

Shareholder wealth effects of European domestic and cross-border takeover bids

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Abstract

In this paper, we analyse the short-term wealth effects of large (intra)European takeover bids. We find large announcement effects of 9% for target firms and a cumulative abnormal return that includes the price run-up over the two-month period prior to the announcement date of 23%. However, the share price of the bidding firms reacts positively with a statistically significant announcement effect of only 0.7%. We also show that the status of a takeover bid has a large impact on the short-term wealth effects of target's and bidder's shareholders, with hostile acquisitions triggering substantially larger price reactions than friendly mergers and acquisitions. We also find strong evidence that cash offers trigger much larger share price reactions than all-equity offers or combined bids consisting of cash, equity and loan notes. A high market-to-book ratio of the target leads to a higher bid premium, but triggers a negative price reaction for the bidding firm. Also, our results suggest that bidding firms should not diversify by acquiring target firms that do not match their core business. Surprisingly, domestic bids create larger short-term wealth effects than cross-border mergers and acquisitions. The country dummies we use proxy for institutional differences, such as different corporate governance regimes (ownership concentration, takeover regulation, protection of shareholder rights, and informational transparency). In addition, we investigate whether the predominant reason for mergers and acquisitions is synergies, agency problems or managerial hubris and find that synergies are the prime motivation for bids and that targets and bidders tend to share the resulting wealth gains.

Keywords: mergers and acquisitions, domestic and cross-border takeover bids, hostile takeovers, the market for corporate control, short term wealth effects

JEL Classifications: G32, G34

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In this paper, we analyse the short-term wealth effects of large (intra)European takeover bids. We find large announcement effects of 9% for target firms and a cumulative abnormal return that includes the price run-up over the two-month period prior to the announcement date of 23%. However, the share price of the bidding firms reacts positively with a statistically significant announcement effect of only 0.7%. We also show that the status of a takeover bid has a large impact on the short-term wealth effects of target's and bidder's shareholders, with hostile acquisitions triggering substantially larger price reactions than friendly mergers and acquisitions. When a UK target or bidder is involved, the abnormal returns are almost twice as high as bids involving both a Continental European target and bidder. We also find strong evidence that cash offers trigger much larger share price reactions than all-equity offers or combined bids consisting of cash, equity and loan notes. A high market-to-book ratio of the target leads to a higher bid premium, but triggers a negative price reaction for the bidding firm. Also, our results suggest that bidding firms should not diversify by acquiring target firms that do not match their core business. Surprisingly, domestic bids create larger short-term wealth effects than cross-border mergers and acquisitions. This results remains valid after controlling for the characteristics of the bid and the target firm. We also find that the premiums paid depend on the location of the target. The country dummies we use proxy for institutional differences, such as different corporate governance regimes (ownership concentration, takeover regulation, protection of shareholder rights, and informational transparency). After controlling for the status of the bid (i.e. the higher frequency of hostile acquisitions in the UK), for means of payment, and financial characteristics of the target, we find substantially higher wealth effects for UK targets. This is also the case (but to a much smaller extent) for German, Austrian and Swiss firms but not for targets in France, the Benelux countries and Southern Europe. In addition, we investigate whether the predominant reason for mergers and acquisitions is synergies, agency problems or managerial hubris. We find a significant positive correlation between the gains for the target shareholder and the total gains from the merger as well as between the gains for the target and those for the bidder. This suggests that synergies are the prime motivation for bids and that targets and bidders tend to share the resulting wealth gains.

1. Introduction

It is now well known stylised fact that mergers and acquisitions occur in cyclical waves. The second industrial revolution culminated in the first European¹ merger wave (1880-1904) which aimed at creating monopolies. Anti-trust regulation curbed monopoly power, but also initiated a second merger wave (1919-1929) that led to increased vertical integration. The third European merger wave started in the 1950s, but reached its peak only in the mid-1960s. The focus of this wave was diversification and the creation of large conglomerates to face the global markets. The technological progress in biochemistry and electronics, as well as the development of new financial instruments and markets (e.g. the junk bond market), was behind the fourth merger wave (1983-1989). These financial innovations facilitated the financing of acquisitions and also caused an unprecedented high level of hostile bids. During the past decade, a fifth wave (1993-2000) emerged coinciding with a sustained economic boom, the development of new European stock exchanges (such as the European New Markets and EASDAQ) and the growth in the internet- and telecommunications industries. In 2001, the collapse of consumer confidence in these industries as well as the overcapacity in the traditional sectors caused an abrupt reduction in merger activity.

The start of the fifth merger and acquisitions wave was clearly 1993 as the total dollar value paid for target firms in the US and Europe doubled after 4 consecutive years of decline in M&A activity. An even steeper rise happened in 1996: the total value of US and European acquisitions rose to USD 1,117 million (with Europe accounting for an 37% of the worldwide value of M&A deals). In the following years, the M&A wave gained even more strength with a value of USD 1,574 million in 1997 (35% of which was realised in Europe), USD 2,634 million in 1998 (33% in Europe), USD 3,319 million in 1999 (47% in Europe), and USD 3,451 million in 2000 (43% in Europe). The year 1999 was a remarkable year for the European M&A market, as it was now almost as large as the US market. Also, 12% of the total value of the European market was now generated by deals in excess of USD 100 billion. The number of hostile acquisitions was also exceptionally large in Europe in 1999 with 369 hostile bids to only 14 in 1996, 7 in 1997, 5 in 1998 and 35 in 2000.²

¹ Throughout this paper, Europe includes both Continental Europe and the UK.

² As reported in an M&A report by Morgan Stanley based on Thomson Financial Securities Data, April 2001.

A typical phenomenon of the recent M&A wave is that acquisitions are now larger in size and tend to be global (Cosh and Hughes, 1996). The value of cross-border acquisitions has grown from 0.5% in the mid 1980s to over 2% in 2000. Moreover, cross-border mergers now account for more than 80% of all foreign direct investment (FDI) by industrialised countries (Conn et al. 2002). Thus, over the past decade, FDI in the US, UK and Continental Europe has predominantly occurred through mergers and acquisitions rather than through greenfield investments. Harris and Ravenscraft (1991) argue that the abnormal returns of targets in domestic acquisitions are not expected to differ from those of targets in cross-border acquisitions provided that capital and factor markets are not segmented internationally. Still, FDI theory posits that such imperfections exist which give multinational firms a competitive advantage over local firms. Hence, cross-border acquisitions are expected to generate more wealth than domestic acquisitions (Kang 1993).

In this paper, we aim at investigating the wealth effects of the mergers and acquisitions wave of the 1990s. As most of the M&A research concentrates on the US and UK markets and most studies also concentrate on M&As in a single country, we believe that a European-wide study will yield interesting results. We define Europe in the wide geographical sense: it comprises Continental Europe and the UK. We will distinguish between the wealth effects of domestic acquisitions and cross-border acquisitions within Europe. Our sample consists of all large (intra-)European mergers and acquisitions collected from the *Mergers and Acquisitions Report* and the Financial Times over the period 1993-2000. The paper is organized as follows: section 2 summarises the main findings from previous studies on mergers and acquisitions. Section 3 describes the data sources, variables and methodology. Section 4 investigates the short-term wealth effects for target and bidder firms of mergers, and friendly and hostile acquisitions. A correlation analysis in section 5 sheds some light on the motives behind these mergers and acquisitions. Section 6 then analyses the determinants of the market price reactions to M&A announcements and section 7 concludes.

2. Value drivers of bidder and target abnormal returns.

The literature on the domestic mergers and acquisitions by country is unanimous: shareholders of target firms invariably receive large premiums (on average between 20-40%) relative to the pre-announcement share price. Jarrell and Poulsen (1989), Servaes (1991), Kaplan and Weisbach (1992), for instance, report average US target abnormal returns of 29%

for 1963-86, 24% for 1972-1987 and 27% for 1971-82, respectively. In the 1990s, abnormal announcement returns in the US remained at as similar level of 21% (Mulherin and Boone 2000). In contrast, there is little consensus about the announcement wealth effects for the bidding firms. About half of the studies report small negative returns for the acquirers (see e.g. Walker 2000, Mitchell and Stafford 2000, Sirrower 1994, and Healy, Palepu and Ruback 1992) whereas the other half finds zero or small positive abnormal returns (see e.g. Eckbo and Thorburn 2000, Maquiera et al. 1998, Schwert 1996, and Loderer 1990). Considering that the average target is much smaller than the average acquirer, the combined net economic gain at announcement is only just positive.

Previous research on cross-border M&A activity is largely confined to the UK and US. Similar to domestic acquisitions, the shareholders of US target firms can pocket large positive abnormal returns (see e.g. Harris and Ravenscraft 1991, Cebenoyan et al. 1992, and Cheng and Chan 1995) in cross-border bids. Two studies analyse cross-border acquisitions between US and UK companies: Conn and Connell (1990) for the period 1971-80 and Feils (1993) for the period 1980-90. Both studies conclude that the wealth effect for US target firms is substantially larger than for UK firms (40% versus 18% in Conn and Connell and 26% versus 16% in Feils). Danbolt (2002) finds no statistical difference between short-run abnormal returns for UK targets of domestic mergers and acquisitions (18.46%) and those of cross-border takeovers (19.68%). Both Wansley et al. (1983) and Dewenter (1995) suggest that the cross-border returns-effect for target US firms results from differences in the bid characteristics of domestic and cross-border acquisitions rather than from fundamental differences in the level of abnormal returns. Such a conclusion is also reached for UK target firms by Danbolt (2002): the target cross-border effect appears to be attributable to the method of payment, bid outcome and industrial sector.

The M&A literature has discovered a variety of profitability drivers. First, the announcement of tender offers and hostile acquisitions generates higher target as well as bidder returns than the announcement of friendly mergers or acquisitions (see e.g. Gregory 1998, Loughran and Vijh 1997, and Lang et al. 1989). Second, when the bidding management owns large equity stakes, bidding firms obtain higher returns (see e.g. Healy et al. 1997, and Agarwal and Mandelker 1987). This suggests that when managers do not own equity, agency problems may be higher. The bidder's shareholders may hence believe that managers may give priority to growth strategies (including value-destroying mergers) rather than focus on shareholder value

maximisation. Third, all-cash bids generate higher target and bidder returns than stock-for-stock acquisitions (see e.g. Yook 2000, Franks and Harris 1989, Franks et al. 1988, and Huang and Walking 1989). The announcement that an equity bid is made may signal to the market that the bidding managers believe that their firm's shares are overpriced. This is in line with the fact that managers time the issues of shares to occur at the high point of the stock market cycle. Fourth, acquiring firms with excess cash destroy value by overbidding. Several papers have unearthed evidence that free cash flow (Jensen 1986) is frequently used for managerial empire building (see e.g. Servaes 1991, and Lang et al. 1991). Fifth, corporate diversification strategies destroy value (Berger and Ofek 1995, Maquiera et al. 1998, Doukas et al. 2001). This confirms that companies should not attempt to do what investors can do better themselves, i.e. creating a diversified portfolio. Sixth, the acquisition of value-companies leads to higher bidder and target returns. Rau and Vermaelen (1998) show that the acquisition of firms with low market-to-book ratios generates high abnormal returns (of about 12% on average) for the shareholders of the bidding firm whereas the acquisition of firms with high market-to-book ratios generates substantial negative abnormal returns.³

Possible motives for both national and cross-country bids are synergies and the correction of managerial failure. Synergies create value and can be of two types. They are called operating synergies if there are economies of scale or scope, and are called informational synergies if the value of the merged firms is higher than the sum of the individual firm values. For example, informational synergies consist in the creation of an internal capital market: slack-rich firms with poor investment possibilities acquire slack-poor firms with outstanding growth opportunities.⁴ Informational synergies can also consist in minimising transaction costs or bankruptcy costs. However, Warner (1977) shows that the reduction in direct bankruptcy costs (due to less than perfectly correlated earnings of the bidder firm and the target firm) is small. The role of hostile acquisitions as a disciplinary force to remove poorly performing management in Anglo-American markets is also often suggested as a motive. This market for corporate control seems to be more active in the US (Morck et al. 1988, Bhidé 1989, Martin and McConnell 1991) than in the UK (Franks, Mayer and Renneboog 2001).

³ For an excellent overview of post-merger performance and of the motives for mergers and tender offers: see Agrawal and Jaffe, 2000)

⁴ However, the empirical evidence investigating the creation of an internal capital market shows that diversified firms do not rely significantly less on the outside capital market than undiversified firms (Comment and Jarrell 1995).

Theories based on industrial organization suggest a powerful motive for cross-border deals. Firms expanding into foreign markets can capture rents that are not competitively priced due to imperfect international product and factor markets. For example, differential tax systems between nations can have an impact on the marginal productivity of foreign direct investment through acquisitions (Scholes and Wolfson 1991). Whereas Servaes and Zenner (1994) provide strong evidence that taxes affect the abnormal returns earned by US targets of foreign acquisitions, Kang (1993) does not corroborate this finding for Japanese bidders. In addition to product and factor market imperfections, differences in takeover legislation and regulations may contribute to the differences in wealth effects of domestic and cross-border acquisitions (Kuipers, Miller and Patel 2002). Finally, imperfect capital markets also allow firms to exploit favourable exchange rate movements by moving operations into other countries or by acquiring foreign firms (Froot and Stein 1991, Cebenoyan et al. 1992, Kang 1993).

In this paper, we investigate the short-term returns in large European domestic and cross-border mergers and acquisitions. We also analyse whether the type of offer has an important impact on the premium paid for the target's shares. Furthermore, we look at the possible impact of different means of payment on the bid premium: the different means are all-cash offers, all-equity offers and bids combining cash, equity and loan notes. Given that the level of stock market development and the corporate governance regulation differ substantially between the UK and Continental Europe, we investigate whether the abnormal returns for targets and bidders are significantly different. Industry effects and year-of-bid effects are also taken into account. We examine the announcement effect of unsuccessful bids to check whether the market already accounts for this ultimate effect at the moment of the first announcement.

3. Data and methodology

3.1 Sample selection and data sources

Data on European acquisitions – involving both a European bidder and target – were collected from the 'Foreign deals' section of the monthly *Mergers & Acquisitions Report* for the period 1993-2000. This report records the names of the firms involved in the acquisition, the value of the transaction (in USD and local currency) and the type of deal (merger, acquisition, acquisition of majority/minority control, or divestiture). Additional information,

such as the means of payment in the offer, the status of the bid (hostile or friendly) and multiple-bidder involvement, is also frequently reported. To be included in our sample, either the bidder or the target (or both) must be listed on a European stock exchange, and the announcement date must be available. We restricted the sample to large acquisitions only, with a deal value of at least USD 100 million (equivalent to about € 90 million at the current exchange rate). We also used information from the Financial Times (FT) to check the data quality from the *Mergers & Acquisitions Report* (hereafter the Report), and to collect missing information such as missing announcement dates. We also required that at least two articles about the mergers and acquisitions had been published in the Financial Times so as to exclude non-recurring rumours. The resulting sample consists of 228 merger or acquisition announcements. Cases where a bid is made for only part of a firm (a divestiture) are also included in the sample. In these cases, the target share price reaction is that of the divesting firm.

We adopt the distinction between mergers and acquisitions made by the FT and the Report. Both sources describe a merger as a transaction between two parties of roughly equal size, whereas in a (friendly) acquisition the larger party takes over the smaller one. A acquisition (attempt) is classified as hostile, if the board of directors of the potential target rejects the offer for whatever reason. Hostility may, among others, result from a bargaining strategy to extract a higher premium for the target shareholders (Schwert 2000) or from the target's directors' viewpoint that the proposed plan is incompatible with the target's strategy. We also consider all acquisitions with multiple bidders to be hostile and report these cases separately. Lack of share price and/or accounting information reduced the sample to 187 offer announcements in 18 European countries. Out of these 187 bids, 142 bidders and 134 targets are listed. The final sample consists of 56 mergers, 41 (friendly) acquisitions, 40 hostile acquisitions, 21 hostile acquisitions with multiple bidders, and 29 divestitures. Twenty-four percent of all the bids were ultimately unsuccessful. The total number of bids can be subdivided into 118 domestic and 69 cross-border bids. Almost all the divestitures and 59% of the bids for entire companies were in cash only. Twenty-three percent of mergers and acquisitions bids were entirely equity financed whereas the remainder was financed by a combination of cash, equity and loan notes. Table 1 summarises the bid characteristics of our sample.

[Insert tables 1 and 2 about here]

Table 2 shows that 63% of the large European mergers and acquisitions bids launched over the period 1993-2000 targeted a firm in the same country as the one of the bidder. Although 63% of all domestic bids happened in the UK, UK targets and bidders were relatively less involved in cross-border acquisitions (with 27.5% of the total bids). German, Austrian and Swiss firms were almost as frequently involved in cross-border acquisitions as UK firms, both as bidders and targets. As expected, hostile bids are concentrated in the UK and Ireland: in these countries 77% of all domestic hostile bids and about half of all hostile cross-border bids were made.

Information on share prices and market indices, on the risk-free rate by country (3-month Treasury Bill rates), on risk measures and accounting information, was collected from Datastream.⁵ Additional information on both targets and bidders was obtained from Datastream and the Financial Times: this information includes the industry codes (SIC), i.e. our measure of the degree of corporate diversification, financial data, the value of the bid and the means of payment for the bid. Panel A of table 3 shows that the market capitalisations of the target and bidder are not that different. This is a consequence of our sample selection criterion of a minimum bid value of USD 100 million. However, target firms seem to have somewhat higher growth opportunities as suggested by the slightly higher market-to-book ratio for the targets of 4.3 compared to 4.0 for the bidders. Furthermore, both the target's corporate performance (return on equity) and interest coverage are better than those of bidding firms. Panel B shows that the average bid value is USD 1.67 billion with a distribution which is strongly skewed to the right. In addition, panel B shows that the larger bids consist of a higher proportion of equity.

[Insert table 3 about here]

3.2 Methodology

We measure the short-term wealth effects for bidding and target firms by calculating the cumulative average abnormal returns (CAARs) in an event study. The announcement data of

⁵ For many of the developed markets, the company accounts data is adjusted, rearranged and repositioned by Datastream to provide consistent treatment of each item. For published items, some repositioning is necessary to achieve an acceptable level of conformity between companies. Datastream reports that 'adjusted levels of profits are achieved using a standard adjustment procedure; movements that do not relate to the company's normal business activities have been removed (e.g. as reported pre-tax extraordinary items, untaxed reserves etc)'. The adjustments applied will differ from country to country. However, comparability between markets (and also within a market) is restricted by different accounting policies and valuation methods. Datastream does not adjust for valuation differences. We downloaded the data in adjusted form.

the merger was taken from the *Mergers & Acquisitions Report* and verified to be the first public announcement that a bid was made or was going to be made. The event window starts 6 months before the announcement date to capture the effects of rumours or insider trading. There is little consensus about the start of the period for the measurement of the short-term wealth effects, as evidenced by the great variety of starting dates in published work. On one hand, the measurement error may be substantial when using narrow event windows especially if there was a leakage of information before the first mention in the financial press. On the other hand, there is evidence that bids follow positive movements in the acquirer's stock price. Hence, there may be a danger that by starting the measurement period too early, the actual M&A returns will be overstated.

To calculate the expected returns and verify the robustness of the returns, we use 6 different measures of beta (see appendix). First, we estimate the beta by running the market model over a 9-month period (195 trading days) ending 6 months prior to the event date. Second, as the beta from the first method is calculated over a period well before the event date, we estimate the beta over the 9-month period ending 1 month before the event date. This second method may be better at taking into account recent changes in systematic risk, but in turn may be influenced by the event itself. Third, we use the Datastream beta which is corrected for mean-reversion. Fourth, we also adjust betas for mean-reversion using the Merrill Lynch method based on Blume (1979) in the following way: $\beta_i^a = .34 + \beta_i * .67$ where β_i^a is the beta adjusted for mean-reversion and β_i is the beta estimated using the market model over a 9-month period ending 6 months prior to the event. Fifth, the betas from method 1 are corrected for reversion to the mean according to Vasicek's technique using Bayesian updating (Vasicek 1973). The degree of adjustment towards the mean depends on the sampling error of beta: $\beta_i^v = [\sigma_{\beta i 1}^2 / (\sigma_{\beta * 1}^2 + \sigma_{\beta i 1}^2)] \cdot \beta_{* 1}^* + [\sigma_{\beta * 1}^2 / (\sigma_{\beta * 1}^2 + \sigma_{\beta i 1}^2)] \cdot \beta_{i 1}$, where β_i^v is the Vasicek-beta for security i , $\beta_{* 1}^*$ is the average beta across the sample of shares estimated over the 9-month period ending 6 months prior to the event date (period 1), $\beta_{i 1}$ is the beta from the market model over period 1, $\sigma_{\beta i 1}^2$ is the variance of the estimate of beta for security i measured over period 1, and $\sigma_{\beta * 1}^2$ is the variance of the average beta measured over period 1 (Elton and Gruber 1995). Sixth, we calculate Dimson-betas to control for inaccurate beta-estimation resulting from thin trading which biases beta downwards (Dimson 1979, Marsh and Dimson 1983). These betas are the sum of 5 parameter estimates of the market model in which the current level of the daily market

return, as well as its first three lags and one lead are included.⁶ The model is estimated over the 9-month period ending 6 months prior to the event date.⁷ For all 6 estimation methods, the betas are trimmed at the 5%-95% distribution range. As none of the main results of this study are influenced by the choice of the beta estimation technique, we only report results based on the Dimson-betas corrected for thin trading.

The abnormal returns are calculated as the difference between the actual daily returns and the expected returns obtained from the CAPM. The cumulative average abnormal returns (CAAR) are then calculated over the event period. The standard significance tests we apply are the ones from Kothari and Warner (1997). The one-day test statistic is:

$$\frac{AR}{\sigma(AR)} \text{ where } \sigma(AR) = \sqrt{\frac{1}{199} \sum_{t=-240}^{t=-41} (AR_t - \overline{AR})^2}$$

The test statistic for CAAR is $\frac{CAAR}{\sigma(AR)\sqrt{T}}$ where T is the number of time observations. The total

gain for each pair of target firm and acquiring firm is measured by:

$$CAAR^{Total} = \frac{CAAR^{Target} * MV^{Target} + CAAR^{Acquirer} * MV^{Acquirer}}{MV^{Target} + MV^{Acquirer}}$$

where MV denotes the market value of the target's or acquirer's equity before the beginning of the event window (Cybo-Ottone and Murgia, 2000).

4. Short-term shareholder wealth effects

In this section we focus on univariate analyses of the bid premiums. We relate the cumulative abnormal returns to one specific bid or corporate characteristic at the time. In section 6, we estimate the impact for all the explanatory factors simultaneously.

⁶ There will be more thin trading problems for Continental European firms. Still, whether or not thin trading is a problem should not be solved on the level of the stock exchange but on the level of the firm. It would not do to apply thin trading corrections for firms traded in Paris but not for those in London as there are some French firms which do not suffer from thin trading and some UK firms which do. Therefore, we apply the thin trading correction for all firms. For those firms where thin trading is not an issue, the contemporaneous return covariance with the market return will be the highest and the lagged and leading betas will not contribute (or less) to the systematic risk. For those firms where thin trading does matter, the lead and lagged betas determine systematic risk.

⁷ The systematic risk of all 6 estimation techniques is calculated using the all-share index for each country. For example, the betas of UK targets and bidders are calculated using the FT-All Share Index.

4.1 Target versus bidding firms

Panel A of table 4 shows that the announcement of a takeover bid causes substantial positive abnormal returns for the shareholders of the target. On the event day, an abnormal return of 9% is realised. Strikingly, as the cumulative abnormal returns over the event window starting two months prior to and including the event date amount to about 23%, it seems that the bid was anticipated, probably as a result of rumours or of insider trading. On average, investors owning a target company for a period starting 3 months prior to the event date (60 trading days) and selling at the end of the event day would earn a return of 24%. After about 30 trading days, the average cumulative abnormal return decreases by about 3% as a result of the fact that some bids are unsuccessful or the fact that a long period to finalise the offer raises doubt about the ultimate success of the negotiations.⁸

Panel B of table 4 shows that the effect of the M&A announcement on the wealth of the bidding shareholders is small: at the announcement, there is an abnormal return of 0.7% (significant at the 1% level). For the 5-day window centred on the event day, there is a statistically significant cumulative abnormal return of 1.2%. However, the CAARs for the longer event windows are not statistically significant. In the next section, we will show that the wealth effects for bidders are larger and depend upon the status of the bid (hostile versus friendly offer).

The CAARs obtained by this study are close to the ones reported by Franks and Harris (1989) and Higson and Elliott (1998). Franks and Harris report CAARs of 21% for large UK targets and of 0% for UK bidders over the period 1955-85 in the event month. Higson and Elliott find CAARs of 30% for the target shareholders in the largest bids and of 0% for the bidding shareholders over the period 1975-90. Recent research on the wealth effects for cross-border acquisitions by UK firms corroborates the results from earlier research that such operations do not generate any gain (or loss) for the bidding shareholders (Gregory and McCorriston 2002, Conn et al. 2001)

[Insert table 4 about here]

⁸ After the first announcement of a bid, it still takes several months before the merger or acquisition is accepted and the target firm stops trading. In only 11 out of 129 cases, the target firm is no longer traded within 40 trading days subsequent to the announcement. Respectively, 24 and 36 target firms are delisted 60 and 100 trading days subsequent to the announcement. We reduce the event window of target firms to 80 days after the event day.

4.2 Hostile versus friendly bids

We also analyse the market reactions to the different types of takeovers. For the target firms, we distinguish between mergers (40 cases), friendly acquisitions (53 cases), hostile acquisitions (28 cases) and bids with multiple bidders (14 cases). For all of these types of bids, there is a strong positive announcement effect (significant at the 1% level), as shown in panel A of table 5. As expected, hostile bids generate the largest abnormal returns for the target (13%) on the announcement day. These returns are significantly higher than the ones for the other types, i.e. only 9% for mergers and 6% for acquisitions. When a hostile bid is made, the share price of the target immediately reflects the expectation that opposition to the bid will lead to upward revisions of the offer price. Surprisingly, the announcement reaction to a situation with multiple bidders is low at 7%, but there is a large upward price movement starting already 1.5 months prior to the announcement. Panel A also reports that there are large differences in the price run-ups for the different types of bids. Whereas the upward price reactions prior to the bid announcement are limited to two weeks for hostile acquisitions and for friendly acquisitions, it seems that in the case of mergers, rumours or insider trading occurs already 1.5 to 2 months prior to the announcement (not shown). A hostile acquisition announcement generates a CAAR of more than 29% over the 2 month-period preceding and including the announcement day. At the event date and over the 2 months prior to the first announcement of the bid, the returns to the target shareholders for hostile acquisitions vastly outperform those of friendly mergers and acquisitions (panel B of table 5). The difference in returns between merger and friendly acquisition announcements is limited to the event date and to the 2-week period prior to the announcement. For the longer symmetric event windows (6 months and longer) differences between the types of bids are no longer statistically significant.

Panel C of table 5 breaks down the CAAR for the bidder by type of bidding firm. The shareholders of bidding firms clearly react differently to announcements of mergers, acquisitions and hostile acquisitions. The abnormal return on the event day is 2.2% and 2.43% for mergers and unopposed acquisitions, respectively. However, on average, the bidder's shareholders seem to disapprove of hostile acquisitions. When the bid is contested, the announcement abnormal return is -2.5%. Panel D of table 5 shows that the differences in abnormal returns are statistically significant at the 1% level.

[Insert table 5 about here]

4.3 UK versus Continental Europe.

As 85% of the companies listed on the London Stock Exchange are widely held, there is an active market for corporate control and UK firms are continually up for auction. In contrast, in Continental Europe the number of listed firms is much lower and most listed firms (around 85%-90% for Germany and France) have concentrated ownership or control (for a detailed overview of ownership and control in Europe, see Barca and Becht 2001). Consequently, hostile acquisitions are rare in Continental Europe. Not surprisingly, about half of the sample of target and bidding firms that are listed on a stock market is from the UK and Ireland (70 out of 136 targets and 66 out of 142 bidders). As there is a high degree of disclosure in the UK, a liquid and well-developed equity market (McCahery and Renneboog 2002) and a higher degree of shareholder protection (La Porta et al. 1997), we expect higher premiums in bids for UK firms. Panel A of table 6 confirms this conjecture: the announcement effect is substantially larger for the UK target firms (12.3%) than for the Continental European ones (6%). There is not much difference in terms of the price run-up in the targets prior to the announcement: in both Continental Europe and in the UK, significant positive abnormal returns are generated 2 to 3 months prior to the announcement. UK target shareholders who own equity as of 2 months prior to the announcement and sell on the day of the announcement can earn (on average) a premium of more than 38%, more than double the return earned by the Continental European target shareholders (15%) over the same period (panel A of table 3). Whereas the post-announcement CAARs are not statistically different from zero, they are substantially negative for Continental European targets for the 1.5 to 3 months after the announcement day. Hence, in spite of the lower bid premiums in Continental Europe, it seems that the market price reactions to the announcements are overoptimistic and that returns are subsequently corrected.⁹

Panel B of table 6 reports the returns for the shareholders of the bidding firms. Bidding shareholders in UK firms earn more than those in Continental European firms. Over a five-day window centred on the announcement date, UK bidders obtain a cumulative abnormal return of 1.5% versus only 0.9% for Continental European bidders. Whereas there is evidence of trading on rumours in the target shares or of insider trading, this is not the case for the bidding firms.

[insert table 6 about here]

⁹ The post-announcement correction in abnormal returns is not due to a higher rate of failed bids, as there are more failed bids (related to hostile takeover attempts) in the UK than in Continental Europe.

4.4 Domestic versus cross-border acquisitions.

In this section, we distinguish between domestic and cross-border bids. As pointed out before, 63% of large European mergers and acquisitions are domestic. Table 7 shows that the announcement effect for domestic and cross-border targets amounts to 10.2% and 11.3%, respectively; the difference is not statistically significant. However, when we include the price run-up period (40 trading days prior to the event), we find a statistically significant difference (within the 5% level) of 2.9% (22.7%-18.8%). The main reason why on average higher premiums are paid for domestic targets than for cross-border targets is that the sample of domestic M&As includes a higher proportion of UK targets (46% versus 28% in the cross-border takeover sample; see table 2).

In all countries (apart from the Benelux countries), higher premiums are paid for targets in cross-border bids than for those in domestic M&As. This is surprising as UK firms are more frequently the target of hostile domestic acquisitions than of hostile cross-border bids. In section 6, we further investigate whether other bid characteristics (such as the means of payment) can explain the higher CAARs in cross-border acquisitions.

[insert table 7 about here]

4.5. Means of payment in takeover bids.

The average bid value of our sample is USD 5,469 million. The distribution of the bid value is highly skewed, as the median value is only USD 575 million. The majority of bids (excluding the divestitures (see section 4.8)) are cash offers (93 out of 156 cases or 60%). Twenty-four per cent of the offers are all-equity offers and the remainder consists of combinations of cash and equity (11%), of cash and loan notes (2%), of equity and loan notes (2%), and of cash, equity and loan notes (1%). Payment for smaller targets is usually done in cash: the average value of all-cash offers amounts to USD 1,489 million while that of all-equity offers is USD 14,255 million (with medians of USD 443 and 2,580 million, respectively). In 12

cases out of the 93 all-cash offers, the bidder also gave the target the opportunity to accept an all-equity offer or a combined offer (with a higher value than the cash offer).¹⁰

If the managers of an acquiring firm know that their shares are worth more than their current market price, they should prefer to finance the acquisition with cash. Hence, future changes in the stock price will only benefit the shareholders of the bidding firm. Conversely, if the bidding management believes that its stock is overvalued, they should prefer to pay for the acquisition with equity. Hence, asymmetric information between bidder's management and outside investors on the bidder's market value may have some bearing on the choice between cash or equity payments in an offer.

We find strong evidence that the share price reaction for the target is sensitive to the means of payment for its shares. Cash offers trigger substantially higher abnormal returns (10% at the announcement) than offers including the bidders' equity (6.7%) and combined offers of cash and equity (5.6%) (panel A of table 8). Panel A of table 8 shows that when the price run-up starting two weeks prior to the event day is included, cash offers trigger CAARs of almost 20% versus 14% and 12.5% for all-equity bids and combined bids, respectively. Panel B shows that whatever the event window the CAARs of cash-financed bids are significantly higher than those of other bids at the 1% significance level. Panel B of table 8 shows an entirely different picture for bidding firms. Over both short and longer term windows, the shareholders of the acquiring firms greet equity offers more favourably (1%) than cash offers (0.4%). This implies that the choice to make an all-equity offer does not suggest to the market that the bidder's equity is overvalued. Within the sample of large take-over bids, the relatively smaller ones are all-cash bids whereas the relatively larger ones involve equity. Consequently, it may be that the market realises that for large deals the choice of means of payment is restricted.

[insert table 8 about here]

4.6. Takeover bids by industry.

In this sub-section, we check whether our results are driven by particular industries. We created the following 5 industry groups based on the SIC classification: (i) energy, natural

¹⁰ This choice between an all-cash offer and a combined cash-and-equity offer is given in all 12 cases at the first announcement of the bid. In contrast, in 4 cases, a cash offer was added to an initial all-equity or combined offer as a sweetener some time after the first announcement.

resources, waste development and utilities (9 firms) (ii) production and manufacturing (49 firms), (iii) services (36 firms), (iv) retailers, stores, pubs, hotels (23 firms) and (v) banking and insurance (19 firms). On the announcement day, bids for retail and manufacturing firms trigger the strongest positive abnormal returns, 14.4% and 10.9%, respectively (panel A of table 9). For longer time intervals of e.g. two months there are no substantial differences between the different industries. Our results for banks are consistent with the findings of Cybo-Ottone and Murgia (2000), who found a significant and positive 15.3% announcement effect for European target banks. The strong decline in abnormal returns of financial and energy target firms reflects the fact that a few of the bids were ultimately unsuccessful.

However, the picture for bidding firms by industry looks different. Some industries show positive CAARs (manufacturing, retailing) whereas other industries have negative announcement effects (energy, services). The latter difference is largely due to the fact that the energy and services industries count more hostile acquisitions (see section 4.2). Financial bidders (banks and insurance companies) realise insignificant positive returns, but significantly negative CAARs over longer time periods (panel B of table 9). These findings are consistent with those from Cybo-Ottone and Murgia (2000) for Europe and Frame and Lastrapes (1990) for the US.

[insert table 9 about here]

4.7 Ultimately failed versus successful bids.

In this section, we address the question as to whether the markets are able to anticipate the ultimate success or failure of the merger negotiations. The merger or acquisition negotiations are assumed to be ultimately successful if the Financial Times reports acceptance of the bid by the target's shareholders. Conversely, the takeover attempt is considered to be a failure if the bidder abandons negotiations within a 6-month period subsequent to the announcement. Out of the 187 announcements 37 failed. Out of the announcements involving listed target firms (excluding divestitures), 27 were unsuccessful of which, only 16 were categorised as hostile bids due to resistance by the target's management or due to the fact that multiple firms were attempting to acquire the target. Hence, there were also 11 cases for which the friendly merger or acquisitions negotiations broke down. For both the (ultimately) failed and successful bids, we find a significant positive announcement effect for the target firms (panel A of table 10). The event-day effect is significantly larger (by 5%) for the successful bids than for the failures.

However, for the two-week window prior to and including the event day, there is no difference in the CAARs between failed and successful bids. When the price run-up over a 3-month period is included, the failed bids significantly outperform the successful bids by 7% (30% versus 23%). Whereas the cumulative abnormal returns for the targets in the successful bids are not significantly different from zero subsequent to the announcement, the abnormal returns for the failed bids nose-dive (by 7.5%) over the 2 and 3 months subsequent to the event. This is a result of the collapse of the (friendly) merger negotiations or of the successful hostile opposition by the target's management shareholders. However, it should be noticed that the cumulative abnormal return for the companies on which a failed bid was launched does not revert to the level prior to the announcement. This implies that the stock prices of these targets – in spite of the breakdown of the merger or acquisition negotiations - still contain a merger premium reflecting the possibility of another potential bid in the near future.

The announcement effect for unsuccessful bidders is negative, but not statistically significant from zero (panel B of table 10). This negative effect can be explained by the fact that two thirds of the subsample of failed bids consist of hostile acquisitions (see section 4.2).

[insert table 10 about here]

4.8 Bids made prior and subsequent to 1 January 1999

M&A activity during the 1990s is characterised by continuous increases in volume, in average bid value and hence in total bid value. European M&A activity grew in value by more than 280% over the period of 1996-99. The year 1999 was not only remarkable in terms of the total bid value (USD 1,560 million), but also in terms of the number of hostile acquisitions: there was a staggering number of 369 hostile offers. Shelton (2000) reports evidence that bidder gains fall during merger peaks, suggesting that bidders are more aggressive, display greater tendencies to over-pay for target firms or assume more risk in pursuing M&A projects. Hence, we split the bids into two categories based on the period in which they were made: bids before 1999 and those in 1999-2000. About half of the bids were made in 1999-2000.¹¹ A possible difference in wealth effects between the two periods may result from the introduction of the Euro. However, panel A of table 11 shows that, on the announcement day, there is little

¹¹ An analysis of the takeovers by year for the period 1993-1998 does not give significant differences in abnormal returns at the announcement and over longer time windows.

difference in terms of the price reaction for bids that took place prior to 1999 and those in 1999-2000: for both samples the abnormal return is around 9%. However, the price run-up for pre-1999 offers started only one month prior to the announcement whereas the one for the bids in 1999-2000 already started 3 months prior to the announcement. Over long windows, for instance over a 6-month symmetric event window, the recent bids yield higher CAARs (almost 25%) than the pre-1999 ones (19%). We also investigate the difference in announcement reactions for firms bidding prior to and after 1 January 1999, but do not find any difference in abnormal returns (panel B of table 11).

[insert table 11 about here]

4.9 Divesting firms

The 187 announcements include 29 bids for a division of a listed firm rather than an entire firm. In all 29 cases the initial bid is a friendly attempt, but one case involved multiple bidders. In half of the cases, bidder and target are located in the same Continental European country and in more than one third of the cases bidder and target are UK-based. Ninety per cent of the bids are cash financed. Two offers were financed by both cash and loan notes and in one case a combination of equity and loan notes was offered. The market value of the divestitures is smaller than the one of the average bid for an entire firm and averages USD 480 million (median of USD 415). Table 12 shows that the announcement of the divestitures is greeted by the market as positive news for the divesting firm as the CAAR for the 5-day window centred on the event day is 3.5% (significant at the 1% level). The reasons that are reported for the divestiture in the announcement press statements include return to core business (69%) and the generation of cash to pursue a focus strategy (21%).

Hanson and Song (2000) find that buyers and sellers on average earn significant positive abnormal returns, although significant returns only occur during the 1990–1995 period. Recent research on US divestitures by Mulherin and Boone (2000) for the period 1990–99 concludes that the combined target and bidder return at the announcement averages 3.5%, while the announcement return for corporate divestitures averages 3%. The results are consistent with the views that divestitures create value by transferring assets to a more efficient firm and that divestitures resolve agency problems.

[insert table 12 about here]

5. Takeover motives: synergies, agency or hubris?

Although most bidding firms make statements about the potential synergies from mergers and acquisitions, frequently the forecasted benefits are not obtained. This may be the result of over-optimistic synergy forecasts by the bidding management or the fact that the merger or acquisition was initiated for entirely different reasons such as managerial hubris or other agency problems. We will attempt to distinguish between these three different takeover motives by performing a correlation analysis of the target, bidder and total announcement gains.

If synergies are the main motive for the merger, we assume that the managers of both the target and acquirer intend to maximise shareholder value. Hence, the wealth effects of the merger or acquisition for both the target's and bidder's shareholders should be positive and the division of the value created should depend on the relative bargaining power of target and bidder. In addition, the wealth gains for the target shareholders should be positively correlated to both those of the bidder shareholders and to the total wealth effect.

A second motive for a merger or acquisition may be agency related: in this case, the self-interest of the bidder's management is the prime reason for the offer. Managers may prefer to stimulate corporate growth rather than corporate value as their private benefits tend to grow with firm size. For example, Conyon and Murphy (2002) show that for the UK, size (and not performance) is the main determinant of the level of managerial salaries, bonuses as well as of the allotment of share options. Hence, managers may be tempted to use free cash flow for 'empire building' (Jensen 1986). Similarly, Shleifer and Vishny (1989) suggest that managers may make acquisitions such that the combined entity will depend even more on their personal expertise. Hence, they may exploit this dependency and extract value from the acquirer: both the total value of the combined entity as well as the wealth of the bidder's shareholders will be lower. As a result, the correlations between the target's value and the bidder's value and between the target's value and the total value will be negative.

A third M&A motive may be the bidding management's hubris, which hinges on the assumption that the management makes mistakes in evaluating potential targets (Roll 1986). If there is an equal probability that managers are over- and underestimating the synergies of potential mergers or acquisitions, and managers make a bid after having overestimated synergy values, they may mostly pay too much for the target. As a result, the higher the target's gain,

the lower the bidder's gain, such that there is a wealth transfer from the bidder to the target when the total gain is zero (Berkovitch and Narayanan 1993). Hence, the correlation between the target's and bidder's wealth changes is negative whereas the one between the target's and total wealth change is zero. Panel A of table 13 summarizes the expected signs of the correlations.

In order to test these hypotheses, we select the 68 bids which involve both a listed target and a listed bidder. The average total gain is calculated on the event day (panel B of table 13) and over the time window $[-10, 0]$ (panel C), using the market capitalisations of the bidder and target as weights. Total wealth gains over these periods amount to 4% and 6%, respectively, of the combined entity. Fifty-eight per cent of mergers and acquisitions in this sample have positive total wealth gains. For the whole sample, we find that the correlations between the target's gain and the total gain in panel B are significantly positive. Even when we measure the wealth gains over a longer window, the correlation between the target and the bidder gains remains significantly positive. This suggests that, on average, the large European M&A bids in the 1990s are motivated by synergies. However, as the motives for individual firms may still be different, we also analyse the correlations for the subsamples of takeovers with positive versus negative total wealth effects. We find that the synergy hypothesis for the firms with positive wealth effects is corroborated (see panel C). In contrast, for the bids with negative total gains, we find no correlation between target gain and total gain and a negative correlation – albeit only statistically significant for longer term windows – between target and bidder gains. This suggests that in about a third of the firms, managerial hubris may, to a large extent, be responsible for poor decision making about merger or acquisition bids. The findings from this study are in line with those of Gupta et al. (1997) and Berkovitch and Narayanan (1993) who both find strong evidence that synergy is the prime motive for mergers and acquisitions. The latter study also finds evidence that agency problems and hubris are a relatively frequent motive for acquisitions.

[insert table 13 about here]

6. Determinants of short-run wealth effects for target and bidding firms.

We regress the cumulative abnormal returns of target and bidding firms (in separate regressions) over two different windows ($[-1, 0]$ and $[-10, 0]$) on variables capturing:

- (i) the status of the bid (merger, friendly acquisition, hostile acquisition),

- (ii) the means of payment (all-cash offer, all-equity offer or a combination of cash, equity or loan notes),
- (iii) the takeover characteristics (relative size: target/bidder),
- (iv) the target and bidder characteristics (net cash held by target over market value of equity, performance of target, interest coverage of target, growth potential of target (MV/BV), degree of diversification of bidder, industry of target and bidder)
- (v) the location of the target and bidder firm (domestic versus cross-border; and country of the target)

We correct both target and bidder regressions for industry effects. The sample size is 136 for the target firms and 142 for the bidder firms.

Table 14 shows that the status of the bid is an important determinant of the short-term wealth effects (on the event day and for the ten-day period including the price-run up) for both target and bidder firms. In comparison to merger offers, hostile bids trigger large positive abnormal returns for the target shareholders but significantly negative abnormal returns for the bidder. This follows from the fact that bidder shareholders are fearful that the management's motives for the bid are hubris or agency related. In contrast, target shareholders expect that opposition against the offer will lead to upwardly revised bid prices. Friendly acquisitions are slightly underperforming – from the perspective of the target shareholders - other types of bids. When the offer is entirely cash financed, the target's share price will increase more than when the bid consists of an all-equity offer or a combination of equity, cash and loan notes. An all-cash offer may signal that the bidder's equity is undervalued. It may also signal the bidder's confidence in successfully exploiting the potential synergies as the bidder does not want to share future value creation with the target shareholders. However, for the very large targets it may be difficult to raise large amounts of cash such that the bidder has to resort to an all-equity offer or at least a combined offer. The share price reaction for bidding firms to a cash offer is (weakly) negative. This may result from the market's concern that management may bid too high a premium whereas when the target shareholders accept an equity offer, they share some of the risk from the acquisition.

The impact of the following target and bidder characteristics is also investigated: the relative size of target's market capitalization compared to that of the bidder, the cash reserves held by the target firm, the target's market-to-book ratio, the target's return on equity and

interest coverage, the degree of the bidder's diversification, the fact whether or not bidder and target are operating in the same industry, and the country in which the target is located. Table 14 shows that relative size is not significant, which may be explained by the fact that this study only concentrates on large European deals (of over USD 100 million). The amount of cash reserves held by the target company may have an impact on the size of the bid premium and hence on the announcement effect, because a target firm with substantial cash reserves may in fact provide the bidder with part of the necessary finance to fund the merger or acquisition. However, table 14 shows that this is not the case for the firms in our sample. For a target firm with strong growth opportunities (as reflected in a high market-to-book ratio), the market expects a premium whereas table 14 suggests that the market is anxious that the bidder will overpay for growth options.¹² Whereas the financial distress measure (interest coverage) does not have any bearing on the abnormal returns of the targets and bidders, there is some (weak) evidence that the target's performance (measured by the return on equity) is positively related to the merger or acquisition premium. The fact that a bidder implements a focused merger or acquisition strategy (i.e taking over a firm in the same industry) does not have any short-term wealth effects on the bidder or target. In contrast, we find some evidence of significantly negative abnormal returns (at the 10% level) for bidders that are already diversified. The regressions also analyse whether the premiums are influenced by domestic or cross-border mergers and acquisitions. We find evidence (at the 10% level) that domestic M&As are triggering a higher premium of around 1% for the target even after correcting for the status of the takeover. However, bidders in domestic mergers and acquisitions bids earn marginally negative abnormal returns of 0.7%. We also investigate whether the location of the target has an impact on abnormal returns. We distinguish between targets located in (i) the UK, (ii) Germany, Austria, Switzerland and Central Europe, (iii) Southern Europe and (iv) France and the Benelux countries. We find strong evidence that bids involving UK targets generate significantly positive short-term wealth effects for both the bidder and target shareholders: the target's abnormal returns increase by 7 to 9.6% and the ones for bidder increase by around 3.3%. In bids involving German, Austrian and Swiss targets, wealth effect are also positive but lower (between 0.6-2.1%). As we already control for effects such as the status of the bid, industry, financial characteristics of the target, and means of payment, the finding that the location is an important determinant may be due to institutional differences. These institutional differences are an amalgam of ownership patterns (with the UK having a higher free float than

¹² Substituting Price/Cash flow for Market-to-Book did not yield significant results.

Continental Europe), protection of shareholder rights (with the UK having a higher degree of protection than Continental Europe according to La Porta et al. 1997) and takeover regulation (with higher transparency in the UK).

[insert table 14 about here]

7. Conclusions

The 1990s were characterised by a large increase in European M&A activity. In 1999, the total deal volume, the average deal value and the number of hostile acquisitions almost reached US levels. In this study we analyse the market reactions to 187 large M&A deals with a value of at least USD 100 million. Our sample contains 56 mergers, 41 friendly acquisition, 40 hostile acquisitions, 21 hostile acquisitions involving multiple bidders and 29 divestitures.

The short-term wealth effects found in this European (Continental Europe and UK) study are remarkably similar to those found by US and UK studies. We find large announcement effects of 9% for target firms, but the cumulative abnormal return that includes the price run-up over the two-month period prior to the announcement rises to 23%. Bidders react positively with a statistically significant announcement effect of only 0.7%. We also show that the status of the bid has a large impact on the short-term wealth effects for the target and bidder shareholders. For hostile acquisitions, the announcement effect for target firms is substantially higher (12.6% on day 0 and almost 30% including the price run-up) than the one for mergers and friendly acquisitions (8% on day 0 and 22% including the price run-up). Hence, the market seems to expect that opposition against a bid will lead to a revision of the offer and ultimately to a higher bid premium. This is confirmed by the share price reaction of bidding firms: a hostile acquisition triggers a negative abnormal return of 2.5% whereas the announcement of a merger or friendly acquisition generates a positive abnormal return of 2.5%. The location of bidder and target firms also seems to have an important impact on short-term wealth effects: both UK bidders and targets generate significantly higher returns than their Continental European counterparts. This can partially be explained by the higher incidence of hostile acquisitions in the UK and the more developed UK market for corporate control.

We also find strong evidence that the means of payment has a large impact on the wealth effect. All-cash offers trigger an abnormal return of almost 10% upon announcement (27.5% including price run-up) whereas all-equity bids or offers combining cash, equity and loan notes

only generate a return of 6% (14% including the price run-up). Cash bids are more frequent for smaller targets, though. The market reacts more positively (+1%) to bidding firms which use equity to pay for the merger or acquisition. This implies that the choice of the means of payment does not act as a signal to the market about the over- or undervaluation of the bidder's equity.

Contrary to past research, the size of the target relative to the size of the bidder does not have an impact on target and bidder wealth effects. The reason for this may be that this study focuses on large M&A deals and that therefore the average relative size is pretty homogeneous. There is no evidence that the past returns of target and bidder firms influence the share price reactions around the bid announcement. However, the market-to-book ratio of the target matters in terms of the bid premium. A high market-to-book ratio for the target leads to a higher bid premium combined with a negative abnormal return for the bidder. We also find that bidding firms should not further diversify by acquiring target firms that do not match their core business.

An interesting result is that domestic mergers or acquisitions trigger higher wealth effects than cross-border ones. This is surprising as foreign direct investment theories predict that foreign bidders may be able to take advantage of imperfections in factor and capital markets and thereby generate more gains. Consequently, bidders in cross-border transactions were expected to pay higher premiums, which according to our analysis they do not. We also find that the premiums paid depend on the location of the target. The country dummies we use proxy for institutional differences, such as different corporate governance regimes (ownership concentration, takeover regulation, protection of shareholder rights, and informational transparency). After controlling for the status of the bid (i.e. the higher frequency of hostile acquisitions in the UK), for means of payment, and financial characteristics of the target, we find substantially higher wealth effects for UK targets. This is also the case (but to a much smaller extent) for German, Austrian and Swiss firms but not for targets in France, the Benelux countries and Southern Europe.

Finally, we also investigate whether the predominant reason for mergers and acquisitions is synergies, agency problems or managerial hubris. We find a significant positive correlation between target shareholder gains and total gains as well as between target gains and bidder gains. This suggests that synergies are the prime motivation for bids and that targets and

bidders tend to share the wealth gains. However, these findings are only valid for the bids generating total positive wealth gains. For bids with negative total wealth gains, there is no significant correlation between target and total wealth gains whereas the correlation between target and bidder gains is negative. This implies that – given that the total wealth effect is negative – a dollar gain to the target’s shareholders coincides with a dollar loss for the bidder’s shareholders. Thus, it seems that for a third of firms, managerial hubris leads to poor decision making on mergers and acquisitions.

Table 1: Sample composition: type of bid and means of payment.

This table details the composition of the sample: it distinguishes between different types of bids and means of payment. Source: Source: Mergers and Acquisitions Report and Financial Times: own calculations.

	M&As	Divestitures
	Number	Number
Total sample	158	29
Mergers	56	-
Friendly acquisitions	41	-
Hostile acquisitions	40	-
Multiple Bidders	21	1
Bid on divestiture	0	28
UK Target	59	11
UK Bidder	53	13
Bidder and Target same country	103	15
All-cash Bid	93	26
All-equity Bid	37	0
Cash/Equity Bid	18	0
% Cash in Cash+Equity Bids	45.9%	---
Cash/Loan Notes Bid	3	2
Equity/Loan Notes Bid	3	1
Cash/Equity/Loan Notes Bid	2	0
Choice Cash or Equity Bid	12	0
Equity Bid with subsequent cash offer	4	0
Ultimately failed bid	39	0
Ultimately successful bid	119	29

Table 2: Country distribution of bids.

The total number of takeover announcements is given by country. For the total number of bids by country, the number of listed target and bidder firms is shown. Source: Mergers and Acquisitions Report and Financial Times: own calculations.

[illegible]

Table 3: Descriptive statistics.

Panel A shows data on corporate size, growth opportunities and performance for target, bidder and divesting firms. Panel B shows average bid value as well as the financial composition of the bid. The market to book-value (MV/BV) represents the growth potential of the target, the interest coverage captures the potential financial distress, the amount of liquid assets (NC) (cash and short-term loans, deposits and investments) is divided by total market value. We calculated relative target to bidder size using the market capitalisation at least 6 months prior to the announcement. Source: Mergers and Acquisitions Report and Financial Times: own calculations.

Panel A: Financial data								
	Targets		Bidders		Divesting firms			
	Mean	Stdev.	Mean	Stdev.	Mean	Stdev.		
Market Capitalization (\$million)	17878	15192	21568	28038	15033	29694		
MV/BV	4.26	8.88	4.01	5.20	8.13	22.3		
Ncash/MV	0.07	0.16	0.09	0.14	0.08	0.08		
Dividend yield (%)	3.97	3.50	2.78	1.59	3.19	2.27		
Interest Coverage	50.80	32.59	13.41	13.66	5.51	5.99		
Price/Cash flow	11.53	36.36	10.51	7.71	9.41	7.81		
ROE (%)	6.13	7.11	5.5	4.83	2.11	4.52		
Panel B: Value of bid and means of payment (in USD million)								
	Mean	Median	Stdev.	Min	Max	Q25	Q75	Non-zero median
M&As (158 cases)								
Value of bid	5469	575	15694	100	147280	218	2492	575
Cash Bid	1489	147	3403	0	24600	0	581	443
Equity Bid	14255	0	28196	0	147280	0	100	2580
Cash+Equity bid	3084	0	5318	0	19895	0	0	655
Cash+Loan Notes bid	114	0	13	0	127	0	0	114
Equity+Loan Notes bid	29881	0	15363	0	42729	0	0	34052
Cash+Equity+Loan Notes bid	15779	0	22106	0	31410	0	0	31410
Divestitures (29 cases)								
Value of bid	481	415	310	110	1239	\$212.55	682.75	
Cash Bid	504	317	318	110	1239	160.4	681.75	423
Cash+Loan Notes bid	217	292	106	142	292	142	292	142
Equity+Loan Notes bid	370	0	0	0	370	0	0	370

Table 4: Cumulative abnormal returns for target and bidding firms.

This table shows cumulative abnormal returns measured over several event windows for target and bidder firms. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: Target firms		
Time Interval	CAAR (%)	t-value
[-1, 0]	9.01	29.53***
[-2, +2]	12.96	26.88***
[-40, 0]	23.10	17.62***
[-60, +60]	21.66	14.39***
Observations	136	
Panel B: Bidding firms		
Time Interval	CAAR (%)	t-value
[-1, 0]	0.70	2.98***
[-2, +2]	1.18	3.18***
[-40, 0]	0.40	0.64
[-60, +60]	-0.48	-0.26
Observations	142	

Table 5: Cumulative abnormal returns of target and bidding firms by status of bid.

This table shows cumulative abnormal returns over several event windows for target firms and bidder firms by status of bid (merger, friendly acquisition, hostile acquisition, acquisition with multiple bidders). ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: CAARs of target firms by status of bid								
Time Interval	Merger	t-value	Friendly acquisition	t-value	Hostile acquisition	t-value	Multiple Bidders	t-value
Event Window	%		%		%		%	
[-1, 0]	8.80	19.00***	5.96	6.34***	12.60	22.81***	6.98	8.62***
[-2, +2]	12.62	17.24***	11.33	7.62***	17.95	20.54***	11.28	8.82***
[-40, 0]	23.41	6.04***	20.34	5.41***	29.23	6.79***	23.68	2.87***
[-60, +60]	23.59	6.55***	26.52	3.62**	28.36	6.60***	20.53	3.26***
Observations	40		53		28		14	

Panel B: Significance of differences in target CAARs among status of bids								
Event Window	Hostile acquisitions – Mergers	t-value difference	Hostile – Friendly Acquisitions	t-value difference	Hostile acquisitions – Multiple bidders	t-value difference	Mergers – Friendly Acquisitions	t-value difference
[-1, 0]	3.81	7.59***	6.64	10.40***	5.63	8.67***	2.83	5.16***
[-2, +2]	5.33	6.72***	6.62	6.56***	6.67	6.49***	1.29	1.48
[-40, 0]	5.82	3.59***	8.89	3.78***	5.55	3.51***	3.07	1.68
[-60, +60]	4.77	1.22	1.85	0.37	7.84	1.55	-2.92	0.68

Panel C: CAARs of bidding firms by status of bid								
Time Interval	Merger	t-value	Friendly acquisition	t-value	Hostile acquisition	t-value	Multiple Bidders	t-value
Event day	%		%		%		%	
[-1, 0]	2.20	5.22***	2.43	5.06***	-2.51	-5.61***	-0.08	-0.13
[-2, +2]	4.35	6.55***	1.94	2.56***	-3.43	-4.85***	0.85	0.81
[-40, 0]	4.63	2.95***	4.86	2.45***	-2.51	-1.56	-1.04	-0.59
[-60, +60]	3.03	0.93	-1.67	-0.45	-0.69	-0.20	-2.96	-0.58
Observations	41		55		32		17	

Panel D: Significance of differences in bidder CAAR across status of bids								
Event Window	Hostile acquisitions – Mergers	t-value difference	Hostile – Friendly acquisitions	t-value difference	Hostile acquisitions – Multiple bidders	t-value difference	Mergers – Friendly acquisitions	t-value difference
[-1, 0]	-4.71	-10.89***	-4.94	-10.62***	-2.43	-4.59***	-0.23	0.51
[-2, +2]	-7.78	-11.38***	-5.37	-7.31***	-4.28	-5.11***	2.41	3.39***
[-40, 0]	-7.14	-5.66***	-7.37	-3.14***	-1.47	-1.28	-0.23	-0.31
[-60, +60]	-3.72	-1.10	-0.99	-0.27	2.28	0.55	4.70	1.35

Table 6: Cumulative abnormal returns of target and bidding firms: UK versus Continental Europe.

This table shows cumulative abnormal returns over several event windows for target firms and bidder firms by location (UK versus Continental Europe). ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: CAARs of Target Firms: UK versus Continental Europe						
Time Interval	UK	t-value	Continental Europe	t-value	UK – Continental	t-value differences
Event window	%		%		%	
[-1, 0]	12.31	29.09***	5.95	13.99***	6.35	14.96***
[-2, +2]	17.42	26.03***	8.85	13.15***	8.56	12.75***
[-40, 0]	38.30	14.66***	14.95	7.56***	23.35	5.64***
[-60, +60]	29.32	8.91***	14.82	4.48***	14.49	4.39***
Observations	70		66			
Panel B: CAARs of Bidding Firms: UK versus Continental Europe						
Time Interval	UK	t-value	Continental Europe	t-value	UK – Continental	t-value on differences
Event window	%		%		%	
[-1, 0]	1.04	3.41***	0.40	1.19	0.64	1.98*
[-2, +2]	1.51	3.11***	0.90	1.69*	0.60	1.17
[-40, 0]	1.19	0.92	0.35	0.22	0.84	0.68
[-60, +60]	-1.65	-0.69	0.54	0.21	-2.193	-0.87
Observations	66		76			

Table 7: Cumulative abnormal returns of domestic and cross-border bids.

This table shows the percentage abnormal returns for different event windows for listed target and bidder firms of domestic and cross-border acquisitions. The number of deals refers to the number of takeover announcements. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

	Domestic M&A					Cross-border M&A				
	Number Of Deals	Listed Target %	Listed Target t-stat	Listed Bidder %	Listed Bidder t-stat	Number Of Deals	Listed Target %	Listed Target t-stat	Listed Bidder %	Listed Bidder t-stat
All Countries	Obs.:118	Obs.:85		Obs.:86		Obs.:69	Obs.:49		Obs.: 56	
[-1,0]		10.22	28.776***	-0.45	-1.604		11.25	23.247***	2.38	6.389***
[-2,+2]		12.72	22.645***	-0.10	-0.222		13.51	17.656***	3.09	5.247***
[-40, 0]		22.74	14.139***	-0.57	-0.446		19.81	9.044***	1.48	0.880
[-60, +60]		22.87	8.277***	-0.53	-0.242		19.49	5.178***	-0.41	-0.142
UK+Ireland	Obs.:74	Obs.: 56		Obs.:52		Obs.:19	Obs.:14		Obs.:14	
[-1,0]		12.89	30.559***	-1.27	-3.979***		15.27	16.196***	6.29	7.793***
[-2,+2]		15.68	23.508***	-0.60	-1.190		17.61	11.811***	9.17	7.185***
[-40, 0]		26.99	14.135***	-1.28	-0.884		31.24	7.317***	4.91	1.344
[-60, +60]		27.78	8.468***	-2.20	-0.885		33.28	4.537***	0.34	0.054
Germany/Aust./Switz	Obs.:7	Obs.: 6		Obs.:4		Obs.:18	Obs.: 12		Obs.:12	
[-1,0]		6.77	5.092***	3.76	3.114***		10.72	9.110***	0.31	0.515
[-2,+2]		7.21	3.430***	1.98	1.038		13.39	7.199***	-1.93	-1.580
[-40, 0]		14.53	2.412***	-2.00	-0.365		13.70	2.573***	-1.85	-0.479
[-60, +60]		-0.59	-0.057	-8.95	-0.952		8.11	0.887	-5.99	-0.893
France	Obs.:16	Obs.:11		Obs.:13		Obs.: 7	Obs.:3		Obs.:13	
[-1,0]		3.58	3.976***	-1.72	-2.105**		5.90	4.498***	0.98	1.623
[-2,+2]		4.29	3.013***	-1.91	-1.478		9.60	4.628***	2.83	2.093**
[-40, 0]		11.81	2.895***	-1.39	-0.375		8.35	1.406	-0.85	-0.220
[-60, +60]		17.15	2.446***	3.23	0.508		8.34	0.817	12.68	1.904*
Scandinavia	Obs.:3	Obs.:1		Obs.:3		Obs.:13	Obs.:11		Obs.: 5	
[-1,0]		1.23	0.354	0.53	0.265		11.33	8.881***	1.47	1.303
[-2,+2]		-0.36	-0.066	2.02	0.637		11.10	5.505***	-1.33	-0.527
[-40, 0]		38.84	2.466***	5.83	0.644		19.30	3.340***	0.76	0.105
[-60, +60]		27.78	1.027	11.87	0.763		16.96	1.708*	-11.31	-0.909
Benelux	Obs.:6	Obs.: 4		Obs.:4		Obs.:8	Obs.:7		Obs.:8	
[-1,0]		13.79	6.158***	6.45	5.523***		10.98	8.519***	2.40	2.429***
[-2,+2]		13.96	3.943***	9.59	5.197***		17.73	8.700***	2.19	1.569
[-40, 0]		22.42	2.211**	4.64	0.878		16.98	2.910***	0.80	0.178
[-60, +60]		20.81	1.195	4.88	0.537		10.98	1.095	-7.20	-0.938
Southern Europe	Obs.:10	Obs.:7		Obs.:8		Obs.:4	Obs.:2		Obs.:4	
[-1,0]		2.31	2.011**	-0.09	-0.067		8.07	3.257***	1.29	1.559
[-2,+2]		7.78	4.281***	-0.85	-0.404		8.17	2.085**	5.52	2.978***
[-40, 0]		6.20	1.192	-0.61	-0.101		20.01	1.784*	13.23	2.493***
[-60, +60]		1.85	0.207	-3.84	-0.371		10.50	0.545	5.22	0.573
Central Europe	Obs.:2	Obs.:0		Obs.:2		Obs.:0	Obs.:0		Obs.:0	
[-1,0]		NA		-0.92	-0.303		NA		NA	
[-2,+2]				-0.08	-0.017					
[-40, 0]				-8.23	-0.597					
[-60, +60]				11.99	0.507					

Table 8: Cumulative abnormal returns of target and bidding firms by means of payment

This table shows cumulative abnormal returns over several event windows for target firms and bidder firms by means of payment (all-cash, all-equity or a combination of cash, equity and/or loan notes). ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: CAARs of target firms by means of payment						
Time Interval	Cash bid	t-value	Equity bid	t-value	Combined bid	t-value
[-1, 0]	9.89	35.81***	6.65	16.07***	5.63	11.68***
[-2, +2]	13.56	21.95***	11.38	12.30***	13.24	12.28***
[-40, 0]	27.49	15.54***	12.23	4.62***	16.81	5.44***
[-60, +60]	28.75	9.46***	12.89	2.83***	5.66	1.07
Observations	88		30		18	
Panel B: Significance of differences in target CAARs among types of payment						
	Cash offers – Equity offers	t-value difference	Cash offers – Combined offers	t-value difference	Equity offers – Combined offers	t-value difference
Event Window	%		%		%	
[-1, 0]	3.24	36.10***	4.26	30.81***	1.01	0.20
[-2, +2]	2.18	10.84***	0.32	1.02	-1.86	-0.24
[-40, 0]	15.26	26.52***	10.68	12.07***	-4.58	-0.35
[-60, +60]	15.86	16.04***	23.09	15.19***	7.23	0.43
Panel C: CAARs of bidding firms by means of payment						
Time Interval	Cash bid	t-value	Equity bid	t-value	Cash/equity/ loan notes bid	t-value
Event day	%		%		%	
[-1, 0]	0.37	1.68*	0.98	3.01***	0.13	0.35
[-2, +2]	0.90	1.83*	2.57	3.52***	0.22	0.27
[-40, 0]	-1.18	-0.84	5.15	2.46**	-0.20	-0.09
[-60, +60]	-1.44	-0.59	2.72	0.76	-1.39	-0.34
Observations	86		33		23	
Panel D: Significance of differences in bidder CAAR across types of payment						
	Cash offers – Equity offers	t-value difference	Cash offers – Combined offers	t-value difference	Equity offers – Combined offers	t-value difference
Event Window	%		%		%	
[-1, 0]	-0.61	-9.95***	0.24	2.97***	0.85	8.93***
[-2, +2]	-1.67	-12.08***	0.68	3.79***	2.35	11.00***
[-40, 0]	-6.33	-16.01***	-0.98	-1.89*	5.36	8.75***
[-60, +60]	-4.16	-6.11***	-0.05	-0.05	4.11	3.91***

Table 9: Cumulative abnormal returns of target and bidding firms by industry.

This table shows cumulative abnormal returns over several event windows for target firms and bidder firms by industry. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: Cumulative Abnormal Returns of Target Firms by Industry										
Time Interval	Energy	t-value	Manufac.	t-value	Services	t-value	Retailer	t-value	Bank	t-value
Event day	%		%		%		%		%	
[-1, 0]	5.06	4.57***	10.87	25.77***	7.34	10.48***	14.35	17.99***	4.03	5.48***
[-2, +2]	6.83	3.90***	15.16	22.73***	10.50	9.48***	16.87	13.38***	10.06	8.63***
[-40, 0]	17.28	3.99***	26.53	15.34***	25.22	6.04***	17.31	10.04***	18.31	7.39***
[-60, +60]	21.30	2.78**	24.86	7.58***	27.10	4.98***	18.22	2.94**	8.83	1.54
Observations	9		49		36		23		19	
Panel B: Cumulative Abnormal Returns of Bidding Firms by Industry										
Time Interval	Energy	t-value	Manufac.	t-value	Services	t-value	Retailers	t-value	Bank	t-value
Event day	%		%		%		%		%	
[-1, 0]	-1.91	-1.98*	1.89	5.00***	-2.35	-4.43***	2.07	3.94***	0.44	0.75
[-2, +2]	-0.83	-0.54	2.92	4.88***	-2.19	-2.61**	2.19	2.64**	-0.15	-0.16
[-40, 0]	-4.83	-1.46	0.12	0.11	-1.56	-1.73*	5.13	1.78*	-1.85	-0.99
[-60, +60]	7.64	1.02	-1.66	-0.56	2.90	0.70	5.37	1.32	-8.95	-1.96*
Observations	9		63		28		20		22	

Table 10: Cumulative abnormal returns of target and bidding firms by ultimately successful and failed bids.

This table shows cumulative abnormal returns over several event windows for target firms and bidder firms by outcome of the negotiations (failure versus success). ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: CAARs of Target Firms by Ultimate Success or Failure of the Bid						
Time Interval	Failures	t-value	Successes	t-value	Failed offers – Successful offers	t-value difference
Event date	%		%		%	
[-1, 0]	5.51	8.49***	10.30	27.84***	-4.79	-10.36***
[-2, +2]	10.83	10.55***	13.75	23.51***	-2.92	-3.99***
[-40, 0]	29.11	8.73***	22.45	11.73***	6.66	5.13***
[-60, +60]	25.02	4.95***	20.58	7.15***	4.44	1.23
Observations	27		109			
Panel B: CAARs of Bidding Firms by Ultimate Success or Failure of the Bid						
Time Interval	Failures	t-value	Successes	t-value	Failed offers – Successful offers	t-value difference
Event date	%		%		%	
[-1, 0]	-0.73	-1.45	1.08	4.05***	-1.81	-5.48***
[-2, +2]	-0.97	-1.22	1.75	4.16***	-2.72	-5.21***
[-40, 0]	-0.03	-0.04	0.67	1.56	-0.70	-1.66*
[-60, +60]	1.96	0.50	-1.13	-0.54	3.09	1.20
Observations	29		113			

Table 11: Cumulative abnormal returns by year of bid.

This table shows cumulative abnormal returns over several event windows for target firms and bidder firms by year of bid (prior to 1999 and 1999/2000). ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Panel A: CAARs of Target Firms by Year of Bid						
Time Interval	pre-1999 offers	t-value	1999-2000 offers	t-value	1999-2000 offers – pre-1999 offers	t-value differences
	%		%		%	
Event day						
[-1, 0]	08.80	23.30***	09.20	18.90***	0.40	0.92
[-2, +2]	14.02	23.48***	11.99	15.58***	-2.03	-2.93***
[-40, 0]	21.78	8.52***	24.15	9.34***	2.37	1.31
[-60, +60]	18.47	6.29***	24.83	6.56***	6.36	1.87*
Observations	65		71			
Panel B: CAARs of Bidding Firms by Year of Bid						
Time Interval	pre-1999 offers	t-value	1999-2000 offers	t-value	1999-2000 offers – pre-1999 offers	t-value differences
	%		%		%	
[-1, 0]	0.55	2.13**	0.87	2.17**	0.32	0.96
[-2, +2]	1.22	2.98***	1.14	1.80*	-0.08	-0.16
[-40, 0]	1.72	1.59	0.07	0.10	-1.65	1.60
[-60, +60]	-0.10	-0.05	-0.91	-0.29	-0.81	-0.31
Observations	74		68			

Table 12: Cumulative abnormal returns of divesting firms

This table shows cumulative abnormal returns over several event windows for divesting firms. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Time Interval	CAAR	t-value
Event day	%	
[-1, 0]	0.31	0.51
[-2, +2]	3.46	3.60***
[-40, 0]		
[-60, +60]	1.03	0.22
Observations	29	

Table 13: Correlations between target, bidder and total wealth gain.

This table tests whether or not bids were made for reasons of synergy, agency or hubris. Source: own calculations.

Panel A: Expected sign of correlation

	Expected sign Correlation Target and Total Gain	Expected sign Correlation Target and Bidder Gain
Synergy	Positive	Positive
Agency	Negative	Negative
Hubris	Zero	Negative

Panel B: Correlations between target, bidder and total event day gain

	Correlation Target and Total Gain	Correlation Target and Bidder Gain
Total sample (64 observations)	0.4545**	0.0617
Positive total gain sub-sample (42)	0.2474*	-0.1990
Negative total gain sub-sample (22)	0.2359	-0.1267

Panel C: Correlations between target, bidder and total gain over period [-10, 0]

	Correlation Target and Total Gain	Correlation Target and Bidder Gain
Total sample (64)	0.6330***	0.4155**
Positive total gain sub-sample (42)	0.5541**	0.1763*
Negative total gain sub-sample (22)	0.1393	-0.1640*

Table 14: Determinants of short-term wealth effects for target and bidding firms.

This table shows OLS regressions of cumulative abnormal returns over different event windows for target and bidder firms. Hostile acquisition is a dummy variable that equals 1 if the target's board opposes the acquisition or when there are multiple bidders. A friendly acquisition is accepted by the target's board and is not a merger (as indicated by the M&A Report). The variable cash payment is 1 when the bid is made in cash only. The relative size is total assets of target divided by total assets of the bidder. ROE stands for return on equity. Bidder diversification is a dummy variable capturing whether the bidder is diversified (dummy=1) or is a single-industry company. Bidder and target are in the same industry indicates whether the M&A is the result of a focus strategy (dummy equal to 1). Domestic M&A is a dummy variable indicating whether or not the target and the bidder are in the same country. UK target, German/Central European target, and Southern European target are dummy variables capture whether the target firm is located in, respectively, the UK, Germany/Austria/Switzerland/Poland, and Italy/Spain/Portugal/Greece. The benchmark is France/Benelux. ***, ** and * stand for statistical significance at the 1%, 5% and 10% level, respectively. Source: own calculations.

Dep variable	Target firms				Bidder firms			
	CAAR [-1, 0]		CAAR [-10, 0]		CAAR [-1, 0]		CAAR [-1, 0]	
	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value
Intercept	0.0510	2.311**	0.0715	2.877***	0.0588	2.371***	0.0687	2.466***
Bid characteristics								
hostile acquisition	0.0235	2.006**	0.0731	2.239**	-0.0573	-2.737***	-0.0663	-2.637***
Friendly acquisition	-0.0177	-1.787*	-0.0141	1.777*	0.0266	0.456	0.0101	0.460
cash payment	0.0748	2.152**	0.0699	2.515***	-0.0332	-1.858*	-0.018	-1.572
Bidder and target characteristics								
Relative size (target/bidder)	0.0014	0.220	0.0018	0.469	0.0054	0.673	0.0015	0.563
Target cash reserves/Market cap.	-0.0534	-1.005	0.0290	0.284	0.0011	0.738	0.0008	0.351
Target market-to-book ratio	0.0016	1.789*	0.0020	1.911*	-0.0021	-2.595***	-0.0029	1.728*
Target ROE	0.0333	1.687*	0.0518	1.566	-0.0156	-1.004	0.0064	0.452
Interest coverage	-0.0091	-1.214	-0.0061	-0.673	0.0014	0.490	0.0015	0.631
Bidder diversification	0.0694	0.583	0.0135	0.241	-0.0096	-1.721*	-0.0088	-1.689*
Bidder and target:same industry	-0.0572	-1.444	-0.1005	-1.351	0.252	1.461	0.374	0.637
M&A location								
Domestic M&A	0.0251	1.602	0.0114	1.742*	-0.0074	-1.688*	-0.0014	-0.863
UK target	0.0712	2.355***	0.0961	2.532***	0.0327	1.956*	0.0332	1.819*
German/Central European target	0.0199	2.005**	0.0138	1.798*	0.0210	2.636***	0.0056	1.647
Southern European target	0.0089	1.864*	0.0067	1.372	0.0069	1.254	0.0007	1.035
Industries								
Energy	-0.0370	-0.229	-0.1051	-0.674	-0.0324	-0.684	-0.0943	-0.634
Services	-0.8529	-0.738	-0.0467	-0.663	-0.2511	-1.221	-0.6866	-0.013
Retail	-0.5628	-0.330	0.0998	0.421	0.0999	0.997	0.0142	0.852
Financial	0.1411	0.454	0.3145	1.271	-0.4126	-0.637	-0.0853	-0.462
Observations	136		136		142		142	
R ²	0.304		0.350		0.331		0.379	
Adjusted R ²	0.152		0.215		0.223		0.246	
Signif. of F-value	0.009		0.003		0.001		0.001	

Appendix: Distribution of different types of betas

This table shows distributional information about the betas estimated using 6 different techniques for the sample firms. The results for the subsamples of 142 bidding firms, 136 target firms and 29 divesting firms are presented separately. (1) indicates that the data are trimmed at the 5% and 95% level, (2) stands for untrimmed data. MM [-15, 6] and MM [-10, -1] stand for the beta measured using the market model over, respectively, the periods 15 to 6 months and 10 and 1 months prior to the event date. ML is the beta with the Merrill Lynch regression to the mean. The Vasicek and Dimson betas respectively correct for the regression to the mean effect and thin trading. The Datastream beta is collected from that database.

Panel A : All sample firms									
	Mean (1)	Minimum (1)	25%-Q (1)	Median (1)	75%-Q (1)	Maximum (1)	Stand. Dev. (2)	Skewness (2)	Kurtosis (2)
MM [-15, -6]	0.852	0.126	0.456	0.901	1.199	1.980	0.426	0.413	0.489
MM [-10, -1]	0.839	0.211	0.543	0.936	1.193	1.852	0.412	0.328	-0.407
ML beta	0.929	0.211	0.769	0.994	1.231	1.852	0.286	0.404	0.431
Vasicek beta	0.955	0.245	0.654	0.997	1.193	1.963	0.389	0.101	0.124
Dimson beta	0.940	0.115	0.577	0.953	1.019	1.934	0.543	0.079	0.655
Datastream beta	0.916	0.124	0.730	0.945	1.120	1.940	0.415	-0.447	0.407
Panel B: all bidding firms (139)									
	Mean (1)	Minimum (1)	25%-Q (1)	Median (1)	75%-Q (1)	Maximum (1)	Stand. Dev. (2)	Skewness (2)	Kurtosis (2)
MM [-15, -6]	0.864	0.164	0.568	0.894	1.050	1.652	0.394	-0.124	-0.344
MM [-10, -1]	0.825	0.234	0.599	0.973	1.036	1.765	0.392	0.140	-0.566
ML beta	0.939	0.157	0.744	0.963	1.033	1.600	0.265	-0.129	-0.373
Vasicek beta	0.956	0.245	0.754	0.986	1.214	1.769	0.319	0.201	-0.210
Dimson beta	0.989	0.115	0.654	0.998	1.154	1.923	0.507	0.150	0.177
Datastream beta	0.936	0.207	0.710	0.989	1.190	1.780	0.333	0.383	-0.013
Panel C: Target Firms (100)									
	Mean (1)	Minimum (1)	25%-Q (1)	Median (1)	75%-Q (1)	Maximum (1)	Stand. Dev. (2)	Skewness (2)	Kurtosis (2)
MM [-15, -6]	0.861	0.126	0.463	0.978	1.213	1.728	0.449	0.650	-0.058
MM [-10, -1]	0.874	0.211	0.568	0.976	1.188	1.767	0.453	0.648	-0.207
ML beta	0.933	0.243	0.695	0.923	1.142	1.698	0.302	0.653	-0.077
Vasicek beta	0.963	0.278	0.657	1.024	1.256	1.863	0.347	0.231	0.341
Dimson beta	0.889	0.231	0.530	0.892	1.241	1.934	0.609	0.141	0.742
Datastream beta	0.909	0.124	0.655	0.899	1.294	1.940	0.502	-0.166	0.422
Panel D : Divesting Firms (29)									
	Mean (1)	Minimum (1)	25%-Q (1)	Median (1)	75%-Q (1)	Maximum (1)	Stand. Dev. (2)	Skewness (2)	Kurtosis (2)
MM [-15, -6]	0.765	0.304	0.396	0.868	1.181	1.980	0.445	0.220	0.238
MM [-10, -1]	0.784	0.367	0.426	0.898	1.178	1.852	0.279	-0.165	-0.267
ML beta	0.867	0.351	0.598	0.912	1.187	1.789	0.297	0.220	0.338
Vasicek beta	0.921	0.378	0.651	0.976	1.238	1.963	0.267	0.021	0.312
Dimson beta	0.881	0.324	0.500	0.899	1.193	1.678	0.389	0.330	0.165
Datastream beta	0.846	0.324	0.580	1.003	1.216	1.578	0.390	0.155	0.469

Source: own calculations using Datastream data.

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