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Disentangling the Link Between Stock and Accounting Performance in Acquisitions

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July 2011

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Keywords: Mergers and acquisitions, performance measurement, synergies, preemption, overvaluation, corporate governance, agency problems

JEL-Classification: G34, G3, G14

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1. Introduction

Empirical studies on the overall gains from mergers and acquisitions (M&As) tend to find conflicting results depending on whether they use the event-study methodology or accounting measures of performance. In detail, there is a consensus among the large body of short-term event studies that M&As generate on average significantly positive cumulative abnormal returns (CARs) for the target shareholders and abnormal returns that are close to zero for the bidder (see Table 1). The most comprehensive study on the *combined* gains accruing to the shareholders of targets and bidders is Andrade et al. (2001) (see Panel A of Table 1 for the results from other studies). Based on a sample of 3,688 takeovers during the period of 1973 to 1998, they find significantly positive combined CARs of about 2%. They interpret the significantly positive CARs for the combined firms as evidence that overall acquisitions create gains. Similarly, Berkovitch and Narayanan (1993) report that in 76% of 330 tender offers between 1963 and 1988 the combined return is significantly positive.[1] In addition, the results from long-term event studies show that acquisitions generate statistically insignificant CARs for the bidding shareholders (see Panel B of Table 1). Taken together with the evidence from the short-term event studies, this result suggests that mergers create shareholder wealth (Bruner 2004).

[Insert Table 1 about here]

Conversely, apart from Healey, Palepu, and Ruback (1992) who cover a very short period (1979-1984) and have a sample size of only 50 mergers,[2] studies using accounting measures (see Table

[1] Berkovitch and Narayanan (1993) also adjust for the possible motives behind mergers. The motives they distinguish are synergies, hubris (Roll 1986) and agency problems (Jensen 1986). If the motivation behind a merger is synergies then there should be a positive correlation between the target shareholder gains and the total gains. However, if the motive is hubris the correlation should be zero and if the motive is agency problems it should be negative. In addition to the finding that in 76% of 330 tender offers between 1963 and 1988 the combined return is significantly positive, they also find that the correlation coefficient between the target shareholder gains and the combined gains is significantly positive.

[2] Ramaswamy et al.'s (2003) study covers the period of 1975 to 1990. When they focus on the years 1975 to 1982 they find a significantly positive improvement in performance, but there is no such significant improvement during

2 for an overview) find that mergers generate statistically significant losses or at least do not result in significant improvements in performance. Fridolfsson and Stennek (2005, p.1083) call the stylized fact that "mergers often reduce profits, but raise share prices" an empirical puzzle.

[Insert Table 2 about here]

Not only do studies based on the event methodology and those using accounting measures of performance arrive at diametrically opposed conclusions as to the *overall* wealth effects of M&As, but they also typically tend to disagree as to the wealth effects generated by *individual* acquisitions. In other words, for the case of individual acquisitions, one may observe any of the four different combinations between positive or negative abnormal stock returns on one side and positive or negative accounting performance on the other side. While two of these combinations (the one consisting of both positive abnormal stock returns and accounting performance and that consisting of both negative stock returns and accounting performance) arrive at the same conclusion as to the overall gains, the other two arrive at contradictory conclusions.

These conflicting results give rise to two important questions. First, why do studies based on stock returns arrive at diametrically opposed conclusions compared to those studies based on accounting performance? Second, are there any factors advanced by theory which may explain each of the four possible combinations between positive or negative stock returns and accounting performance? In other words, can each combination of stock returns and accounting performance be explained by a particular motive behind the merger transaction?

The key contribution of this paper is to reconcile the results from studies using event-study methodology with those from the studies using accounting performance by investigating the particular motives underlying each of the four combinations of abnormal stock returns and

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the post-1982 period. This pattern suggests that Healey et al.'s results are subject to the choice of period and that their results cannot be generalized.

accounting performance. In other words, rather than claiming that some or all of the four combinations are due to problems of measurement or differences in the perspective underlying stock prices and accounting figures (see e.g. Bruner 2004), we argue that each of these combinations can be explained by the particular motive behind the acquisition. We find strong empirical support for our assertion.

While our paper has some similarities with the literature on the motives behind takeovers (see e.g. Berkovitch and Narayanan 1993), it is also different from that literature in at least three important aspects. First, while Berkovitch and Narayanan (1993) study the combined stock returns and those accruing to the bidder, we focus on the latter. The reason for this is that some of the theories which have *a priori* potential to explain certain combinations of stock returns and accounting performance focus on bidders' gains rather than combined gains. Second, in addition to the three motives considered by Berkovitch and Narayanan (the motives they consider are synergies, hubris and agency problems), we also consider preemption and the overvaluation of the bidder's stock as motives. Finally, we do not just look at abnormal stock returns, but we also study the accounting performance and explicitly investigate the link between the two. Hence, while we take into account the motives behind the acquisitions, our focus is on explaining the relation between stock returns and accounting profits rather than explaining the motives.

In other words, the focus and the main contribution of this paper are the explanation of the sometimes contradictory outcomes of acquisitions in terms of abnormal stock returns and abnormal accounting performance. While the paper refers to the possible motives behind acquisitions to explain their outcomes, it does not focus on explaining these motives.

The remainder of the paper is organized as follows. Section 2 discusses the theoretical framework underlying this paper. In particular, the section provides theoretical justifications for each of the

four different combinations of positive or negative excess stock returns and accounting performance. We argue that each combination is caused by a particular motive driving the acquisition. While particular combinations of stock returns and accounting performance may *a priori* appear counterintuitive, they can easily be explained by the underlying motive. Section 3 reviews the methodologies used in this study. Section 4 discusses the empirical results and reviews the results from a battery of robustness checks. Section 5 concludes.

2. The link between stock returns and accounting performance for bidders in M&As

This section provides possible theoretical reasons for the four combinations of positive or negative abnormal stock returns and accounting performance. The four combinations are reported in Figure 1. To simplify the exposition, we shall refer to the various combinations by *Type I* (positive abnormal stock returns and as well as positive abnormal accounting performance), *Type II* (positive abnormal stock returns and negative abnormal accounting performance), *Type III* (negative abnormal stock returns and positive abnormal accounting performance) and *Type IV* acquisitions (negative abnormal returns as well as negative accounting performance). Rather than claiming that those of the four types that lead to conflicting conclusions as to the gains from the acquisition, i.e. Type II and Type III, are due to measurement problems and/or differences in the perspectives underlying stock prices and accounting figures, we argue that each of these types or combinations can be explained by the particular motive behind the acquisition.

[Insert Figure 1 about here]

The first type of acquisition can be explained by the classical textbook motive (see e.g. Grinblatt and Titman (2002)) behind takeovers, i.e. the desire to create shareholder value via the exploitation of synergies (economies of scale or scope). This type of acquisition results in a

significant improvement in the combined firm's accounting performance as well as positive abnormal stock returns.

Fridolfsson and Stennek (2005) provide a theoretical justification for Type II acquisitions. They argue that an unprofitable merger (as measured by the merged firm's accounting performance) may be motivated by the fact that it is better for the firm to merge with another firm and thereby preempt one of its rivals merging with that firm if there are strong negative externalities to the industry from a merger.[3] This would then explain why the share price of the firm increases despite the merger being unprofitable as measured by its accounting performance. Indeed, given the negative externalities from the merger, it is best to be part of a merger (i.e. to be an insider) rather than to be affected by a rival's merger (i.e. to be an outsider). The pre-merger stock price of the firm would then reflect the possibility that the firm may end up as an outsider whereas the increase in the stock price at the merger announcement could be explained by the fact that the alternative to an unprofitable merger would be even worse.

Type III acquisitions have a negative abnormal stock return and positive abnormal accounting performance. This type of acquisition can be explained by Shleifer and Vishny's (2003) model based on the bidder's overvalued stock.[4] Their model is based on temporary mispricings in the securities market. The model assumes that there are some firms that are overvalued at some point in time. In the long run, however, the market realizes there is mispricing and the firms' stock prices decrease to their fundamental value. The CEOs of the overvalued companies are assumed

[3] Fridolfsson and Stennek (2005) provide two examples of mergers driven by the motive of preemption. The first example is Northwestern's acquisition of a 51% voting stake in Continental. Northwestern consented not to vote for its stock for six years and not to intervene in the management of Continental. However, crucially, it kept the right to veto mergers of Continental with other airlines. The second example is Volvo's failed attempt of acquiring Scania. At the time, Volvo stated that its main motive for taking over Scania was to prevent others from doing so.

[4] Effectively, Shleifer and Vishny's model combines two separate hypotheses into a single one. These hypotheses are the means of payment hypothesis (Loughran and Vijh 1997) and the profit extrapolation hypothesis (Rau and Vermaelen 1998). The former states that bidders with overvalued equity will pay for acquisitions with stock whereas those with undervalued equity will pay with cash. According to the profit extrapolation hypothesis, the stock market wrongly extrapolates the bidder's past performance of so-called glamour firms, i.e. firms with high market to book value ratios.

to be rational and to be aware of the temporary overvaluation. While Shleifer and Vishny do not explicitly make this assumption, we assume that the CEOs act in the interest of the current shareholders by locking in real assets, i.e. by using their overvalued stock to acquire an undervalued (or at least less overvalued) company. The market then realizes that the stock was overvalued, but does not realize the full extent of the overvaluation. As a result, the stock price of the acquirer declines slightly in the short run to return only to the fundamental value of the merged firm in the long run. As Shleifer and Vishny's model does not make any predictions as to the accounting profitability of the merger, it would be possible to observe mergers with negative synergies, but that are in line with the predictions of their model. However, given our assumption that managers act in the best interests of the shareholders, such mergers are only possible if the acquirer is extremely overvalued which would compensate for the loss of profitability. The question that arises is whether our assumption that the managers act in the interests of their existing shareholders is indeed justified. We shall return to this question in Section 4.

Finally, Type IV acquisitions, which generate both negative abnormal stock returns and abnormal accounting performance, can be explained by the agency motive as well as Roll's (1986) hubris argument. According to the agency motive (Jensen and Meckling 1976), if left to their own devices, managers will invest in negative net present value (NPV) projects (such as value-destroying acquisitions) in order to increase their remuneration and status. According to Roll's thesis, managers simply make mistakes when valuing the target in an acquisition. Both arguments explain the combination of negative abnormal stock returns and negative abnormal accounting performance.[5]

[5] While some studies such as Berkovitch and Narayanan (1993) and Goergen and Renneboog (2004) clearly distinguish between the agency motive and the hubris motive, this paper does not so. Indeed, the focus of this paper is different. Rather than explaining the link between total gains and target shareholder gains (which is different depending on which of the two motives that applies), the focus here is on explaining the link between stock performance and accounting profits (which is the same for either motive).

3. Data sources, sample selection, measurement of performance and methodology

This section is structured as follows. We first explain the sample selection process and the data sources used. We then discuss the measurement of abnormal accounting performance and stock returns. Finally, we review the methodologies and factors used to predict the occurrence of each of the four types of acquisitions.

3.1 Data sources and sample selection

The initial list of M&As was obtained from the Thomson Financial SDC Platinum database. We analyze the performance of US acquisitions that were announced and completed (Item STAT) between January 1989 and December 2003.[6] We then proceed by applying the following filters to the sample:

1. We retain only those mergers where the share of the acquirer in the target firm's equity was below 50% before and above 50% after the transaction (Items PHDA and A_POSTMERGEOWN_PCT). Alternatively, the acquirer had to buy 50% of the shares outstanding during the merger process (Item PC TOWN).
2. Morck et al. (1990) argue that the inclusion of small transactions can bias the measurement of performance. Therefore, we only include those mergers whose absolute transaction value (Item VAL) is at least US$ 50 million (Item VAL). This is in line with Harford (2005) who also excludes small mergers.
3. The acquirer and the target firm are *both* US corporations and the acquirer must be listed on a US stock exchange. We exclude international (Item MATYPE IMA) and overseas mergers (Item MATYPE OMA).

[6] Transactions have to be completed by December 31st, 2003 as we require accounting data for at least three years following the year of the completion.

4. We exclude mergers involving banks or insurance companies as their accounting figures (e.g. cash flow) are not directly comparable to those of firms from other industries.
5. For the firms to be included in our final sample stock price and accounting data must be available in CRSP (Center for Research in Security Prices) or alternatively in COMPUSTAT for the three years before and after the merger. Furthermore, information on the method of payment of the acquirer must be available from the SDC database.
6. All acquisitions must have IBES Earnings Consensus data for the pre- and post-acquisition period.
7. All acquisitions must have a value for the Gompers et al. (2003) index which measures shareholder rights restrictions.

This selection process results in a final sample of 927 acquisitions.

3.2 Measurement of the bidder's accounting performance

In line with Healey et al. (1992) and Ghosh (2001), we measure accounting performance by the ratio of operating cash flow to the book value of assets. The operating cash flow is defined as sales (CRSP Item 12) minus the cost of goods sold (Item 41) minus selling and administrative expenses (Item 189) plus depreciation and goodwill amortization expenses (Item 196). The operating cash flow is then divided by the book value of assets measured at the end of the previous year. We scale operating cash flow by the book value of total assets (Item 6) rather than the market value of assets in the post-acquisition period as the latter would bias the ratio downwards (see Agrawal et al. (1992) and Ghosh (2001)).[7]

[7] Using the market value of assets as the denominator would lead to an increase in the cash flow ratio – even in the absence of any change in cash flow – given the observed decrease in market value during the three to five years following the acquisition (see Agrawal et al. (1992)). However, in turn, using the book value rather than the market value may create another potential bias. Indeed, firms have a choice between the purchase and pooling of interests

We compare the pre- and post-acquisition performance of the acquirer with the performance of two different portfolios of matched firms. The procedure closely follows Barber and Lyon (1996) who also use the portfolio approach and to a lesser extent Ghosh (2001) who uses the matched firm approach. The first portfolio consists of all the firms with the *same* two-digit SIC code as the acquirer and of a similar size (same quintile of book value of total assets for the last available year before the merger announcement as the acquirer) and pre-event performance (same quintile of operating cash flow ratio (return on assets) for the last available year before the merger announcement as the acquirer). The second portfolio of matched firms consists of all the firms with a *different* two-digit SIC code than that of the acquirer, but of a similar size (same quintile of book value of total assets for the last year available before the merger announcement as the acquirer) and pre-event performance (same quintile of operating cash flow ratio (return on assets) for the last year available before the merger announcement as the acquirer).

Importantly, both of our peer groups or portfolios are matched by performance. Indeed, Barber and Lyon (1996) show that when the sample firms experience above-average pre-event performance, it is important to match the peer firms by pre-event performance. This is likely to be an issue for our sample. Indeed, the studies in Table 2 suggest that there is a clear trend in accounting performance across the period before the acquisition and the period following the acquisition. Table 3 investigates this issue in detail. The table reports the mean and median cash flow ratios for the bidders for each of the three years before and after the acquisition. Furthermore, the table also reports the mean and median differences between each bidder's cash flow ratio and that for the portfolio of industry peers (the industry-matched portfolio). Finally, we

method to account for their acquisitions. While the former method results in reporting the fair value of the acquisition in the bidder's accounts (and amortizing this value over time), the latter consists of reporting the net book value of the acquisition. Hence, an acquirer would end up with a very different book value of assets depending on what method it would be using to account for the acquisition. However, Hopkins et al. (2000) report that most firms go to great length to avoid the pooling method. Hence, we feel that the bias from using the book value of assets is likely to be much smaller compared to that from using the market value.

also compute the mean and median for the equivalent difference based on the portfolio of non-industry peers (the size-matched portfolio). The table shows that there is a drop in the cash flow ratio after the merger. This is the case for all three measures. Our results are similar to those of Ravenscraft and Scherer (1989) and those of Dickerson et al. (1997) who find a similar drop in industry-adjusted performance of about 2%. The industry as well as the non-industry adjusted performance is significantly negative in all the years subsequent to the completion of the merger, but significantly positive in most of the years in the pre-merger period. These patterns suggest that it is important to select the peer firms by matching them by pre-event performance with the sample firms.

[Insert Table 3 about here]

3.3 Measurement of the bidder's stock returns at the announcement

We measure the short-term abnormal stock price performance of the acquirer by calculating the cumulative abnormal returns (CARs) based on the event study methodology. The tables in the paper are based on the [-10;+10] and [-2;+2] windows with day 0 being the announcement day of the acquisition. In addition, we have checked the robustness of our results using various other window lengths. The daily abnormal returns are defined as follows:

$$AR_{i,t} = R_{i,t} - \left[\alpha_i + \beta_i R_{m,t}\right]$$

where $R_{i,t}$ and $R_{m,t}$ denote the return on stock i and the market, respectively, on day t. The parameters α_i and β_i are the intercept and slope estimates, respectively, obtained from the market-model regression. The estimation window for this regression is based on the 255 trading days preceding day -41. The CRSP value-weighted performance index, which is a broad index, is used as the proxy for the market portfolio.

We measure the average cross-sectional cumulative abnormal returns as follows:

$$CAR_{\tau,T} = \sum_{t=\tau}^{T}\left[\frac{1}{n}\sum_{i=1}^{n} AR_{i,t}\right]$$

where τ is the first day of the window (e.g. day -10), T is the last day of the window (e.g. day +10) and n is the number of acquisitions.

3.4 Methodologies and factors used to predict the occurrence of each the four types of acquisitions

As previously stated, the main aim of this paper is to test whether the factors advanced by the theories reviewed in the previous section are able to explain the occurrence of the four different combinations of abnormal stock returns and accounting performance (see Figure 1) which we have labeled Type I, Type II, Type III and Type IV acquisitions. We apply two different sets of tests. We start with basic univariate tests. First, based on the signs of the CARs and abnormal accounting performance (measured by the difference between the average ratio of non-industry adjusted operating cash flow to the book value of assets and the equivalent average for the three years preceding announcement year), we categorize each acquisition according to the four types as specified in Figure 1. Second, we then investigate whether each type can be explained by the motives suggested in Section 2.

As hypothesized in Section 2, Type I acquisitions, i.e. those characterized by positive CARs and positive abnormal accounting performance, are driven by synergies. Similar to Brous and Kini (1993) and Sudarsanam et al. (2002), we argue that earnings forecasts and their revision shortly after the takeover announcement provide information on the increase in the bidder's value due to the acquisition. We expect a positive revision of earnings forecasts in the month following the

acquisition for bidders in Type I acquisitions, reflecting the creation of future synergies. In detail, the variable "analysts' revision mean (median)" is defined as the ratio of the difference between the earnings consensus mean (median) post-acquisition and the consensus mean (median) pre-acquisition divided by the consensus mean (median) pre-acquisition. Earnings forecasts are for the year following the year of the acquisition announcement. The pre-acquisition period is the quarter preceding the quarter with the acquisition announcement and the post-acquisition period is the quarter following the announcement. We also use an alternative variable, a dummy variable which is set to one if a majority of the financial analysts that follow the bidder make an upward revision in the quarter following the announcement of the acquisition. We also expect Type I bidders to have relatively low valuations reflecting the need for exploiting synergies and to use relatively less stock and more cash to pay for the target. Furthermore, we expect the industries of the target and bidder to be relatively close to each other. Industry closeness is measured by a categorical variable. The variable equals zero if both industries have a different first digit for their SIC code, one if they both have the same first digit for their SIC code, three if the two first digits of their SIC codes are the same and four if the four-digit SIC codes are identical. Finally, we expect that a spillover of governance standards between the bidding and target firm may lead to positive CARs and positive abnormal accounting performance. This phenomenon is empirically documented in domestic US mergers and acquisitions by Wang and Xie (2009) who show that takeovers of companies with a low corporate governance quality by acquirers with a good governance quality lead to higher gains .. Hence, we are looking at the CG index value of the target and expect it to be higher for Type I acquisitions.

Type II acquisitions are those acquisitions that are characterized by positive acquirer CARs and negative abnormal accounting performance. As hypothesized in Section 2, these acquisitions are motivated by the desire to preempt competitors in the same industry from acquiring the target,

thereby avoiding the negative externalities from being an outsider to the acquisition (Fridolfsson and Stennek (2005)). We expect that Type II acquisitions are characterized by a negative industry announcement effect reflecting the negative externalities to the industry (i.e. to the outsiders to the merger). The industry announcement effect is defined as the median abnormal return of the acquirer's industry over the event window (we employ a range of different window lengths) centered on the announcement day of the acquisition. The industry classification is based on the two-digit SIC codes.

Type III acquisitions have negative abnormal stock returns, but positive abnormal accounting performance. According to Shleifer and Vishny (2003), these acquisitions are made by bidders who believe that their stock is overvalued and intend to soften the future decrease in their stock price by taking over other firms, paying for the acquisitions with their overvalued stock and by benefiting from the creation of synergies (hence the improvement in accounting performance). We expect that bidders in Type III acquisitions have a high Tobin's Q, a low book-to-market ratio, a high price-earnings ratio and use mainly stock to pay for the target.

Finally, Type IV acquisitions are those generating negative CARs and negative abnormal accounting performance. These are the acquisitions that are predicted to be made by bidders with weak corporate governance. In other words, these are the acquisitions that destroy rather than create shareholder value. We use the corporate governance index from Gompers et al. (2003) to measure the quality of governance of the bidder. The index, which has a possible range of 0 to 24, is incremented by one for the presence of each of 24 possible provisions that restrict shareholder rights. These provisions give the management power to act in their own interest rather than maximizing shareholder value. Such provisions make it more difficult for shareholders to sue or replace a director, to call an extraordinary shareholder meeting etc. (see Gompers et al., p.8). As an alternative, we use the Dictatorship Index, which is set to the actual

value for the corporate governance index for acquirers with an index value of at least 14, and set to zero otherwise. Gompers et al. (2003) refer to these firms as management dictatorships: these are firms whose managers have virtually uncontested power and shareholders face strong restrictions in terms of contesting the decisions of the former and replacing them. Finally, we use the Bebchuk et al. (2009) Entrenchment Index as a further alternative. The index is incremented by one for each of four possible provisions (the so called 'constitutional provisions') that limit shareholder voting power and two possible provisions that prevent hostile takeovers (the so called 'takeover readiness'). The index is measured for all firms without dual-class stock followed by the Investor Responsibility Research Center (IRRC). While the general Gompers et al. index reflects a multitude of corporate governance issues, we expect that the Dictatorship Index and the Entrenchment Index are much better at measuring the corporate governance provisions that may lead to the motive behind Type IV acquisitions, i.e. empire building. We also expect that some of the Type IV acquisitions to be conglomerate mergers, i.e. mergers between firms that operate in industries that are not close to each to other. Hence, we expect our measure of industry closeness to be significantly lower than for the sample as a whole.

In addition to the univariate tests, we also run binomial logistic regressions (logits) to predict, based on the above explanatory variables, the probability of a given acquisition to be within one of the four types as defined in Figure I.

The definitions for all the variables used in this study are reported in Table 4 and the correlation matrix for all the independent variables can be found in Table A.1 in the Appendix.

[Insert Table 4 about here]

4. Empirical results

The aim of the empirical section is to test whether each of the four types of acquisitions which can have very different outcomes in terms of abnormal stock returns and accounting performance can be explained by the distinct motives underlying each type. As stated in the introduction, the focus of the analysis is on explaining these often *a priori* contradictory outcomes and not on the motives themselves. The section starts with a univariate analysis and then moves onto a more involved multivariate analysis based on logistic regressions to test whether the motives advanced in Section 2 to explain each the four types of acquisitions are indeed valid.

4.1 Univariate analysis

In the tables that follow we focus on the non-industry adjusted operating cash flow when measuring accounting performance. In detail, the accounting performance of each bidder is adjusted by its peer group's performance. The peer group consists of all the firms with a *different* two-digit SIC code than the acquirer, but of a similar size and pre-event performance. Accounting performance is measured as the difference between the bidder's average accounting performance across the three years following the year of the announcement and the average accounting performance across the three years preceding that year minus the corresponding difference for the matched portfolio. In other words, accounting performance measures the possible improvement in performance from the three-year period before the acquisition to the three-year period after the acquisition, adjusting for the equivalent improvement in performance for the peer group.

Table 5 and Table 6 report the descriptive statistics for the four types of acquisitions as well as the whole sample based on the CARs measured over the [-2;+2] window and the [-10;+10] window, respectively. Table 5 shows that Type I acquisitions are paid for mainly by cash as the average and median percentages of cash payment are about 59% and 87%, respectively. Both

percentages are significantly higher, at the 10% and 1% level, respectively, than the sample mean and median. In line with this observation, the average percentage of stock payment and the proportion of acquisitions paid for mainly by stock are significantly lower than the equivalent figures for the whole sample. Further, all of the averages for the valuation ratios, except for the price-earnings ratio (PE ratio), suggest that bidders involved in Type I acquisitions have significantly lower valuations. This is the case for the unadjusted valuation ratios as well as those adjusted by the industry or market median. Additional support for this pattern is provided by the median book-to-market ratio (BtM) and the median market-adjusted book-to-market ratio. As expected, analysts revise the earnings forecasts for the year following the takeover announcement they made in the month preceding the earnings forecast significantly upwards in the quarter following the takeover announcement. Both the mean and median revisions are significantly higher at the 1% level than the equivalent sample statistics. Further, there are significantly more upward than downward revisions (at the 1% level of confidence) by financial analysts for Type I acquisitions compared to the whole sample. Type I acquisitions are also characterized by a closer relationship between the industries of the bidder and the target. In addition, Type I acquisitions generate highly significant and positive industry announcement effects. Finally, the targets of Type I acquisitions have weaker corporate governance as measured by the Gompers et al. (2003) index (the higher the index value, the higher is the number of shareholder-right restrictions) than the average target. To summarize, Type I acquisitions are conducted by bidders with low valuations and few investment opportunities. They generate upward revisions of analysts' forecasts as well as positive industry announcement effects. In addition, the targets' quality of corporate governance is below average. The empirical evidence so far strongly supports our hypothesis that Type I acquisitions are conducted in order to generate synergies. This motive is in line with the use of mainly cash as a means of payment for the targets, the below-average

valuation and growth opportunities of the bidders, the positive industry announcement effect and the weak corporate governance of the targets. In other words, Type I synergies seem to be driven by synergies including those relating to the improvement of the governance of the targets. Table 6 which categorizes acquisitions into four types based on the longer window of [-10;+10] for the CARs finds similar patterns.

[Insert Table 5 about here]

[Insert Table 6 about here]

Type II acquisitions are the first type characterized by a difference in signs between the abnormal stock return (which is positive) and the abnormal accounting performance (which is negative). In Section 2, we argued that this type is driven by preemption. Table 5 shows that this type, similar to Type I, is characterized by a higher median percentage of cash payment, a lower average percentage of stock payment and to a lesser extent undervaluation as measured by the significantly higher raw and market-adjusted BtM. Type II acquisitions also exhibit significantly more downward than upward revisions compared to the sample as a whole. Finally, as hypothesized, Type II acquisitions generate significantly negative average industry announcement effects giving further support to the preemption motive. Table 6 finds similar patterns in terms of the higher use of cash as a payment, the relative number of analysts' downward revisions and the negative industry announcement return.

Type III acquisitions have negative abnormal stock returns, but positive abnormal accounting performance. In line with the overvaluation motive, the main characteristic of Type III acquisitions that emerges from both Table 5 and Table 6 is that they have relatively high valuations. All of the various valuation ratios have at least one of the two statistics – the average and/or median – which is significantly different from the equivalent sample statistic. The

overvaluation of the bidder is also in line with the significantly higher (lower) use of stock (cash) payment. In Table 5, the average analysts' revision mean and median are significantly lower than the equivalent statistics for the whole sample. However, the median values are significantly higher than the equivalent sample statistics. Conversely, the Type III averages for the analysts' revisions are no longer significantly different from the sample means in Table 6 whereas the medians remain significantly higher (at the 5% level).

Finally, Type IV acquisitions use significantly less cash payment (the median percentage of cash payment is significant in both Table 5 and Table 6) than the sample as a whole. They also have significantly higher median raw and adjusted Tobin's Q ratios. However, the overvaluation is less extreme than for Type III acquisitions and is only suggested by the Tobin's Q ratios, but not any of the other valuation ratios. Further, the averages for the analysts' revision mean and medians are significantly lower. Similar to Type II acquisitions and in line with the negative abnormal accounting performance after the acquisition, there are significantly more downward than upward revisions by financial analysts for Type IV acquisitions (at the 5% level). The median industry announcement effect is significantly negative. Finally, Table 6 also suggests that bidders in Type IV acquisitions have significantly worse corporate governance as measured by Bebchuk et al.'s (2009) entrenchment index. The average index value is significantly different from the equivalent sample statistic at the 5% level of confidence. To summarize, there is evidence of weaker corporate governance for Type IV bidders as compared to bidders undertaking any of the other three types of acquisitions which is in line with our hypothesis.

Crucially, a characteristic of Type IV acquisitions is that, similar to (but to a lesser extent than) Type III acquisitions, bidders have higher median valuations than the sample as a whole. This then leads us back to the assumption we made when justifying Type III acquisitions in Section 2: we assumed that Type III acquirers act in the interests of their existing shareholders when

financing their acquisitions with their overvalued stock. Clearly both Type III and Type IV acquirers are overvalued. So, do Type III bidders have better corporate governance than Type IV bidders? The figures from Table 5 and Table 6 suggest that this is indeed the case. Both the Dictatorship Index and the Entrenchment Index are significantly lower for Type III bidders, suggesting significantly better corporate governance, compared to Type IV bidders (not reported in a table). In detail, the Dictatorship Index is significantly lower for Type III than for Type IV at the 1% (10%) level of significance in Table 5 (Table 6). The Entrenchment Index is also significantly lower at the 10% (1%) level of significance in Table 5 (Table 6). Hence, while (some) of the Type IV acquisitions are also carried out for the same overvaluation motive as Type III acquisitions, there is a clear distinction between both types of bidders. Type III acquirers have better corporate governance than Type IV acquirers. Finally, as expected some of the Type IV acquisitions are conglomerate mergers as evidenced by the significantly lower industry closeness (Table 6).

4.2 Multivariate tests

Tables 7 to 10 report the results for the binomial regressions. Each table refers to the logistic regressions predicting a particular type of acquisition and presents first the regressions based on the acquisition type classification using the [-2;+2] window for the CARs and then those based on the [-10;+10] window. The dependent variable is equal to one for acquisitions of the type under consideration, and set to zero otherwise. Each set of regressions contains only those factors that have been identified in Section 2 as the main drivers for that particular type of acquisition. For example, for Type II (the preemptive acquisitions) this is the industry announcement effect whereas for Type III (the overvaluation motive) it is company valuation. In turn, each regression in a given set contains an alternative proxy for the key factor if more than one proxy is available. For example, Model 9 and Model 10 which are part of the set of regressions for Type III contain

the logarithm of the market-adjusted Tobin's Q and the industry-adjusted Tobin's Q, respectively. Although as a robustness check we later on include all the variables at once in the logistic regressions, at this stage we feel that it is advisable to include only the key variables to avoid problems of multicollinearity. Indeed, Aguilera, Escabias and Valderrama (2006), Hosmer and Lemeshow (1989) and Ryan (1997), among others, argue that contrary to OLS regressions logistic regressions become highly unstable when there is strong multicollinearity.

Table 7 suggests that Type I acquisitions are indeed driven by synergies. In line with our hypothesis, an acquisition is more likely to be of Type I if its announcement generates more upward than downward revisions by financial analysts (Model 1) and the analysts' revision mean (Model 2) and median (Model 3) are positive. The coefficients on all three variables are significantly different from zero at the 1% level. To sum up, there is strong evidence that those acquisitions with analyst upward revisions for the target in the month following the announcement of the acquisition are more likely to be Type I acquisitions. Similar to what the univariate tests suggest, acquisitions involving a majority of cash payment and a minority of stock payment are also more likely to be of Type I. Furthermore, an acquisition is also more likely to be of Type I if the industries of the acquirer and bidder are closer to each other as measured by the closeness of their SIC codes (Model 4). Finally, the logistic regressions corroborate the univariate findings that the weaker the corporate governance of the target firm the higher will be the synergies from the acquisition. The coefficient on the variable CG Target is significantly different from zero at the 1% level (Model 5).

The results based on the CARs for the longer window of [-10;+10] in order to typify the acquisitions largely confirm the above patterns. Again, acquisitions have a higher probability of being of Type I if the target's mean (Model 2) and median earnings forecast (Model 3) are revised upward in the month following the announcement of the acquisition.

[Insert Table 7 about here]

As hypothesized, Table 8 shows that acquisitions are more likely to be of Type II, i.e. motivated by preemption, if they are accompanied by a negative industry announcement effect (Model 6). The results are qualitatively identical for both sets of regressions.

[Insert Table 8 about here]

Type III acquisitions are those motivated by the overvaluation of the bidder's stock. We expect that these acquisitions are associated with a majority of stock payment and high valuation ratios. Models 7 to 12 in Table 9 show that this is indeed the case. Starting with the regressions based on the CARs for the shorter window of [-2;+2], Model 7 suggests that acquisitions using a majority of stock payment are more likely to be of Type III, i.e. are more likely to be characterized by a positive abnormal stock return and negative abnormal accounting performance. In line with this pattern, Model 8 shows that acquisitions involving a majority of cash payment are less likely to be of Type III. Models 9 to 12 contain each a different valuation ratio: the logarithm of the market-adjusted Tobin's Q ratio, the logarithm of the industry-adjusted Tobin's Q ratio, the logarithm of the market-adjusted BtM ratio and the price-earnings ratio. Except for the latter which is not significant, each of the different valuation ratios suggests that acquirers with higher valuations are more likely to carry out Type III acquisitions. In line with the results from the regressions based on the CARs for the shorter window, an acquisition is more (less) likely to be of Type III if it is mainly paid for with stock and less likely if it is mainly paid for with cash (Models 7 and 8). Finally, it is more likely to be of Type III if it has a lower BtM ratio (Model 11). All these results provide strong support for our hypothesis that Type III acquisitions can be explained by the overvaluation of the bidder's stock.

[Insert Table 9 about here]

Type IV acquisitions are those driven by the weak corporate governance of the bidder and are value-destroying transactions characterized by both negative abnormal stock returns and accounting performance. Table 10 shows that, similar to the univariate tests, the corporate governance index (Model 14) is not significant whereas the Dictatorship Index (Model 13) is significantly positive. These results suggest that acquirers whose managers have virtually uncontested power are more likely to engage in Type IV acquisitions. In line with these results, bidders with a higher value for the Bebchuk et al. (2009) Entrenchment Index (Models 15 and 16) are more likely to engage in Type IV acquisitions (the coefficient is significant at the 10% level of significance). Finally, also in line with our expectations, targets experiencing negative analyst revisions in the month following the announcement are more likely to be involved in Type IV acquisitions. Again, the results are upheld when the acquisitions are classified into types based on the [-10;+10] window and tend to be even more significant.

[Insert Table 10 about here]

To sum up, Tables 7 to 10 provide strong evidence that the various types of acquisitions, characterized by particular combinations of positive or negative excess stock returns and accounting performance, are driven by very distinct motives. Hence, rather than being caused by differences in perspectives and/or measurement errors, the *a priori* conflicting combinations of stock returns and accounting performance (for Types II and III) can be rationalized by the particular motives underlying these acquisitions.

4.3 Robustness checks

To check the robustness of our results, we recalculate the CARs using market-adjusted rather than the returns from the market model. Market adjustment has two advantages, both of which are related to the fact that an estimation window prior to the event window is not required. The

first advantage is that there is no potential contamination of the estimation window such as via the occurrence of other acquisition announcements. The second advantage is that the potential problem of infrequent or thin trading during the estimation window, and the resulting bias in the estimated beta, are no longer an issue. However, the results from the index adjustment are very similar to those obtained from using the market model adjustment and they are not reported in tabular form.

We also checked whether clustering, i.e. multiple acquisitions carried out by the same bidder, affect our result. Indeed, some types of acquisitions are more likely to appear in clusters than others. For example, this may be the case of Type IV acquisitions as a single bidder pursuing an empire building strategy may buy up a series of targets within fairly quick succession. Type II acquisitions (preemption) are also more likely to be clustered as one firm may preempt its rivals from acquiring a whole series of potential targets with a short amount of time. We removed acquisitions made by the same acquirer within the estimation period and the event period. Our earlier results were upheld.

Further, we investigate whether the targets in Type III acquisitions are undervalued relative to their acquirers (the regressions are not reported in tabular form). In other words, it may very well be the case that Type III acquisitions are carried out by bidders that are overvalued in relative rather than absolute terms. By allowing for bidders to be overvalued relative to their targets, we do not only cover bidders that are overvalued in absolute terms, but we also cover those that acquire *undervalued* targets. We measure relative overvaluation of the bidder (relative undervaluation of the target) as the industry-adjusted Q or BtM ratio of the target relative to the industry-adjusted Q or BtM ratio of the acquirer. We find that on average Type III bidders have significantly higher valuations than their targets. This result is in line with Ang and Cheng (2006). Their empirical test of the Shleifer and Vishny (2003) model shows that overvalued

bidders manage to dampen their future share price decline as long as they are more overvalued than their targets.

We also investigate whether the targets in Type IV acquisitions are overvalued relative to the acquirers (the regressions are not reported in a table). Our empirical findings show that the valuation of Type IV bidders compared to their targets is lower; the coefficient on the undervaluation proxy just falls short of being significant at the 10% level. This provides additional support for our hypothesis that Type IV acquisitions are driven by agency considerations.

While the binomial logit regressions in Tables 7 to 10 contain only those factors that are expected to drive each particular type of acquisition, some may accuse this method of amounting to data snooping or being subject to confirmatory bias.[8] Hence, as a robustness check, for each type of acquisition we also run logits that include all the explanatory variables at once. For each type of acquisition, the dependent variable is defined in the same way as in the corresponding regression(s) in Tables 7 to 10. As in the previous binomial logits, the dependent variable takes on the value of one if a particular acquisition is characterized by the combination of abnormal stock returns and accounting performance under consideration (the so-called type) and is set to zero otherwise. Some of these regressions are reported in Tables 11 and 12. The former table classifies acquisitions into the four types based on CARs for the [-2;+2] window whereas the latter table is based on the [-10;+10] window.

[Insert Table 11 about here]

[Insert Table 12 about here]

[8] While this alternative methodology deals with the potential issue of data snooping, it also has a potentially non-negligible shortcoming. Indeed, as logits are fairly sensitive to multicollinearity compared to OLS regressions (see Aguilera, Escabias and Valderrama (2006)), the introduction of additional variables may cause more harm than good.

The regressions reported in Tables 11 and 12, as well as those not reported, largely confirm the results from Tables 7 to 10. Indeed, an acquisition is more likely to be of Type I, if there is a positive analyst revision of the bidder's earnings in the month following the announcement. The synergies motive behind Type I acquisitions also fits with the significantly negative coefficient on the majority stock payment dummy. The significantly positive coefficient on the industry announcement effect also makes sense as it may signal further consolidation and potential for synergies within the industry. Similar to the previous tables, those acquisitions with negative industry announcement effects are more likely to be of Type II. As previously observed, the coefficient on the industry announcement effect is significantly negative in the regression based on the [-2;+2] window and in that based on the [-10;+10] window. The logit regression for Type III acquisitions in Table 11 confirms the previous results suggesting that these acquisitions are driven by the overvaluation of the bidder's stock. Indeed, the coefficient on the logarithm of the BtM ratio is significantly negative, suggesting that highly valued bidders are more likely to engage in Type III acquisitions. The significantly positive coefficient on the majority stock payment dummy provides further support for the overvaluation motive behind Type III acquisitions. Finally, also in line with our previous results, an acquisition is more likely to be of Type IV if the bidder suffers from bad corporate governance. The significantly negative coefficient on the analysts' revision mean fits with the reduction in the corporate governance quality that the target will be subject to. While previously there was evidence of overvaluation for Type IV bidders, albeit not to the same extent as for Type III bidders, there is no longer evidence of such overvaluation in the logit regressions in Tables 11 and 12. The same type of comment applies to industry closeness which no longer explains the likelihood of Type I acquisitions.

To sum up Tables 11 and 12, the inclusion in the regressions of all the key variables for the four types of acquisitions brings about similar results to those obtained from the regressions including

only the variables expected to be relevant to the particular type of acquisition under consideration.

While Type I, II and III acquisitions are not affected by agency problems, the main motivation for Type IV acquisitions is agency problems between the management of the acquirer and its shareholders. Hence, the first three types are clearly not independent. We account for this dependence by estimating a nested logit. The nested logit model relaxes the key assumption of binary logit models of the independence of irrelevant alternatives (Manski and McFadden 1981). Acquisitions are classed into two groups: Group I with the acquisitions not affected by agency problems (Types I-III) and Group II with those affected by agency problems (Type IV). At the top of the tree for the nested logit, the dictatorship index captures how strong acquisitions might be affected by agency problems. At the bottom of the tree, we investigate the different motivations for the various merger types within Group I by using the same explanatory variables as in the logit models in Tables 11 and 12. The untabulated results for the first stage of our nested logit model exhibit a significantly positive coefficient (at the 5% level both for the [-2;+2] window and the [-10;+10] window) on the dictatorship index. This suggests that firms with a higher dictatorship index are more likely to engage in Type IV acquisitions. The results for the bottom of the tree for the nested logit model (with Type IV acquisitions as the base case) are qualitatively similar to those of the binary logit models reported in Tables 11 and 12. In particular, our results that Type I acquisitions are driven by synergies (measured by the acquirer's average analysts' earnings revision) are confirmed. Furthermore, there is also confirmation of our earlier results that acquisitions are more likely to be of Type II (motivated by preemption) if they are accompanied by a negative industry announcement effect. Finally as previously found, acquisitions are more likely to be of Type III if the bidder's stock is relatively overvalued (measured by the acquirer's book to market ratio).

Finally, some types of acquisitions are more likely to occur during certain periods and/or within certain industries. A strong candidate for clustering across time and industry are Type III acquisitions which are driven by the overvaluation of the bidder. Other possible candidates are synergistic acquisitions (Type I) and preemptive acquisitions (Type II).[9] We reran the regressions from Tables 7 and 8 by including a) industry and time dummies and b) including the former as well as interaction terms between the two. The results from these regressions confirm our previous results.

5. Conclusion

Studies measuring the gains from acquisitions tend to find contradictory results depending on the methodology they use. Indeed, whereas studies using event-study methodology find slightly positive combined cumulative abnormal returns (CARs), those using accounting performance report earnings losses after the acquisition. While the two types of studies disagree as to the average *overall* gains from acquisitions, they also typically disagree as to the wealth effects generated by *individual* acquisitions. Hence, for individual acquisitions it is feasible to observe one of the four possible combinations between positive or negative CARs and excess accounting performance. In particular, we distinguish between Type I (positive CARs and positive abnormal accounting performance), Type II (positive CARs and negative abnormal accounting performance), Type III (negative CARs and positive abnormal accounting performance) and Type IV (negative CARs and abnormal accounting performance) acquisitions. This paper attempts to explain the occurrence of each type by a particular motive advanced by theory.

In detail, we hypothesize that Type I acquisitions are motivated by the exploitation of synergies, whereas Type II, Type III and Type IV acquisitions are motivated by preemption (Fridolfsson and Stennek (2005)), the overvaluation of the bidder's stock and market timing (Shleifer and

[9] See e.g. Mitchell and Mulherin (1996) for the link between merger waves and industry shocks.

Vishny (2003)) and bad corporate governance, respectively. Based on a sample of more than 900 US acquisitions during 1989 and 2003, we find strong evidence that each of the four different types of performance can be explained by a distinct motive. This paper has therefore important implications for studies investigating the gains from acquisitions accruing to the bidders. Indeed, it suggests that it is crucial to take into account the motive behind each acquisition when measuring the wealth gains for the bidders. In other words, failing to adjust correctly for the motives behind an acquisition may lead to contradictory conclusions as to its gains and these will depend on the measure of performance used. Acquisitions carried for the motives of preempting rivals and benefiting from overvalued stock are such prime candidates.

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Figure 1: Possible outcomes of stock and accounting performance following acquisitions

		Accounting profitability	
		+	–
Stock returns	+	Type I – Synergies	Type II – Preemption
	–	Type III – Overvaluation	Type IV – Agency problems

Table 1: Summary of previous event studies on the wealth effects of M&As

This table shows the event studies that estimate shareholder wealth effects of mergers in the short and long run. Panel A shows the average cumulative abnormal returns (CARs) for the shareholders of the acquirer, the target and the combined firm from the short-run event studies. Panel B exhibits the CARs to acquirers found by the long-run event studies. ** and * stand for significance at the 5% level or better and significance at the 10% level, respectively.

Panel A: Short run event studies

Study	Sample Size	Sample Period	Event window	Acquirer CARs	Target CARs	Combined CARs
Asquith et al. (1987)	343	1973 – 83	(−1,±0)	−0.85%**	–	–
Varaiya & Ferris (1987)	96	1974 – 83	(−1,±0)	−2.15%**	–	–
Bradley et al. (1988)	236	1963−84	(−5,+5)	+1%**	+31.77%**	+7.43%**
Lang et al. (1989)	87	1968 − 86	(−5,+5)	+0.00%	+40.30%**	+11.30%**
Servaes (1991)	704	1972−87	(−1,close)	−1.07%**	+23.64%	+3.66%
Byrd & Hickman (1992)	128	1980 − 87	(−1,±0)	−1.2%**	–	–
Healy et al. (1992)	50	1979 − 84	(−5,+5)	−2.20%	+45.60%**	+9.10%**
Kaplan & Weisbach (1992)	209	1971 − 82	(−5,+5)	−1.49%**	+3.74%**	+3.74%**
Smith & Kim (1994)	177	1980 − 86	(−5,+5)	+0.50%	+30.19%**	+8.88%**
			(−1,±0)	−0.23%	+15.84%**	+3.79%**
Mulherin & Boone (2000)	281	1990 − 99	(−1,+1)	−0.37%	+21.2%**	+3.56%**
Andrade et al. (2001)	3,688	1973 − 98	(−1,+1)	−0.70%	+16.00%**	+1.80%**
			(−20, close)	−3.80%	+23.80%**	+1.90%

Panel B: Long run event studies (Long term returns to acquirers)

Study	Sample Size	Sample Period	Event window	CARs (mergers)	CARs (tender offers)	CAR (combined)
Loughran and Vijh. (1997)	534	1970 – 89	(1,1250 days)	−14.2%**	+61.3%**	0.1%
Rau and Vermaelen (1998)	4,316	1980−91	(0,36)	−4%**	+9%**	–
Mitchell and Stafford (2000)	2,068	1961−1993	(0,36)	−1%	–	–

Table 2: Summary of previous accounting studies on the wealth effects of M&As

This table shows the studies that estimate shareholder wealth effects of mergers via accounting studies. We show the average abnormal cash flow returns of the combined firms using the particular cash flow measure. ** and * stand for significance at the 5% level or better and significance at the 10% level, respectively.

Study	Dataset and performance measure used	Results
Ravenscraft & Scherer (1989)	471 transactions between 1950 and 1970, the ratio of operating income to total assets	−2.00%**
Healy et al. (1992)	50 largest US mergers between 1979 and 1984, the ratio of industry-adjusted operating cash flows to total assets	+2.8%**
Dickerson et al. (1997)	613 transactions between 1948 and 1977, return on assets	−2.00%
Ghosh (2001)	315 transactions between 1981 and 1995, the ratio of industry-adjusted cash flows to total assets	+0.66%
Ramaswamy and Waegelein (2003)	162 transactions between. 1975 and 1990, the ratio of industry-adjusted operating cash flows to total assets	+0.127 for whole sample. Significantly positive between 1975 and 1982. Thereafter, insignificant

Table 3: Pre- and post-merger cash flow ratio

This table presents the acquirer's mean and median operating cash flow ratio for the whole sample. The cash flow is defined as sales (CRSP Item 12) minus the cost of goods sold (Item 41) minus selling and administrative expenses (Item 189) plus depreciation and goodwill (Item 196).Total assets are measured at the end of the fiscal year preceding the merger. The table displays the mean and median values for each of the three years before and after the merger. Columns two and three show the acquirer's raw cash flow return. Columns four to seven display the abnormal cash flow returns of the merging firms compared to the industry peer group and the non-industry peer group, respectively. *** and ** stand for statistical significance at the 1% and 5% level, respectively, for the two-tailed test that the return is different from zero.

	Cash flow return		Abnormal cash flow return (industry peer group)		Abnormal cash flow return (non-industry peer group)	
Year relative to transaction	Mean	Median	Mean	Median	Mean	Median
-3	42.10%***	40.27%***	1.40%**	0.35%***	0.91%**	-0.02%
-2	41.80%***	41.65%***	0.79%**	0.68%**	0.55%	-0.37%
-1	40.90%***	39.57%***	0.11%	-0.23%	-0.38%	-0.68%***
1	36.53%***	34.73%***	-3.50%***	-3.30%***	-5.08%***	-4.72%***
2	36.05%***	34.15%***	-4.76%***	-3.92%***	-5.90%***	-5.35%***
3	36.39%***	34.24%***	-4.72%***	-3.91%***	-5.97%***	-5.72%***

Table 4: Definition of the variables

This table contains the definitions of all the variables used in this study, except for the abnormal accounting performance and the abnormal stock returns which are defined in Section 2.2 and Section 2.3, respectively. Financial data are obtained from COMPUSTAT, data on analyst forecasts are from IBES and stock price data are from CRSP.

Variable	Description
% Cash Payment	The share of cash expressed as a percentage of the total payment for the acquisition
% Other Payment	The share of other payment methods (Percentage of consideration paid in other then cash or stock: Total value minus value paid in cash and stock divided by total value; consideration sought: All types of consideration sought by the acquirer: common or ordinary shares (for public targets), options, convertible preferred shares, assets, stock (for private targets)) expressed as a percentage of the total payment for the acquisition
% Stock Payment	The share of stock expressed as a percentage of the total acquisition payment for the acquisition
Analysts' Revision Dummy	This a dummy variable set to one if the number of analysts making an upward revision in the quarter following the announcement of the acquisition is larger than the number of analysts making a downward revision. All forecasts are for the acquiring firm in the financial year following the year of the acquisition announcement
Analysts' Revision Median	The median of the ratio of (IBES Earnings Consensus Mean Post-Acquisition / closing price of the first trading day in the month of the forecast – IBES Consensus Mean Pre/ closing price of the first trading day in the month of the forecast) to IBES Consensus Mean Pre-Acquisition / closing price of the first trading day in the month of the forecast. The pre-acquisition period is defined as the quarter preceding the quarter with the announcement day and the post-acquisition period is quarter following the announcement. All forecasts are for the acquiring firm in the financial year following the year of the acquisition announcement
Analysts' Revision Mean	The mean of the ratio of (IBES Earnings Consensus Mean Post-Acquisition / closing price of the first trading day in the month of the forecast – IBES Consensus Mean Pre / closing price of the first trading day in the month of the forecast) to IBES Consensus Mean Pre-Acquisition / closing price of the first trading day in the month of the forecast. The pre- and post-acquisition periods are as defined above. All forecasts are for the acquiring firm in the financial year following the year of the acquisition announcement
BtM	The book value of equity (Item 60) at the end of the financial year before the announcement of the acquisition divided by the market equity of the acquirer in the month preceding the announcement.
BtM-market-adjusted	The BtM of the acquirer minus the median Tobin's Q of all stocks in the CRSP universe for the same period
CG Dictatorship Index	The Dictatorship Index is based on the Gompers et al. (2003) index. The authors call the portfolio of companies with an index value of at least 14 the "dictatorship portfolio". The CG Dictatorship Index is equal to the value for the CG index if it is at least 14 and zero otherwise
CG Index	This is the Gompers et al. (2003) index which measures shareholder restrictions in the US. The index is incremented by 1 for each provision that restricts shareholder rights (i.e. increases managerial power). The index can potentially range from 1 to 24
CG Target	This is the Gompers et al. (2003) index for the target firms which measures shareholder–rights restrictions. The index is incremented by 1 for each provision that restricts shareholder rights (i.e. increases managerial power). The index can potentially range from 1 to 24
Entrenchment Index	The Entrenchment Index is based on the Bebchuk et al. (2009) entrenchment index. The index is incremented by 1 for each of 4 possible provisions that reduce shareholder voting power and 2 provisions that prevent hostile takeovers. The entrenchment index is measured for all firms without dual-class stock followed by the Investor Responsibility Research Center (IRRC)

Table 4 cont'd

Industry CARs [–X;+X]	The median abnormal returns of the acquirer's industry over the [–X;+X] event window centered on the announcement day of the acquisition. The industry classification is based on the two-digit SIC codes
Industry Closeness	Industry closeness is a categorical variable which measures how close the acquirer's and target's industries are. The variable equals zero if both industries have a different first digit for their SIC code, one if they both have the same first digit for their SIC code, three if the two first digits of their SIC codes are the same and four if the four-digit SIC codes are identical.
Ln(BtM)	The natural logarithm of the acquirer's BtM as defined above
Ln(BtM-market-adjusted)	The natural logarithm of BtM-market-adjusted
Ln(Q-industry-adjusted)	The natural logarithm of Q-industry-adjusted
Ln(Q-market-adjusted)	The natural logarithm of Q-market-adjusted
Ln(Tobin's Q)	The natural logarithm of the acquirer's Tobin's Q as defined above
Majority Cash Payment	A dummy variable that takes on the value of one if at least 50.1 % of the acquisition payment is made by cash and is set to zero otherwise
Majority Other Payment	A dummy variable that takes on the value of one if at least 50.1 % of the acquisition payment is made by payment forms other than stock and cash and is set to zero otherwise
Majority Stock Payment	A dummy variable that takes on the value of one if at least 50.1 % of the acquisition payment is made by stock and is set to zero otherwise
PE	The price-earnings ratio of the acquirer at the end of the month preceding the announcement of the acquisition
Q-industry-adjusted	The Tobin's Q of the acquirer minus the median Tobin's Q of all stocks with the same two-digit SIC code for the same period
Q-market-adjusted	The Tobin's Q of the acquirer minus the median Tobin's Q of all stocks in the CRSP universe for the same period
Tobin's Q	The ratio of the market value of assets to the book value of total assets (Item 6) of the acquirer in the financial year before the announcement of the acquisition. As in Malmendier and Tate (2007), market value of assets is defined as total assets plus market value of equity (Item 25 times Item 199) minus book value of equity

Table 5: Descriptive statistics – Acquisition type classification based on CARs [-2;+2]

The table reports descriptive statistics for the four different types. An acquisition is of Type I if both its CAR [-2;+2] and non-industry adjusted accounting performance are positive, of Type II if its CAR is positive and its non-industry adjusted accounting performance is negative, of Type III if its CAR is negative and its non-industry adjusted accounting performance is positive, and of Type IV if its CAR and non-industry adjusted accounting performance are both negative. Acquirers with negative BtM ratios and those with negative PE ratios are excluded. Accounting performance is measured as the difference between the average accounting performance across the three years following the year of the announcement and the average accounting performance across the three years preceding that year minus the corresponding difference for the matched portfolio. The variables are defined in Table 4. We carry out a simple t-test (for the mean) and a Wilcoxon signed rank test (for the median) for each variable. For the categorical variables "majority cash payment", "majority other payment" and "majority stock payment", the test statistic is a Pearson chi-square test which assumes a binomial distribution. SD stands for standard deviation. The null hypothesis states that the mean (median) of the respective type is equal to the mean (median) for all the four types. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type I		Type II		Type III		Type IV		All	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
% Cash Payment	58.88*	87.14***	56.34	73.90***	46.42**	30.38***	52.07	60.34***	53.51	66.92
% Other Payment	9.08	0	9.89	0	6.15**	0	7.24	0	8.12	0
% Stock Payment	32.04**	0	33.77*	0	47.43***	41.61***	40.70	0	38.37	0
Majority Cash Payment	0.59	1	0.55	1	0.46**	0***	0.54	1	0.54	1
Majority Other Payment	0.26	0	0.28	0	0.23	0	0.24	0	0.25	0
Majority Stock Payment	0.31**	0	0.33*	0	0.49***	0	0.42	0	0.39	0
Tobin's Q	2.32***	1.80	2.52	1.77	2.88*	2.27***	2.81	2.04***	2.64	1.94
Ln (Tobin's Q)	0.69**	0.59	0.71*	0.57	0.89***	0.82***	0.83	0.71***	0.78	0.66
Q-Market Adjusted	0.84***	0.33	1.06	0.28	1.40*	0.75***	1.36	0.62***	1.17	0.50
Q-Industry Adjusted	0.73***	0.31	0.91	0.27	1.22*	0.55***	1.14	0.48***	1.00	0.40
Ln(Q-Market Adjusted)	0.31***	0.22	0.34*	0.17	0.50**	0.41***	0.47*	0.36***	0.40	0.28
Ln(Q-Industry Adjusted)	0.25**	0.17	0.27	0.17	0.41**	0.33***	0.35	0.29***	0.32	0.24
BtM	0.45**	0.36***	0.43	0.38***	0.34***	0.30	0.37*	0.32	0.40	0.34
Ln (BtM)	-1.05**	-1.02	-1.09	-0.97	-1.30***	-1.22***	-1.20	-1.13**	-1.16	-1.07
BtM-Market Adjusted	-0.03**	-0.10***	-0.05	-0.11***	-0.14***	-0.18	-0.12**	-0.16	-0.08	-0.14
Ln(BtM-Market Adjusted)	-0.31**	-0.24	-0.36	-0.23	-0.55**	-0.48***	-0.49	-0.39**	-0.43	-0.36
PE	32.27	22.66	41.11	19.95	43.53	24.93***	38.14	23.02	38.76	22.69
Analysts' Revision Mean	10.68***	2.02***	4.37	0.94	0.59**	1.74**	1.72***	0.89*	4.29	1.35
Analysts' Revision Median	10.89***	1.95***	4.47	0.94	0.70**	1.76**	1.77***	0.89*	4.40	1.34
Analysts' Revision Dummy	0.43***	0	0.28*	0	0.36	0	0.27**	0	0.34	0
Industry Closeness	2.15*	2	1.85	2	2.01	2	1.87	2	1.96	2
CG Index	9.12	9	9.03	9	9.34	9	9.23	9	9.20	9
Dictatorship Index	0.97	0	0.55	0	0.47	0	1.36*	0	0.86	0
Entrenchment Index	2.13	2	2.11	2	2.05	2	2.29	2	2.15	2
Industry CARs[-2; +2]	0.006***	0.006***	-0.006*	-0.000	-0.005	-0.006***	-0.004	-0.006**	-0.002	-0.001
CG Target	10.96**	12	10.30	10	9.88	10	8.05***	8***	9.37	10
Observations	221	221	240	240	211	211	255	255	927	927

Table 6: Descriptive statistics – Acquisition type classification based on CARs [-10;+10]

The table reports descriptive statistics for the four different types. An acquisition is of Type I if both its CAR [-10;+10] and non-industry adjusted accounting performance are positive, of Type II if its CAR is positive and its non-industry adjusted accounting performance is negative, of Type III if its CAR is negative and its non-industry adjusted accounting performance is positive, and of Type IV if its CAR and non-industry adjusted accounting performance are both negative. Acquirers with negative BtM ratios and those with negative PE ratios are excluded. Accounting performance is measured as the difference between the average accounting performance across the three years following the year of the announcement and the average accounting performance across the three years preceding that year minus the corresponding difference for the matched portfolio. The variables are defined in Table 4. We carry out a simple t-test (for the mean) and a Wilcoxon signed rank test (for the median) for each variable. For the dummy variables "majority cash payment", "majority other payment" and "majority stock payment", the test statistic is a Pearson chi-square test which assumes a binomial distribution. SD stands for standard deviation. The null hypothesis states that the mean (median) of the respective type is equal to the mean (median) for all the four types. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type I		Type II		Type III		Type IV		All	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
% Cash Payment	57.01	82.52***	56.70	77.7***	48.13	36.29***	51.67	60***	53.51	66.92
% Other Payment	8.17	0	9.01	0	7.07	0	8.06	0	8.12	0
% Stock Payment	34.82	0	34.29	0	44.80**	16.67***	40.27	0	38.37	0
Majority Cash Payment	0.57	1	0.56	1	0.48*	0***	0.52	1	0.54	1
Majority Other Payment	0.25	0	0.26	0	0.24	0	0.26	0	0.25	0
Majority Stock Payment	0.34	0	0.34	0	0.46**	0	0.40	0	0.39	0
Tobin's Q	2.38***	1.85***	2.66	1.81	2.84	2.16***	2.69	1.99***	2.64	1.94
Ln (Tobin's Q)	0.72*	0.61	0.75	0.59	0.87*	0.77***	0.80	0.69**	0.78	0.66
Q-Market Adjusted	0.89***	0.36*	1.19	0.32	1.36	0.64***	1.24	0.56***	1.17	0.50
Q-Industry Adjusted	0.77**	0.33*	1.04	0.28	1.19	0.54***	1.02	0.46***	1.00	0.40
Ln(Q-Market Adjusted)	0.33**	0.22	0.38	0.21	0.48**	0.37***	0.43	0.32***	0.40	0.28
Ln(Q-Industry Adjusted)	0.27	0.20	0.31	0.19	0.39**	0.29***	0.32	0.27*	0.32	0.24
BtM	0.44*	0.33**	0.42	0.36	0.35***	0.30	0.38	0.34	0.40	0.34
Ln (BtM)	-1.07*	-1.09	-1.12	-1.03	-1.28**	-1.22***	-1.17	-1.07	-1.16	-1.07
BtM-Market Adjusted	-0.04**	-0.10	-0.06	-0.11	-0.13***	-0.18	-0.11*	-0.16	-0.08	-0.14
Ln(BtM-Market Adjusted)	-0.33**	-0.30***	-0.39	-0.28	-0.54**	-0.46***	-0.46	-0.36	-0.43	-0.36
PE	34.32	24.38	36.58	21.79	41.74	24***	42.41	21.46**	38.76	22.69
Analysts' Revision Mean	8.35	2.06***	3.91	1.15	2.88	1.63**	2.14***	0.74	4.29	1.35
Analysts' Revision Median	8.24	2.09***	4.02	1.12	3.34	1.63**	2.17***	0.72	4.40	1.34
Analysts' Revision Dummy	0.43***	0	0.28*	0	0.37	0	0.28*	0	0.34	0
Industry Closeness	2.16*	2	1.98	2	1.99	2	1.75**	2	1.96	2
CG Index	9.28	9	8.84	9	9.17	9	9.36	9	9.20	9
Dictatorship Index	0.75	0	0.66	0	0.70	0	1.26	0	0.86	0
Entrenchment Index	2.19	2	2.03	2	1.98	2	2.37**	2	2.15	2
Industry CARs[-10;+10]	0.009***	0.003***	-0.013**	-0.005	-0.004	-0.012	-0.015**	-0.016*	-0.006	-0.007
CG Target	11***	11	10.04	10	9.91	10	7.98***	8***	9.37	10
Observations	227	227	243	243	205	205	252	252	927	927

Table 7: Binomial logistic regressions – **Type I**

The table reports the results from four binomial regressions with the dependent variable being set to 1 if an acquisition is of Type I and to zero if it belongs to the other three types. The four types are as defined in Table 5. The variables are defined in Table 4. Z-values are in parentheses. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type I – CAR [-2;+2]					Type I – CAR [-10;+10]				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 1	Model 2	Model 3	Model 4	Model 5
Majority Stock Payment	-0.437*** (-2.64)					-0.252 (-1.57)				
Majority Cash Payment		0.261* (1.66)	0.257 (1.63)				0.180 (1.17)	0.178 (1.15)		
Analysts' Revision mean		0.016*** (3.78)					0.009** (2.56)			
Analysts' Revision median			0.017*** (3.94)					0.009** (2.50)		
Analysts'revision dummy	0.572*** (3.60)					-0.532*** (3.38)				
Industry Closeness				0.092* (1.94)					0.100** (2.12)	
CG Target					0.203*** (2.60)					0.205** (2.35)
Constant	-1.215*** (-10.69)	-1.393*** (-11.45)	-1.399*** (-11.48)	-1.348*** (-10.69)	-3.585*** (-4.16)	-1.227*** (-10.81)	-1.271*** (-10.85)	-1.269*** (-10.85)	-1.330*** (-10.61)	-3.714*** (-4.14)
Observations	927	927	927	927	137	927	927	927	927	137
LR Chi²(5)	19.59***	22.50***	24.41***	3.77*	7.48***	13.59***	9.16**	8.72**	4.51**	7.10***
Pseudo R^2	0.0192	0.0221	0.0240	0.0037	0.0589	0.0132	0.0089	0.0085	0.0044	0.0588

Table 8: Binomial logistic regressions - **Type II**

The table reports the results from four binomial regressions with the dependent variable being set to 1 if an acquisition is of Type II and to zero if it belongs to the other three groups. The four groups are as defined in Table 5. The variables are defined in Table 4. Z-values are in parentheses. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type II – CAR [-2;+2]	Type II – CAR [-10;+10]
	Model 6	Model 6
Industry CARs [-2;+2] and [-10;+10], respectively	-6.369** (-2.27)	-2.512** (-2.10)
Constant	-1.067*** (-13.97)	-1.049*** (-13.79)
Observations	927	927
LR $Chi^2(5)$	5.24**	4.49**
Pseudo R^2	0.0050	0.0042

Table 9: Binomial logistic regressions – **Type III**

The table reports the results from four binomial regressions with the dependent variable being set to 1 if an acquisition is of Type III and to zero if it belongs to the other three types. The four types are as defined in Table 5. The variables are defined in Table 4. Z-values are in parentheses. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type III – CAR [-2;+2]						Type III – CAR [-10;+10]					
	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Majority Stock Payment	0.570*** (3.60)						0.410** (2.56)					
Majority Cash Payment		-0.372** (-2.37)						-0.299* (-1.89)				
Ln (Q-Market Adjusted)			0.384*** (2.88)						0.060 (1.59)			
Ln (Q-Industry Adjusted)				0.391*** (2.72)						0.063 (1.60)		
Ln (BtM-Market Adjusted)					-0.301*** (-2.84)						-0.273** (-2.56)	
PE						0.001 (0.85)						0.001 (0.52)
Constant	-1.463*** (-13.63)	-1.032*** (-9.41)	-1.389*** (-13.83)	-1.359*** (-14.19)	-1.363*** (-14.28)	-1.220*** (-12.67)	-1.429*** (-13.46)	-1.105*** (-9.90)	-1.333*** (-14.33)	-1.326*** (-14.62)	-1.387*** (-14.45)	-1.263*** (-12.90)
Observations	927	927	927	927	927	723	927	927	927	927	927	723
LR $Chi^2(5)$	12.90***	5.63**	8.19***	7.33***	8.06***	0.68	6.53**	3.56*	2.44	2.46	6.52**	0.26
Pseudo R^2	0.0130	0.0057	0.0082	0.0074	0.0081	0.0009	0.0067	0.0036	0.0025	0.0025	0.0067	0.0003

Table 10: Binomial logistic regressions –**Type IV**

The table reports the results from four binomial regressions with the dependent variable being set to 1 if an acquisition is of Type IV and to zero if it belongs to the other three groups. The four groups are as defined in Table 5. The variables are defined in Table 3. Z-values are in parentheses. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type IV – CAR [-2;+2]					Type IV – CAR [-10;+10]				
	Model 13	Model 14	Model 15	Model 16	Model 17	Model 13	Model 14	Model 15	Model 16	Model 17
Analysts' Revision mean	-0.007** (-2.03)		-0.006* (-1.85)			-0.0055* (-1.72)		-0.005 (-1.59)		
Analysts' Revision median		-0.007** (-1.98)		-0.007** (-1.96)			-0.006* (-1.73)		-0.006* (-1.70)	
Analysts' Revision dummy					-0.364** (-2.26)					-0.341** (-2.11)
CG Index		0.002 (0.09)					0.038 (1.41)			
CG Dictatorship Index	0.057*** (2.86)					0.046** (2.32)				
Entrenchment Index			0.100* (1.83)	0.100* (1.83)				0.155*** (2.81)	0.155*** (2.81)	
Constant	-1.000*** (-12.92)	-0.964*** (-3.75)	-1.152*** (-8.00)	-1.147*** (-7.95)	-0.853*** (-9.70)	-1.009*** (-13.03)	-1.314*** (-5.03)	-1.285*** (-8.72)	-1.281*** (-8.69)	-0.877*** (-9.91)
Observations	927	927	871	871	927	927	927	871	871	927
LR Chi²(5)	11.76***	4.64*	7.21**	7.86**	5.24**	7.83**	5.21*	10.68***	11.18***	4.57**
Pseudo R^2	0.0108	0.0043	0.0070	0.0076	0.0048	0.0072	0.0048	0.0104	0.0109	0.0042

Table 11: Binomial logistic regressions – Acquisition type classification based on CARs [-2;+2]

The table reports the results from four binomial regressions with the dependent variable being set to 1 if an acquisition is of Type I, II, III and IV, respectively, and to zero if it belongs to the other three types. The four types are as defined in Table 5. The variables are defined in Table 4. Z-values are in parentheses. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type I		Type II		Type III		Type IV	
	Coefficient	Marg. effect	Coefficient	Marg. effect	Coefficient	Marg. Effect	Coefficient	Marg. effect
Majority Stock Payment	-0.420** (-2.40)	-0.070** (-2.48)	-0.281* (-1.73)	-0.053* (-1.76)	0.490*** (2.99)	0.086*** (2.92)	0.149 (0.96)	0.030 (0.95)
Ln(BtM-Market Adjusted)	0.167 (1.37)	0.029 (1.37)	0.173 (1.57)	0.033 (1.57)	-0.191* (-1.73)	-0.033* (-1.73)	-0.165 (-1.57)	-0.033 (-1.57)
Analysts' Revision mean	0.013*** (3.08)	0.002*** (3.07)	0.001 (0.43)	0.000 (0.43)	-0.008** (-2.13)	-0.001** (-2.14)	-0.006* (-1.80)	-0.001* (-1.80)
Industry Closeness	0.060 (1.19)	0.010 (1.19)	-0.067 (-1.41)	-0.012 (-1.41)	0.038 (0.77)	0.006 (0.77)	-0.021 (-0.44)	-0.004 (-0.44)
CG Dictatorship Index	0.000 (0.01)	0.000 (0.01)	-0.052** (-2.01)	-0.010** (-2.01)	-0.039 (-1.31)	-0.007 (-1.31)	0.062*** (3.04)	0.012*** (3.04)
Industry CARs [-2;+2]	15.008*** (4.83)	2.587*** (4.92)	-6.402** (-2.24)	-1.218** (-2.24)	-4.555 (-1.53)	-0.781 (-1.53)	-2.766 (-1.00)	-0.549 (-1.00)
Constant	-1.162*** (-7.67)		-0.732*** (-5.27)		-1.557*** (-9.85)		-1.101*** (-7.70)	
Observations	927		927		927		927	
LR $Chi^2(5)$	55.95***		17.14***		27.47***		17.30***	
Pseudo R^2	0.0556		0.0162		0.0278		0.0159	

Table 12: Binomial logistic regressions – Acquisitions' characteristics – Acquisition type classification based on CARs [-10;+10]

The table reports the results from four binomial regressions with the dependent variable being set to 1 if an acquisition is of Type I, II, III and IV, respectively, and to zero if it belongs to the other three types. The four types are as defined in Table 5. The variables are defined in Table 4. Z-values are in parentheses. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Type I		Type II		Type III		Type IV	
	Coefficient	Marg. effect	Coefficient	Marg. effect	Coefficient	Marg. effect	Coefficient	Marg. effect
Majority Stock Payment	-0.201 (-1.20)	-0.036 (-1.21)	-0.219 (-1.36)	-0.042 (-1.38)	0.311* (1.88)	0.054* (1.85)	0.117 (0.75)	0.023 (0.73)
Ln (BtM-Market Adjusted)	0.215* (1.84)	0.039* (1.84)	0.090 (0.83)	0.017 (0.83)	-0.201* (-1.80)	-0.034* (-1.81)	-0.105 (-0.99)	-0.023 (-1.10)
Analysts' Revision mean	0.007** (2.00)	0.001** (2.00)	-0.001 (-0.19)	-0.000 (-0.19)	-0.003 (-0.77)	-0.000 (-0.77)	-0.005 (-1.38)	-0.001 (-1.54)
Industry Closeness	0.066 (1.34)	0.012 (1.34)	0.006 (0.14)	0.001 (0.14)	0.022 (0.45)	0.004 (0.45)	-0.088 (-0.44)	-0.004 (-0.44)
CG Dictatorship Index	-0.022 (-0.89)	-0.004 (-0.90)	-0.029 (-1.21)	-0.006 (-1.21)	-0.006 (-0.25)	-0.001 (-0.25)	0.045** (2.22)	0.010** (2.44)
Industry CARs [-10;+10]	4.855*** (3.92)	0.872*** (3.96)	-2.426** (-2.01)	-0.468** (-2.02)	0.645 (0.52)	0.110 (0.52)	-2.899** (-2.40)	-0.594** (-2.52)
Constant	-1.120*** (-7.53)		-0.917*** (-6.49)		-1.511*** (-9.62)		- 0.956130*** (-6.78)	
Observations	927		927		927		927	
LR $Chi^2(5)$	32.58***		8.95		10.50*		19.60***	
Pseudo R^2	0.0319		0.0084		0.0108		0.0181	

Appendix

Table A.1: Correlation matrix

This table contains correlation coefficients of all variables included in our different regression models. * indicates whether correlations are significant at the 10% level or better for the two-tailed Pearson test.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Majority Cash Payment	1.00														
(2) Majority Stock Payment	-0.85*	1.00													
(3) ln(BtM –market-adj.)	0.15*	-0.22*	1.00												
(4) PE	0.06*	-0.09*	-0.08*	1.00											
(5) Ln (Q-market-adj.)	-0.18*	0.27*	-0.87*	0.10*	1.00										
(6) Ln (Q-Ind.-adj.)	-0.19*	0.27*	-0.79*	0.08*	0.91*	1.00									
(7) Analysts' Rev. Mean	0.03	-0.02	0.03	-0.04	-0.00	0.03	1.00								
(8) Analysts' Rev. Med.	0.04	-0.02	0.03	-0.05	-0.01	0.02	0.99*	1.00							
(9) % of upward rev	-0.07*	0.05	0.03	-0.03	-0.01	-0.02	0.06*	0.07*	1.00						
(10) Ind. CARs [-2;+2]	-0.04	0.03	0.03	-0.08*	-0.00	0.01	0.14*	0.14*	0.03	1.00					
(11) Ind. CARs [-10;+10]	-0.03	0.05	-0.03	0.02	0.06*	0.03	0.04	0.04	-0.00	0.30*	1.00				
(12) CG Index	0.10*	-0.12*	0.20*	-0.07*	-0.25*	-0.18*	0.03	0.03	-0.02	0.00	-0.07*	1.00			
(13) CG Dictatorship	0.04	-0.05	0.15*	-0.06	-0.15*	-0.12*	0.11*	0.11*	-0.01	0.00	-0.03	0.50*	1.00		
(14) Entrenchment Index	0.11*	-0.15*	0.25*	-0.04	-0.33*	-0.27*	-0.02	-0.02	0.05	-0.05	-0.09*	0.73*	0.34*	1.00	
(15) Industry Closeness	-0.03	0.04	-0.03	0.06	0.07	0.02	0.07	0.08	0.18*	0.05	0.09	-0.07	-0.11	-0.02	1.00