

# **Optimizing takeover premiums in M&A:**

## **The impact of target characteristics and strategic considerations**

Prof. Dr. oec. HSG Korbinian Eichner, M.A. HSG

*Professor of Business Administration and Corporate Finance at Pforzheim University,*

*Lecturer in Corporate Finance at the University of St. Gallen (HSG).*

*Email: [korbinian.eichner@hs-pforzheim.de](mailto:korbinian.eichner@hs-pforzheim.de) or [korbinian.eichner@unisg.ch](mailto:korbinian.eichner@unisg.ch)*

### **Table of contents**

Abstract

- I. Introduction
- II. The role of takeover premiums in M&A
- III. Potential determinants of takeover premiums
  - 1. Strategic considerations of acquiring firms
  - 2. Financial characteristics of target firms
- IV. Research methodology
- V. Results of the analyses
- VI. Conclusion

### **Abstract**

In public takeovers, the optimization of takeover premiums represents a challenge for both buy-side and sell-side advisors. The following article analyses therefore various acquirer and target specific determinants regarding their influence on the level of observable takeover premiums. M&A advisors can use the results of the empirical analyses in this article to critically assess and benchmark takeover premiums in M&A situations.

## I. Introduction

*“The extant literature in both strategic management and finance provides a number of potential explanations (for takeover premiums). One argument is that the acquiring firm is willing to pay a high premium because of the expected synergy arising from the deal.”*

John et al. (2010), It takes Two to Tango: Overpayment and Value Destruction in M&A Deals,  
New York University Working Paper, 2010, p. 17.

A takeover premium (frequently also referred to as control premium) for a publicly listed firm represents the excess purchase price over its market price prior to the transaction to gain control over the target firm.<sup>1</sup> The current literature on takeover premiums (TP) assumes that the willingness of a potential buyer to pay a takeover premium in M&A is positively influenced by the expected future economic benefits from the perspective of the bidder, which potentially could result from the transaction.<sup>2</sup> Whilst the motivations to pay a takeover premium have been discussed extensively in the M&A literature, empirical analyses on the same for European transactions, which provide valuable insights for M&A professionals, are still limited in number. Therefore, the following article looks into a variety of different acquirer and target specific characteristics and analyses their impact on the level of observable takeover premiums. Understanding the impact of acquirer and target specific characteristics should be of relevance in particular for M&A professionals. Firstly, the results of the following analyses could be used by sell-side advisors to challenge offered takeover premiums, as advisors of target firms should

---

<sup>1</sup> See Pratt/Niculita, Valuing a business, 5<sup>th</sup> ed. 2008, p. 384, Gaughan, Mergers, acquisitions, and corporate restructurings, 4<sup>th</sup> ed. 2007, p. 555.

<sup>2</sup> See Madura/Ngo, Clustered synergies in the takeover market, Journal of Financial Research, Vol. 31 No. 4 2008 p. 333 (“In a competitive market for takeover bids, the takeover premium serves as an effective proxy for the expected synergy.”), Nielsen/Melicher, A financial analysis of acquisition and merger premiums, Journal of Financial and Quantitative Analysis, Vol. 8 No. 2 1973 p. 139 (“The rationalization or justification of these “premiums” is based on a merger synergy concept.”), Varaiya, Determinants of premiums in acquisition transactions, Managerial and Decision Economics, Vol. 8 1987 p.175, Madura/Ngo/Viale, Why do merger premiums vary across industries and over time? The Quarterly Review of Economics and Finance, Vol. 52 No. 1 2012 p. 49, Slusky/Caves, Synergy, agency, and the determinants of premia paid in mergers, The Journal of Industrial Economics, Vol. 39 No. 3 1991 p. 277, Pratt, Business valuation discounts and premiums, 2<sup>nd</sup> ed. 2009, p. 64.

try to optimize the level of the consideration paid by the acquirer. This can only be achieved through a holistic understanding of the factors influencing takeover premiums. Secondly, buy-side advisors, who should have an interest in closing the deal under favorable terms for their clients, have to benchmark offered takeover premiums with other observable, historically paid premiums in order to prepare a competitive bid for the target firm. In case the offered takeover premium is too low, buy-side advisors bear the risk that an offer will be rejected. Therefore, M&A advisors should benchmark offered takeover premiums with others, previously paid ones that match the specific deal characteristics.

The article is structured in six sections. Section I introduces the topic. The role of takeover premiums in M&A is discussed in section II. Potential influencing factors on the level of observable takeover premiums are outlined in section III. Here, particular emphasis is placed on strategic considerations of the acquirer as well as financial characteristics of the target firm. Section IV outlines the research methodology. The results of the empirical analyses are presented in section V. The article concludes in section VI, outlining the key takeaways.

## **II. The role of takeover premiums in M&A**

In public takeovers, one can usually observe that the acquiring firm pays a premium for the target in excess of its market price. This excess price is also termed takeover premium. Dombert (2006) defines takeover premium as the premium over the market price - for example for shares – of a firm, which the acquirer has to pay to current owners (...) in order to acquire the ownership of the shares to exercise the corresponding rights.<sup>3</sup> Takeover premiums are usually measured in percentage terms of the target firm's market price prior to the announcement of the takeover, and usually correspond to the acquisition of a controlling stake in the target's equity

---

<sup>3</sup> See Dombert, Übernahmeprämien im Rahmen von M&A-Transaktionen, 2006, p. 10. Original quote: „Aufschlag auf den (Markt-)Wert der Anteilscheine – zum Beispiel auf die Aktien – eines Unternehmens, den der Käufer den derzeitigen Anteilscheininhabern (im Falle von Aktien den Aktionären) zahlen muss, damit er Eigentum an diesen Anteilsscheinen erwerben und die damit verbunden Rechte ausüben kann.“

capital.<sup>4</sup> Generally, an acquirer is required to pay such a premium in order to provide the current owners of the target firm's shares an incentive to transfer their ownership, so that the new owner can exercise control over the target firm.<sup>5</sup> Mathematically, takeover premiums ( $TP_{t,t-n}^i$ ) can be calculated as:<sup>6</sup>

$$TP_{t,t-n}^i = \frac{PP_t^i - MP_{t-n}^i}{MP_{t-n}^i}$$

with  $PP_t^i$  as the purchase price for a publicly listed firm  $i$  as of time point  $t$ , corresponding to the date of the takeover announcement, and  $MP_{t-n}^i$  as the market price of  $i$ , i.e. its market capitalization as of  $t-n$ , with  $n$  being the number of days prior to the public announcement of the takeover offer.

$TP^i$  (max.), which a potential acquirer should be willing to pay for a target firm  $i$ , should be a function of the expected future economic benefits of the transaction from the perspective of the bidding firm. The expected future economic benefits of the transaction include both the target firm's discounted stand-alone free cash flows, as well as any expected synergies from the transaction. As displayed in Diagram 1, value for the new owners is only created if the *net* expected future economic benefits of the transaction are positive, meaning that the stand-alone, intrinsic value of the target firm ( $IV^i$ ) and the expected synergies ( $S^i$ ) are greater than the purchase price ( $PP^i$ ) paid.

---

<sup>4</sup> See Pratt, Business valuation discounts and premiums, 2<sup>nd</sup> ed. 2009, p. 16, Rosenbaum/Pearl, Investment banking, 1<sup>st</sup> ed. 2009, p. 90.

<sup>5</sup> See Pratt/Niculita, Valuing a business, 5<sup>th</sup> ed. 2008, p. 385.

<sup>6</sup> See Varaiya, Determinants of premiums in acquisition transactions, Managerial and Decision Economics, Vol. 8 1987 p.179, John/Liu/Taffler, It takes two to tango: Overpayment and value destruction in M&A deals, NYU Working paper 2010, p. 17, Dombert, Übernahmeprämien im Rahmen von M&A-Transaktionen, 2006, p. 143.

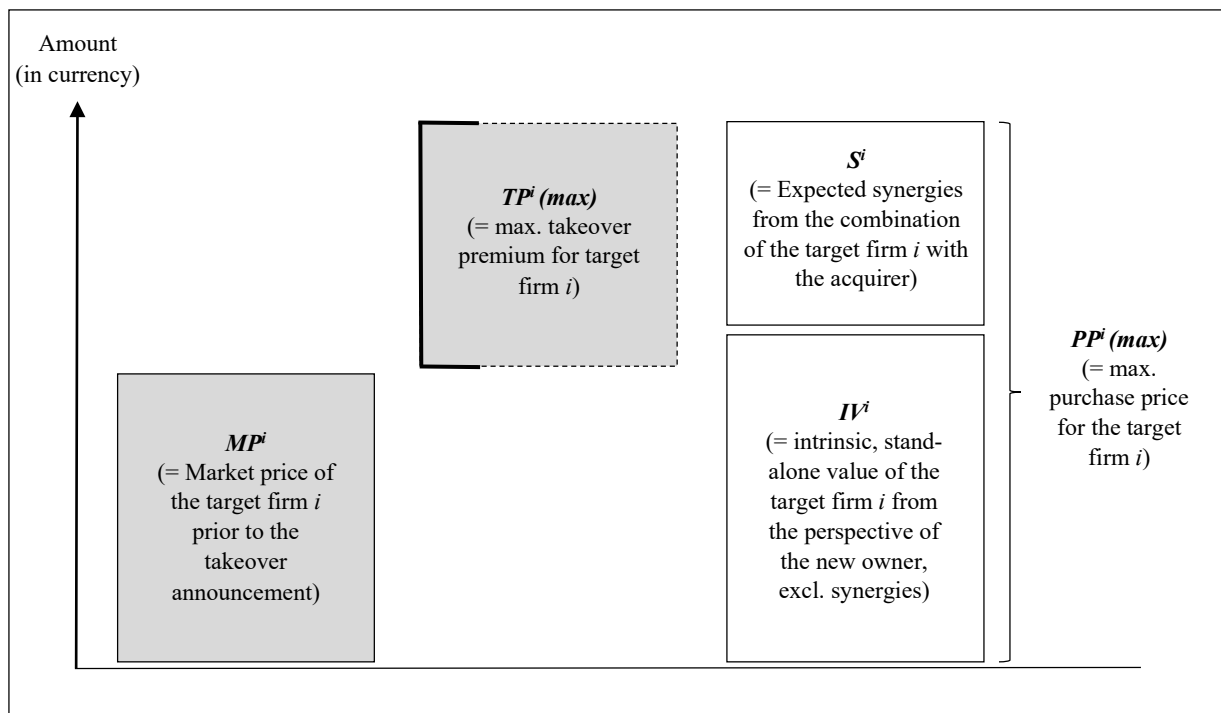


Diagram 1: Relationship between market price, purchase price, expected synergies, and takeover premium in M&A.

### III. Potential determinants of takeover premiums

Motivations to acquire a target firm at a premium over its market price are plentiful and have been discussed extensively in finance literature.<sup>7</sup> The analysis of this article focusses on two broad categories, as outlined in the diagram 2 below. To begin with, the strategic considerations of the target firm are discussed. Thereafter, the focus is placed on the financial characteristics of the target firm.

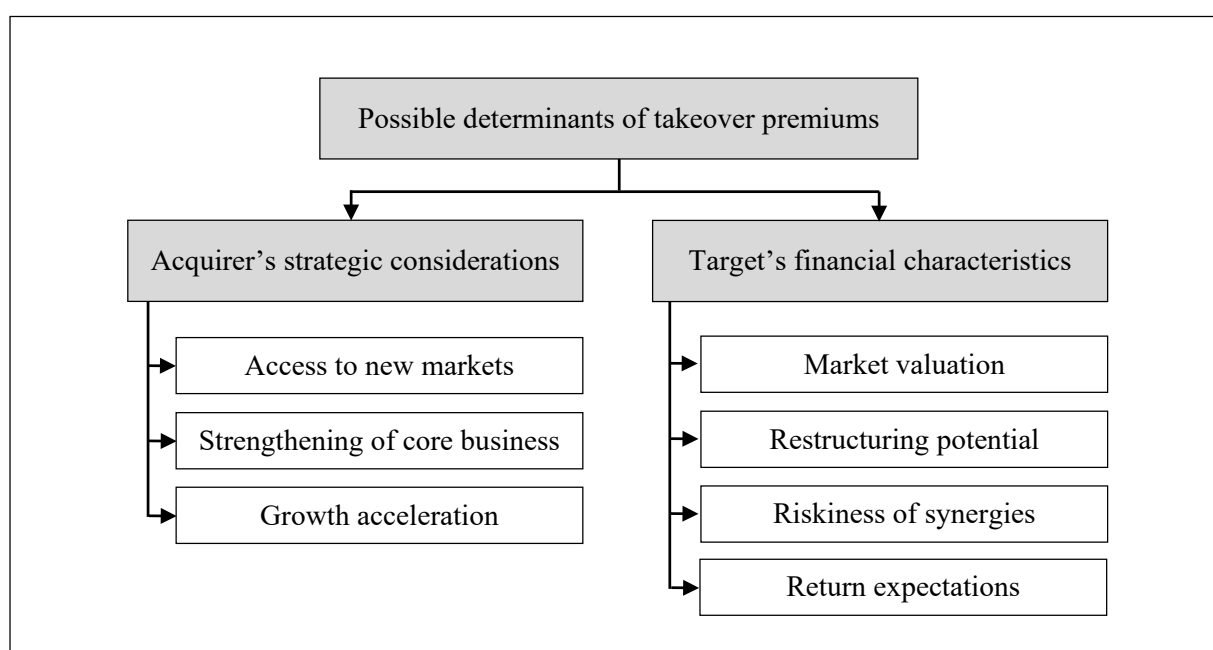


Diagram 2: Determinants of takeover premiums.

#### 1. Strategic considerations of acquiring firms

Strategic considerations can motivate acquiring firms to pay a price in excess of the target's market price under the assumption that the acquirer's free cash flows will increase, i.e. grow faster through an acquisition than without. Amongst the most frequently cited strategic motives

<sup>7</sup> See Damodaran, Investment fables, 1<sup>st</sup> ed. 2004, p. 315, Damodaran (2018), Motives for acquisitions, available under: [http://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/invfables/acqmotives.htm](http://pages.stern.nyu.edu/~adamodar/New_Home_Page/invfables/acqmotives.htm). Retrieved: 20.07.2018, Mukherjee/Kiyamaz/Baker, Merger motives and target valuation: A survey of evidence from CFOs, Journal of Applied Finance, Fall/Winter 2004 pp. 7-24.

of bidders are (i) access to new (geographical) markets, (ii) strengthening of their core businesses, and (iii) growth acceleration.

Firstly, through an acquisition of a target firm located abroad, a bidding firm could potentially extend its global reach by getting immediate access to a wider distribution network. This strategy would allow the acquiring firm to grow its cash flows faster than by building up its international distribution network by itself, which would require more time.<sup>8</sup> Besides, such an acquisition strategy would generally pose less investment risks than building up a subsidiary abroad by itself, as the acquirer gets immediate access to an operating and therefore already running business. A takeover premium would positively influence the value of the acquiring firm, if the premium for the target, which already operates in a country the bidding firm has not entered yet, is lower in absolute terms than the expected discounted cash expenses of setting up a subsidiary and related distribution network by itself.

Secondly, the intention to strengthen a bidding firm's core business through an acquisition could also influence an acquirer to pay more for a target firm than its current market price.<sup>9</sup> Such a strategic motivation could potentially focus on the acquisition of new technologies, an extension or improvement of the bidder's value chain, as well as an expansion of the current product portfolio, which all could positively influence the value of the acquiring firm. Besides, from an operational point of view, the strengthening of the core business could lead to an increased production output and efficiency improvements, reducing unit costs of the combined entity after the acquisition and thereby positively influencing its profitability.<sup>10</sup> In addition to

---

<sup>8</sup> See Bower, Not all M&As are alike - and that matters, Harvard Business Review, Apr 2001 p. 98, Gaughan, Mergers, acquisitions, and corporate restructurings, 4<sup>th</sup> ed. 2007, pp. 120-121, Görg, Analysing foreign market entry – The choice between greenfield investment and acquisitions, Journal of Economic Studies, Vol. 27 No. 3 2000 pp.165-181, Black/Carnes/Jandik, The long-term success of cross-border mergers and acquisitions, University of Arkansas Working paper 2001, pp. 1-37.

<sup>9</sup> See Baker, Beatrice: A study in the creation and destruction of value, The Journal of Finance, Vol. 47 No. 3 1992, pp. 1081-1119, Khanna/Palepu, Why focused strategies may be wrong for emerging markets, Harvard Business Review, Jul-Aug 1997 pp. 41-51, Markides, To diversify or not, Harvard Business Review, Nov-Dec 1997 pp. 93-99.

<sup>10</sup> See Gaughan, Mergers, acquisitions, and corporate restructurings, 4<sup>th</sup> ed. 2007, p. 117, Ross/Westerfield/Jaffe, Corporate finance, 6<sup>th</sup> ed. pp. 825-826.

these factors, strategic management literature argues that through an acquisition of a competitor operating in the same industry, the bidding firm could potentially increase its pricing power through an expansion of its market share. This would lead to positive effects on revenues and profits.

And finally, growth acceleration, which refers to making best use of revenue synergies in the future by acquiring high growth firms, could motivate acquiring firms to pay a premium in excess of a target firm's current market price.<sup>11</sup> This, however, only holds true if there is a cross selling potential between the acquirer and the target, so that the bidding firm sees the opportunity to piggyback on the higher growth potential of the target firm. Cross selling potentials exist if the bidding firm's products or services are complementary to those of the target firm. In this case, the stand-alone firm value of the acquirer would also increase through the acquisition due to the additional profits generated by this cross selling strategy. The higher the earnings growth rates of the target firm in the future, the greater the cross selling potential from this strategy.

Any of these three strategic considerations would allow the acquirer's free cash flows to grow stronger or faster than this would have been the case without the potential acquisition, after an acquisition.

## **2. Financial characteristics of target firms**

Takeover premiums could also potentially be explained by the financial characteristics of the target firm, meaning that a bidder's motivation to pay a higher or lower takeover premium can be explained by the target's existing financial characteristics prior to the transaction. Firstly, a target firm's observable undervaluation on capital markets could lead bidders paying a higher

---

<sup>11</sup> See Bruner/Perella, *Applied mergers and acquisitions*, 1<sup>st</sup> ed. 2004, p. 139, Mukherjee/Kiymaz/Baker, *Merger motives and target valuation: A survey of evidence from CFOs*, *Journal of Applied Finance*, Fall/Winter 2004 pp. 7-24.



price than its market capitalization.<sup>12</sup> If a potential target is currently mispriced by market participants (meaning that its market capitalization is below its intrinsic value), an acquiring firm should be willing to pay a higher transaction premium to take control of the target firm, as it also incorporates this misvaluation in its bid (compared to the case when the target's market capitalization is in line with its intrinsic value).<sup>13</sup> This holds particularly true in case the target firm's management is aware of this undervaluation, however has not been able to correct it in the past. In such a case, the senior executives of the target might be asking for a higher premium. A small free float or limited financial analyst coverage could lead to such inefficient market prices that diverge from the intrinsic value of a firm. Such price anomalies allow for arbitrage possibilities from the perspective of a potential buyer.<sup>14</sup>

Secondly, existing restructuring potentials in the target firm could motivate bidders to pay a higher price for the target, as the elimination of existing inefficiencies could increase the target's free cash flows and therefore its intrinsic value. Restructuring potentials could exist in inefficient cost structures (cost cutting) or in the current business portfolio set-up, which could be split up or better separated (portfolio optimization). Additionally, the exchange of members of the target's management team could unlock shareholder value (value of control).<sup>15</sup> This assessment rests on the assumption that the current management team does not maximize the value of its available resources.<sup>16</sup> Examples could be that the management team does not invest

---

<sup>12</sup> See Gonzales/Vasconcellos/Kish, Cross-border mergers and acquisitions: The undervaluation hypothesis, in: Buckley/Ghauri, International mergers and acquisitions: a reader, 1<sup>st</sup> ed. 2002, pp. 288-306, Harris/Ravenscraft, The role of acquisitions in foreign direct investment: Evidence from the US stock market, The Journal of Finance, Vol. 46 No. 3 1991 pp. 825-844, Shleifer/Vishny, Stock market driven acquisitions, Journal of Financial Economics, Vol. 70 No. 3 2003 pp. 295-311.

<sup>13</sup> See Walkling/Edmister, Determinants of tender offer premiums, Financial Analysts Journal, Vol. 1/2 1985 pp. 30, 35.

<sup>14</sup> See Dong/Hirshleifer/Richardson/Teoh, Does investor misvaluation drive the takeover market? The Journal of Finance, Vol. 61 No. 2 2006 pp. 761-762.

<sup>15</sup> See Damodaran, Value of control, NYU Working Paper 2005, p. 28.

<sup>16</sup> See Hayward/Hambrick, Explaining the premiums paid for large acquisitions: Evidence of CEO Hubris, Administrative Science Quarterly, Vol. 42 1997 p. 104, Varaiya, Determinants of premiums in acquisition transactions, Managerial and Decision Economics, Vol. 8 1987 pp. 175-184.

enough in growth assets or continues to use outdated production processes or distribution channels.<sup>17</sup>

Thirdly, substantial information asymmetries due to a target firm's intransparent firm structures or limited information disclosures in financial reports and the due diligence process can pose threats to potential acquirers. The less transparent the provided information is, the more cautious bidders in deal situations. Consequently, intransparancies and complexities reduce the motivation for (higher) takeover premiums. This assumption rests on the notion of the value of transparency and the cost of complexity.<sup>18</sup> The higher the information asymmetries and the uncertainty regarding a firm's financial statements and its business outlook, the more difficult it is to estimate the synergy potential of the deal.

And finally, a bidder's expectation towards a target firm's future returns could also motivate him to pay a higher takeover premium. On the basis of the CAPM, the future return potential of a firm is captured in its beta factor, which is used by investors to calculate their return expectations for the asset in question. On average, high beta firms are expected to generate higher returns than their low beta counterparts. This implies that high beta firms outperform their lower beta peers when markets go up, and underperform when markets go down. Consequently, firms with higher beta factors allow investors a greater upside potential when macroeconomic conditions change in a favorable direction in the future (compared to firms with lower betas). Nevertheless, it also needs to be mentioned that firms with greater expected returns (and therefore higher beta factors) also bear a higher investment risk for the investor, as returns can also become more negative if macroeconomic conditions become unfavorable (compared to low beta firms).

---

<sup>17</sup> See Ross/Westerfield/Jaffe, Corporate finance, 6<sup>th</sup> ed. 2003, p. 826.

<sup>18</sup> See Damodaran, The value of transparency and the cost of complexity, NYU Working Paper 2006, pp. 1-24.

#### IV. Research methodology

The empirical analyses of the influencing target- and buyer-specific factors on takeover premiums are based on multiple linear regression models. The takeover premiums, which represents the dependent variable in the model, were collected from 589 completed transactions, in which both the target and the acquirer were domiciled in a European country.<sup>19</sup> Furthermore, only takeover premiums of strategic investors have been analyzed. The collected takeover premiums range from 2005 to 2016 and represent so-called control transactions (i.e. more than 50% of a target firm's equity was acquired in the transaction).

To start with, the takeover premiums were calculated according to the formula outlined in section II for three different observation periods:

- $TP^i_{-1 \text{ day}, t}$
- $TP^i_{-7 \text{ days}, t}$
- $TP^i_{-28 \text{ days}, t}$

with  $t$  representing the announcement date of the offer and 1 day/7 days/28 days the respective measurement time periods prior to the announcement. Secondly, the standard multiple linear regression model for the analyses was defined as:

$$TP^i_{t,t-n} = \alpha^i + \beta^i \times \text{acquirer specific strategic considerations}^i + \beta^i \times \text{target specific financial characteristics}^i + \epsilon^i ;$$

with  $\alpha$  being the regression intercept,  $\beta$  the regressions coefficients and  $\epsilon$  the error terms. In a subsequent step, the individual determinants, which approximate an acquirer's strategic considerations and a target's financial characteristics were operationalized, meaning variables were defined, which are supposed to correlate strongly with the respective strategic considerations or financial characteristics. The operationalization of the variables is based on

---

<sup>19</sup> Source: Thomson Reuters, Capital IQ, own research.

prior empirical research, as well as theoretical corporate financial concepts. Table 1 shows the operationalization of the strategic considerations and financial characteristics in the regression models.

Strategic considerations of acquirer:	Applied variables in regression models:	Financial characteristics of target:	Applied variables in regression models:
1) Access to new markets.	Cross border deal (dummy variable).	1) Market valuation of the target.	LTM EV/EBITDA multiple of the target firm (continuous variable).
2) Strengthening of core business.	Acquirer and target firm in the same industry: Identical SIC codes (dummy variable).	2) Restructuring potential of the target.	LTM negative EBIT margin of the target firm (dummy variable).
	Acquirer and target firm in the same industry: Difference in SIC codes (continuous variable).	3) Riskiness of synergies.	All cash deal of acquirer (dummy variable).
3) Growth acceleration.	NTM P/E multiple of the target firm (continuous variable).	4) Return expectations.	Two year beta factor of the target firm (continuous variable).

Table 1: Operationalization of determinants of takeover premiums.

The intention to gain access to new geographical markets was approximated through an observable cross-border deal (meaning that the bidder and the target were not domiciled in the same country). The variable  $NEW\_MARKET\_ACCESS^i_t$  represents a dummy variable and was set to one in case of a cross-border deal and zero otherwise. An acquirer's intent to strengthen his core business was assumed to be present in case the target firm and the acquirer operate in the same industry. The variable therefore focusses on the firms' Standard Industrial Classification (SIC) codes. In case the SIC codes were identical, the dummy variable  $FOCUS\_ON\_CORE\_NARROW^i_t$  was set to one and zero otherwise. Additionally, the continuous variable  $FOCUS\_ON\_CORE\_BROAD^i_t$  was calculated and used in some of the regressions. It represents the numerical difference between the acquirer's SIC code and that of the target firm. It was assumed that the greater the difference in SIC codes, the less focused and the more diversifying the acquisition was. The intention to accelerate growth through an

acquisition was operationalized by the observable forward looking (next twelve months, NTM) P/E multiple of the target firm. Firms with higher P/E multiples are expected by investors to have higher earnings growth rates in the future and vice versa. The variable  $GROWTH\_ACCELERATION^i_t$  constitutes therefore a continuous variable in the regression models. A potential low valuation of the target firm, which possibly motivates acquirers to pay a higher takeover premium, focusses on the target's trailing, last twelve months (LTM) EV/EBITDA multiple. The variable  $MARKET\_VALUATION^i_t$  is therefore continuous in nature. An existing restructuring potential of the target firm was assumed to be present, if its LTM EBIT margin (in % of total revenues) was negative. A negative operating margin strongly suggests that cost inefficiencies existed in the target firm. In the regression model, the dummy variable  $RESTRUCTURING\_POTENTIAL^i_t$  was set to one in case of a negative margin and zero otherwise. The riskiness of the expected synergies from the deal was approximated by the form of consideration. In case of an all cash deal, it was assumed that the expected synergies have a lower inherent risk to materialize than when acquirers pay in stock or a mixture of both.<sup>20</sup> The dummy variable  $SYNERGY\_RISK^i_t$  was therefore set to one in case of an all cash deal and zero otherwise. The final explanatory variable  $RETURN\_EXPECTATIONS^i_t$  measures the expected return and earnings volatility of the target firm and was approximated by the target firm's two year (weekly) beta factor as of the announcement date. The beta factor was derived on the basis of the broadest local stock market index of the country, in which the target firm was domiciled. The targets' financials LTM EV/EBITDA, NTM P/E, LTM EBIT margin, and beta were calculated as of the last financial quarter end prior to the public announcement of the offer.

---

<sup>20</sup> See Rappaport/Sirower, Stock or cash? The trade-off for buyers and sellers in mergers & acquisitions, Harvard Business Review, Nov/Dec 1999 pp. 147-158.

## V. Results of the analyses

The average takeover premium in the data set ranges between 19% ( $TP^{i-1 \text{ day}, t}$ ) and 28% ( $TP^{i-28 \text{ days}, t}$ ), implying that the stock price of the target firms increased on average by approx. 9% during that 4 weeks time window. Reasons for such an increase could be takeover rumors or stake building by the bidding firm, prior to the public announcement of the takeover offer.

In the regression analyses, evidence is found that both acquirers' strategic considerations as well as target firms' financial characteristics have a statistically significant impact on the observable takeover premiums paid (for regression results see table 3). This influence is identified for six of the seven areas under analysis. This means that on average, in deal situations these six areas influence the motivation of bidders to pay higher or lower takeover premiums for target firms.

Firstly, a cross-border deal makes an acquirer pay more for a target firm (under otherwise identical conditions). This means that bidders are willing to pay an additional premium to expand their global reach. In the regressions, the factor loadings of this variable range between 0,055 and 0,075, implying that on average this "internationalization" effect, which is reflected in takeover premiums, ranges between 5,5% and 7,5% (depending on which observation period is used for the analysis), when looking at it in isolation. The results suggest therefore that in case of a deal situation with multiple bidders, foreign acquirers would pay on average more for the target than bidders located in the same country as the target firm.

Secondly, whether an acquirer tries to strengthen his existing core business or wants to diversify does not influence his motivation for paying a higher or lower takeover premium. At least this is what the results of the regression analyses imply, as none of the regression coefficients is found out to be statistically significant. Somehow, this result is partly surprising, as usually synergy potential is greater for deals in the same industry than in diversifying deals. This, on the one hand, holds mostly true for revenue synergies. Cost synergies, on the other, could be

less prone to industry effects. Consequently, it could be possible that the motivational effects from revenue synergies are not as strong as those of the cost synergies, which exist often irrespective of the industry in which the target firm operates.

Thirdly, to achieve accelerated growth through an acquisition of a target firm increases the willingness to bid higher in takeover situations. The effect is found out to be strong in any of the three regression models. This motivation was operationalized by the target firms' forward looking P/E multiples. The acquisition of a high P/E multiple target firm leads to statistically significant higher takeover premiums. This result suggests that takeover premiums for high growth firms are higher on average, than for their low growth counterparts. Consequently, the level of the takeover premium is a function of investors' earnings growth expectations of the target firm. The motivation to piggyback on a target firm's high future revenues or earnings growth leads bidder to pay higher takeover premiums. Nevertheless, it needs to be mentioned that the overall effect on the level of the paid takeover premium is rather limited in percentage terms, whilst still being statistically significant in the regressions.

Regarding the financial characteristics of the target firms, again statistically significant influencing effects on the observable takeover premiums can be detected in the data set. This assessment holds true for any of the four characteristics outlined in table 1. To begin with, the results of the regression analyses suggest that low market valuations of the target firm influence the willingness of acquiring firms to pay on average a higher price in deal situations and vice versa. The effect is found out to be very strong in the any of the nine regression models. This means that a strong, negative correlation between the current market valuation of the target firm (prior to the acquisition) and the observable takeover premium exists. This result is not surprising, as low market valuations and likely a potential difference to a higher intrinsic value allow bidding firms to pay a higher price as the market capitalization, on which basis the takeover premium (in %) was derived, can be considered distorted. The results suggest that

takeover premiums for such firms, which trade on a relatively low valuation basis, partly correct this mispricing of the stand-alone firm prior to the acquisition through a higher takeover premium.

Additionally, material restructuring potentials, which might exist in some target firms, motivate bidding firms to pay on average higher takeover premiums than vice versa. In most of the regression analyses, the effects are found out to be very strong, and therefore imply that the value adding effect from to be executed restructuring measures is already partly compensated through a higher takeover premium to the prior shareholders. In the data set, a likely restructuring case was assumed to be present if a negative LTM EBIT margin of the target firm was observable. Equally important to the observation on material restructuring potentials, it is observable that generally bidding firms pay higher takeover premiums for targets with lower LTM EBIT margins. Consequently, the regression results suggest that a poor financial performance of the target firm leads to a higher takeover premium (and vice versa).

That the riskiness of expected synergies materially influences the willingness of acquirers to pay higher or lower takeover premiums can also be detected in the analyzed regressions. Here, the results suggest that the riskier synergies become, the lower the actual average takeover premium paid. Again, the effects are found out to be statistically significant in most of the regressions. Riskiness of synergies was approximated by the method of payment (cash vs. other forms of consideration). In the dataset, target firms, which were acquired through an all-cash deal, yielded on average a higher takeover premium. The isolated effect ranges between 4,4% and 6,2%, depending on the respective regression models.

And finally, takeover premiums for high beta firms are also higher on average than takeover premiums for low beta firms. In any of the regressions, the effect is statistically significant. That means that acquirers are willing to pay higher premiums for firms, that have a higher market risk. One reason could be that these firms allow for higher returns and earnings growth,



if macroeconomic factors become more favorable, than for their low beta counterparts. Therefore, the results imply that takeover premiums are often industry specific, meaning that takeover premiums are on average higher for high beta industries (and vice versa) and potentially dependent on the lifecycle stage of the target firm (younger firms yield higher premiums than their more mature counterparts).

Table 2 summarizes the evidence obtained from the empirical analyses of the data set. For six of the seven areas, which were approximated by the variables in brackets, a (strong) positive impact on the level of the actually paid takeover premiums is observable:







Strategic considerations of acquirer (variable):	Impact on takeover premium:	Financial characteristics of target (variable):	Impact on takeover premium:
1) Access to new markets (i.e. <i>cross border deal</i> ).		1) Low market valuation (i.e. <i>low EV/EBITDA multiple of target</i> ).	
2) Strengthening of core business (i.e. <i>deal in same industry</i> ).	No evidence in dataset	2) Restructuring potential (i.e. <i>negative EBIT margin of target</i> ).	
3) Growth acceleration (i.e. <i>high P/E multiple of target</i> ).		3) Certainty regarding synergy potential (i.e. <i>all cash deal</i> ).	
		4) High return expectations (i.e. <i>high beta of target</i> ).	

Table 2: Summary of findings regarding the impact of various acquirer specific strategic considerations and target specific financial characteristics on the level of takeover premiums.

## VI. Conclusion

Challenging takeover premiums in deal situation can be difficult and the consequences are indeed material. If the proposed offer price is too high, value might be destroyed for the new

owners. Is it too low, a proposed bid might be rejected. Therefore, understanding the underlying economics of takeover premiums is key.

Therefore, this article looked into 589 takeover premiums of closed European transactions, which occurred between 2005 and 2016. It was found out that both acquirers' strategic considerations and target firms' financial characteristics can have a substantial impact on the level of takeover premiums. An acquirer's strategic intention to gain access to new geographical markets and to accelerate the firm's growth rate through the acquisition of a high growth firm increase his willingness for higher bids and therefore higher takeover premiums. Furthermore, the results of this empirical study suggest that low market valuations of a target firm, existing restructuring potentials like cost inefficiencies, and a high certainty to materialize synergies drive takeover premiums higher.

Although every deal is unique in its own way, there are factors which correlate strongly with historically observable premiums paid. In order to optimize takeover premiums in deal situations, attention should be paid to the underlying economics of the deal and to which extend they could have an impact on the same.

Table 3: Multiple linear regression analyses regarding the influence of strategic considerations of acquiring firms and financial characteristics of target firms on takeover premiums (2005-2016)

Dependent variable: $TP_t^i$	Explanatory variables:	Takeover premium [-28 days; t]			Takeover premium [-7 days; t]			Takeover premium [-1 day; t]		
		(1) R.C. (S.E.) sig.	(2) R.C. (S.E.) sig.	(3) R.C. (S.E.) sig.	(4) R.C. (S.E.) sig.	(5) R.C. (S.E.) sig.	(6) R.C. (S.E.) sig.	(7) R.C. (S.E.) sig.	(8) R.C. (S.E.) sig.	(9) R.C. (S.E.) sig.
<i>Strategic considerations of acquiring firms</i>	$NEW\_MARKET\_ACCESS_t^i$	0,059 ** (0,030)	0,059 ** (0,030)	0,055 * (0,031)	0,075 *** (0,026)	0,074 *** (0,026)	0,061 ** (0,028)	0,071 *** (0,025)	0,071 *** (0,025)	0,055 ** (0,026)
	$FOCUS\_CORE\_BUSINESS\_NARROW_t^i$	0,023 (0,028)			0,018 (0,025)			0,006 (0,025)		
	$FOCUS\_CORE\_BUSINESS\_BROAD_t^i$		-4,1E-04 (7,7E-04)			-5,0E-04 (6,9E-04)			7,2E-05 (6,6E-04)	
	$GROWTH\_ACCELERATION_t^i$			4,37E-05 ** (1,2E-04)			4,09E-05 ** (1,7E-05)			4,3E-05 *** (1,6E-05)
<i>Financial characteristics of target firms</i>	$MARKET\_VALUATION_t^i$	-0,012 *** (0,001)	-0,012 *** (0,001)	-0,017 *** (0,002)	-0,013 *** (0,001)	-0,013 *** (0,001)	-0,017 *** (0,002)	-0,012 *** (0,001)	-0,012 *** (0,001)	-0,016 *** (0,001)
	$RESTRUCTURING\_POTENTIAL_t^i$	0,167 *** (0,058)	0,168 *** (0,058)	-0,165 (0,281)	0,192 *** (0,052)	0,192 *** (0,052)	-0,267 (0,248)	0,162 *** (0,049)	0,163 *** (0,049)	-0,240 (0,238)
	$SYNERGY\_RISK_t^i$	0,061 ** (0,030)	0,062 ** (0,030)	0,056 * (0,032)	0,060 ** (0,027)	0,060 ** (0,027)	0,042 (0,028)	0,044 * (0,026)	0,045 * (0,026)	0,029 (0,027)
	$RETURN\_EXPECTATIONS_t^i$	0,291 *** (0,064)	0,293 *** (0,064)	0,212 *** (0,067)	0,200 *** (0,057)	0,201 *** (0,057)	0,122 ** (0,059)	0,180 *** (0,055)	0,181 *** (0,055)	0,095 * (0,057)
	(constant)	1,6E-04 (0,063)	0,017 (0,064)	0,101 (0,066)	0,035 (0,056)	0,051 (0,057)	0,147 ** (0,058)	0,034 (0,054)	0,035 (0,055)	0,140 ** (0,056)
	F-value	13,618 ***	13,570 ***	14,780 ***	16,493 ***	16,495 ***	17,294 ***	16,094 ***	16,089 ***	16,893 ***
	R-square	0,15	0,15	0,18	0,17	0,18	0,20	0,17	0,17	0,20
	n	589	589	391	589	589	391	589	589	391

Abbreviations and symbols:

R.C. regression coefficient, S.E. standard error, sig. level of significance, \*/\*\*/\*\* denote level of significance of 90%, 95, and 99%, respectively.

Source: Own illustration.