Disentangling acquisition premia: Evidence from the global market for corporate control

DISENTANGLING ACQUISITION PREMIA: EVIDENCE FROM THE GLOBAL MARKET FOR CORPORATE CONTROL

Abstract

Our empirical analysis of 403 acquisitions completed globally between 2007 and 2015 uses a holistic approach to explain the key determinants of premia paid by acquirers, addressed by distinct literature streams. Our results show that overconfident, cash-generating acquirers overpay the targets. Higher premia are justified for larger-sized, high-growth targets, non-conglomerate acquisitions, and when the consideration is paid in stock. Acquirers embed expected operating synergies in premia offered to target shareholders. However, while cost-cutting synergies, more reliably achieved in post-merger integration, are easy to disclose and price, revenue enhancement synergies, requiring exceptional managerial capabilities, are of longer-term nature but more uncertain, thus leading acquirers to precautionarily withhold them in premium pricing. Financial synergies, arising from combining weakly or negatively correlated businesses, are not typically priced upfront.

Keywords: acquisition premium; synergies; managerial hubris; horizontal acquisitions; market for corporate control

JEL codes: G34, G15, C21, C24

1. Introduction

An acquisition occurs when a company (acquirer) takes a *controlling interest* in another firm (target). In 2021, the mergers and acquisitions (M&A) market experienced $ 3.6 trillion in transactions volume, surpassing the full-year tally of $3.59 trillion in 2020 (Refinitiv, August 2021). To gain control of the target firm, the acquirer typically offers an (*acquisition*) *premium* in excess of the former's premerger stock price. The premium size varies substantially across industries, reflecting their different expected growth rates, across countries and across time periods. A recent McKinsey's study (Agrawal, Varma, and West, 2017) reveals that acquisition premia averaged 40% in the U.S. market. New evidence has been provided on the efficacy of alternative measures of M&A deal premia to account for the extended duration of M&A transactions and related deal leaks to the market before the official public announcement (Eaton, Liu, and Officer, 2021) or earlier abnormal stock returns of target firms due to merger rumors (Mulherin and Aziz Simsir, 2015).

The value created from an acquisition for the acquirer's shareholders is given by the difference between the value received (the market, stand-alone value of the target + the value of expected synergies) and the price paid (the market, stand-alone value of the target + premium) (DePamphilis, 2002). Hence, value creation arises if the value of (operating or financial) synergies exceeds the premium. The acquisition premium consists of three components: (i) the value of expected synergies (e.g., revenue enhancement, cost savings) (strategic premium) (ii) the value of controlling interest in the target firm (control premium); (iii) potential overpayment.

While there has been a prosperous academic literature on the importance of acquisition premia as a driving force for the market for corporate control, the main sources of acquirers' gains, as well as how (and whether) future earnings expected from a merger are (evenly) shared between the acquirer's and the target' shareholders, a compact and systematic empirical evidence of all streams on this topic is lacking. Our article fills this void aiming to provide a combined empirical validation of all key determinants of premia paid by acquirers when pursuing acquisitive growth strategies through a single and rather simple econometric model. None of the prior studies have taken a holistic approach to explain the factors affecting acquisition premia as they have focused on one or a few aspects (e.g., deal size, hostility vs. friendliness of the acquisition, managerial hubris, method of payment). Our empirical analysis is novel as it offers a comprehensive overview of all factors that have been so far considered to disentangle takeover premia using data on global/transnational, and hence strongly representative, M&A deals.

The article is organized as follows. Section 2 reviews the literature. Section 3 describes the econometric analysis and the key findings. Section 4 outlines the implications for practitioners. Section 5 concludes.

2. Literature Review

Several studies have sought to explain what drives the size of acquisition premia. Five streams of literature can be identified. *First stream (Overconfidence Theory)*. Roll (1986) argues that overpayment in takeovers is the result of "*the overbearing presumption of bidders that their valuations are correct*" while those of market participants are not (managerial hubris). The overpayment hypothesis, reflecting the overconfidence of potential acquirers to better manage the target firm, has found an extensive empirical support (Hayward and Hambrick, 1997; Nnadi and Aghanya, 2018). Acquisitions may also be motivated by agency conflicts between shareholders and managers of cash rich firms pursuing empire-building strategies to increase their compensation and/or lower their employment risk (Jensen, 1986; Shleifer and Vishny, 1989; Slusky and Caves, 1991). Hubris-driven overbidding is considered to be the prevailing reason of value-destroying deals (Doukas and Petmezas, 2007; Malmendier and Tate, 2008). In competitive takeovers, the successful bidder is more likely to overestimate the target′s true value (the winner′s curse hypothesis) (Varaiya and Ferris, 1987). Premium size increases with the degree of competition for control (race of multiple bidders) (Eckbo, 2009). *Second stream (Acquirer-Target Growth Differential Theory)*. Acquiring firms are more likely to overpay if they have low growth potential, while the target company is large has higher premerger operating performance and high growth potential (Ismail, 2011). Financial buyers (PE bidders) also tend to pay higher premia for targets with high long-run growth potential (Lai and Pu, 2020). However, the target firm size may also proxy for the unobserved complexity inherent in large transactions leading to lower overpayment (Alexandridis at al., 2013). *Third stream (Strategic Fit Theory)*. Detecting the strategic relatedness of potential horizontal mergers is an uncommon skill among acquirers. Acquiring strategically related firms may increase the value of combined entities (Salter and Weinhold, 1979). However, relatedness *per se* does not generate abnormal returns for acquiring firms (Barney, 1988). Higher returns can only be achieved by targeting companies whose prices do not reflect competitive advantages associated with future private, inimitable or unexpected, synergistic cash flows. If relatedness stems from proprietary and/or non-imitable assets controlled by the target, acquirers would thus seek not to give up to share this extra value to selling shareholders by offering lower premia. While earlier studies find the impact on premia of choosing non-conglomeration in merger design to be insignificant (Walkling and Edmister, 1985), later empirical findings show that the greater the strategic fit of an acquisition, the higher the (hidden) value accruing to the acquirer′s shareholders (Morck, Shleifer and Vishny, 1990; Maquieira, Megginson and Nail, 1998). *Fourth stream (Asymmetric Information and Payment Method Theory)*. Information asymmetries can be the driving variable behind the joint choice of the premium paid and the means of payment choice. As the target firm′s scope increases (that is the number of industries it operates in), the information asymmetry exacerbates the challenge for acquirers of assessing its true

value, thus lowering the chance of successfully completing the acquisition (Cuypers et al., 2017). Additionally, when the deal is friendly (target board agrees on the terms offered), acquirers face less information asymmetry about the overall value of the target firm (Cuypers et al., 2017). The presence of credit ratings mitigates the problem of information asymmetry by enabling buyers to more accurately match the premia paid to the true worth of target firms (Jory et al., 2016). The method of payment (cash vs stock) helps setting the equilibrium between the parties in appropriating the value of the uncertain incremental cash flows associated with potential merger synergies and sharing related risks. In cash transactions, the acquirer′s shareholders take on the full risk that expected synergies may not materialize. Cash is thus used when the acquirer′s shareholders are confident about the realization of future synergies. Cash payments are associated with a relative premium discount (Alexandridis et al., 2013). In stock transactions, this risk is instead shared with the target′s shareholders (Rappaport and Sirower, 1999). The higher the uncertainty of promised synergies, the greater the likelihood of paying the purchase price with shares (Ismail, 2011). In the spirit of Myers and Majluf′s (1984) information asymmetry theory, acquiring firms prefer to pay for their acquisitions with stock when their shares are overvalued and with cash when their shares are undervalued. Hence, large information asymmetry will favor a payment with overvalued shares (de La Bruslerie, 2013) for both listed (Chemmanur, Paeglis and Simonyan, 2009) and non-listed targets (Faccio and Masulis, 2005). Moreover, stock offers (unlike cash offers) allow target shareholders to defer capital gains taxes and hence payment in stock is more likely when target-share capital gains tax liabilities are larger (Burch, Nanda and Silveri, 2012). However, target shareholders are more prone to accept lower premia when they are paid in cash in the presence of a high degree of competition in the market for corporate control. All-cash offers enable acquirers to complete the transaction faster without regulatory and other delays that occur when issues of securities are involved, before rival bidders can spring into action (Slusky and Caves, 1991). *Fifth stream (Value Creation Theory)*. The bidder′s decision concerning the premium to offer is influenced by the expected synergies (Gupta and Gerchak, 2002), which are often related to the premia paid in other recent takeovers occurred in the same industry (Madura and Ngo, 2008). Merger premia may approximate the synergies between bidders and targets (Antoniou, Arbour and Zhao, 2008). Acquisitions create value by enabling the realization of both operating – cost-based and revenue-based – and financial synergies (Hazelkorn, Zenner and Shivdasani, 2004). Cost-based synergies derive from cost-cutting initiatives and asset divestitures. Revenue synergies arise when the redeployment of the resources of the merged firms leads to revenue-enhancing capabilities through accessing complementary resources (e.g., greater market coverage, superior innovation capability) (Capron, 1999). While revenue synergies are more difficult to quantify and realize as they depend on the behavior of third parties (e.g., customers), the achievement of cost synergies is contingent on acquirers' own efforts. This persuades acquirers not

to reveal (or downplay) revenue synergies during deal negotiations to avoid the risk that the seller may demand a share of synergies that are difficult to materialize (Kengelbach et al., 2013). Acquirers are willing to pay a higher premium to acquire foreign targets when the risks of failing to achieve merger synergies - thus purchasing a "lemon" - are lower due to a stronger investment environment measured by the regulatory framework, investor protection, and corporate transparency (Maung et al., 2019). Financial synergies arise from merging weakly or negatively correlated businesses, which decreases the overall systematic risk exposure. Such a coinsurance effect lowers the cost of equity capital and may also allow for more debt capacity, thus leading to larger tax savings and, ultimately, greater value enhancement for the merged firm (Lewellen, 1971).

3. Empirical Analysis: Data and Findings

The dataset is made of 403 acquisitions of publicly listed target companies (100% controlling stock transactions) (amounting to an aggregate deal value of $ 1,013 trillion) completed globally over the 2007-2015 period (Figure 1). The choice of this time horizon allows us to account for the most recent two M&A waves recorded at worldwide level: the 6th shareholder activism/private equity/LBO-driven wave (2001-2008) and the 7th technology and healthcare-driven wave (2014-2017) (Ching, 2019). Data were collected from *Zephyr* (M&A deals) and *Osiris* (financial statement items/ratios) (Bureau Van Dijk). Sample selection criteria were the following: a) availability of a bid premium; b) availability of total consideration paid for the acquisition (deal value); c) post-acquisition delisting of target firm. Acquisitions conducted in the financial services' sector were excluded. Acquisition transactions are geographically concentrated in North America (69% of acquirers and 82% of targets), consistently with the evidence according to which the U.S. M&A market is the most active one across the globe; the remaining deals are distributed across Asia (16% of acquirers and 11% of targets), Europe (13% of acquirers and 4% of targets), Australia (2% of acquirers and 3% of targets). Of the 403 acquisitions, 226 were horizontal (or related) and 177 of vertical (or conglomerate) nature.[1] 235 (out of 403) deals involved the use of cash as the primary method of payment by acquirers, while the remaining 168 transactions were mostly of stock-for-stock type.

[INSERT FIGURE 1 ABOUT HERE]

Our base econometric analysis follows a standard OLS regression via five models that incrementally add more key explanatory variables to empirically investigate how acquisition premia are formed (Model 5 includes all variables). Description of variables is displayed in Table 1. Table 2 provides

[1] Relatedness is referred to the similarity of business activities conducted by the two merging firms (acquirer and acquiree). A "related" acquisition is here defined as a transaction between two firms operating in the same peer group as classified by *Zephyr*. Peer groups are differentiated by a code that identifies a relevant industrial sector. Companies engaging in a horizontal (or related) acquisition are characterized by the same peer group code, implying a very close business activity conducted within the same industry.

the summary descriptive statistics of all variables included in our models. The premium paid by the acquirer to obtain a controlling interest in the target from its shareholders is the dependent variable. Eight independent variables are selected to disentangle the acquirer's premium. All variables (except dummies and ratios) are log-transformed.

[INSERT TABLES 1 AND 2 ABOUT HERE]

Our regression analysis, based on the following equation:

$$\begin{aligned} Acquisition\ Premium = {} & \beta_0 + \beta_1\, Target\ Size * Acquirer\ Overconfidence \\ & + \beta_2\, Target\ Growth\ Potential + \beta_3\, Relatedness + \beta_4\, Cash \\ & + \beta_5\, Financial\ Synergies + \beta_6\, Revenue\ Enhancement\ Synergies \\ & + \beta_7\, Operating\ Synergies + \varepsilon \end{aligned}$$

is presented in Table 3. The coefficients of all variables, with the exception of *Relatedness* and *Financial Synergies*, have a strong statistical significance (at 1% or 5% level) across all models and show a positive sign, except *Cash* and *Revenue Enhancement Synergies*.

As evident across all models, the acquirer's premium increases with both managerial entrenchment (hubris, risk-reducing empire-building strategy) captured by the interaction between *Target Size* and *Acquirer's Overconfidence* and target attractiveness (*Target Growth Potential*). The positive and strongly significant coefficients of both variables suggest that the greater the agency conflict type of behavior of managers and the relative target (to acquirer) operating performance, the higher the acquirer's overpayment. The coefficient of *Relatedness* is positive but insignificant across all models implying that the detection of strategic fit with a potential target is a unique skill that acquirers may conceal to target shareholders so as not to embed the related extra value potential in premia paid to the latter. The coefficient of *Cash* is negative and strongly significant across models 2-5 (at 1% level in Model 2 and at 5% level in Models 3,4 and 5) suggesting that premia paid in cash to selling shareholders are lower to enable acquirers to fully capture (or minimize the transfer of) prospective synergies, circumvent the use of their undervalued stock and preempt rival bidders in a highly competitive market for corporate control.

Concerning the role of synergies in M&A pricing, the insignificant coefficient of *Financial Synergies* across Models 3-5 denotes that the combination of weakly or negatively correlated businesses, even if exploited to enhance the value of the merged entity through the downsize of default risk and the increase of debt capacity and tax savings, is not typically priced upfront. Model 5 considers the *Operating Synergies* variable accounting for both cost reduction and revenue enhancement synergies. Model 4 only includes the revenue-related component of synergies (*Revenue Enhancement*

Synergies). Therefore, the last two models only differ in one variable. In Model 4, the coefficient of *Revenue Enhancement Synergies* is negative but insignificant implying that alone are not informative about the amount of the premium the acquirer is willing to pay to target shareholders. Instead, in Model 5 the coefficients of *Revenue Enhancement* and *Operating Synergies* are both significant (at 1% level revenue and 5% level revenue + cost synergies) with opposite signs. This means that if revenue-related are combined with cost cutting synergies (*Operating Synergies*), they positively affect the determination of acquisition premia. However, while cost synergies can be reliably achieved at the post-merger integration stage and are easy to disclose and price, revenue synergies - requiring exceptional management and execution capabilities – are of longer-term nature but more uncertain, thus leading acquirers to precautionarily withhold them in premium pricing.

Our OLS regression, with an adjusted R-squared of about 27% (Model 5), sheds new, inclusive light on the determinants of acquisition premia offering an overall view across global M&A transactions.[2] Our main findings imply that: (a) acquirers pay more for targets of larger size (*First Stream*); (b) overconfident, cash-generating acquirers tend to pay more for their targets, which corroborates the "hubris and empire-building hypothesis" (*First Stream*); (c) acquisition premia increase with the target's ability to generate distributable profits (*Second Stream*); (d) acquirers avoid to pay more for closely related targets purchased via horizontal acquisitions to monopolize the extra synergistic gains (*Third Stream*); (e) acquirers tend to offer lower premia to target shareholders when paying in cash to capture the full value potential of the acquisition and preempt rivals (*Fourth Stream*) (f) acquisition premia are not significantly driven by expected financial synergies (*Fifth Stream*); (g) acquirers tend to positively tie the amount of their premia to the combined effect of expected cost reduction-based and revenue enhancement synergies, while the latter alone have a negative impact (*Fifth Stream*).

[INSERT TABLE 3 ABOUT HERE]

For robustness, we also obtain the dependent variable as the acquisition premium as % of the market equity value of the target firm (% Premium) which - being a censored ratio (between 0 and 1) - enables us to also use a Tobit analysis.[3] The average premium paid by the acquirers in our sample is 28,5%. The results of the Tobit regression, reported in Table 4, partially confirm those of the OLS regression. Acquirers reward shareholders of targets of larger size (1% sign.) and greater growth potential (10% sign.) with higher premia in addition to respective equity values. *Cash* as a primary method of payment increases acquirers' propensity to diminish premia (1% sign.). The presence of financial synergies (10% sign.), reflected in the high debt capacity (low leverage ratio) of the target, may be priced in higher premia in line with classical research findings (Lewellen, 1971).

[2] The variance inflation factor (VIF) diagnostic detects no presence of multicollinearity among independent variables.

[3] In the Tobit model, target size is log-transformed; target growth potential and operating synergies are scaled by the target's total assets and net income respectively.

[INSERT TABLE 4 ABOUT HERE]

4. Implications for Practitioners

The results obtained in our analysis provide interesting evidence on the actual rationale of acquisitions. Firstly, it confirms that acquirers are correctly more willing to accept to offer a higher price for related targets. Is also suggests that acquirers are more interested in (rapidly) increasing their market share rather than improving the efficiency of the entire supply chain (as it would be the case of vertical – upward or downward) acquisitions. Combined with the evidence that the premium is also driven by the search for operational synergies, the conclusion is that acquirers are aware of the value creation potential of rationally driven acquisitions. However, the attitude of overconfident and cash generating acquirers to pay higher premia also show that there could be the risk of overpriced acquisitions because they could be led by personal hubris. The probability that some acquisitions could be overpriced – and thus the deal could turn out to be value destroying - in these cases is not trivial.

Interesting practical implications are linked to the lower importance of financial synergies on the premium paid by acquirers. This result could be examined jointly with the one showing that offers from large cash generating acquirers are those embedding higher premia. These acquirers are presumably intrinsically less driven by the need of reducing their credit risk since they are already financially strong. At the same time, the lower premia on conglomerate acquisitions further confirm that the era of conglomerates is probably definitely over.

Finally, the negative relation between premia and the cash payment of the consideration is at least partially explained by the lower risk on targets shareholders since it leaves their financial return less exposed to the future performance of the combined firm.

5. Conclusions

Based on a sample of 403 total acquisitions of publicly listed companies conducted in the 2007-2015 period, our econometric model offers a combined, "all-inclusive" empirical analysis of the key determinants of takeover premia suggested by major literature streams developed over the past decades, thus providing a comprehensive empirical validation of such explanatory factors that have been independently studied. Our stand-alone analysis contributes to a better understanding of how acquisition premia are negotiated and determined by the acquirer and the target in the M&A deal-making process. Operational (but non financial) synergies expected by acquirers explain a fraction of the premia offered to target shareholders. The main implication of our study is that acquirers should price at the most the expected operating (both cost-cutting and revenue enhancement) synergies in the premium, while avoiding the trap of their hubris and overconfidence triggered by large amounts

of extra cash generation that may lead to overpayment. As for financial synergies, the combination of weakly or negatively correlated businesses, even if exploited to improve the default probability and increase debt capacity and tax savings, is not typically priced upfront. Higher premia are found for larger-sized, high-growth targets, in non-conglomerate acquisitions, and when paid in stocks. Under the latter circumstance, paying a premium in stocks would involve sharing the risk of achieving future performance improvements with target shareholders, which is instead not entailed by all-cash offers.

Our empirical evidence, while improving the accuracy of analysts' target prices that is proven to be significantly related to takeover premia (Gerritsen, 2015), also enlightens how the value creation of an acquisition is typically shared among the parties depending upon one of the key M&A deal "design" feature.

Figure 1 – Number of Acquisitions Completed Globally per Year (2007-2015)

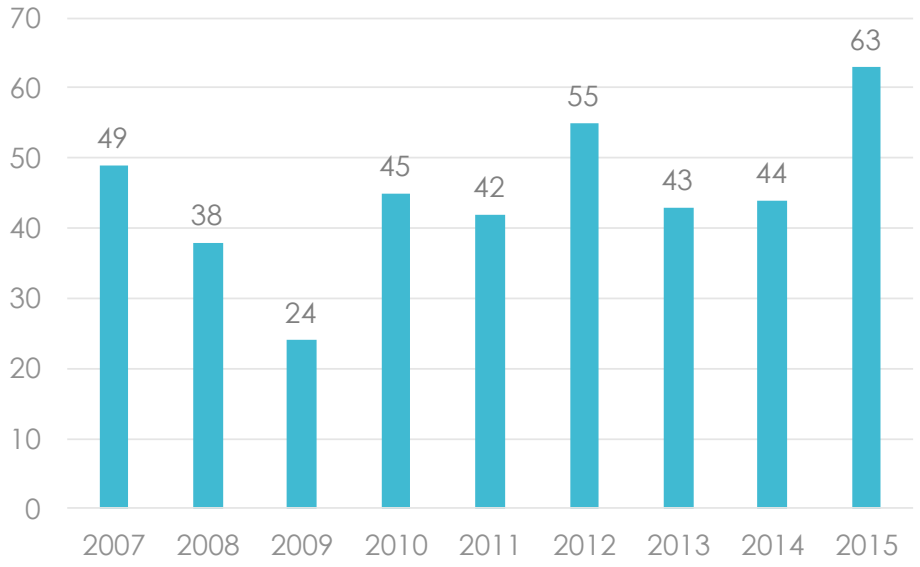

Table 1 – Description of Variables

Variable	Definition	Source	Theoretical Background
Acquisition Premium	Difference between the total consideration paid by the acquirer and the equity value of the target firm	Zephyr	Premium paid for the acquisition
Target Size	Total assets of the target firm in the year prior to the acquisition	Zephyr	*Acquirer-Target Growth Differential Theory*: Target firm size
Acquirer's Overconfidence	Cash flow of the acquirer in the year prior to the acquisition	Osiris	*Overconfidence Theory*: Proxy for the hubris hypothesis (managerial confidence)
Target Growth Potential	Net income of the target firm in the year prior to the acquisition	Osiris	*Acquirer-Target Growth Differential Theory*: Pre-merger target firm's performance most likely resulting in greater growth potential (future capability of generating distributable profit)
Relatedness	Dummy variable taking the value of 1 if the acquirer's and target's businesses are related (same peer group in Zephyr) and 0 otherwise	Osiris	*Strategic Fit Theory*: Horizontal acquisition
Cash	Dummy variable taking the value of 1 if the acquirer's method of payment is primarily cash and 0 otherwise (stock for stock)	Zephyr	*Asymmetric Information and Payment Method Theory*: Method of payment (cash vs. stock) chosen by the acquirer
Financial Synergies	Ratio of financial debt obligations to equity (leverage) of the target firm in the year prior to the acquisition	Osiris	*Value Creation Theory*: Proxy for financial synergies (exploitation of tax shield)
Revenue Enhancement Synergies	Difference between the acquirer's revenues in the year following the acquisition and the sum of the acquirer's and the target's revenues in the year preceding the acquisition	Osiris	*Value Creation Theory*: Proxy for operating synergies (only revenue enhancement)
Operating Synergies	Difference between the acquirer's EBITDA in the year following the acquisition and the sum of the acquirer's and the target's EBITDAs in the year preceding the acquisition	Osiris	*Value Creation Theory*: Proxy for operating synergies (cost reduction and revenue enhancement)

Table 2 – Descriptive Statistics

Variable	N° of obs.	Mean	Min.	Max.	Standard Deviation
Data in 000/$	403				
Acquisition Premium		386,827	-340,395	8,752,280	958,983
Target Size		1,619,078	256	40,755,670	3,968,871
Acquirer's Overconfidence		1,575,562	-160,967	21,655,554	3,054,540
Target Growth Potential		64,683	-1,580,586	3,174,403	285,801
Financial Synergies (%)		0.76	-81.67	52.19	7.03
Revenue Synergies		1,215,508	-51,037,522	144,307,012	9,506,223
Operating Synergies		278,749	-11,325,184	22,658,616	1,847,903

Table 3 – Regression Analysis

Dependent Variable: Acquisition Premium										
N° of Observations: 403	**Model 1**		**Model 2**		**Model 3**		**Model 4**		**Model 5**	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
Target Size x Acquirer Overconfidence	0.110*** (0.014)	0.000	0.120*** (0.014)	0.000	0.121*** (0.014)	0.000	0.122*** (0.014)	0.000	0.124*** (0.014)	0.000
Target Growth Potential	0.066*** (0.010)	0.000	0.064*** (0.010)	0.000	0.064*** (0.010)		0.063*** (0.010)	0.000	0.066*** (0.010)	0.000
Relatedness	0.196 (0.189)	0.300	0.119 (0.190)	0.532	0.111 (0.191)	0.560	0.115 (0.191)	0.545	0.139 (0.190)	0.465
Cash			- 0.510*** (0.198)	0.010	- 0.505** (0.198)	0.011	- 0.465** (0.200)	0.020	- 0.472** (0.198)	0.018
Financial Synergies					0.009 (0.013)	0.519	0.007 (0.013)	0.588	0.007 (0.013)	0.610
Revenue Enhancement Synergies							- 0.011 (0.008)	0.161	- 0.025*** (0.009)	0.008
Operating Synergies									0.026** (0.010)	0.011
Constant	10.723*** (0.236)	0.000	10.932*** (0.248)	0.000	10.923*** (0.249)	0.000	10.924*** (0.248)	0.000	10.387*** (0.249)	0.000
Adj R2	0.252		0.263		0.262		0.263		0.274	
Model F	46.200***		36.804***		29.484***		24.959***		22.628***	

Legend: *** statistical significance at 1% level; ** statistical significance at 5% level; * statistical significance at 10% level.

Table 4 – Tobit Regression

Dependent Variable: Acquisition Premium (as % of Target Equity Value)		
N° of Observations: 403		
	Coefficient	p-Value
Target Size	0.025*** (0.009)	0.003
Acquirer Overconfidence	0.001 (0.003)	0.812
Target Growth Potential	0.003* (0.002)	0.100
Relatedness	- 0.007 (0.029)	0.821
Cash	- 0.113*** (0.013)	0.000
Financial Synergies	- 0.004* (0.002)	0.054
Revenue Enhancement Synergies	- 0.002 (0.001)	0.118
Operating Synergies	0.002 (0.002)	0.308
Constant	0.532*** (0.102)	0.000
Pseudo R2	0.1578	
Log-Likelihood	-115.088	

Legend: *** statistical significance at 1% level; ** statistical significance at 5% level; * statistical significance at 10% level.

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