Do Managers Pay for their Growth Options? An Empirical Analysis of Buy-and-Build Acquisitions

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This paper considers premiums paid for initial intra-industry acquisitions part of a "buy-and-build" acquisition strategy for industry consolidation. We find that buy-and-build acquirers on average pay between 8 and 20% higher premiums for their first acquisition compared to acquirers that don't follow such a strategy. The higher premium can be explained following real option theory in serial acquisitions where the first acquisition in a series serves as the prerequisite for future target appropriation and, considering the total future value of the acquisition series, can justify payment of a higher premium. Our empirical analysis suggests that the strategic idea of pursuing a buy-and-build strategy offers the best explanation for the difference in premiums paid compared to related non buy-and build acquisitions. The insignificant market reaction suggests there is no short term, ex-ante added shareholder value in this particular acquisition strategy.

INTRODUCTION

Acquisitions have been widely researched and the findings have increased our understanding of acquisitions' occurrence, payment and performance (Haleblian et al, 2009). The finding that acquisitions are usually part of a broader program (Barkema and Schijven, 2008) has led to acquisition research increasingly paying attention to sequences of acquisitions, either on a firm level (Fuller et al., 2002) or on the executive level (Billet and Qian, 2008; Malmendier and Tate, 2008). Series of acquisitions in short succession have been used to study organizational learning (Aktas et al., 2009; 2011) as well as providing behavioral explanations like hubris for engagement in multiple deals and their subsequent effects on shareholder returns (Doukas and Petmezas, 2007; Billet and Qian, 2008). Contrary to behavioral explanations, strategic rational for serial acquisitions can be found in acquisitions undertaken to achieve industry consolidation, so called buy-and-build acquisitions (Smit, 2001). Buy-and-build acquisitions are path-dependent acquisition trajectories where prior acquisitions influence future acquisition opportunities and corporate expansion paths. Benefits for the firm in a buy-and-build acquisition strategy are market power and domination, synergies from future add-on acquisitions, and basic economies of scale (Nikoskelainen and Wright, 2007; Smit and Moraitis, 2010ab). Certain industries, like automotive, telecom and mining, as well as private equity investors (Nikoskelainen and Wright, 2007), have adopted such sequential growth paths by extensively relying on acquisitions. Research to date on buy-and-build strategies has considered the benefits from a theoretical or case-based point of view rather than empirical. Consequently, empirical exploration of this specific acquisition strategy will increase our understanding and provide insights into the differences between the theoretically envisioned and empirically observed outcomes of such strategies. This paper will serve as a first to empirically explore buy-and-build acquisition strategies and define a useful proxy for the acquisition strategy by considering a variety of possibilities.

The idea of buy-and-build acquisitions is adopted from the real options literature which shows a sequence of interrelated acquisition opportunities can be modeled and valued as a real option (Smit, 2001). In a buy-and-build strategy the first acquisition can be seen to provide an option on the benefits of targeted industry consolidation such as market power and economies of scale. When considering the entire sequence as a real option model, the value of the first acquisition, that opens up the future growth possibilities and benefits from targeted industry consolidation, will reflect the value of the entire sequence. From a

theoretical perspective the first acquisition can warrant paying a higher (option) premium as the price for the first building block in the chain incorporates the discounted future benefits from the long-term buy-and-build strategy. In order to consider whether the theoretical predictions regarding the premiums paid hold empirically, this paper will primarily focus on the premiums paid in buy-and-build acquisitions.

To date, acquisition premiums have been researched and explained by looking at synergies (Slusky and Caves, 1991), competition for the target, board interlocks (Haunschild, 1994), hubris (Hayward and Hambrick, 1997) and firm level desperation (Kim et al., 2011). Other factors influencing acquisition premiums are resistance to takeover (Sinha, 1992), investment advisors (Haunschild, 1994) and interlock partners (Haunschild, 1993; Haunschild and Beckman, 2002). We extend the current explanations for acquisition premiums by considering serial acquisition strategies. As premiums are susceptible to human, interpretive, and social processes and are not strictly the result of economic calculations (Haunschild, 1994), we control for decision makers when studying premiums. Rather than focusing on individual level biases (Hayward and Hambrick, 1997) we consider strategic differences between acquirers in their acquisition strategies, and see how these differences lead to variations in valuations and prices paid. Acquirers who consider targeted industry consolidation in order to grow their firms, so called buy-and-build acquirers, supposedly can rationally pay higher premiums for their first deal since most of the added value stems from the sequence of (future) acquisitions, where the first acquisition serves as a prerequisite to obtain the benefits from add-on acquisitions and industry consolidation. This paper aims to test whether these acquirers acknowledge the value of the serial acquisition strategy at the start and whether this value is reflected in the premiums they pay for their first acquisitions.

In line with the expectations theorized in the real option literature, we find that following a buy-and-build strategy is a significant determinant for the prices paid in acquisitions and indeed leads to paying higher premiums for first acquisitions. Furthermore and contrary to what would be expected, we find that, in light of the higher premiums the market does not show significant differences between the different acquisition strategies. Although this rules out alternative explanations for high premiums based on overpayment or hubris, it also shows no short-term added value of initiating such an acquisition strategy in terms of shareholder value creation. This finding is not surprising as in a path dependent acquisition strategy value creation will likely occur over a longer term, making it less likely to capture initial value around the initiation of such a strategy.

This paper proceeds as follows. We start with an overview of the related real option and acquisition literature on the buy-and-build strategy. We highlight the most important focal points in acquisition research in light of our research and develop a way to empirically test the assumptions from the theory. Next, we discuss the data and results and draw conclusions from our empirical results. Finally, we discuss shortcomings and potential directions for future research.

THEORY

Serial acquisitions, real options and premiums

Serial acquisitions. The notion that independent acquisitions might be part of a larger sequence, gave way to research on multiple acquisitions in succession (Schipper and Thompson, 1983; Malatesta and Thompson, 1985; Fuller et al., 2002; Hayward, 2002; Klasa and Stegemoller, 2007). In one of the first papers on serial acquisitions, Schipper and Thompson (1983) show there exists an acquisition program anticipation effect and that announcement of a serial acquisitions trajectory can create shareholder value. Fuller et al. (2002) look at the share price reaction of frequent acquirers among different types of targets and methods of payment. Their definition of frequent acquirers (5 or more deals in 3 years) is in line with the one used in behavioral research where individual level differences are considered to explain acquisition activity and performance. In this strand of research, Doukas and Petmezas (2007) look at self-attribution bias causing overconfidence in higher-order deals and find higher-order deals suffering from overconfidence result in lower returns and performance. Related to this, Billet and Qian (2008) consider acquisition likelihood and changes in announcement effects of individual CEOs undertaking multiple deals and find evidence of the self attribution-bias leading to overconfidence, adding to the behavioral explanations for CEOs engaging in multiple acquisitions following the hubris definition of Roll (1986). Related research from Aktas et al. (2009; 2011) looks at pairs of sequential acquisitions and considers changes to returns and premiums paid within these pairs, showing how CEOs learn from market signals to their prior acquisition decisions. Related to learning and transfer of acquisition experience over deals, Finkelstein and Haleblian (2002) show a negative transfer effect as second deals underperform first deals, especially when they occur cross-industry.

In this paper, we consider a specific type of serial acquisition strategy called buy-and-build, where the goal is targeted industry consolidation through a series of interconnected acquisitions. Related, horizontal acquisitions may lead to industry consolidation and reduced

commitment to and from existing customers of targets, which may create growth opportunities for survivors (Berger et al., 1998). Related acquisitions suffer less difficulty in the integration phase (Finkelstein and Haleblian, 2002), make it easier to assess the strategic (Kusewitt, 1985; Fowler and Schmidt, 1989) and organizational (Datta, 1991) fit (from Laamanen and Keil, 2008), and have shown to be among the only type of deals where expected synergies materialize (Mueller and Sirower, 2003). The first acquisition in a buy-and-build strategy can serve as a platform, opening up further possibilities for follow-on acquisitions to transform several smaller firms into an efficient large-scale network (Smit, 2001).

Real options and serial acquisitions. In following a path of serial transactions, an investor initially acquires one or more platforms on which it can leverage further new competencies and assets through follow-on acquisitions eventually covering a wider geographic, product, or customer base (Smit and Moraitis, 2010a). One of the key synergistic drivers in a buy-and-build strategy is building size in a fragmented market. But value can also be created through consolidation, as increased industry concentration and individual firm size change the industry structure and potentially improve the overall economics for all firms in the sector (Pilloff, 1999). Successful firms will be those able to position themselves advantageously to enjoy a disproportionate share of these returns (Smit and Moraitis, 2010a).

In contrast to standard roll-ups and quick-restructuring strategies, which aim to turn investments around in 2 to 3 years, a buy-and-build is a longer term sequential strategy with a typical planning horizon of five or more years (Smit, 2001). Within these long-term horizons, unforeseen economic events or rival moves are likely to change envisioned plans. The real options approach deals with the uncertainties involved in a long-term strategy better than traditional approaches as it encourages flexible pursuit of a variety of possible transactions, where valuable new growth options can arise - or existing ones become obsolete - as uncertainty resolves (Smit and Moraitis, 2010a).

Acquisitions as a component of a larger acquisition strategy require more sequential organizational structuring to fully realize the benefits from multiple acquisitions (Barkema and Schijven, 2008). Real options might serve as a helpful tool in this matter. Real option analysis is implicitly based on expected synergies assuming the firm is completely committed to a predetermined path of future follow-on acquisitions (Smit, 2001). A platform acquisition

option[1] involves a higher growth option value than an asset acquisition option, since it involves an option on the underlying call options, here the subsequent, future acquisitions (Smit and Moriatis, 2010b).

In case of a series of interrelated acquisitions the sequence can be valued as a real option, where much of the future value stems from the option to build on the potential first acquisition[2]. In case the real option valuation shows a positive return on investment, taking uncertainty and variance of returns into consideration, it becomes sensible to acquire the platform as without it the sequence would be harder to accomplish.

Valuing this sequence as a real option allows deducting the value of the different elements and transposing them to the initial starting point, which then reflects the value of the entire strategy. Pricing the first of an expected series of acquisitions requires a dynamic analysis of the target's synergistic growth potential. To quantify the value of a buy-and-build strategy, acquisitions are no longer viewed as stand-alone investments but rather as links in a chain of interrelated investments in which the early investments are prerequisites and set the path for the ones to follow (Smit, 2001). The first acquisition therefore has the most value, as it is a prerequisite in the chain eventually returning the calculated future value. Especially when the first acquisition increases the probability of appropriating the future firms necessary to successfully complete the intended strategy, this first deal can be considered to have value exceeding the expected synergies and acquisition benefits from merely combining the two firms[3].

As this study is the first empirical attempt to shed insight on buy-and-build acquisitions, little is known on the characteristics that differentiate buy-and-build acquirers and targets from non buy-and-build ones. Given the importance of this first acquisition with the larger program does suggest differences should be present. Within the scarce literature on serial acquirer and target characteristics, Ahern (2008) shows successive acquirers' size increases during an M&A program, and they optimally choose increasingly bigger targets of

[1] The defining characteristic of these initial platform acquisitions is that they provide a powerful step into a new environment and access to a new array of future investment opportunities, perhaps including access to a new geography (Smit and Moraitis, 2010b).

[2] For an example of deducting the value of a serial acquisition strategy we refer to the paper by Smit and Moraitis, (2010b) who also introduce potential competitive response to earlier actions and the subsequent effect on acquisition payoffs.

[3] In order to increase the probability of success in a buy-and-build strategy, the first deal should create a competitive advantage in acquiring subsequent deals, essentially creating a proprietary option. Financial strength, multimarket links and economies of scale and scope following an increase in size (Pilloff, 1999) could create such advantages as competitive acquirers might be hesitant to enter into a bidding war against a larger or potentially market-leading firm.

diminishing relative size. Also, a first larger deal might provide a larger competitive advantage and bargaining power in successive deals.

The buy-and-build strategy's focus is on creating size in fragmented markets (Smit and Moriatis, 2010a), making low-concentration industries a more suitable environment for successfully conducting a buy-and-build strategy. Based on these two predictions we hypothesize:

Hypothesis 1: buy-and-build acquirers and non buy-and-build acquirers will show differences on target and acquirer level characteristics. More specifically:

- *Buy-and-build acquirers' targets will be larger compared to targets of non buy-and-build acquirers*
- *Buy-and-build acquisitions will occur in industries with lower concentration levels.*

Prices paid in buy-and-build acquisitions. If acquirers use real option valuation when considering buy-and-build strategies, we expect them to assign higher values to first acquisitions, as these deals should reflect the (discounted) future benefits of the entire acquisition strategy. Therefore, buy-and-build acquirers can rationally pay higher prices for their first acquisition, which will be reflected in higher premiums paid for the first deal. Acquisition premiums have been a widely used measure for executive perceptions of the potential additional value extraction or creation in the target (Hayward and Hambrick, 1997). Comparing related deals and assuming acquirers who follow a buy-and-build strategy understand the added value of this strategy, we expect buy-and-build acquirers to pay higher premiums for their first deals compared to non buy-and-build acquirers.

Hypothesis 2: following real-option predictions, buy-and-build acquirers pay higher premiums for their first deal compared to non buy-and-build acquirers.

In order to further investigate the rational consideration of acquirers to undertake a buy-and-build strategy we use the market reaction to the deal announcement to differentiate between irrational (i.e. overpayment or overconfidence) and rational (buy-and-build strategy) explanations for the envisioned effect. The market response can show the perceived value of executive and firm strategy formulation (Haleblian et al., 2009), which makes considering the

market response in our research useful in order to measure the reaction towards the strategic intentions and rational of buy-and-build acquisitions.

Overpayment in acquisitions. The ambiguity in acquisition valuations is an important element as excessive premiums have shown to have a negative effect on acquirer financial returns (both accounting and shareholder, see Sirower, 1994; Beckman and Haunschild, 2002; Krishnan et al., 2007) and a positive effect on target shareholder returns (Jensen and Ruback, 1983) as this group clearly benefits from any overpayment over the current share price. Premiums may proxy for synergies between a bidder and target thus promoting a positive relationship between premium and returns, while on the other hand high premiums may proxy for overpayment increasing the likelihood of a value destroying deal which should lead to a negative relationship between premium and return (Diaz et al., 2009). In their empirical analysis they find a quadratic relationship between premium and market returns, where too high premiums (>21%) decrease bidder's abnormal returns (Diaz et al., 2009).

We assume acquisitions within the same sector will have a smaller risk of overpayment as the value drivers of the industry are less ambiguous to the acquirers allowing for better envisioned forecasts on the industry's future and its firms compared to unrelated industries. Indeed, premiums of related acquisitions tend to be lower than those of unrelated acquisitions (Slutzky and Caves, 1991)[4]. Therefore, industry-related acquisitions will decrease the chances of potential hubristic effects like overconfidence[5], and potentially optimism in valuations and its effects on premiums paid. Also, the finding of positive acquisition program announcement effects (Schipper and Thompson, 1983), suggest the market will react positively to a buy-and-build acquisition strategy.

Hypothesis 3: the market reaction to buy-and-build acquirers paying higher premiums will be positive, indicating the rational for the size of the premiums given the strategic plan.

[4] The average premium for related deals in Slutzky and Caves (1991) is 46% while for unrelated deals it is 53%. Related research controlling for the effect of firm-relatedness on premiums does show negative coefficients (Haunschild 1994; Eckbo, 2009; Kim et al 2011) but the outcomes are not significant. Slusky and Caves (1991) do find a significant negative effect of firm-relatedness (labeled FIT by the authors) when rivals are present, suggesting bids are inflated in unrelated deals when rivals appear.

[5] Doukas and Petmezas (2007) show that 64% of the acquirers they label overconfident undertake diversifying acquisitions.

Learning and overconfidence in serial acquisitions. Serial acquisitions have been considered in behavioral related research, where the effects of the acquirer's cognitive limitations appear to increase throughout the deal sequence (Billet and Qian, 2008). Given our rational consideration of a buy-and-build acquisition path as part of a larger strategic plan, we expect to see this rational in relation to acquisition premiums throughout the deal sequence in the form of a decreasing premium trend.

Hypothesis 4: Buy-and-build acquirers' acquisition premium will decrease over successive deals.

METHODS

Sample and data

Organizational outcomes are influenced by the preferences and style of the people in charge (Hambrick and Mason, 1984; Bertrand and Schoar, 2003) and executives influence corporate decisions such as M&As (Aktas et al., 2009). Especially acquisition premiums will show the executive's influence and provide a clear observable output of CEO bidding (Aktas et al., 2011). Therefore, our analysis will be conducted on the executive rather than the firm level.

In order to test our predictions we first need to identify buy-and-build acquirers from other acquirers and collect the premiums paid in their acquisitions. We start by considering all deals from 1986 until 2009 of which premiums are available in Thompson SDC. Given the executive's influence on acquisition premiums, we consider only those deals of which corresponding CEO data for the acquiring firms is available from Execucomp. This leads to a sample of 1668 acquisition-CEO matches. To decrease the managerial learning effect in acquisitions in a certain firm we consider only first deals done by a CEO during his tenure in the acquiring firm. In order to decrease fixed effects influence we omit firms where CEO changes make acquisitions done by a firm meet our criteria for inclusion as buy-and-build or non-buy-and-build acquirer. Therefore, all firms and executives can only be represented once in our sample.

We define buy-and-build acquirers as those acquirers who engage in *at least* two successive public acquisitions (i.e. not interrupted by other acquisitions) in the same industry (measured by primary 4-digit SIC relatedness), and preferably more. This results in a sample of 78 buy-and-build acquirers of which 24 did 3 subsequent intra-industry deals and 11 more

than 3. To compare the premiums paid by buy-and-build acquirers and none buy-and-build acquirers we establish a corresponding group of acquirers who make a first acquisition during their tenure at a firm within the same 4-digit SIC industry, but don't follow a buy-and-build strategy as they are single acquirers or their second acquisition is in an unrelated industry. This constraint results in 243 acquirers whose first deal is industry-related but subsequent deal is not or acquirers labeled as single acquirers.

Variables

Dependent variable. Our dependent variable is the acquisition premium paid calculated as the value of the deal divided by the pre-announcement target market value measured 4 weeks prior to the deal announcement (Hayward and Hambrick, 1997). Calculating the premium four weeks prior to the announcements, will decrease the effects from stock price run-ups prior to and in anticipation of the acquisition.

Since there are some outliers in the premiums we collected we winsorize all premiums at the 1 and 99% level, in line with recent acquisition premium research (Baker et al, 2012).

Independent variable. Our main variable of interest is whether an acquirer follows a buy-and-build strategy. We construct a dummy variable indicating whether an executive meets our definition of a buy-and-build executive, i.e. at least 2 successive deals in the same industry. Next to our base definition of buy-and-build acquisitions, we consider two different buy-and-build definitions based on target-acquirer relatedness. The first considers relatedness at the 3-digit SIC level, the second considers broader economic relatedness by considering firms' secondary SIC codes. Firms can report up to 12 SIC codes of industries they operate in, and although these industries might be of only marginal importance to firm operations, it does give the broadest definition of industry experience[6]. We also restrict the time period in which the acquisitions need to be undertaken to 5 years. This definition decreases the number of useful observations but provides a higher likelihood of following an acquisition strategy rather than stand-alone related acquisitions.

***Control variables*.** Other factors have been found to influence acquisition premiums. We control for length of the tenure of the CEO measured in log of days, since CEOs with more time between instatement and their first deal are more aware of the market they operate

[6] For the 3 digit SIC level relatedness our sample contains 123 buy-and build acquirers, of which 45 do 3 deals and 22 more than 3, compared to 294 single and non buy-and-build acquirers. Regarding secondary SIC related deals we find 211 buy and build acquirers, of which 92 do 3 related deals and 48 more than 3, against 388 single and non-buy-and-build acquirers.

in and better able to establish prices for target. We also control for deal experience by counting the number of private related deals the CEO has been involved in during his time with the firm prior to the focal (public) acquisition.

Acquirer characteristics we control for are slack resources and acquirer size as these can increase premiums paid. Bruner (1988) found acquirers have significantly more financial slack in the 2 years prior to acquisition. Iyer and Miller (2008) show high unabsorbed slack has a significant influence on probability of acquisition. Following Bourgeois (1981) we use two measure for slack, unabsorbed slack measured by the current ratio (current assets divided by current liabilities), and absorbed slack, measured as selling, general and administrative expenses divided by sales (Iyer and Miller, 2008). All variables to construct our slack measures are obtained from Compustat from the fiscal year prior to the acquisition.

As large firms offer higher premiums and are more likely to complete an offer (Moeller et al., 2004), we control for acquirer and target size by taking the logarithm of total assets[7].

Deal characteristics that have shown to influence premiums paid are the method of payment (Travlos, 1987; Ghosh and Ruland, 1998; Slusky and Caves, 1993) and type of deal. Deals financed with all stock can lead to higher premiums, as the value of the stock is uncertain compared to cash. Also, paying in stock can signal the acquirer is using its overvalued shares to pay for acquisitions. Target shareholders will therefore require higher premiums in all-share offers. Next to dummy variables for all-cash deals and all-stock deals, we use dummy variables indicating tender offers, presence of a minority stake prior to the acquisition (by subtracting shares owned after the transaction with shares purchased) and cross-border deals. Finally, we identify deals where competition is present, as competitive threats and counterbids can drive up prices (Varaiya and ferris, 1987; Varaiya 1988; Slusky and Caves, 1991).

As a buy-and-build strategy is focused on achieving industry consolidation we control for the level of industry concentration prior to the deal. Less concentrated industries might lend themselves better for a consolidation strategy, however the effects on premiums paid can be twofold. On one hand more active firms means a larger potential number of competitors for a target, increasing premiums paid, while being already a large player in a highly fragmented industry can give a perfect position and environment to create a successful

[7] We prefer the use of SDC data for our control variables as this allows for the largest possible sample to be used in our analysis, as alternative databases (like Compustat) might not have data available for all firms, limiting the sample size.

industry consolidation strategy. By controlling for industry concentration, number of bidders and acquirer size we cover all these scenarios. We calculate the industry concentration by constructing the Herfindahl index of industry sales by summing the squares of sales of all firms in the same industry (defined by the NAICS code based on the acquirers 4-digit SIC code) in the year prior to the acquisition (Song and Walkling, 2000; Shahrur, 2005).

Finally, we include year and industry dummies. The long time-window in our observations leads to a lack of effects for the year dummy variables. Following Krishnan et al. (2007) to avoid reducing the degrees of freedom in the models we eliminated the year dummies from subsequent analysis and only control for the most apparent influential years. Following Doukas and Petmezas (2007), we control for merger wave periods (97-99 and 04-06) as periods of heightened acquisition activity are related to increased prices paid. We also control for high research-intensive industries (Healthcare and IT) as these sectors are characterized by large, hard-to-value growth options resulting from patents and R&D. The future impact of R&D spending on sales growth is taken into consideration in establishing the premium, and therefore we expect higher premiums for these industries compared to more mature industries.

RESULTS

Table 1 shows the descriptive statistics and correlations of the variables used in the analysis. From Table 1 we can draw preliminary conclusions that buy-and-build acquirers are positively correlated with premiums, suggesting preliminary evidence of higher premiums paid by acquirers following such a strategy.

Insert Table 1 here

In order to test hypothesis 1, we run a probit regression to identify the deal, target and acquirer level differences between buy-and-build acquirers and non buy-and-build acquirers. We find support for the envisioned effects, however the results are highly dependent on the buy-and-build definition used. We find support for the initial idea that buy-and-build acquisitions occur in low concentration level industries, however this result is only shown in the 4-digit SIC related definition. Other findings on this level are that buy-and-build acquirers are less likely to make tender deals, and this can be related to the significant positive relation between minority stake and buy-and-build acquirer. Owning a minority stake in the target can

increase target awareness and influence by the acquirer. Stakes of a sufficient size can even lead to board positions, increasing both the target and acquirer's comfort with one another. This can lead to less target board resistance when the acquisition is initiated, decreasing the necessity for a tender offer. When using the 3-digit SIC related buy-and-build definition the minority stake and the industry concentration effect are no longer significant. There is a significant negative effect of acquirer's unabsorbed slack in this buy-and-build definition, suggesting buy-and-build acquirers are less capable of paying current liabilities. Finally, the broadest buy-and-build definition shows stock payment is a buy-and-build indicator, which can be related to the higher premiums paid, as deals paid in stock tend to receive higher premiums to make up for any stock price inflation. Also, acquisition experiences tends to be lower for buy-and-build acquirers, which could be an alternative explanation for the higher premiums paid. This definition also shows insight into the acquirer and target size characteristics for buy-and-build acquirers. We find buy-and-build acquirers tend to be larger firms and, contrary to what was expected, they tend to acquire smaller targets. However, these findings are only weakly significant and tend to disappear when premium-effects are incorporated, making strong inferences on the differences between buy-and-build and non buy-and-build acquirers problematic.

In order to account for sample selection bias we conduct a two-step Heckman procedure. The first stage is the regression we use in table 3 where we explain acquisition premiums with the variables as used in the initial probit model. For the Heckman's second stage probit, the Heckman procedure requires to use additional variables compared to the first-step OLS. Next to the variables used in the standard probit model we include the market-to-book ratios for the target and acquirer as extra explanatory variables[8]. The inverse mills ratio following this is not significant, and this is consistent across the different buy-and-build definitions used, indicating selection bias is not an issue in our sample.

Constant across all definitions is the finding that higher premiums are associated with buy-and-build acquirers. This gives initial directions in support of hypothesis 2 which we will now test.

Insert Table 2 here

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[8] Market-to-book ratio is calculated as in Baker et al (2012).

Next we run a series of OLS regressions to explain the premiums paid in related, first acquisitions. The results of the different models are shown in table 3. Model 1 shows the effect of the control variables on the premium paid. Model 2 includes our variable of interest, the buy-and-build acquirer dummy based on 4-digit related deals. We find that buy-and-build acquirers on average pay a 20% higher premium for their first deals, compared to none buy-and-build and single acquirers. This finding is in line with our prediction that buy-and-build acquirers acknowledge the future value of their strategy and correspondingly adjust their offer prices upward for the first acquisition in this chain. We also find acquirers holding a minority stake, deals paid with stock, and those involving large targets result in lower premiums.

Even after winsorizing our dependent variable, the large value of the intercept seems to indicate some large outliers might still be driving the results. As our sample shows an average acquisition premium of 58%, where other studies report mean premiums of 40% (Datta et al, 2001) 49% (Hayward and Hambrick, 1997), 52% (Haunschild, 1994) and 53.5% Laamanen (2007)[9], we run robust regressions using the unwinsorized dependent variable. A robust regression accounts for outliers in the data by assigning less weight to these outliers in establishing the coefficients. One drawback of the robust regression is that it has no interpretable R-square and standard errors cannot be corrected for heteroskedasticity[10]. The coefficients from the robust regression method are shown in model 3. The outcomes are in line with earlier findings, however the premiums seem more reasonable, both on average for our sample (48%) and with regards to the higher premium offered by buy-and-build acquirers (13%). Presence of a minority stake lowers premiums paid, since the overall price paid for the target will be lower for an acquirer who already purchased a minority stake at a prior lower price than the current controlling bid (Eckbo, 2009). Large targets receive lower premiums. This can be attributed to for instance the available information on large targets that helps improve the due diligence and valuation processes, or a more prudent valuation approach due to the size of the transaction (Alexandrididis et al., 2011). Finally, we find a significant effect for the experience variable, indicating executives who prior to their public acquisitions were involved in private related acquisitions pay lower premiums. The earlier,

[9] The effect of acquirer-target relatedness on acquisition premiums is mixed showing positive effects (Haunschild, 1994; Hayward and Hambrick, 1997) as well as negative effects (Haunschild, 1994; Laamanen, 2007). However, the reported effects are lacking significance.

[10] There exists a user-written STATA command (*rregfit*) that calculates robust r-square's after robust regressions. The r-squares reported in our tables are all obtained using this command.

contradicting finding that stock paid deals lead to lower premiums is no longer significant in model 3, making the robust regression output intuitively more appealing to use. Models 4 to 6 show the same regressions using a 5-year requirement for the buy-and-build acquisition variable. Overall, the results are in line with our earlier findings.

Although considering less strict buy-and-build definitions leads to a larger useful sample, the findings also change with alternative buy-and-build measures, loosing significance in the 3-digit relatedness measure (however, the 5-year limitation shows the expected effects persist), while the secondary related deals again do show the hypothesized effects, although lower and less significant. Table 3.1. and 3.2 show the outcomes of the OLS regressions using the 3-digit and secondary SIC related buy-and-build definition respectively.

Insert Table 3 – 3.2 here

In order to further test the buy-and-build hypothesis, we consider factors that are discussed in real option literature to distinguish first order deals as being part of a buy-and-build strategy. The starting acquisition in a buy-and-build strategy will increase growth option value when it serves as a platform providing access to a new environment or geography (Smit and Moraitis, 2010b). In order to test this effect, we interact the buy-and-build dummy with the cross-border dummy, but find no significant influence on premiums paid (results not reported). One caveat here is that we are unable to accurately disentangle prior geographical experience and therefore a true platform option, as we have no information on cross border deal experience and prior presence.

In order to test the market's response to the higher premiums paid and the market's ability to identify buy-and-build acquirers, we run a series of regressions where we use different event-time windows for acquirer Cumulative Abnormal Returns (CARs) as the dependent variable. The calculation of the CARs is done in Eventus using a market model based on the CRSP value-weighted index. In calculating the benchmark parameters we use a minimum 3-day and maximum 255-day time window starting from 46 days prior to the announcement, which is in line with prior literature (Crozi and Petmezas, 2009). For our acquisition sample we can calculate the abnormal returns for 263 out of the 325 deals at 4-digit sic relatedness (for 3 digit 346 out of 422, sec sic 502 out of 603) We consider several short-term event windows surrounding the announcement day (i.e. -1,+1; 0,+1, -5,+5; -10,+10) and find no significant differences in any of the considered buy-and-build

definitions, rejecting hypothesis 3 (results not reported). This finding rejects overpayment following behavioral factors (Morck et al., 1990) as a potential explanation for the higher premiums paid, as this could have been suggested if the market reacted unfavorable to the buy-and-build acquisitions. However, this finding also indicates there is no acquisition program anticipation effect (as in Schipper and Thompson, 1983) as the market does not value the first deals in a buy-and-build acquisition as being more valuable compared to non buy-and-build or single acquirers.

We expect there might be alternative explanations for this finding. Since related deals are valued more positive by the market than unrelated deals (Singh and Montgomery, 1987) it could be the deals we consider are already valued positively, and this overrides the overpayment argument. However, as the average CARs in our sample for related deals are all negative (-1%), and it seems unlikely that overpayment will only occur in unrelated deals, we refrain from considering this alternative in further detail. One explanation for the average negative CARs is that if managers know the value of the growth options they acquire, they might be comfortable accepting a lower short-term performance effect in order to gain access to these options (Folta and O'Brien, 2007).

Another explanation for the insignificant market reaction could be that the acquisition strategy only becomes known with the second deal, when the buy-and-build and non buy-and-build acquirers are separated. We can think of two potential scenarios that might occur. When the second deal is a related deal, the market identifies the buy-and-build acquirer and, giving this acquisition strategy is deemed value increasing, will react positive to the second deal announcement, perhaps even to such an extent to offset the decrease from the first acquisition announcement. Second, the difference in market reaction does not become clear until the second deal, when buy-and-build acquirers experience higher returns compared to non buy-and-build acquirers. This counters any anticipation effect (as found by Schipper and Thompson, 1983) which, when reversed upon the second deal, would show the opposite effect. In order to test both scenarios we first try to explain the difference in announcement returns for buy-and-build acquirers between their first and second deal, and their first and third or higher deal. Both outcomes show insignificant differences regarding market returns. Next, we consider the difference between the second deals of a buy-and-build acquirer versus non buy-and-build acquirer, and although the majority of the signs of the coefficients point in the envisioned direction (i.e. positive for buy-and-build acquirers), we again find insignificant differences. The results of the market-reaction analysis are available upon request.

Finally, we consider the premiums paid throughout the sequence to answer hypothesis 4. Shown in table 4, we see acquisition premiums between first and second deals are significantly smaller, with the secondary-SIC definition showing decreasing premiums throughout the deal sequence. For the 4 and 3-digit related definitions, we see premiums increase between the second and third deal to first-deal levels, and decrease in subsequent deals. In order to understand this wave-shaped premium pattern further investigation needs to be done on target level differences between second and third deals that could warrant a premium increase.

An alternative explanation for the decreasing premiums between the first and second deal can be acquirer learning. Especially in related acquisitions, learning in valuations and pricing can result in lower premiums throughout a deal sequence. Aktas et al (2009) consider learning in sequential acquisitions as a feedback-mechanism where acquirers learn from the market's response to the first deal, and adjust their bidding behavior in subsequent deals accordingly to the prior market reaction. In the acquisition-learning model, a negative market reaction will decrease executives bidding aggressiveness resulting in lower premiums in subsequent deals (Aktas et al, 2009; 2011).

Given the learning explanation for a decreasing premium phenomenon from Aktas et al (2009; 2011) we will consider the market response to first acquisitions on the difference between first- and second acquisition premiums. We run a regression with the difference in premium between the first and second deal as the dependent variable, and a dummy indicating a positive abnormal return for the first deal, to see if past market reactions to acquisition influence future acquisition premiums. Most of the regression models were overall insignificant, and the output of the few that were significant, although weakly, are shown in panel B of table 4. It appears past positive abnormal returns lead to higher acquisition premiums in subsequent deals, however the overall premium is lower. This finding seems most in line with acquirer bidding persistence as found in Aktas et al (2011), rather than acquirer learning.

Insert table 4 here

DISCUSSION

The lack of finding specific firm level differences between buy-and-build and non buy-and-build acquirers makes differentiation difficult. In case of no firm level differences,

executive level differences or preferences could be a stronger differentiating factor. We might consider personal level information asymmetries to be an alternative explanation, and, given the market's non-reaction, these asymmetries might also exist between the market and acquirer. However, it remains unclear from our analysis whether the buy-and-build acquisition strategy is initiated on the executive or firm level. Although the buy-and-build executives we consider all started the strategic acquisition plan, the hiring process of executives is under close supervision by the board of directors and shareholders. The strategy could initially be envisioned by the firm's owners or directors, who subsequently choose executives capable of executing this task (i.e. "board stacking" (Stuart and Yim, 2010)). Controlling for firm and personal level experience in related serial acquisitions prior to joining the focal firm could provide more thorough insight into the consideration of the serial acquisition path.

Looking at related deals has in our opinion advantages when considering acquisition premiums and valuations. Executives acquiring in the same sector should have more knowledge of the industry drivers and are better able to make predictions of the future compared to unrelated sectors. Being able to more rationally price targets should lead to less optimistic valuations and overpayment. Given this assumption, and the market's lack of punishing the high premiums paid, suggests the premium difference can be mostly attributed to the serial acquisition strategy.

If the first acquisition leads to an industry-wide increase in firm prices, following the acquisition-probability hypothesis (Song and Walkling, 2000), CEOs who made a structured strategic overview, by use of real option modeling, might be less inclined to adjust their valuations following such overall market response, and will therefore pay a lower premium (Schwert, 1996). However, empirical evidence has shown target run-ups actually lead to higher premiums (Schwert, 1996; Betton et al., 2008, Eckbo, 2009). Further research into the industry wide market response after a buy-and-build strategy is initiated should be able to offer clarification. Do markets adjust prices of these acquirers as executives clearly communicate their acquisition strategy beforehand, (as in Thompson and Schipper, 1983) or does the acquisition act as a signal that the firm will not itself become a target in situations of increased industry consolidation?

Limitations and suggestions for further research

The acquisitions considered in this research are limited to public-to-public deals due to limited data availability on premiums paid in private deals. Although this limits the

conclusions of this study to only public acquisitions, regarding acquisition premiums it is interesting to see the deviations in the public setting in isolation. Since public deals will be followed and monitored by the business press, the public knowledge of the premiums paid should make acquirers more aware and cautious towards the size of the premiums, as the market and press reactions can influence an acquirer's reputation. We would expect overbidding then to be more likely in private deals due to the absence of these negative, public overbidding effects. This notion makes the findings in our specific subsample even more interesting. Despite the negative effect higher premiums can have in a public setting, the deviations we found based on strategic intentions seem to warrant the higher premium. This finding is further strengthened by the market's non-reaction.

Extending the sample to include private transactions could serve to answer follow-up questions regarding buy-and-build acquisitions and the (market) value creation in particular. For instance due to media attention, conducting a series of private related deals might be less problematic than a similar series of public acquisitions. Using private acquisitions to build size in order to be able to enter the public acquisition arena might be another element worth considering.

Although we use different buy-and-build definitions based on levels of relatedness, there might be other, perhaps more suitable definitions that will simultaneously increase sample sizes. We can think along the lines of considering sequences of 2 deals, as in Aktas et al (2009; 2011), serial acquirers whose majority of deals are related or the inclusion of private deals.

CONCLUSION

In this paper we look at the premiums paid for initial industry-related deals. We use arguments from real option theory on an acquisition strategy for industry consolidation, known as buy-and-build, to predict payment of higher premiums in deals where the acquirer is known ex-post to follow this acquisition strategy. Our subsequent analysis shows that acquirers who initiate a buy-and-build strategy pay on average an almost 17% higher premium for their first deals compared to acquirers that don't follow such a strategy. This finding suggests buy-and-build acquirers acknowledge the future benefits from such a strategy and this value is reflected in the price paid for the first acquisition in the series. Our outcomes are robust across different definitions for the buy-and-build strategy and alternative

acquisition premium explanations, suggesting that higher premiums in first, related deals can be mostly attributed to acquirers' strategic intentions.

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TABLES AND FIGURES

	n	mean	s.d	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 Premiums(BB, non-BB, single acquirers 4 digit	321	48,39	46,50																			
2 Premiums(BB, non-BB, single acquirers 3 digit	417	48,64	45,87																			
3 Premiums(BB, non-BB, single acquirers secondary related	599	49,00	46,68																			
4 Premiums(BB, non-BB, single acquirers 4 digit 5 year requirement	493	49,13	46,54																			
5 Premiums(BB, non-BB, single acquirers 3 digit 5 year requirement	349	49,08	47,00																			
6 Premiums(BB, non-BB, single acquirers secondary related 5 year requirement	272	48,74	47,67	1																		
7 buy and build acquirer (4-digit SIC relatedness)	1668	0,05	0,21	0,12	1																	
8 buy and build acquirer (3-digit SIC relatedness)	1668	0,07	0,26	0,17	0,84	1																
9 buy and build acquirer (secondary SIC relatedness)	1668	0,13	0,33	0,16	0,77	0,91	1															
10 Cross-Border deal	1668	0,14	0,34	-0,06	0,00	-0,03	-0,04	1														
11 Minority Stake	1656	0,11	0,31	-0,22	0,06	0,02	0,00	0,10	1													
12 Multiple Bidders	1668	0,07	0,25	-0,01	-0,03	-0,06	-0,08	-0,05	0,03	1												
13 Payment (Cash)	1668	0,40	0,49	-0,12	-0,02	-0,04	-0,06	0,20	0,12	0,03	1											
14 Payment (Stock)	1668	0,26	0,44	-0,03	0,12	0,19	0,23	-0,10	-0,09	-0,11	-0,38	1										
15 Tender deal	1668	0,33	0,47	0,04	-0,09	-0,13	-0,11	0,14	0,08	0,16	0,55	-0,35	1									
16 LN(acquirer total assets)	1641	7,95	1,77	-0,13	0,01	0,00	0,04	0,05	0,11	0,12	-0,07	-0,09	-0,11	1								
17 LN(target total assets)	1645	5,31	1,71	-0,19	-0,03	-0,06	-0,06	-0,06	0,06	0,20	-0,14	-0,17	-0,13	0,70	1							
18 LN(acquirer unabsorbed slack)	1620	0,64	0,60	0,18	0,03	0,07	0,07	0,06	-0,13	-0,18	-0,05	0,09	-0,10	-0,36	-0,33	1						
19 LN(acquirer absorbed slack)	1488	-1,54	0,82	0,10	0,02	0,10	0,07	0,03	0,01	-0,19	0,08	0,08	0,08	-0,38	-0,39	0,34	1					
20 Industry Concentration (sales)	1668	0,22	0,25	-0,02	-0,10	-0,14	-0,14	0,09	0,08	0,02	0,06	-0,03	0,05	-0,08	-0,07	0,01	-0,06	1				
21 Private deals between public deals				-0,08	-0,08	-0,12	-0,12	-0,02	-0,01	-0,06	0,01	0,05	0,07	-0,11	-0,15	0,01	0,16	0,08	1			
22 Private deals between public deals (4-digit related)	1665	0,76	1,86	-0,14	-0,01	-0,06	-0,07	-0,05	-0,02	0,00	0,00	0,10	0,07	-0,17	-0,14	-0,03	0,15	0,03	0,80	1		
23 Private deals between public deals (3-digit related)				-0,07	0,00	-0,04	-0,05	-0,06	-0,04	0,02	-0,04	0,08	0,06	-0,22	-0,19	0,03	0,19	0,01	0,82	0,95	1	
24 LN(days CEO before acquisition)	1667	7,41	1,13	-0,02	-0,05	-0,04	-0,06	0,02	-0,02	-0,06	0,06	-0,07	0,10	0,03	-0,03	0,05	-0,04	0,09	0,01	-0,08	-0,07	1

Table 1: Descriptive statistics and correlation of variables

Probit	buy-and-build (4-digit) Probit	buy-and-build (4-digit) Probit	buy-and-build (3-digit) Probit	buy-and-build (3-digit) Probit	buy-and-build (sec_sic) Probit	buy-and-build (sec_sic) Probit	buy-and-build (sec_sic) Probit
premium	0.006***		0.003*			0.004***	
	(0.00)		(0.00)			(0.00)	
premium (5yr limitation)		0.007***		0.005***			0.004***
		(0.00)		(0.00)			(0.00)
Cross-Border deal	0.112	-0.076	0.206	0.073	0.037	0.063	0.109
	(0.33)	(0.35)	(0.27)	(0.29)	(0.21)	(0.22)	(0.24)
Minority Stake	0.681**	0.806**	0.247	0.220	-0.198	-0.129	-0.048
	(0.31)	(0.33)	(0.27)	(0.29)	(0.22)	(0.22)	(0.24)
Multiple Bidders	0.036	-0.197	-0.068	-0.307	0.008	-0.096	-0.518
	(0.41)	(0.44)	(0.34)	(0.44)	(0.26)	(0.26)	(0.33)
Payment (Cash)	0.228	0.409	0.086	0.152	0.023	0.100	0.134
	(0.26)	(0.30)	(0.22)	(0.25)	(0.17)	(0.17)	(0.20)
Payment (Stock)	0.323	0.413*	0.239	0.130	0.426***	0.470***	0.478***
	(0.21)	(0.24)	(0.18)	(0.20)	(0.15)	(0.15)	(0.17)
Tender deal	-0.578**	-0.526*	-0.599***	-0.662**	-0.104	-0.164	-0.231
	(0.26)	(0.30)	(0.23)	(0.26)	(0.16)	(0.16)	(0.19)
LN(acquirer total assets)	-0.094	-0.041	0.043	0.038	0.087*	0.076	0.096*
	(0.07)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.06)
LN(target total assets)	0.012	0.019	-0.071	-0.043	-0.105**	-0.077	-0.057
	(0.07)	(0.08)	(0.06)	(0.07)	(0.05)	(0.05)	(0.05)
LN(acquirer unabsorbed slack)	-0.201	-0.214	-0.246**	-0.225*	-0.168*	-0.191**	-0.135
	(0.14)	(0.17)	(0.12)	(0.13)	(0.10)	(0.10)	(0.11)
LN(acquirer absorbed slack)	-0.047	-0.035	0.161	0.138	0.068	0.053	0.027
	(0.11)	(0.13)	(0.10)	(0.10)	(0.08)	(0.08)	(0.09)
Industry Concentration (sales)	-1.665***	-1.684**	-0.435	-0.390	-0.211	-0.218	-0.536
	(0.58)	(0.70)	(0.37)	(0.43)	(0.29)	(0.29)	(0.34)
Private deals between public deals	-0.047	-0.043	-0.015	-0.008	-0.027*	-0.027*	-0.013
	(0.05)	(0.05)	(0.03)	(0.03)	(0.01)	(0.01)	(0.01)
LN(days CEO before acquisition)	-0.043	-0.080	-0.004	-0.065	-0.035	-0.026	-0.055
	(0.07)	(0.08)	(0.06)	(0.07)	(0.05)	(0.05)	(0.06)
constant	0.170	-0.200	-0.084	-0.027	0.021	-0.325	-0.594
	(0.75)	(0.83)	(0.63)	(0.68)	(0.51)	(0.53)	(0.58)
N	264	228	345	294	494	491	406
Wald Chi^2	29,22	27,25	26,91	24,61	24,97	31,99	30,72
Prob Wald Chi^2	0,0098	0,0179	0,0198	0,0387	0,0233	0,004	0,0061
Psuedo R^2	0,1019	0,1196	0,065	0,0746	0,0412	0,0539	0,0636
Log pseudolikelyhood	-131,3247	-100,9361	-195,8375	-150,4067	-304,2925	-298,4483	-225,713

Table 2: Probit output explaining buy-and-build acquirers. Standard errors are in parentheses and heteroskedastic robust. ***, ** and * indicate significance on the 10%, 5% and 1% level respectively.

	all deals (BB, non BB, single)	all deals (BB, non BB, single)	all deals (BB, non BB, single)	5-year timeframe	5-year timeframe	5-year timeframe
	1	2	3	4	5	6
	OLS	OLS	Robust reg	OLS	OLS	Robust reg
buy-and-build acquirer (4-digit SIC related)		20.053**	12.768**		23.461**	16.982***
		(7.80)	(5.45)		(9.22)	(5.97)
Cross-Border deal	-2.826	3.349	-3.010	-1.691	3.205	-2.123
	(11.14)	(10.89)	(9.29)	(11.09)	(10.50)	(9.05)
Minority Stake	-16.463*	-21.109**	-14.567*	-16.321	-20.622*	-11.683
	(9.80)	(10.08)	(8.34)	(11.53)	(11.74)	(8.85)
Multiple Bidders	0.777	4.564	-0.349	10.697	11.960	12.476
	(13.86)	(13.63)	(10.55)	(14.35)	(13.01)	(10.61)
Payment (Cash)	-12.564	-16.435*	-10.341	-16.061	-20.989**	-16.436**
	(9.42)	(9.17)	(6.57)	(10.01)	(9.45)	(6.78)
Payment (Stock)	-9.175	-14.951**	-9.386	-10.360	-16.475**	-8.514
	(7.57)	(7.41)	(5.78)	(8.53)	(8.28)	(6.04)
Tender deal	8.611	10.057	6.989	10.290	11.154	12.390*
	(9.79)	(9.45)	(6.55)	(10.76)	(10.18)	(6.79)
LN(acquirer total assets)	3.341	3.426*	3.339*	1.818	2.101	2.467
	(2.15)	(2.08)	(1.91)	(2.36)	(2.15)	(1.93)
LN(target total assets)	-7.375***	-5.763**	-4.616**	-6.356**	-4.655*	-3.659*
	(2.30)	(2.25)	(1.92)	(2.54)	(2.46)	(1.96)
LN(acquirer unabsorbed slack)	6.136	5.316	4.090	7.887	5.998	7.031*
	(4.64)	(4.85)	(3.61)	(5.13)	(5.46)	(3.68)
LN(acquirer absorbed slack)	4.595	1.578	1.375	4.925	1.033	0.163
	(3.63)	(3.50)	(3.06)	(3.81)	(3.50)	(3.11)
Industry Concentration (sales)	-2.937	12.448	20.635	-6.940	9.980	20.415*
	(13.17)	(12.53)	(12.91)	(13.29)	(12.36)	(12.51)
Private deals between public deals (4-digit related)	-1.347	-1.541	-2.039**	-1.866	-2.205	-1.937*
	(1.64)	(1.65)	(0.99)	(1.82)	(1.80)	(0.99)
LN(days CEO before acquisition)	-0.388	-1.069	-0.959	-1.192	-1.647	-1.622
	(2.39)	(2.27)	(2.02)	(2.65)	(2.51)	(2.15)
constant	77.058***	58.331**	48.729**	88.884***	67.146***	50.470**
	(24.16)	(23.61)	(19.99)	(26.30)	(25.37)	(20.68)
year controls		YES	YES		YES	YES
industry controls		YES	YES		YES	YES
N	264	264	264	228	228	228
R-Square	0,106	0,187	0,109	0,115	0,207	0,131
Adjusted R-Square	0,059	0,109		0,061	0,118	

Table 3: OLS regression output explaining acquisition premiums paid. 4-digit SIC Buy-and-build definition used. Standard errors are in parentheses and cluster-robust on firm-level. ***, ** and * indicate significance on the 10%, 5% and 1% level respectively.

	all deals (BB, non BB, single)	all deals (BB, non BB, single)	all deals (BB, non BB, single)	5-year timeframe	5-year timeframe	5-year timeframe
	1	2	3	4	5	6
	OLS	OLS	Robust reg	OLS	OLS	Robust reg
buy-and-build acquirer (3-digit SIC related)		9.727	3.447		17.367**	9.966**
		(6.00)	(4.33)		(7.01)	(4.66)
Cross-Border deal	-6.887	-0.324	-4.392	-5.058	1.337	-3.190
	(7.92)	(8.27)	(7.49)	(7.93)	(8.03)	(7.29)
Minority Stake	-15.984*	-19.658**	-17.097**	-15.918*	-20.164**	-15.896**
	(8.50)	(8.96)	(7.40)	(9.16)	(9.47)	(7.29)
Multiple Bidders	11.716	14.969	5.737	24.527	27.804*	17.764*
	(13.92)	(14.07)	(8.66)	(17.40)	(16.81)	(9.39)
Payment (Cash)	-10.371	-13.987*	-13.562**	-14.052*	-17.972**	-16.203***
	(7.65)	(7.61)	(5.58)	(8.19)	(7.91)	(5.68)
Payment (Stock)	-5.023	-11.040*	-7.406	-6.752	-12.401*	-7.547
	(6.13)	(6.24)	(4.93)	(6.94)	(7.00)	(5.12)
Tender deal	11.815	11.364	10.224*	11.103	10.975	12.226**
	(7.76)	(7.93)	(5.56)	(8.81)	(8.73)	(5.80)
LN(acquirer total assets)	3.231*	2.750	4.174***	2.149	1.842	4.057**
	(1.74)	(1.78)	(1.60)	(1.88)	(1.80)	(1.58)
LN(target total assets)	-5.868***	-4.737**	-5.049***	-5.397***	-3.856*	-4.209***
	(1.92)	(1.91)	(1.61)	(2.06)	(2.03)	(1.62)
LN(acquirer unabsorbed slack)	7.521*	7.572*	5.561*	9.060**	8.180*	8.108**
	(3.98)	(4.25)	(3.18)	(4.31)	(4.62)	(3.16)
LN(acquirer absorbed slack)	4.053	1.232	0.843	5.007*	1.049	0.143
	(2.89)	(2.82)	(2.58)	(2.98)	(2.68)	(2.55)
Industry Concentration (sales)	-9.404	0.859	5.809	-10.447	1.264	8.880
	(9.55)	(9.29)	(9.57)	(9.55)	(8.92)	(9.49)
Private deals between public deals (3-digit related)	-0.020	-0.395	-0.472	-0.454	-0.993	-0.780
	(0.96)	(0.98)	(0.63)	(1.03)	(1.10)	(0.61)
LN(days CEO before acquisition)	1.291	0.661	-0.088	1.015	0.681	-0.542
	(2.14)	(2.03)	(1.71)	(2.42)	(2.25)	(1.79)
constant	52.050**	44.948**	39.626**	61.500***	45.872**	33.976*
	(21.31)	(20.26)	(17.14)	(23.72)	(22.50)	(17.59)
year controls		YES	YES		YES	YES
industry controls		YES	YES		YES	YES
N	345	345	345	294	294	294
R-Square	0,099	0,153	0,098	0,116	0,196	0,129
Adjusted R-Square	0,064	0,094		0,078	0,129	

Table 3.1: OLS regression output explaining acquisition premiums paid. 3-digit SIC Buy-and-build definition used. Standard errors are in parentheses and cluster-robust on firm-level. ***, ** and * indicate significance on the 10%, 5% and 1% level respectively.

	all deals (BB, non BB, single)	all deals (BB, non BB, single)	all deals (BB, non BB, single)	5-year timeframe	5-year timeframe	5-year timeframe
	1	2	3	4	5	6
	OLS	OLS	Robust reg	OLS	OLS	Robust reg
buy-and-build acquirer (secondary SIC related)		11.863**	6.190*		12.497**	8.035**
		(4.64)	(3.26)		(5.20)	(3.79)
Cross-Border deal	-10.219*	-7.926	-8.001	-7.070	-5.058	-7.365
	(6.10)	(6.50)	(5.47)	(6.51)	(7.06)	(5.91)
Minority Stake	-20.26***	-20.482***	-13.860**	-22.225***	-23.220***	-16.220***
	(6.27)	(6.59)	(5.49)	(7.09)	(7.45)	(5.92)
Multiple Bidders	4.402	8.172	2.552	0.462	6.350	5.134
	(10.99)	(10.48)	(6.60)	(10.54)	(9.77)	(7.60)
Payment (Cash)	-18.953***	-20.131***	-14.593***	-19.504***	-20.658***	-15.534***
	(6.24)	(6.35)	(4.18)	(6.74)	(6.83)	(4.55)
Payment (Stock)	-12.536**	-16.069***	-6.834*	-14.086**	-17.814***	-7.950*
	(5.43)	(5.37)	(3.89)	(6.19)	(6.10)	(4.30)
Tender deal	10.515*	9.308	7.684*	7.902	6.515	7.914*
	(6.03)	(6.10)	(3.97)	(6.77)	(6.90)	(4.44)
LN(acquirer total assets)	3.478**	2.929*	4.095***	2.121	1.344	3.603***
	(1.51)	(1.50)	(1.23)	(1.61)	(1.65)	(1.34)
LN(target total assets)	-7.725***	-6.692***	-5.241***	-6.618***	-5.391***	-4.023***
	(1.59)	(1.62)	(1.22)	(1.74)	(1.80)	(1.34)
LN(acquirer unabsorbed slack)	1.933	3.427	3.152	2.317	3.560	4.576*
	(3.47)	(3.68)	(2.51)	(3.79)	(3.98)	(2.72)
LN(acquirer absorbed slack)	6.009**	4.596*	2.280	7.002***	5.487**	3.315
	(2.54)	(2.64)	(2.01)	(2.64)	(2.74)	(2.14)
Industry Concentration (sales)	-1.571	1.265	5.547	-1.901	1.800	8.686
	(7.43)	(7.54)	(6.95)	(8.12)	(8.23)	(7.48)
Private deals between public deals	0.003	-0.007	-0.272	-0.333	-0.380	-0.356
	(0.35)	(0.35)	(0.29)	(0.34)	(0.36)	(0.30)
LN(days CEO before acquisition)	-2.181	-2.331	-1.22	-1.509	-1.456	-1.246
	(1.95)	(1.91)	(1.28)	(2.13)	(2.09)	(1.43)
constant	98.662***	92.164***	53.690***	101.348***	94.944***	53.242***
	(19.72)	(19.89)	(13.32)	(21.87)	(22.44)	(14.38)
year controls		YES	YES		YES	YES
industry controls		YES	YES		YES	YES
N	491	491	491	406	406	406
R-Square	0,117	0,167	0,099	0,119	0,165	
Adjusted R-Square	0,093	0,123		0,088	0,115	

Table 3.2: OLS regression output explaining acquisition premiums paid. secondary SIC Buy-and-build definition used. Standard errors are in parentheses and cluster-robust on firm-level. ***, ** and * indicate significance on the 10%, 5% and 1% level respectively.

buy-and-build (4 digit)

deal number		1	2	3	4
average premium		58,89	39,18	53,4	38,56
S.D.		55,05	34,75	47,01	22,39
min		-44,53	-53,87	6,47	-5,11
max		255,53	140,84	180	79,14
N		77	77	24	19
mean difference	2	19.71***			
	3	5,49	-14.22***		
	4	20.33***		14.84*	

buy-and-build (3 digit)

deal number		1	2	3	4
average premium		54,69	41,88	54,99	40,97
S.D.		52,95	39,85	45,14	27,36
min		-44,53	-53,87	5,87	-27,42
max		255,53	213,77	182,39	114,42
N		122	122	45	60
mean difference	2	12.81***			
	3	-0.30	-13.11***		
	4	13.72***		14.02**	

buy-and-build (sec sic)

deal number		1	2	3	4
average premium		56,43	46,48	46,41	45,21
S.D.		52,65	39,2	41,94	27,91
min		-50,93	-53,87	-53,87	-27,42
max		255,53	213,77	200	121,74
N		210	210	92	131
mean difference	2	9.95***			
	3	10.02***	0,07		
	4	11.22***		1,2	

Panel B

	3-digit	3-digit	sec-sic
(-10,10)		22.736**	17.896**
		(11.00)	(8.86)
(-5,5)	20.921*		
	(11.41)		
_cons	-23.143***	-23.105***	-18.38***
	(7.59)	(8.44)	(6.58)
N	101	101	177
F	3,36	4,27	4,08
Prob	0,0699	0,0413	0,0449
R^2	0,033	0,0384	0,022

Table 4: premiums paid in serial acquisitions. ***, ** and * indicate significance on the 10%, 5% and 1% level respectively.