

# IV – European M&A: How do deals affect shareholder value?

## Background and objectives

Mergers and acquisitions (M&A) are highly risky. Numerous studies<sup>1</sup> over many decades have shown that the majority of M&A deals do not succeed whether judged on operational measures or in terms of their impact on shareholder value. But these studies have focused mainly on the US. Does the same apply for European deals? This article summarises the results of some recent PricewaterhouseCoopers (PwC) research on this issue.

It may well be that European acquisitions follow a different pattern given their thinner stock markets and regional diversity. Almost all earlier studies have focused on the US partly because of the relative abundance of data there, but this is no longer such a constraint as the number of European deals has increased steadily relative to the US. This applies both to domestic deals within individual European countries and to cross-border mergers, which are becoming easier due to legislative and accounting changes.<sup>2</sup> According to Dealogic M&A Global, the total value of completed transactions in Western Europe exceeded £350 billion in 2004 and increased to £626 billion in 2005.

Our research was further driven by the following considerations:

- Succeeding in M&A involves evaluating the unique aspects of each deal. Practitioners are therefore rightfully sceptical about simplistic generalisations. Despite this, we wanted to see whether rigorous, empirical research could offer simple, practical advice.
- We wanted to take the debate beyond the level of 'buy low' and examine the other determinants of success to identify some indirect relationships and provide more useful insights into factors affecting shareholder value for participants in the European M&A market.

The study is based on research by Anil Kohli undertaken as part of his MBA project at the Tanaka Business School Imperial College London and sponsored by PricewaterhouseCoopers. The empirical analysis presented here has been undertaken by members of the PwC Economics Practice in London, part of PricewaterhouseCoopers LLP.

The discussion below is structured as follows:

- **Section IV.1** describes our data and methodology;
- **Section IV.2** summarises the main findings on value creation for shareholders of acquirers;
- **Section IV.3** considers whether initial market reactions to deals are a good indicator of longer term market assessments;
- **Section IV.4** discusses the key value drivers for M&A deals in the light of our results; and
- **Section IV.5** summarises and concludes.

## IV.1 - Data and Methodology

Anil Kohli's study used the Dealogic M&A Global database to extract all transactions completed between 1995 and 2004 in Europe. Additional information was obtained from Datastream and FAME. This list was then refined according to the following criteria to ensure comparability with previous US studies<sup>3</sup>:

- Both the acquirer and target were publicly listed companies on a European stock exchange during the announcement period.
- Bid value was greater than £10m, and the total asset value of the target was

at least 10% of the total asset value of the acquirer.

- The initial stake of the acquirer in the target was less than 5% and the final stake is 100%.

The resulting 245 European public transactions covered all major industries and geographies, although naturally a large proportion of the transactions in the sample took place in the United Kingdom<sup>4</sup>. The bid values for these transactions ranged from £10 million to £47 billion. The average market capitalisation for acquirers was £3.6 billion, and for targets £1.3 billion. This contrasts with bid values of at least \$500 million in a comparable study for the US and an average market capitalisation of \$14.2 billion for acquirers and \$ 5.5 billion for targets companies<sup>5</sup>.

In order to determine whether they were successful or not, the study examined the acquirers' share price performance one month before the announcement of the deal and in annual increments up to four years after completion. The post-acquisition performance of an acquirer in a given period was defined as the cumulative abnormal return (CAR) for the acquirer during that period. This was defined as the return for shareholders in the acquiring company relative to the total market return over the same period in the company's primary country of listing<sup>6</sup>. This has the effect of reducing the possibility that post-acquisition shareholder returns might be due to trends in the market as a whole rather than the effects of the deal itself.

There were also important considerations when determining the relevant time period for judging the degree of success of the merger. If too short, there was a danger that the markets would not have had the chance to absorb all the information about the likely outcome of the transaction. If too long, then there could be a host of other factors influencing the share price. We settled on

<sup>1</sup> For example, S. Sudarsanam, *Creating Value from Mergers and Acquisitions: The Challenges*, Prentice Hall, 2003. M.L. Sirower, M. Golovcsenko, *Returns from the Merger Boom (1995-2001)*, *Mergers & Acquisitions: The Dealmaker's Journal*, March 2004, Vol. 39, Issue 3 and M. L. Sirower, *Becoming a prepared acquirer*, *European Business Forum*, Issue 16, Winter 2003/4, and Agrawal A. Jaffee JF, Mandelker GN, *The post-merger performance of acquiring firms: a re-examination of an anomaly*, *Journal of Finance* 48:1605-1621.

<sup>2</sup> Two European Directives affecting cross-border mergers have been designed with the aim to improve quality of information to investors by creating a single authorisation system for prospectuses in form of a "single passport for issuers" (2003/71/EC) and increasing transparency through regular disclosure requirements (2004/109/EC). Similarly, the implementation of IFRS, the new international accounting standards, should facilitate cross-border deals by making relative financial performance more readily comparable across countries.

<sup>3</sup> The methodology draws heavily on the work of our US colleague Mark Sirower. See, for example, his article in the *European Business Forum*, Issue 16, Winter 2003/4 and earlier research discussed in his book, *The Synergy Trap*, The Free Press, 1997.

<sup>4</sup> 141 of the 245 target companies in the sample were based in the UK.

<sup>5</sup> "Returns from the Merger Boom", Sirower, Golovcsenko (2004).

<sup>6</sup> Ideally, we would also have taken account of variations in market returns by industry sector, but this would have led to overly small sample sizes given the available data and so was not possible. It might, however, be a useful avenue for further research.

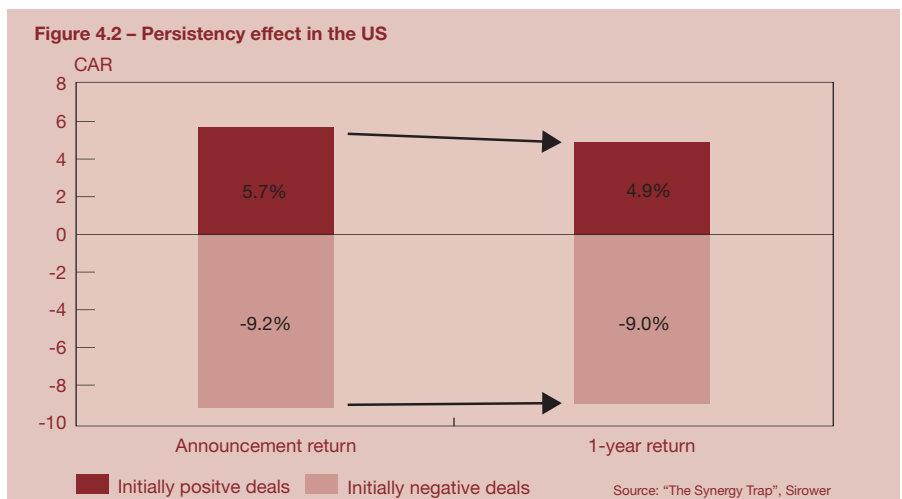
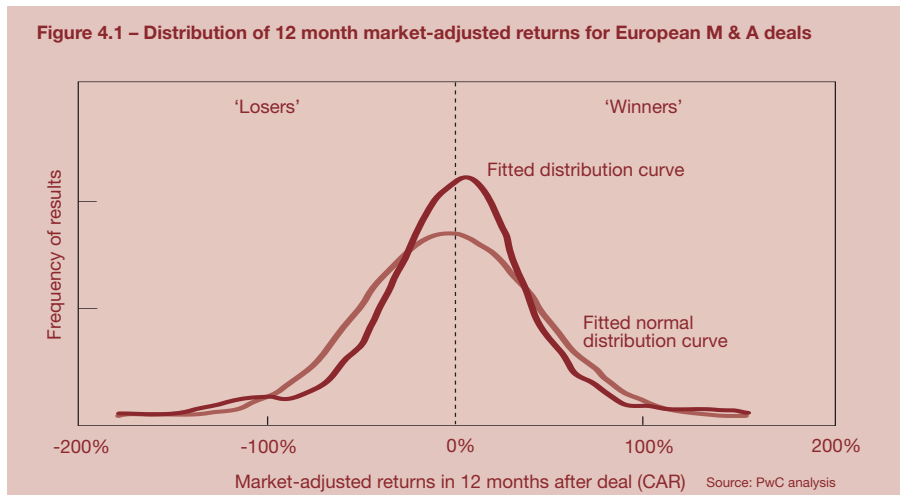
a 12 month time period on the grounds that the major changes will have been announced and initiated in that time and it is sufficiently contained to reduce the extraneous influences. However, we also considered a 24 month time horizon and found broadly similar results.

The acquisition premium was defined as the percentage difference between the target share price one month before the announcement date and the consideration price offered for a target share. We used a one month time window in the definition of the premium in order to limit the impact of any leakage of information about the pending transaction on the target share price. In some cases, of course, the time lag between the deal becoming public knowledge and the announcement date could be more than a month, but in general this seems a reasonable assumption that is consistent with previous US studies.

## IV.2 – Main findings on value creation for shareholders of acquirers

Our focus here is on value creation for the shareholders of acquiring companies, rather than total shareholder value. Shareholders in the target company will generally gain to the extent that acquirers typically have to pay an acquisition premium over prevailing market values to gain control, and past studies (as discussed, for example, in Sirower (1997, 2004)) suggest that the overall effect is also to boost total shareholder value (for acquirer and target shareholders as a whole) through replacing under-performing managers and/or exploiting economies of scale and other synergies between the merging companies. But this may nonetheless be consistent with the shareholders of acquirers losing out if the subsequent boost to the market value of the combined company is less than the sum of the acquisition premium paid and the costs of the transaction to both parties.

When examining the sample as a whole, we find that the results are widely and unevenly distributed across deals, Figure 4.1 shows the distribution of the market-adjusted



12-month returns for shareholders of acquirers for the whole sample: the top half had returns 32% better than the market on average (with a standard deviation of 29%), while the bottom half had returns that were 38% worse on average (with a standard deviation of 36%). In fact, just over 50% of the European deals generated a positive return (relative to the market as a whole) over the 12 months following the deal, with a median gain of 1.5%, but the average effect was negative by 3% because, on average, the 'losers' lost more than the 'winners' gained. In other words, the risks associated with M&A deals appear to be weighted somewhat to the downside for acquirer shareholders.

This is fairly similar to the results of past studies<sup>7</sup> of the US market, which showed that the average return to acquirers around the announcement period was minus 4.1% (relative to the market), and a year later the average relative returns were still negative at minus 4.3%.

In contrast to some US studies, however, we found for the European deals we considered that the average negative effect was not statistically significant, so we cannot draw definitive conclusions about whether European M&A deals have, on average, created or destroyed value for acquirer shareholders.

When we restricted our analysis to larger European deals (those with a bid value of more than £350 million, which represented about a third of the original sample), both the initial market reaction and the 12-month performance (relative to the market) were positive (on average by 1.1% and 5.4% respectively), but because of the small sample size and the broad spread of individual results this effect was again not significantly different from zero using standard statistical tests.

<sup>7</sup> See footnote 1 above.

### IV.3 – Is initial market reaction a good indicator of longer term performance?

According to the study by Sirower on US deals, initial reactions are persistent and indicative of long-term returns. In Europe, the picture seems to be more complex. While in 61% of the US deals the initial market reaction and the one-year performance were in the same direction (negative-negative or positive-positive), this was only true for 48% of the transactions in Europe. The portfolio of US deals that began positively with an average relative return of 5.7% around the announcement period maintained a strong positive relative return of 4.9% after 12 months. In Europe, the initial positive reaction has tended to be higher, with an average return of 9.7% for the portfolio of positive deals, but less persistent, since it drops slightly below zero to -0.2% after a year. Similarly, for the portfolio of deals beginning negatively, the difference between initial market reaction and 12 month post-deal performance seems to be more significant in Europe. While, in the US, the average return only changes from -9.2% to -9.0%, in Europe it moves from -7.8% to -4.9%.

Figures 4.2 and 4.3 summarise key information regarding the persistence of the effects on relative acquirer shareholder returns for US and European deals respectively. One point to note here is that it seems to be more difficult to please the market initially in the US compared to Europe: not only is the average initial reaction -4.1% in the US compared to -0.1% in Europe, but also the relative ratio of positive deals is only 34% in the US compared to 44% in Europe.

Another notable observation can be made regarding the relationship between the persistence of post-deal share price performance and the initial acquisition premium paid (see Table 4.1). Although the overall average acquisition premium was around 35% in both the US and European studies considered here, the difference between the premia paid by persistently positive and persistently negative performers varies significantly: in the US, the persistently negative performers paid

Figure 4.3 – Persistency effect in Europe

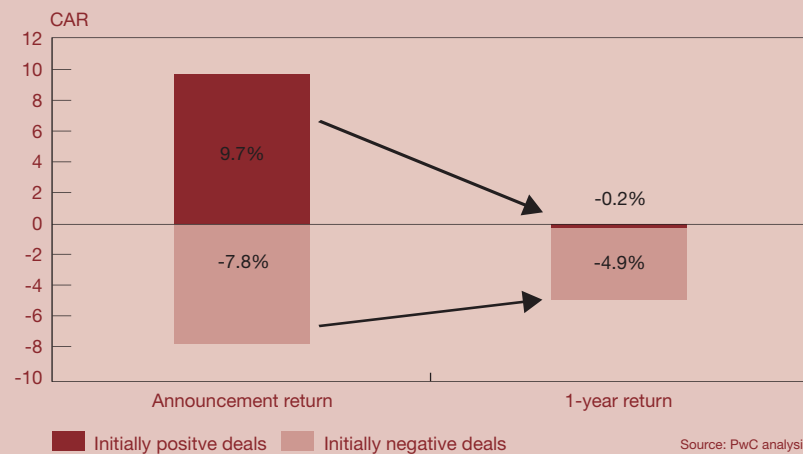


Table 4.1 – Comparison of persistency of initial market reactions to US and European M&A deals

Market reactions	US				Europe			
	Share of all deals	Initial return	1-year return	Average premium paid	Share of all deals	Initial return	1-year return	Average premium paid
Persistently positive	17%	N/A	33.1%	26%	22%	8.0%	31.2%	34%
Initially positive*	34%	5.7%	4.9%	31%	44%	9.7%	-0.2%	40%
<b>Full sample</b>	<b>100%</b>	<b>-4.1%</b>	<b>-4.3%</b>	<b>36%</b>	<b>100%</b>	<b>-0.1%</b>	<b>-2.8%</b>	<b>35%</b>
Initially negative*	66%	-9.2%	-9.0%	38%	56%	-7.8%	-4.9%	31%
Persistently negative	44%	N/A	-24.9%	41%	26%	-8.6%	-39.2%	39%

\*These include all deals where the initial market reaction was positive (or negative), but in some cases this was reversed after 12 months. Persistently positive/negative deals are those where the initial reaction was not reversed after 12 months (in directional terms). Source: Sirower (2004) for the US, PwC analysis for Europe

Table 4.2 – Significance and impact of possible explanatory variables for post-deal performance of acquirer share price relative to the market (in 12 months after deal)

Explanatory variable	Significance level	Direction of impact
Initial market reaction: acquirer's share price performance from one week before to one week after announcement	**	+
Method of payment: deal completed with cash	**	+
Ratio of target's assets to acquirer's assets	not significant	n/a
Pre-acquisition performance of the acquirer	not significant	n/a
Pre-acquisition performance of the target	***	-

\*\*Significant at 95% confidence level  
\*\*\*Significant at 99% confidence level  
Source: PwC analysis of European M & A deals

a premium that was around 15% higher on average than the persistently positive performers, while in Europe the average difference was only 5%.

It is also interesting to note that, in the US, those acquirers who received a positive initial market reaction paid a premium that was around 8% lower than those whose deal led to a drop in their share price at the

time of the announcement. In Europe, the difference is of about the same magnitude, but perhaps surprisingly appears to be in the opposite direction, i.e. the acquirers on deals receiving an initially positive market reaction paid a higher acquisition premium on average compared to acquirers in deals receiving an initially negative market reaction.

## IV.4 – Value drivers in European M&A

What are the significant value drivers in European M&A? Can we draw some lessons from the outperformers and underperformers in a study that covers around 10% of all European M&A transactions during the period from 1995 to 2004?

We undertook a regression analysis to test a number of potential explanations for outperformance. The key results are summarised in Table 4.2<sup>8</sup>. Due to missing data for some of the independent variables in these regressions, particularly the pre-acquisition relative share price performance of the acquirer, our sample size was reduced from 245 to 106 deals, but should still be sufficient to get statistically meaningful results.<sup>9</sup>

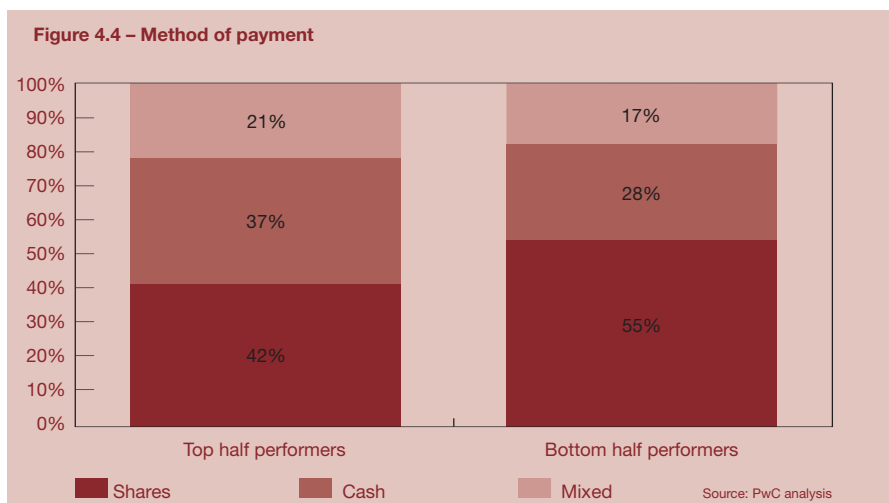
Due to data on the acquirer's experience in acquisitions and disposals only being available for large deals (€350m+), we tested the experience variable with a separate regression and found a significant non-linear relationship, which is discussed further below.

The results of this statistical analysis throw light on the following issues (although these findings obviously need to be interpreted with care and should not, of course, be taken a substitute for detailed analysis tailored to the individual circumstances of particular deals):

1. *The significance of early market reactions to deals.*
2. *The relationship of past M&A experience to post-deal performance.*
3. *The relationship of pre-deal performance of targets to post-deal performance.*
4. *The relationship between payment method and post-deal performance.*

### 1. The significance of early market reactions to deals

Our analysis of European deals confirms Sirower's finding for the US that there



seems to be a significant positive linear relationship between the initial market reaction and long-term performance. This might just mean that markets are good at assessing the merits of deals quickly and that these judgements tend to be borne out in the longer term. However, it could also be interpreted as suggesting that first impressions count. This, in turn, might suggest that it is important for organisations to convince the market from an early stage about the rationale of the deal and the overall benefits it will bring to the various parties involved. Subject to the normal constraints of commercial confidentiality, the practical implication (if this interpretation of our results is accepted) might be that it is worth acquirers giving as much information to the markets as possible early on about how they intend to increase the target's cash flow, enhance profitability, exploit growth opportunities and improve return on capital.

### 2. The relationship of past M&A experience to post-deal performance

The second area we explored was the effect of experience of previous M&A deals on the success of current deals. We took a sub-sample of deals with a bid value of over €350 million and looked at the acquirers' experience in the three years prior to completing the deal (i.e. the number of previous deals completed over this period).

Our analysis of 59 deals showed that experience in M&A has a significant positive effect on acquirer shareholder returns

(relative to the market) in the 12 months following the deal. However, the analysis suggests that the relationship follows an "inverted U" shape, with the marginal effect of experience initially being strongly positive, but then declining and eventually becoming negative as experience increases.

One possible explanation for this finding is that markets are sceptical of the ability of deals to create shareholder value for acquirers either when they lack sufficient past experience of deals, or when they are perceived to be overburdened by too many deals and may be taking on marginal targets where synergies are limited or integration problems significant.

### 3. The relationship of pre-deal performance of targets to post-deal performance

In one of the first lessons in corporate finance, we were told that a company's value reflects all the information available to the market about its potential. Therefore, in an efficient market, the possibility of mispricing is both limited and short-lived. The same logic should in theory apply to M&A: theoretically the past performance of the target should have no influence on whether it turns out to be a good or bad deal. The reality, however, is more complicated.

We studied whether the pre-acquisition performance of the target affects the premium paid and the post-deal performance of the acquirer and found that both of these relationships were significant

<sup>8</sup> Further details of the regression results are available from the authors on request.

<sup>9</sup> The result of an F-test for the joint significance of all the estimated coefficients is that there is only a 0.42% chance they are all zero. Using a 95% significance level, the model therefore passes the F-test. Three of the variables are found to be significant at the 95% level, and the pre-acquisition performance of the target is even more significant (99% confidence level).

and negative. Acquirers with positive market-adjusted post-deal performance chose targets that had a significantly lower performance prior to the transaction compared to those companies that were acquired in deals where the acquirers had negative market-adjusted post-deal performance. This negative dependence was confirmed by our regression analysis, where we found that the target's pre-acquisition relative share price performance had a significant negative effect on post-acquisition relative share price performance.

We also found through a separate analysis that the target's pre-acquisition performance negatively affects the level of acquisition premium paid. This statistically significant finding suggests that acquirers may be able to offer relatively more (compared to the current share price) for underperforming targets, while still (based on the previous finding) producing positive post-deal results for their own shareholders.

One possible explanation for these findings may be that, due to their greater knowledge of the details of the business, these acquirers may be able to better identify the opportunities for boosting value in underperformers than the markets can do, so allowing them to offer a higher premium for control while actually delivering even more extra value than this through the skills and experience they bring to managing the acquired business. Clearly, however, this is not just about targeting underperformers as a group, but rather about identifying the right underperformers.

#### 4. Relationship between payment methods and post-deal performance

In a perfectly efficient market, the method of payment should not have any impact on M&A performance. However, research<sup>10</sup> has shown that it does signal valuable

information to the market and hence can also affect post-acquisition performance. The logic is as follows: if a company announces that it wants to acquire a business and intends to pay in cash, the signal to the market is that it is so certain of the target's value that it wants to keep the upside for itself and its shareholders. On the other hand, if a company announces that it wants to pay in shares, the signal is that it is not that certain about the upside and wants to share the risk with new shareholders. Alternatively, payment in shares can also indicate that the acquirer believes that its shares are over-valued by the market, and therefore can be used as a form of inflated currency.

Although, according to our study, share deals outnumber cash deals by more than 10% in Europe (similarly to the US), we found that the top half of performers (based on 12-month post-deal market-adjusted returns) were significantly more likely to use cash and less likely to use shares than the bottom half of performers. In our sample, the average market-adjusted 12-month return (CAR) for cash deals was about 7%, while for share deals it was -10% (in contrast to the -3% overall average). The importance of the method of payment was also confirmed by our regression analysis, where it came out as one of the most significant factors affecting 12-month post-acquisition relative share price performance (see Table 4.2 above).

Of course, payment in cash may not always be possible or appropriate, but our results suggest that its potential positive value as a signal to the markets should be taken into account in making this funding decision.

### IV.5 – Summary and conclusions

We reviewed 245 public transactions across Europe, the largest study of its kind as far as we are aware. In slight contrast to

previous US studies giving more negative results, we found that just over half of European M&A deals do create positive value for the acquirer (as measured by share price performance relative to the market over the following 12 months). While median relative post-deal share price performance was slightly positive, however, average post-deal performance was slightly negative because of a relatively small number of deals with significant negative results for acquirer shareholders.

Broadly similar results to the US were obtained with respect to the persistency of initial stock market reactions to a deal, although this effect appears to be somewhat weaker in Europe. While the initial reaction tended to be stronger in Europe than the US for deals that boosted acquirer value, these effects were less persistent in Europe.

We found that large deals were somewhat more likely to generate positive shareholder value, but not to a statistically significant degree. More significant positive factors were the extent of cash financing and whether the target was an under-performer relative to the market prior to the acquisition. Previous deal experience was a positive factor up to a point, but appeared to turn negative beyond some level, perhaps indicating that some companies push M&A activity beyond the point where they can effectively manage their acquisitions.

Overall, it seems that beating the odds in M&A remains a considerable challenge, although our results are not as negative as some previous studies. Nonetheless, the research shows that it is easy to throw away the goodwill of investors through poorly targeted or executed M&A deals.

<sup>10</sup>For example, S. Sudarsnam and A.A. Mahate (2003). On this issue see also Franks J, Harris R, Meyer C. (1988). Means of payment in takeovers: results for the UK and US. In Corporate takeovers: Causes and Consequences. Alan J. Auerbach (ed.). University of Chicago Press: Chicago, 221-258.