	(0.0165)	(0.0165)	(0.0165)
Cash	0.0929***	0.0922***	0.0904***	0.0910***
	(0.0269)	(0.0269)	(0.0269)	(0.0268)
Leverage	-0.000623	-0.000625	-0.000647*	-0.000643*
	(0.000384)	(0.000384)	(0.000384)	(0.000384)
Constant	-0.451	-0.410	-0.590	-0.584
	(0.422)	(0.402)	(0.383)	(0.384)
Observations	2,271	2,271	2,271	2,271
Missing value controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.153	0.154	0.154	0.153

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

Appendix K: Robustness check - Serial acquirer (four deals). In this table, the results are presented with the dependent variable, Serial Acquirer, defined as a bidder making at least four consecutive deals. Model 1 shows the model without independent variables, model 2 and 3 include them, and in model 4 & 5, the moderating effect of Deal Market Intensity is addressed. Year and industry dummies are not fully displayed to safe space.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Public Status		-0.448***	-0.449***	-0.399***	-0.367***
		(0.0895)	(0.0898)	(0.122)	(0.117)
Deal Market Intensity - Deals		-0.411**		-0.394**	
		(0.190)		(0.192)	
Deal Market Intensity - Value			-0.179		-0.154
			(0.116)		(0.119)
Public Status * Deal Market Intensity (D)				-0.0966	
				(0.170)	
Public Status * Deal Market Intensity (V)					-0.179
					(0.174)
Acquisition Experience		0.131	0.134	0.134	0.133
		(0.221)	(0.221)	(0.220)	(0.221)
Industry Experience		-0.112	-0.0961	-0.116	-0.0919
		(0.210)	(0.209)	(0.209)	(0.210)
Tenure		-0.000416***	-0.000418***	-0.000417***	-0.000417***
		(8.14e-05)	(8.10e-05)	(8.13e-05)	(8.10e-05)
Tenure-squared		7.81e-08***	7.79e-08***	7.84e-08***	7.77e-08***
		(1.92e-08)	(1.90e-08)	(1.92e-08)	(1.90e-08)
Assets	0.0623**	0.0576**	0.0577**	0.0576**	0.0586**
	(0.0269)	(0.0276)	(0.0277)	(0.0276)	(0.0277)
MTBV	0.0264	0.0315*	0.0313*	0.0314*	0.0317*
	(0.0164)	(0.0167)	(0.0167)	(0.0167)	(0.0167)
Cash	0.0793***	0.0819***	0.0805***	0.0819***	0.0802***
	(0.0275)	(0.0283)	(0.0282)	(0.0283)	(0.0282)
Leverage	-0.000615	-0.000548	-0.000546	-0.000552	-0.000552
	(0.000398)	(0.000406)	(0.000405)	(0.000406)	(0.000406)
Dummy Assets	-0.839	-1.061	-1.104	-1.087	-1.162
	(0.886)	(0.800)	(0.792)	(0.796)	(0.782)
Dummy MTBV	0.259***	0.282***	0.283***	0.280***	0.281***
	(0.0986)	(0.0998)	(0.100)	(0.0998)	(0.100)
Dummy Cash	0.0476	0.0354	0.0439	0.0342	0.0442
	(0.0935)	(0.0949)	(0.0950)	(0.0950)	(0.0950)
Dummy Leverage	0.297	0.554	0.588	0.579	0.639
	(0.858)	(0.768)	(0.759)	(0.765)	(0.749)
Constant	-1.416***	-0.858**	-1.080***	-0.862**	-1.096***
	(0.388)	(0.438)	(0.413)	(0.438)	(0.414)
Observations	2,266	2,266	2,266	2,266	2,266
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.146	0.167	0.166	0.167	0.166

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

Appendix K: Robustness check – Serial acquirer (four deals) (continued). In this table, the results are presented with the dependent variable, Serial Acquirer, defined as a bidder making at least four consecutive deals. Model 6 and 7 present the moderating effect of the New Industry variable and model 8 and 9 include the categorizations for the Deal Market Intensity variable. For sizing issues, missing value controls, and year and industry dummies are not fully displayed.

VARIABLES	(6)	(7)	(8)	(9)
Public Status	-0.362***	-0.359***	-0.447***	-0.446***
	(0.110)	(0.110)	(0.0898)	(0.0897)
New Industry	0.0357	0.0359		
	(0.0691)	(0.0689)		
Public Status * New Industry	-0.244	-0.260		
	(0.188)	(0.189)		
Deal Market Intensity - Deals	-0.408**			
	(0.190)			
Extremely Cold (D)			0.171	
			(0.271)	
Moderately Cold (D)			0.0566	
			(0.233)	
Moderately Hot (D)			-0.354**	
			(0.138)	
Deal Market Intensity - Value		-0.184		
		(0.116)		
Extremely Cold (V)				0.218
				(0.178)
Moderately Cold (V)				0.242
				(0.147)
Moderately Hot (V)				0.0841
				(0.119)
Acquisition Experience	0.123	0.126	0.110	0.143
	(0.221)	(0.221)	(0.220)	(0.221)
Industry Experience	-0.100	-0.0842	-0.0841	-0.100
	(0.210)	(0.210)	(0.211)	(0.209)
Tenure	-0.000417***	-0.000419***	-0.000419***	-0.000421***
	(8.13e-05)	(8.09e-05)	(8.17e-05)	(8.10e-05)
Tenure-squared	7.84e-08***	7.81e-08***	7.86e-08***	7.87e-08***
	(1.92e-08)	(1.90e-08)	(1.92e-08)	(1.90e-08)
Assets	0.0566**	0.0565**	0.0584**	0.0580**
	(0.0276)	(0.0277)	(0.0276)	(0.0277)
MTBV	0.0309*	0.0307*	0.0322*	0.0309*
	(0.0167)	(0.0167)	(0.0167)	(0.0167)
Cash	0.0834***	0.0820***	0.0810***	0.0808***
	(0.0284)	(0.0283)	(0.0284)	(0.0282)
Leverage	-0.000509	-0.000506	-0.000553	-0.000546
	(0.000406)	(0.000406)	(0.000406)	(0.000405)
Constant	-0.884**	-1.099***	-1.284***	-1.266***
	(0.438)	(0.413)	(0.395)	(0.395)
Observations	2,266	2,266	2,266	2,266
Missing value controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.167	0.166	0.169	0.166

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

Appendix L: Robustness check - Serial acquirer (five deals). In this table, the results are presented with the dependent variable, Serial Acquirer, defined as a bidder making at least five consecutive deals. Model 1 shows the model without independent variables, model 2 and 3 include them, and in model 4 & 5, the moderating effect of Deal Market Intensity is addressed. Year and industry dummies are not fully displayed to safe space.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Public Status		-0.483***	-0.482***	-0.484***	-0.461***
		(0.0985)	(0.0991)	(0.138)	(0.127)
Deal Market Intensity - Deals		-0.476**		-0.477**	
		(0.216)		(0.218)	
Deal Market Intensity - Value			-0.149		-0.143
			(0.126)		(0.128)
Public Status * Deal Market Intensity (D)				0.00309	
				(0.190)	
Public Status * Deal Market Intensity (V)					-0.0453
					(0.191)
Acquisition Experience		-0.0130	-0.00727	-0.0131	-0.00713
		(0.223)	(0.223)	(0.223)	(0.223)
Industry Experience		-0.288	-0.278	-0.288	-0.277
		(0.216)	(0.216)	(0.217)	(0.216)
Tenure		-0.000503***	-0.000507***	-0.000503***	-0.000506***
		(8.67e-05)	(8.63e-05)	(8.67e-05)	(8.61e-05)
Tenure-squared		9.57e-08***	9.61e-08***	9.57e-08***	9.61e-08***
		(2.05e-08)	(2.04e-08)	(2.05e-08)	(2.04e-08)
Assets	0.0761***	0.0680**	0.0682**	0.0680**	0.0683**
	(0.0287)	(0.0296)	(0.0296)	(0.0296)	(0.0296)
MTBV	0.0100	0.0138	0.0128	0.0138	0.0129
	(0.0171)	(0.0175)	(0.0175)	(0.0175)	(0.0175)
Cash	0.0866***	0.0933***	0.0925***	0.0933***	0.0924***
	(0.0298)	(0.0308)	(0.0306)	(0.0308)	(0.0306)
Leverage	-0.000981**	-0.000952**	-0.000931**	-0.000952**	-0.000932**
	(0.000432)	(0.000441)	(0.000441)	(0.000441)	(0.000441)
Dummy Assets	-1.271	-1.533*	-1.550*	-1.532*	-1.564*
	(0.900)	(0.812)	(0.808)	(0.813)	(0.808)
Dummy MTBV	0.266***	0.297***	0.300***	0.297***	0.299***
	(0.101)	(0.104)	(0.104)	(0.104)	(0.104)
Dummy Cash	-0.0163	-0.0458	-0.0383	-0.0458	-0.0383
	(0.0974)	(0.0992)	(0.0990)	(0.0992)	(0.0990)
Dummy Leverage	0.683	1.003	1.018	1.002	1.031
	(0.872)	(0.780)	(0.775)	(0.782)	(0.775)
Constant	-1.867***	-1.220***	-1.549***	-1.220***	-1.553***
	(0.410)	(0.461)	(0.435)	(0.461)	(0.435)
Observations	2,240	2,240	2,240	2,240	2,240
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.167	0.193	0.191	0.193	0.191

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

Appendix L: Robustness check – Serial acquirer (five deals) (continued). In this table, the results are presented with the dependent variable, Serial Acquirer, defined as a bidder making at least five consecutive deals. Model 6 and 7 present the moderating effect of the New Industry variable and model 8 and 9 include the categorizations for the Deal Market Intensity variable. For sizing issues, missing value controls, and year and industry dummies are not fully displayed.

VARIABLES	(6)	(7)	(8)	(9)
Public Status	-0.446***	-0.439***	-0.483***	-0.482***
	(0.120)	(0.120)	(0.0987)	(0.0988)
New Industry	-0.0426	-0.0438		
	(0.0733)	(0.0730)		
Public Status * New Industry	-0.137	-0.156		
	(0.207)	(0.209)		
Deal Market Intensity - Deals	-0.472**			
	(0.216)			
Extremely Cold (D)			0.323	
			(0.299)	
Moderately Cold (D)			0.209	
			(0.260)	
Moderately Hot (D)			-0.268*	
			(0.147)	
Deal Market Intensity - Value		-0.155		
		(0.126)		
Extremely Cold (V)				0.209
				(0.190)
Moderately Cold (V)				0.147
				(0.159)
Moderately Hot (V)				0.0107
				(0.130)
Acquisition Experience	-0.00271	0.00362	-0.0377	-0.00566
	(0.224)	(0.224)	(0.219)	(0.224)
Industry Experience	-0.304	-0.294	-0.264	-0.277
	(0.218)	(0.217)	(0.216)	(0.216)
Tenure	-0.000505***	-0.000509***	-0.000504***	-0.000508***
	(8.64e-05)	(8.60e-05)	(8.70e-05)	(8.62e-05)
Tenure-squared	9.63e-08***	9.67e-08***	9.56e-08***	9.65e-08***
	(2.04e-08)	(2.03e-08)	(2.05e-08)	(2.04e-08)
Assets	0.0682**	0.0684**	0.0684**	0.0684**
	(0.0296)	(0.0296)	(0.0295)	(0.0296)
MTBV	0.0142	0.0133	0.0145	0.0130
	(0.0176)	(0.0175)	(0.0176)	(0.0175)
Cash	0.0954***	0.0948***	0.0927***	0.0921***
	(0.0308)	(0.0307)	(0.0308)	(0.0306)
Leverage	-0.000932**	-0.000909**	-0.000961**	-0.000937**
	(0.000440)	(0.000440)	(0.000441)	(0.000441)
Constant	-1.241***	-1.562***	-1.709***	-1.696***
	(0.462)	(0.435)	(0.415)	(0.415)
Observations	2,240	2,240	2,240	2,240
Missing value controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.193	0.191	0.194	0.191

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

Appendix M: Robustness check - Majority interest acquisitions. This table shows the probit regression results where the dependent variable, Serial Acquirer, is based on the definition of an acquisition with at least 50% control after the transaction. The amount of shares in possession before the transaction may not be more than 30%. Model 1 shows the model without independent variables, model 2 and 3 include them, and in model 4 & 5, the moderating effect of Deal Market Intensity is addressed. Year and industry dummies are not fully displayed to safe space.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Public Status		-0.399***	-0.399***	-0.558***	-0.319***
		(0.0805)	(0.0805)	(0.106)	(0.108)
Deal Market Intensity - Deals		-0.0228		-0.0965	
		(0.174)		(0.178)	
Deal Market Intensity - Value			0.0173		0.0455
			(0.104)		(0.107)
Public Status * Deal Market Intensity (D)				0.367**	
				(0.159)	
Public Status * Deal Market Intensity (V)					-0.167
					(0.155)
Acquisition Experience		0.318	0.317	0.316	0.313
		(0.256)	(0.256)	(0.256)	(0.256)
Industry Experience		-0.389*	-0.390*	-0.381*	-0.383*
		(0.211)	(0.210)	(0.211)	(0.211)
Tenure		-0.000383***	-0.000383***	-0.000380***	-0.000382***
		(7.85e-05)	(7.85e-05)	(7.87e-05)	(7.85e-05)
Tenure-squared		6.23e-08***	6.23e-08***	6.19e-08***	6.20e-08***
		(1.86e-08)	(1.86e-08)	(1.86e-08)	(1.86e-08)
Assets	0.0500*	0.0480*	0.0480*	0.0487*	0.0489*
	(0.0259)	(0.0267)	(0.0267)	(0.0267)	(0.0267)
MTBV	0.00902	0.0119	0.0117	0.0133	0.0119
	(0.0168)	(0.0170)	(0.0170)	(0.0170)	(0.0170)
Cash	0.0699***	0.0720***	0.0721***	0.0721***	0.0717***
	(0.0261)	(0.0264)	(0.0264)	(0.0264)	(0.0264)
Leverage	-0.000551	-0.000470	-0.000469	-0.000451	-0.000469
	(0.000373)	(0.000382)	(0.000382)	(0.000382)	(0.000382)
Dummy Assets	-0.155	-0.337	-0.330	-0.229	-0.385
	(0.906)	(0.836)	(0.839)	(0.862)	(0.830)
Dummy MTBV	0.284***	0.312***	0.312***	0.316***	0.311***
	(0.104)	(0.103)	(0.103)	(0.104)	(0.103)
Dummy Cash	-0.109	-0.105	-0.106	-0.0997	-0.106
	(0.0960)	(0.0981)	(0.0983)	(0.0981)	(0.0982)
Dummy Leverage	-0.388	-0.179	-0.183	-0.283	-0.135
	(0.878)	(0.803)	(0.805)	(0.830)	(0.796)
Constant	-0.533	-0.395	-0.436	-0.397	-0.448
	(0.387)	(0.434)	(0.412)	(0.431)	(0.413)
Observations	2,298	2,298	2,298	2,298	2,298
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.123	0.144	0.144	0.146	0.144

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

Appendix M: Robustness check - Majority interest acquisitions (continued). This table shows the probit regression results where the dependent variable, Serial Acquirer, is based on the definition of an acquisition with at least 50% control after the transaction. The amount of shares in possession before the transaction may not be more than 30%. Model 6 and 7 present the moderating effect of the New Industry variable and model 8 and 9 include the categorizations for the Deal Market Intensity variable. For sizing issues, missing value controls, and year and industry dummies are not fully displayed.

VARIABLES	(6)	(7)	(8)	(9)
Public Status	-0.301***	-0.301***	-0.399***	-0.400***
	(0.101)	(0.101)	(0.0807)	(0.0806)
New Industry	0.0720	0.0720		
	(0.0684)	(0.0684)		
Public Status * New Industry	-0.249	-0.249		
	(0.166)	(0.166)		
Deal Market Intensity - Deals	-0.0218			
	(0.174)			
Extremely Cold (D)			-0.245	
			(0.265)	
Moderately Cold (D)			-0.205	
			(0.227)	
Moderately Hot (D)			-0.235	
			(0.148)	
Deal Market Intensity - Value		0.0142		
		(0.104)		
Extremely Cold (V)				-0.109
				(0.177)
Moderately Cold (V)				-0.0258
				(0.131)
Moderately Hot (V)				-0.0241
				(0.108)
Acquisition Experience	0.313	0.313	0.314	0.313
	(0.255)	(0.254)	(0.255)	(0.257)
Industry Experience	-0.380*	-0.380*	-0.377*	-0.390*
	(0.210)	(0.210)	(0.209)	(0.211)
Tenure	-0.000384***	-0.000384***	-0.000383***	-0.000382***
	(7.85e-05)	(7.85e-05)	(7.86e-05)	(7.85e-05)
Tenure-squared	6.26e-08***	6.26e-08***	6.24e-08***	6.19e-08***
	(1.86e-08)	(1.86e-08)	(1.86e-08)	(1.86e-08)
Assets	0.0469*	0.0470*	0.0473*	0.0476*
	(0.0267)	(0.0267)	(0.0267)	(0.0267)
MTBV	0.0106	0.0104	0.0117	0.0116
	(0.0170)	(0.0170)	(0.0170)	(0.0170)
Cash	0.0730***	0.0730***	0.0719***	0.0726***
	(0.0265)	(0.0265)	(0.0265)	(0.0264)
Leverage	-0.000424	-0.000423	-0.000465	-0.000461
	(0.000383)	(0.000383)	(0.000382)	(0.000382)
Constant	-0.422	-0.459	-0.416	-0.420
	(0.434)	(0.412)	(0.397)	(0.397)
Observations	2,298	2,298	2,298	2,298
Missing value controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.145	0.145	0.145	0.144

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

Appendix N: Robustness check - Dormant period. This table presents the results of the probit regressions containing the dependent variable, Serial Acquirer, that is defined using only CEO-firm combinations where the firm did not make acquisitions in the two years prior to the initial acquisition. Model 1 shows the model without independent variables, model 2 and 3 include them, and in model 4 & 5, the moderating effect of Deal Market Intensity is addressed. Year and industry dummies are not fully displayed to safe space.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Public Status		-0.392***	-0.392***	-0.540***	-0.326***
		(0.0874)	(0.0875)	(0.115)	(0.119)
Deal Market Intensity - Deals		-0.00215		-0.0765	
		(0.184)		(0.188)	
Deal Market Intensity - Value			0.0230		0.0460
			(0.112)		(0.117)
Public Status * Deal Market Intensity (D)				0.351**	
				(0.172)	
Public Status * Deal Market Intensity (V)					-0.130
					(0.168)
Acquisition Experience		0.300	0.299	0.302	0.296
		(0.290)	(0.290)	(0.291)	(0.291)
Industry Experience		-0.333	-0.334	-0.322	-0.330
		(0.231)	(0.231)	(0.232)	(0.232)
Tenure		-0.000273***	-0.000272***	-0.000270***	-0.000272***
		(8.58e-05)	(8.58e-05)	(8.60e-05)	(8.58e-05)
Tenure-squared		4.50e-08**	4.50e-08**	4.46e-08**	4.49e-08**
		(1.97e-08)	(1.97e-08)	(1.97e-08)	(1.97e-08)
Assets	0.00342	0.0141	0.0141	0.0146	0.0149
	(0.0284)	(0.0290)	(0.0290)	(0.0290)	(0.0290)
MTBV	-0.0144	-0.0105	-0.0107	-0.00901	-0.0106
	(0.0184)	(0.0187)	(0.0187)	(0.0187)	(0.0187)
Cash	0.0610**	0.0625**	0.0626**	0.0628**	0.0621**
	(0.0283)	(0.0286)	(0.0286)	(0.0286)	(0.0286)
Leverage	-0.000212	-0.000141	-0.000141	-9.87e-05	-0.000142
	(0.000396)	(0.000404)	(0.000404)	(0.000404)	(0.000404)
Dummy Assets	-0.0167	-0.173	-0.166	-0.0736	-0.209
	(0.918)	(0.845)	(0.848)	(0.870)	(0.843)
Dummy MTBV	0.334***	0.343***	0.342***	0.343***	0.341***
	(0.104)	(0.104)	(0.104)	(0.104)	(0.104)
Dummy Cash	-0.117	-0.122	-0.123	-0.116	-0.122
	(0.103)	(0.104)	(0.104)	(0.104)	(0.104)
Dummy Leverage	-0.363	-0.193	-0.198	-0.291	-0.161
	(0.886)	(0.808)	(0.810)	(0.834)	(0.804)
Constant	0.0982	0.0567	0.0302	0.0542	0.0175
	(0.436)	(0.483)	(0.460)	(0.480)	(0.462)
Observations	1,873	1,873	1,873	1,873	1,873
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Pseudo R2	0.117	0.131	0.131	0.133	0.131

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

Appendix N: Robustness check - Dormant period (continued). This table presents the results of the probit regressions containing the dependent variable, Serial Acquirer, that is defined using only CEO-firm combinations where the firm did not make acquisitions in the two years prior to the initial acquisition. Model 6 and 7 present the moderating effect of the New Industry variable and model 8 and 9 include the categorizations for the Deal Market Intensity variable. For sizing issues, missing value controls, and year and industry dummies are not fully displayed.

VARIABLES	(6)	(7)	(8)	(9)
Public Status	-0.331***	-0.331***	-0.391***	-0.393***
	(0.108)	(0.108)	(0.0875)	(0.0874)
New Industry	0.0186	0.0184		
	(0.0744)	(0.0745)		
Public Status * New Industry	-0.187	-0.186		
	(0.186)	(0.186)		
Deal Market Intensity - Deals	-0.00291			
	(0.184)			
Extremely Cold (D)			-0.0986	
			(0.288)	
Moderately Cold (D)			-0.152	
			(0.246)	
Moderately Hot (D)			-0.153	
			(0.163)	
Deal Market Intensity - Value		0.0190		
		(0.112)		
Extremely Cold (V)				-0.110
				(0.193)
Moderately Cold (V)				0.00272
				(0.146)
Moderately Hot (V)				0.0185
				(0.121)
Acquisition Experience	0.298	0.297	0.301	0.304
	(0.291)	(0.291)	(0.289)	(0.291)
Industry Experience	-0.330	-0.330	-0.331	-0.339
	(0.231)	(0.231)	(0.229)	(0.231)
Tenure	-0.000270***	-0.000270***	-0.000274***	-0.000272***
	(8.58e-05)	(8.58e-05)	(8.58e-05)	(8.59e-05)
Tenure-squared	4.47e-08**	4.47e-08**	4.53e-08**	4.48e-08**
	(1.97e-08)	(1.97e-08)	(1.96e-08)	(1.97e-08)
Assets	0.0131	0.0131	0.0140	0.0143
	(0.0290)	(0.0290)	(0.0290)	(0.0290)
MTBV	-0.0111	-0.0113	-0.0107	-0.0111
	(0.0187)	(0.0187)	(0.0187)	(0.0187)
Cash	0.0636**	0.0637**	0.0623**	0.0629**
	(0.0285)	(0.0286)	(0.0286)	(0.0286)
Leverage	-0.000101	-0.000101	-0.000135	-0.000135
	(0.000405)	(0.000405)	(0.000404)	(0.000404)
Constant	0.0405	0.0175	0.0493	0.0474
	(0.482)	(0.459)	(0.444)	(0.444)
Observations	1,873	1,873	1,873	1,873
Missing value controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Pseudo R2	0.131	0.131	0.132	0.131

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

Appendix O: Biprobit regression results – Two instrumental variables. This table presents the results of the biprobit regression model with two instrumental variables, Target Age and New Industry. In model 1, 2 and 3, the measure of the deal market intensity based on the number of transactions is included and model 4, 5 and 6 consider the results including the deal market intensity based on the value of the deals. In model 1 and 4, Serial Acquirer is the dependent variable (outcome equation). In model 2 and 5, Public Status is the dependent variable (selection equation). Model 3 and 6 present the correlation and homoskedasticity of the results. Due to sizing limitations, missing value controls, and year and industry dummies are not fully displayed.

VARIABLES	(1) Serial Acquirer	(2) Public Status	(3) /	(4) Serial Acquirer	(5) Public Status	(6) /
Public Status	-1.373***			-1.364***		
	(0.386)			(0.387)		
Deal Market Intensity - Deals	0.0648	0.0301				
	(0.247)	(0.0616)				
Deal Market Intensity - Value				0.129	0.00153	
				(0.152)	(0.0450)	
Acquisition Experience	0.354	-0.0167		0.369	-0.0169	
	(0.402)	(0.0838)		(0.407)	(0.0835)	
Industry Experience	-0.0684	-0.0286		-0.0867	-0.0296	
	(0.264)	(0.0712)		(0.264)	(0.0710)	
Tenure	-0.000324***	7.14e-05**		-0.000327***	7.16e-05**	
	(0.000116)	(3.21e-05)		(0.000117)	(3.20e-05)	
Tenure-squared	5.63e-08**	-9.31e-09		5.71e-08**	-9.30e-09	
	(2.48e-08)	(7.63e-09)		(2.51e-08)	(7.63e-09)	
Assets	0.0754*	0.0307***		0.0761*	0.0308***	
	(0.0426)	(0.0113)		(0.0426)	(0.0113)	
MTBV	0.0121	0.00753		0.0121	0.00756	
	(0.0259)	(0.00713)		(0.0259)	(0.00712)	
Cash	0.0402	0.00606		0.0411	0.00600	
	(0.0429)	(0.0120)		(0.0430)	(0.0120)	
Leverage	-0.000285	0.000164		-0.000305	0.000164	
	(0.000569)	(0.000177)		(0.000571)	(0.000176)	
Target Age		0.0555***			0.0557***	
		(0.0109)			(0.0108)	
New Industry		-0.143***			-0.143***	
		(0.0258)			(0.0258)	
ρ			0.359**			0.354**
			(0.176)			(0.176)
σ			-1.003***			-1.003***
			(0.0223)			(0.0223)
Constant	0.171	-0.551***		0.0804	-0.524***	
	(0.858)	(0.201)		(0.841)	(0.197)	
Observations	1,037	1,037	1,037	1,037	1,037	1,037
Missing value controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Appendix P: Wald tests for exogeneity.

1. Wald test of exogeneity model including target age and industry new (deals)

   Wald test of exogeneity (corr = 0): chi2(**1**) = **4.17**   Prob > chi2 = **0.0412**

2. Wald test of exogeneity model including target age and industry new (value)

   Wald test of exogeneity (corr = 0): chi2(**1**) = **4.07**   Prob > chi2 = **0.0438**

3. Wald test of exogeneity model including target age (deals)

   Wald test of exogeneity (corr = 0): chi2(**1**) = **0.63**   Prob > chi2 = **0.4257**

4. Wald test of exogeneity model including target age (value)

   Wald test of exogeneity (corr = 0): chi2(**1**) = **0.64**   Prob > chi2 = **0.4255**

Appendix Q: Biprobit regression results - One instrumental variable. This table presents the results of the biprobit regression model with one instrumental variable, Target Age. In model 1, 2 and 3, the measure of the deal market intensity based on the number of transactions is included and model 4, 5 and 6 consider the results including the deal market intensity based on the value of the deals. In model 1 and 4, Serial Acquirer is the dependent variable (outcome equation). In model 2 and 5, Public Status is the dependent variable (selection equation). Model 3 and 6 present the correlation and homoskedasticity of the results. Due to sizing limitations, controls, and year and industry dummies are not fully displayed.

VARIABLES	(1) Serial Acquirer	(2) Public Status	(3) /	(4) Serial Acquirer	(5) Public Status	(6) /
Public Status	-0.987*			-0.987*		
	(0.576)			(0.574)		
Deal Market Intensity - Deals	0.0487	0.0313				
	(0.253)	(0.0637)				
Deal Market Intensity - Value				0.137	-0.00762	
				(0.153)	(0.0452)	
Acquisition Experience	0.376	-0.0526		0.391	-0.0537	
	(0.403)	(0.0879)		(0.407)	(0.0873)	
Industry Experience	-0.0740	0.0180		-0.0927	0.0183	
	(0.266)	(0.0708)		(0.266)	(0.0708)	
Tenure	-0.000378***	7.49e-05**		-0.000380***	7.54e-05**	
	(0.000125)	(3.27e-05)		(0.000125)	(3.26e-05)	
Tenure-squared	6.41e-08**	-9.15e-09		6.48e-08**	-9.22e-09	
	(2.58e-08)	(7.86e-09)		(2.60e-08)	(7.84e-09)	
Assets	0.0638	0.0315***		0.0647	0.0316***	
	(0.0452)	(0.0116)		(0.0452)	(0.0116)	
MTBV	0.0105	0.00621		0.0105	0.00622	
	(0.0263)	(0.00714)		(0.0263)	(0.00713)	
Cash	0.0440	0.00143		0.0450	0.00130	
	(0.0440)	(0.0121)		(0.0440)	(0.0121)	
Leverage	-0.000387	0.000150		-0.000405	0.000151	
	(0.000589)	(0.000176)		(0.000590)	(0.000175)	
Dummy Assets	-0.763	-0.274		-0.722	-0.276	
	(0.687)	(0.449)		(0.698)	(0.451)	
Dummy MTBV	0.221	0.0873**		0.216	0.0874**	
	(0.155)	(0.0428)		(0.155)	(0.0428)	
Dummy Cash	-0.0884	-0.0367		-0.0914	-0.0360	
	(0.155)	(0.0402)		(0.155)	(0.0402)	
Dummy Leverage	0.0143	0.124		-0.0187	0.125	
	(0.564)	(0.439)		(0.576)	(0.440)	
Target Age		0.0625***			0.0626***	
		(0.0107)			(0.0107)	
ρ			0.186			0.185
			(0.233)			(0.232)
σ			-0.990***			-0.990***
			(0.0223)			(0.0223)
Constant	0.311	-0.565***		0.191	-0.526**	
	(0.885)	(0.208)		(0.864)	(0.205)	
Observations	1,037	1,037	1,037	1,037	1,037	1,037
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

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