A Century of Corporate Takeovers:
What Have We Learned and Where Do We Stand?

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Abstract: This paper reviews the vast academic literature on the market for corporate control. Our main focus is the cyclical wave pattern that this market exhibits. We address the following questions: Why do we observe recurring surges and downfalls in M&A activity? Why do managers herd in their takeover decisions? Is takeover activity fuelled by capital market developments? Does a transfer of control generate shareholder gains and do such gains differ across takeover waves? What caused the formation of conglomerate firms in the wave of the 1960s and their de-conglomeration in the 1980s and 1990s? And, why do we observe time- and country-clustering of hostile takeover activity? We find that the patterns of takeover activity and their profitability vary significantly across takeover waves. Despite such diversity, all waves still have some common factors: they are preceded by technological or industrial shocks, and occur in a positive economic and political environment, amidst rapid credit expansion and stock market booms. Takeovers towards the end of each wave are usually driven by non-rational, frequently self-interested managerial decision-making.

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Abstract: This paper reviews the vast academic literature on the market for corporate control. Our main focus is the cyclical wave pattern that this market exhibits. We address the following questions: Why do we observe recurring surges and downfalls in M&A activity? Why do managers herd in their takeover decisions? Is takeover activity fuelled by capital market developments? Does a transfer of control generate shareholder gains and do such gains differ across takeover waves? What caused the formation of conglomerate firms in the wave of the 1960s and their de-conglomeration in the 1980s and 1990s? And, why do we observe time- and country-clustering of hostile takeover activity? We find that the patterns of takeover activity and their profitability vary significantly across takeover waves. Despite such diversity, all waves still have some common factors: they are preceded by technological or industrial shocks, and occur in a positive economic and political environment, amidst rapid credit expansion and stock market booms. Takeovers towards the end of each wave are usually driven by non-rational, frequently self-interested managerial decision-making.

1. Introduction

It is a well-known fact that mergers and acquisitions (M&As) come in waves. Thus far, five completed waves have been examined in the academic literature: those of the early 1900s, the 1920s, the 1960s, the 1980s, and the 1990s. Of these, the most recent wave was particularly remarkable in terms of size and geographical dispersion. For the first time, continental European firms were as eager to participate in M&As as their US and UK counterparts, and M&A activity in Europe hit levels similar to those experienced in the US. Since mid-2003, M&A activity has been on the rise again since its abrupt decline in 2001, which could well indicate that a new takeover wave is in the making (unless the credit crisis triggered by the US property bubble decides otherwise).

This new hike in takeover activity raises many questions: Why do we observe recurring surges and downfalls in M&A activity? Why do corporate managers herd in their takeover decisions? Is takeover activity fuelled by capital market developments? Does a transfer of control generate shareholder gains and do such gains differ across takeover waves? What caused the formation of conglomerate firms in the wave of the 1960s and their de-conglomeration in the waves of the 1980s and 1990s? And, why do we observe time- and country-clustering of hostile takeover activity? We will show below that the answers are embedded both in economic and regulatory developments.

Some existing surveys on takeover activity gather all available evidence on one particular wave (e.g. Jarrell, Brickley and Netter, 1988; Bruner, 2003). In this paper, we concentrate on the determinants of M&A activity, and compile the findings for all five waves since the end of the 19th century for the US, the UK, Continental Europe and Asia. We find that takeover activity is usually

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disrupted by a steep decline in stock markets and a subsequent economic recession, while we observe considerable heterogeneity in the triggers of takeover activity. Takeovers usually occur in periods of economic recovery. They coincide with rapid credit expansion, which in turn results from burgeoning external capital markets accompanied by stock market booms. The takeover market is also often fuelled by regulatory changes, such as anti-trust legislation in the early waves, or deregulation of markets in the 1980s. Finally, takeover waves are frequently driven by industrial and technological shocks. We also show that managers' personal objectives can also significantly influence takeover activity, to the extent that managerial hubris and herding behaviour increases during takeover waves which often leads to poor acquisitions.

The paper is organized as follows. In Section 2, we provide an overview of the takeover waves. Section 3 reviews the empirical evidence on the performance of mergers and acquisitions and compares this performance across the takeover waves. Section 4 focuses on the theoretical models that explain the drivers of M&A activity and reviews the existing empirical evidence. Section 5 provides potential explanations for the changes in characteristics of takeover waves such as industry diversification and bid hostility. Section 6 concludes.

2. The overview of takeover waves

2.1 Defining takeover waves

The term 'takeover wave' reflects the wave pattern of the number and the total value of takeover deals over time. Golbe and White (1993) show that a series of sine curves provides significant explanatory power for the time series of takeover activity. Furthermore, the fitted sine curves predict the actual timing of peaks and troughs in takeover activity well.

Figure 1 presents the evolution of takeover activity in the US, as measured by the total numbers of deals. Since the mid 1890s, the US economy has experienced five clearly identifiable takeover waves: those of the early 1900s, the 1920s, the 1960s, the 1980s, and the 1990s. The data on takeover activity reveal similar patterns (see e.g. Gugler et. al., 2003).

**Figure 1. US merger waves since 1897 (total number of deals)**

Source: 1897–1904 from Gaughan (1999); 1904–1954 from Nelson (1959); 1955–1962 from *Historical Statistics of the U.S.-Colonial Times to 1970*; 1963–1997 from *Mergerstat Review,* 1998-2002 from *Value Creators Report*

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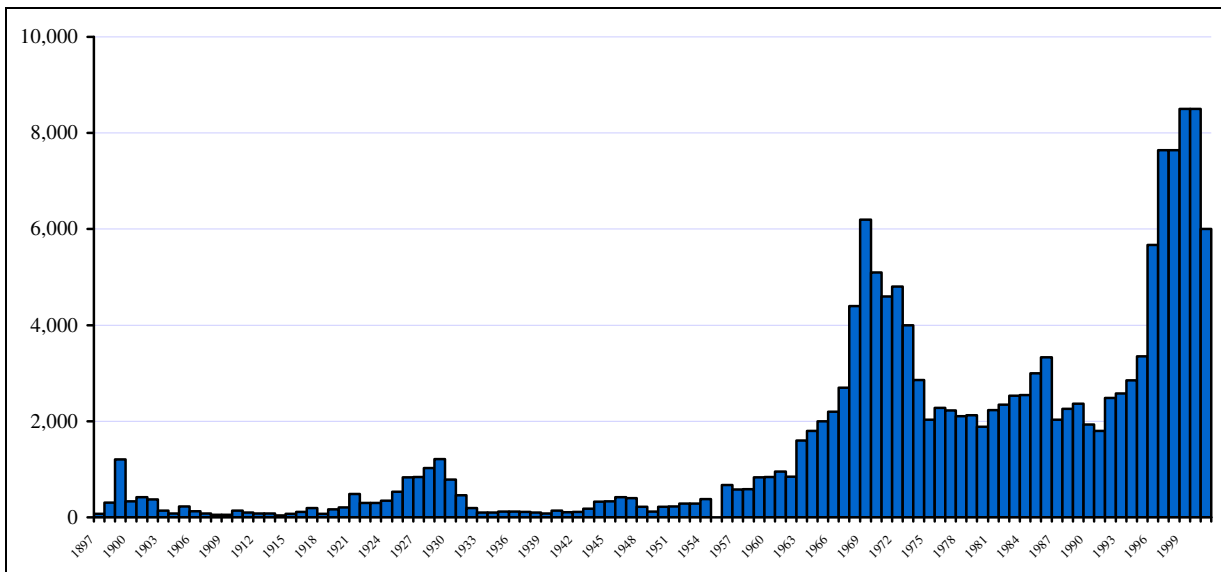
While the early US takeover waves are well documented, reliable evidence about M&As in Europe is only available from the early 1960s for the UK and from the beginning of the 1980s for Continental Europe. Still, the lack of data and empirical studies about European takeovers prior to the 1960s does not necessarily mean that takeover activity was not present in that period. Early takeover waves may have occurred in Europe over the same periods as in the US, although at a smaller scale. Figure 2 depicts there was a pattern of strong growth in the European M&A market since the 1980s. By the end of the 1990s, M&A activity in Europe reached levels similar to those experienced in the US. The decade of the 1990s also witnessed the emergence of a modest market for corporate control in Asia.

Figure 2. Worldwide merger waves since 1985 (total number of deals)

Source: Thomson Financial Securities Data
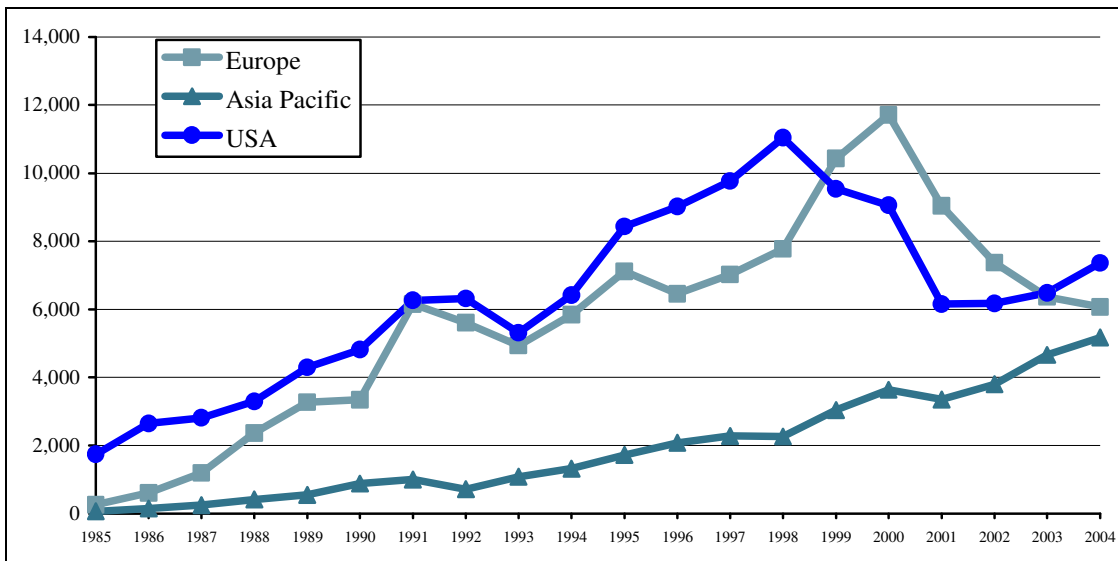
A number of studies tend to differentiate between the five American takeover waves, three UK waves, and two recent European waves (Sudarsanam, 2003). In this paper, we cover the five completed takeover waves, where the first two waves were a predominantly US phenomenon, and the fifth wave was a truly international phenomenon.

2.2 Characteristics of takeover waves

The beginning of each takeover wave typically coincides with a number of economic, political, and regulatory changes. Table 1 summarizes these events as well as the characteristics of each takeover wave.

The first, also called Great Merger Wave, started in the late 1890s, which was a period of radical changes in technology, economic expansion and innovation in industrial processes, the introduction of new state legislation on incorporations, and the development of trading in industrial stocks on the NYSE.[1] The wave was largely characterized by horizontal consolidation of industrial production. Stigler (1950) describes this consolidation as 'merging to form monopolies' because it led to the creation of many giant companies which grabbed the bulk of market power in their respective industries. The wave came to an end around 1903-05, when the equity market crashed.

[Insert Table 1 about here]

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[1] Detailed studies of the first and second merger waves can be found in e.g. Eis (1969), Markham (1955), Nelson (1959), Stigler (1950), Thorp (1941), and Weston (1961).

As a consequence of the First World War, M&A activity remained at a modest level until the late 1910s. The second takeover wave emerged in the late 1910s and continued through the 1920s. Stigler (1950) considers the second wave as a move towards oligopolies because, by the end of the wave, industries were no longer dominated by one giant firm but by two or more corporations. Most of the mergers of the 1920s were between small companies left outside the monopolies created during the previous wave. By merging, these companies intended to achieve economies of scale and build strength to compete with the dominant firm in their industries. Stigler (1950) shows that the monopoly mergers of the beginning of the 20th century did not attempt to regain power through new mergers in the 1920s. As possible reasons, he suggests the lack of sufficient capital to afford further expansion and a better enforcement of antimonopoly law following the Northern Securities decision in 1904. The stock market crash and the ensuing economic depression in 1929 initiated the collapse of the second merger wave.

The worldwide economic depression of the 1930s and the subsequent Second World War prevented the emergence of a new takeover wave for several decades. The third M&A wave took off only in the 1950s and lasted for nearly two decades. The beginning of this wave in the US coincided with a tightening of the antitrust regime in 1950.[2] The main feature of this wave was a very high number of diversifying takeovers that led to the development of large conglomerates. By building conglomerates, companies intended to benefit from growth opportunities in new product markets unrelated to their primary business. This allowed them to enhance value, reduce their earnings volatility, and to overcome imperfections in external capital markets. The third wave peaked in 1968 and collapsed in 1973, when the oil crisis pushed the world economy into a recession.

The fourth takeover wave commenced in 1981, when the stock market had recovered from the preceding economic recession. The start of the fourth wave coincided with changes in antitrust policy, the deregulation of the financial services sector, the creation of new financial instruments and markets (e.g. the junk bond market), as well as technological progress in the electronics industry. The market for corporate control at that time was characterized by an unprecedented number of divestitures, hostile takeovers, and going-private transactions (LBOs and MBOs). As the main motive for this wave, the academic literature suggests that the conglomerate structures created during the 1960s had become inefficient by the 1980s such that companies were forced to reorganize their businesses (see e.g. Shleifer and Vishny, 1991). Like all earlier waves, the fourth one declined after the stock market crash of 1987.

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[2] In 1950, the Celler-Kefauver Act amended Section 7 of the 1914 Clayton Act to prevent anticompetitive mergers

The fifth takeover wave started in 1993. It surged along with the increasing economic globalisation, technological innovation, deregulation and privatisation, as well as the economic and financial markets boom. A first striking feature of the fifth takeover wave is its international nature. Remarkably, the European takeover market was about as large as its US counterpart in the 1990s, and an Asian takeover market also emerged. Second, a substantial proportion of M&As was cross-border transactions. Previously domestically-oriented companies resorted to takeovers abroad as a means to survive the tough international competition created by global markets. The dominance of industry-related (both horizontal and vertical) takeovers and the steady decline in the relative number of divestitures during the fifth wave suggests that the main takeover motive was growth to participate in globalized markets. Compared to the takeover wave of the 1980s, the 1990s wave counted fewer hostile bids in the UK and US. However, an unprecedented number of hostile takeovers were launched in Continental Europe. The fifth wave halted as a consequence of the equity market collapse in 2000.

Since mid-2003, takeover activity (which includes a large number of cross-border deals) has again picked up in the US, Europe, and Asia, continuing the international industry consolidation of the 1990s. Chinese market for corporate control exhibits unprecedented growth. The takeover boom also coincides with the gradual recovery of economic and financial markets after the downturn that began in 2000. Recent acquirers seem to prefer friendly negotiations to the aggressive bidding, as the number of hostile bids is at a modest level.

2.3 Summary of the takeover waves overview

This overview has demonstrated that each M&A wave is quite different from its predecessors: all waves exhibit unique patterns and underlying motives. A number of common characteristics can nonetheless be found. First, all waves occur in periods of economic recovery (following a market crash and economic depression caused by war, an energy crisis, etc.). Second, the waves coincide with periods of rapid credit expansion and booming stock markets. It is notable that all five waves ended with the collapse of stock markets. Hence, it seems that a burgeoning external capital market is an indispensable condition for a takeover wave to emerge. Third, takeover waves are preceded by industrial and technological shocks often in form of technological and financial innovations, supply shocks (such as oil price shocks), deregulation, and increased foreign completion. Finally, takeovers often occur in periods when regulatory changes (e.g. related to anti-trust or takeover defence mechanisms) take place.

3. Takeover profitability across the decades

In this section, we survey the extensive empirical evidence on the profitability of corporate takeovers and compare it across decades. Each takeover wave has inspired academic researchers to write hundreds of papers on this topic since the beginning of the 20th century. Interesting surveys are by Jensen and Ruback (1983) on M&As prior to 1980; Jarrell et al. (1988) on the 1980s takeover wave; Bruner (2003) on the 1990s wave; and Sudarsanam (2003) who covers several decades in his M&A handbook. In this section, we complement the earlier surveys and focus on new insights.

3.1 Benchmarking takeover gains

To determine the success of a takeover, one can take several perspectives. First, one can evaluate M&As from the perspective of the target's or bidder's shareholders, or calculate the combined shareholder wealth effect. Second, a wider range of stakeholders is affected by the takeover, e.g. bondholders, managers, employees, and consumers. As the interests of these stakeholders diverge, a takeover may be beneficial for one type of stakeholder but detrimental for other types. Finance theory usually considers shareholder wealth as the primary objective because shareholders are the residual owners of the company and a focus on shareholder value yields an efficient evaluation criterion.

Event studies analysing short-term shareholder wealth effects constitute the dominant approach since the 1970s.[3] The approach hinges on the assumption that an M&A announcement brings new information to the market, such that investors' expectations about the firm's prospects are updated and reflected in the share prices. An abnormal return equals the difference between the realized returns and an expected (benchmark) return, which would be generated in case the takeover bid would not have taken place. The most common benchmarks are estimated using asset pricing models such as the market model, or the Fama-French three-factor model.

A similar event study approach is applied to assess the long-term shareholder wealth effects of M&As, but has several shortcomings. First, over longer periods it is more difficult to isolate the takeover effect, as meanwhile many other strategic and operational decisions or changes in the financial policy may have arisen. Second, the benchmark performance often suffers from measurement or statistical problems (Barber and Lyon, 1997). Third, most methods rely on the assumption of financial market efficiency, which predicts that the effect of mergers should be fully

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[3] The first paper to use the event study methodology (albeit in the context of stock splits) was Fama, Fisher, Jensen and Roll (1969).

incorporated in the announcement returns and not in the long-term abnormal returns. This implies that, when a significant negative or positive long-term wealth effect occurs, the market corrects its initially inefficient predictions (the short-term wealth effects).

Apart from abnormal returns measured over the short and long run, some studies examine the operating performance of the merging firms. This usually consists of a comparison of accounting measures prior and subsequent to a takeover. Such measures include: net income, sales, number of employees, return on assets or equity, EPS, leverage, firm liquidity, profit margins, and others. The Achilles heel of this approach is that operating performance is not only affected by the takeover but also by a host of other factors. To isolate the takeover effect, the literature suggests an adjustment for the industry trend. Alternatively, one could match the M&A sample by size and market-to-book ratio with non-merging companies, and examine whether merging companies outperform their non-merging peers prior and subsequent to the bid.[4]

3.2 Short-term wealth effects

The empirical literature is unanimous in its conclusion that takeovers are expected to create value for the target and bidder shareholders combined (as reflected in the announcement abnormal returns), with the majority of the gains accruing to the target shareholders. The evidence on the wealth effects for the bidder shareholders is mixed; some reap small positive abnormal returns whereas others suffer (small) losses. Table 2 gives an overview of 65 studies that have reported the abnormal returns around takeover announcements. The findings in the table refer to successful domestic M&As between non-financial companies.[5] Panels A, B, and C summarize the evidence related to the second/third, fourth, and fifth waves, respectively, while panel D presents the results of studies comparing several takeover waves.

3.2.1 Target-firm stockholder return

For all merger waves, Table 2 shows that the share prices of target firms significantly increase at and around the announcement of a bid. For instance, for target firms acquired during the 1960-70s, Eckbö (1983) and Eckbö and Langohr (1989) report significant positive cumulative average abnormal returns (CAARs) on the announcement day and the subsequent day. They show

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[4] See also Fama (1998), Barber et al. (1999), Brav (2000), Brav et al. (2000), and Loughran and Ritter (2000) for a discussion of the alternative methods. The commonly accepted methodology is the firm-matching approach of Barber and Lyon (1997).

[5] We exclude the studies analysing unsuccessful, financial, and cross-border M&As to enhance comparability across studies.

that these CAARs amount to 6% for the US and 16% for France, respectively (Panel A of Table 2). Even higher CAARs of at least 16% are reported for US target firms in the 1980s and 1990s (Panels B-D). Table 2 further reveals that the size of the announcement effects is similar for the fourth and fifth takeover waves. Indeed, Andrade, Mitchell and Stafford (2001) test the differences between the target announcement returns of the three most recent takeover waves, and conclude that these differences are not statistically significant.

Schwert (1996) shows that the share price reactions of target shareholders are not limited to the announcement day but commence already 42 working days prior the initial public announcement of the bid. Indeed, six available studies report that the price run-up is substantial and often even exceeds the announcement effect itself: the run-up premium amounts to 13.3% to 21.8% measured over a period of one month prior the bid. These returns imply that the bids are anticipated, and result from rumours, information leakages, or insider trading.

[Insert Table 2 about here]

Table 2 also reports that the abnormal returns of target firms measured over a holding period of two weeks surrounding the announcement date range from 14 to 44%. However, the two-week abnormal returns are significantly different across the decades. Bradley, Desai and Kim (1988) and Bhagat et al. (2005) show that these returns amount to 18-19% over the 1960s, increase to 32-35% over the 1980s, and further augment to 32-45% over the period 1990-2001. Changes in insider trading and takeover regulation introduced in the US in the late 1960s and 1980s may partially account for these differences.

Thirteen studies included in Table 2 analyse the abnormal returns from the first public announcement through the subsequent month or until the day on which the takeover is completed (when all the shares are acquired), whichever is the latest. Table 2 indicates that the magnitude of the post-announcement abnormal gains is similar across all takeover waves. However, the post-announcement CAARs are characterized by significant differences induced by the attitude towards the bid (hostile versus friendly), the means of payment, the legal environment of bidder or target, the bit type (tender offer or friendly mergers), etc. For instance, target shareholders in successful but initially hostile M&As are offered higher premiums than those in friendly M&As. When a hostile bid is made, the target share price immediately incorporates the expectation that opposition to the bid may lead to upward revisions of the offer price. Servaes (1991) demonstrates for the US that hostile bids trigger a CAAR of almost 32%, whereas the wealth effects amount to only 22% for friendly

bids. Likewise, Franks and Mayer (1996) find post-announcement CAARs of almost 30% for hostile UK bids versus 18% for friendly ones.

When Schwert (1996), Franks and Harris (1989), partition the sample of takeovers into tender offers and mergers, they find that target shareholders earn substantially higher premiums in tender offers. Accordingly, as the means of payment in mergers is usually equity whereas cash bids prevail in tender offers, they also find that all-cash bids are more profitable for target shareholders than are all-equity ones. However, even within each takeover subsample (mergers, friendly acquisitions, and tender offers), Franks, Harris and Titman (1991), Andrade, Mitchell and Stafford (2001), and Goergen and Renneboog (2004) show evidence that all-equity bids trigger lower target returns than all-cash bids.

Rossi and Volpin (2004) show that the legal environment and takeover regulation are important determinants of the takeover gains. They demonstrate that takeover premiums are higher in countries with better shareholder protection and in countries where the mandatory bid requirement is enforced by law (see also Martynova and Renneboog, 2007).

Finally, the empirical literature offers no conclusive evidence on whether or not abnormal returns to target shareholders significantly differ between takeovers of industry-related firms and those of diversifying firms (Maquieira, Megginson and Nail, 1998). For European M&As of the 1990s, Martynova and Renneboog (2006) document that the shareholders of target firms yield substantially higher abnormal returns in conglomerate mergers than in industry-related mergers (32% versus 24% over a six-month window centred on the bid announcement day).

Overall, the empirical research shows that the shareholders of target firms accumulate significant positive CAARs in the period around the bid announcement. These CAARs can be dissected into those realized prior to the bid announcement, the announcement returns, and those realized after the announcement. Whereas the announcement and post-announcement CAARs are similar across the takeover waves, the pre-announcement (and hence the total CAARs) are significantly different. The total takeover returns to the target firm shareholders have been increasing over the takeover waves.

3.2.2 Bidding-firm stockholder returns
The contrast between the large takeover returns to target firms and the frequently negligible returns to bidding firms is striking. On average, bidder shareholders realize announcement abnormal returns, which are statistically indistinguishable from zero. For takeovers during the 1960s and 1970s, Asquith (1983) and Eckbö (1983) report positive abnormal returns of 0.2% and 0.1%,

respectively (Panel A of Table 2); for the late 1970s and the 1980s, Morck, Shleifer and Vishny (1990), Byrd and Hickman (1992), and Chang (1998) report negative abnormal returns ranging from –1.2% to –0.7% (Panel B); and for takeovers occurring in the 1990s wave (Panel C), the findings of 17 studies are split almost evenly between positive and negative returns. The fact that all these gains and losses are statistically insignificant and do not differ across takeover waves is confirmed by the comparative study of Andrade, Mitchell and Stafford (2001).

The one-month share price run-up prior to a takeover announcement, but mostly insignificant for bidder shareholders. For instance, Dodd (1980) and Dennis and McConnell (1986) report that the abnormal bidder gains in the third wave are close to zero (Panel A). Smith and Kim (1994) and Schwert (1996) arrive at similar (insignificant) results (0.7% and 1.7%, respectively) for tender offers during the fourth takeover wave (Panel B).

When one considers the wealth effects over somewhat longer time windows of one or two months surrounding the announcement, the bidders' CAARs are significantly positive (3.2 to 5.0%) for the third M&A wave, significantly negative (-1.0% to -1.4%) for the fourth takeover wave, and indistinguishable from zero for the fifth wave (Panels A-C of Table 2). The comparative studies in Panel D confirm these patterns.

Table 2 also reveals that the bidders' CAARs measured over a wide time window surrounding the takeover announcements largely depend on the type of acquisition, the means of payment, and the acquisition strategy. The CAARs of friendly takeovers are generally significantly higher than those of mergers, which in turn are significantly larger than those of *hostile* bids. Franks, Harris and Titman (1991), Servaes (1991) and Goergen and Renneboog (2004) show that hostile bids decrease the value of the bidding firm by 3 to 5%. A growing number of studies report that gains to the bidders depend on the *status (private or publicly listed)* of the target firm, with a bid on a private target resulting in substantially higher CAARs to the bidders.

The *means of payment* also determines the bidders' CAARs. US studies unanimously agree that the announcements of all equity-financed acquisitions are associated with significantly negative abnormal returns on the bidders' shares, and that these takeovers substantially underperform the all-cash bids. Unexpectedly, European studies provide somewhat different result: equity-financed takeovers result in positive and sometimes significant returns to the bidder. Goergen and Renneboog (2004) show that bidders' CAARs in all-equity deals significantly exceed those in all-cash deals.

As is the case for target CAARs, there is inconclusive evidence on the impact of the *acquisition strategy* on bidder CAARs.[6] Several studies, mostly covering the fourth takeover wave, show that bidders acquiring firms within the same industry experience significantly higher CAARs than the bidders diversifying into unrelated industries. For the European M&A wave of the 1990s, Martynova and Renneboog (2006) report significantly positive CAARs of 0.98% for the bidders announcing industry-related acquisitions and insignificant CAARs of 0.45% for the bidders announcing diversifying acquisition (the difference is statistically significant).

In sum, the evidence suggests that shareholders of the bidding firm earn insignificant CAARs prior to and at the announcement of a takeover. This holds for each takeover wave and there are no significant differences in the pre-announcement and announcement bidder CAARs across waves. The differences emerge when post-announcement and the total returns are scrutinized. There was a substantial decrease in the returns during the third takeover wave but an increase during the fourth one. As in the case of the target firms, most of these changes in CAARs across waves can be attributed to the various different takeover bid characteristics within each wave.

3.2.3 Total gains from takeovers

As the targets' shareholders earn large positive abnormal returns and the bidders' shareholders do not lose on average (Table 2), takeovers are expected to increase the combined market value of the merging firms' assets. Bradley, Desai and Kim (1988) report that investors who own an equal share in both the bidder and the target one week prior to the event date and sell their entire holdings one week after the event day will have earned an abnormal return of 7-8% over the period 1963-84. Bhagat et al. (2005) cover the subsequent period (1985-00) and find that the total takeover gains decreased somewhat compared to earlier decades. Furthermore, Bhagat et al. (2005) and Harford (2003) demonstrate that the total announcement wealth effects of M&As occurring in periods outside the surging takeover waves are always significantly lower than the gains earned during upward moving takeover waves. Both studies also reveal that the highest combined M&A gains are realized at the beginning of takeover waves. This is also confirmed by Moeller et al. (2005) for the fifth takeover wave: the takeovers with the largest losses occurred during the second half of the wave (namely, from 1998 to 2001). However, a study on diversifying acquisitions reflects a different picture: Akbulut and Matsusaka (2003) present evidence that diversifying takeovers are

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[6] An extensive study of diversifying acquisitions by Akbulut and Matsusaka (2003) shows that unrelated acquisitions in the 1960s generated significantly positive abnormal returns to bidder shareholders, but were found to be value-destroying in later decades.

associated with insignificant abnormal returns for combined firms in the first half of takeover waves and with significant abnormal gains in the second half.

3.3 Long-term wealth effects

When the event window is extended over several years after the announcement of an acquisition, the magnitude of the M&A effect on the share prices strongly depends on the estimation method used to predict the benchmark return. Table 3 shows that the studies employing the market model (MM) tend to reveal significantly negative cumulative average abnormal returns over the three years following the M&A announcement (Panels A-C of Table 3). The studies applying other estimation techniques, such as the capital asset pricing model (CAPM), the market-adjusted model (MAM), or a beta-decile matching portfolio yield inconsistent results about the post-merger long-run CAARs. Barber and Lyon (1997) demonstrate that a better measure of the benchmark return is the return on a portfolio of firms matched by size and by market-to-book ratio with the bidding and target firms prior to the takeover. The more recent studies employing this methodology unveil insignificant long-term abnormal returns in tender offers and negative ones in mergers (Panel D).

[Insert Table 3 about here]

The insignificance of the long-term abnormal returns disappears when all M&A transactions are partitioned into subsamples by means of payment, bid status (hostile versus friendly), and type of target firm. Thus, M&As fully financed by equity yield significantly negative long-term returns, whereas all-cash bids are followed by positive returns (Mitchell and Stafford, 2000; Sudarsanam and Mahate, 2003; Loughran and Vijh, 1997). Franks, Harris and Titman (1991) show that hostile bids in the UK significantly outperform friendly ones over a three-year window after the bid announcement, (while both types typically yield significantly positive returns). In contrast, over a period of four years after the event, Cosh and Guest (2001) disclose negative long-term abnormal returns, but these returns are only significant for hostile acquisitions.

There is some (albeit weak) evidence that the long-term stock price performance is higher when the target is listed on a stock exchange than when it is private. Bradley and Sundaram (2004) show that the two-year post-announcement returns in takeovers of a public target are insignificant from zero, whereas these returns are significantly negative when the target is private. While all previously discussed studies examine takeover bids made by public companies, Croci (2007) focuses on acquisitions made by corporate raiders. These acquisitions experience systematic losses in the three years after the bid.

Two studies contrast the long-term gains of related and unrelated acquisitions. According to Haugen and Udell (1972), both types of takeovers lead to significantly positive abnormal returns over the four-year period subsequent to the bid, but the acquisition of an unrelated business eventuates in higher returns. Similarly, Eckbö (1986) finds that one-year CAARs triggered by diversifying takeovers outperform the ones triggered by industry-related bids. Both studies refer to the M&As of the diversification wave.

The evidence in this subsection on long-term abnormal returns demonstrates that takeovers lead to a decline in share prices over several years subsequent to the transaction, whereas Sections 3.1 and 3.2 have given evidence of significantly positive total gains around the announcement dates of M&As. The literature suggests two reasons for this phenomenon. First, the difference between short-term and long-term returns results from the fact that long-term performance studies may be subject to methodological problems (Jensen and Ruback, 1983). These problems arise from the impossibility to isolate the pure takeover effect from the impact of other events occurring in the years subsequent to the acquisition. If the negative trend results from research design problems, then the conclusion about value destruction in M&As may be misleading. A second explanation is that the studies of both long-term and short-term effects assume capital market efficiency. Market participants may tend to overestimate the potential merger gains when the bid is announced, and revise their expectations downwards when more information about the takeover process is released over time. This second explanation implies that takeover activity destroys value on average, or at least cannot fulfil the expectations.

3.4 Operating performance

Accounting studies examine the combined gains of takeovers. Table 4 shows that 14 out of 26 studies report a post-merger decline in the operating returns of merged firms (e.g. Ravenscraft and Scherer, 1987), 7 papers show insignificant changes in profitability (e.g. Linn and Switzer, 2001), and 5 papers provide evidence of a significantly positive increase (e.g. Carline, Linn and Yadav, 2002).

[Insert Table 4 about here]

The picture is even more blurred when post-merger corporate growth is investigated. Cosh, Hughes and Singh (1980) report a systematic improvement in the post-merger assets growth rate of UK companies that participated in M&As over the period 1967-69. For the period covering the third takeover wave, Mueller (1980) presents evidence of a significant decline in the growth rate of US

companies. However, this conclusion is not upheld for the fourth takeover wave, as Ghosh (2001) finds no statistically significant changes in the growth rate of US merged companies. Similarly, analyses of Japanese and European M&As reveal no significant changes in post-merger growth rates.

Generally, studies showing a decline in post-merger profitability employ earnings-based measures, while studies showing merger gains are based on cash flow performance measures. Ravenscraft and Scherer (1987, 1989) employ both measures and demonstrate that the difference in benchmarks is responsible for these conflicting conclusions.

Mueller (1985) and Gugler et al. (2003) examine whether takeovers are associated with an increase in the monopoly power of the acquiring firm. Mueller (1985) states that the market share of the combined firm substantially decreases after the merger compared to a non-merging control group. This decrease is substantial for both vertical and horizontal mergers. In contrast, Gugler et al. (2003) interpret their findings of increasing profits and decreasing sales as evidence of market power expansion subsequent to the takeover. They show that this result is primarily driven by related horizontal takeovers.

Nine studies presented in Table 4 focus on the degree to which the degree of relatedness of the merging firms' businesses is associated with post-merger profitability. There seems to be no significant difference between the post-merger profitability of related and unrelated acquisitions, of takeovers with a focus strategy and diversifying mergers, of horizontal and vertical takeovers, and of takeovers that aim at product expansion and those that do not.

In contrast, the means of payment appears to be a good indicator of the post-merger performance. Most studies show that the operating performance of all-equity acquisitions is significantly lower than of bids consisting of cash (see e.g. Ghosh (2001) for the US and Carline, Linn and Yadav (2002) for the UK).

It is worth emphasizing that post-merger operating performance studies suffer from measurement errors and statistical problems similar to those encountered by the studies of long-term wealth effects. This makes it difficult to compare the conclusions not only across countries but also across merger waves. Therefore, these results on long-term performance ought to be interpreted with caution. Moreover, in addition to the various statistical problems, operating performance studies also suffer from accounting distortions such as changes in accounting standards over time and across countries, and from noise in the accounting data.

3.5 Summary of the evidence on takeover profitability

Although the empirical evidence on the profitability of takeovers is extensive, the conclusions do not entirely converge as to whether takeovers create or destroy company value. The analysis of shareholder gains at the announcement of M&As reveals that a positive effect is anticipated by the stock market. At their announcement, takeovers trigger substantial value increases, but most of these gains are captured by the targets' shareholders which is not surprising as they hold most of the negotiation power. The magnitude of these gains and their distribution between target and bidder shareholders vary across the decades and depend on the characteristics of each deal. If the increases in the market values of the combined firms result from anticipated synergistic gains, then the announcement effect should be reflected in subsequent improvements in operating performance. However, the accounting studies presented in Table 4 do not support this argument. Even more controversy is added by the analysis of the long-term share price performance. A substantial decline in the acquiring firms' share prices is observed over the first five years subsequent to the event. This suggests that the anticipated gains from takeovers are on average non-existent or overstated.

4. Theoretical explanations for M&A clustering and empirical evidence

In the previous two sections, we described the main characteristics of M&A activity and its profitability for a period extending over more than a century. We now turn to the theoretical models, which attempt to explain the incidence of takeover waves. We also present the results of the empirical tests of these models as well as their ability to explain particular merger waves.

Broadly speaking, the theories on takeover waves can be partitioned into three groups. A first group of models suggest that takeover waves emerge as a consequence of industrial, economic, political, or regulatory shocks. A second and third group propose that takeover clustering is driven by self-interested and irrational managerial decisions, respectively. Finally, a fourth group (and more recent category) attributes takeovers to the development of capital markets, and proposes that waves occur as a result of (over)valuation-related timing by management.

4.1 Business environment shocks

A first explanation of M&A-clustering hinges on the economic factors that motivate firms to restructure as a response to *changes in the business environment*. The economic disturbances model by Gort (1969) predicts a high incidence of takeovers at times of dramatic economic changes. In this model, economic disturbances, such as a disequilibrium in product markets, enhance differences in

value for various types of agencies and thereby lead to takeover transactions. Lambrecht (2004) uses a real-options approach to show that mergers motivated by economies of scale are positively related to product market demand, triggering mergers when output prices are high. Hence, product markets cycles may generate wave patterns of merger.

Several empirical studies relate the cyclical patterns of takeover activity to business cycles of macroeconomic factors. Nelson (1966), Gort (1969), Steiner (1975), and Golbe and White (1987) unanimously conclude that *changes in economic growth* and *capital market conditions* are positively related to the intensity of takeover activity. Melicher, Ledolter and D'Antonio (1983) emphasize that changes in stock prices and bond yields predict future changes in merger activity best, although Schary (1991) remarks that takeover activity is far more volatile than macroeconomic time series.

The studies examining takeover activity at the industry level have been most successful in explaining merger fluctuations. Nelson (1959), Gort (1969), and McGowan (1971) document that there is significant inter-industry variation in the rate of takeover activity during the 1950s and 1960s. Similarly, Mitchell and Mulherin (1996) and Andrade et al. (2001) report clustering of takeover activity by industry during the fourth and fifth takeover waves. The former study shows that specific *shocks such as deregulation, oil price shocks, foreign competition, and financial innovations* explain a significant fraction of takeover activity in the 1980s. The authors interpret these results as evidence that the 1980s takeover wave is associated with 'an adaptation of the industry structure to a changing economy'. The 1980s therefore seem to be less about breaking up inefficient conglomerates than about industry restructuring. Furthermore, Mitchell and Mulherin (1996) note that if takeovers are driven by industry shocks, the post-merger performance should not necessarily be higher than the performance of a pre-shock benchmark or of an industry control group. This explanation is consistent with the lack of empirical evidence of a post-merger increase in corporate profitability.

Andrade and Stafford (2004) complement the above findings with evidence of a strong positive relationship between *industry shocks* and within-industry takeovers in the 1990s. However, they also suggest that takeover activity is stimulated by both firm-specific and industry-wide causes. Industry-wide shocks were dominant drivers of M&As in the 1970s and 80s, as they produced excess capacity and thereby forced industries to reallocate assets by way of mergers. In contrast, M&A activity during the 1990s was driven by factors motivating firms to expand and grow. Andrade and Stafford (2001) demonstrate that takeovers in the 1990s were less about industry restructuring than about industry expansion, as industries with strong growth prospects, high profitability and production near full capacity experienced the most intense takeover activity.

Maksimovic and Phillips (2001) employ plant-level data to investigate the intra-industry firm-level determinants of M&A. They find that less productive firms tend to sell their divisions at times of industry expansion, while efficient firms are more likely to be buyers. This redeployment of assets from less productive to more productive firms takes place in industries that experience an *increase in demand*. The authors show that the likelihood of an acquisition also depends on the *company's access to external finance*, as financially unconstrained companies are more likely to participate in M&As.

Technological change is also often associated with the boom in takeovers. Jovanovic and Rousseau (2002a) show that the first two takeover waves, in the 1900s and 1920s, brought about an external reallocation of resources in response to the simultaneous arrival of two general-purpose technologies – electricity and internal combustion. Similarly, the waves of the 1980s and 1990s were a response to the arrival of the microcomputer and information technology. In a related paper, Jovanovic and Rousseau (2002b) argue that technological shocks increase the dispersion in companies' *growth prospects* (as measured by Tobin's Q) and trigger the reallocation of assets from low-Q to high-Q firms.

In contrast, Rhodes-Kropf and Robinson (2004) substantiate that high-Q acquirers typically do not purchase low-Q targets. Instead, merging companies have similar growth opportunities. This result fits the theoretical literature, which predicts that firms with complementary assets merge in order to reduce hold-up problems and under-investment resulting from incomplete contracting.[7] Although they do not test it explicitly, Rhodes-Kropf and Robinson (2004) suggest that external shocks affect the assets complementarities across firms and hence lead to an increase in takeover activity.

A small formal literature explains the emergence of takeover waves by a combination of *industry-specific or regulatory shocks, and the availability of sufficiently low cost capital*. For instance, Harford (1999) stresses the importance of a reduction in financial constraints: his model predicts that M&As occur when companies build up large cash reserves or when their access to external financing is eased. As this is most likely to happen in periods of capital market growth, takeover clustering occurs in such periods. Harford (2005) estimates logit models to predict the start of an industry takeover wave. He shows that industry-specific economic shock measures predict waves – in line with the rational explanation of takeover activity - but only when capital liquidity is high.

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[7] When two parties have complementary projects, they must reach an agreement to get a sufficient return on their individual projects. Given that incomplete contracts cannot deal with possible opportunistic behaviour by either party, a merger may eliminate such behaviour and any holdup problems resulting from a costly bargaining process.

The models in this section explain takeover clustering by industry, by country, and through time, by considering the simultaneous responses of firms to specific shocks, namely the competition for the best combination of assets. Alternatively, takeover waves can result from the fact that firms respond sequentially to the actions of their competitors (Persons and Warther, 1997). This entails that a series of successful M&As wets other firms' appetite to do a takeover, whereas a series of unsuccessful takeovers leads to the decline in takeover activity.

4.2 Agency problems and corporate governance

As the empirical literature concludes that a significant proportion of M&As destroys corporate value, some theoretical models attempt to explain this phenomenon by including managerial self-dealing in the M&A process.

Shleifer and Vishny (1991) argue that the third merger wave was largely driven by the *personal objectives of corporate managers*, as prior to the 1980s managers had insufficient incentives to focus on shareholder concerns.[8] They consider diversifying takeovers as the outgrowth of agency problems between managers and shareholders. Likewise, Amihud and Lev (1981) suggest that managers diversify in order to decrease their companies' earnings volatility, which enhances corporate survival and protects their own positions. The decade of the 1980s brought more competitive capital markets and improved shareholder control mechanisms, which stimulated companies to de-diversify and refocus on their core business. Therefore, the fourth merger wave emerged as the reversal of the previous wave's inefficient diversifications.

Jensen (1986) suggests that agency problems are likely to spur a takeover wave when industrial shocks or booming financial markets result in *excessive funds at the discretion of management*. Self-interested managers use these funds (free cash flows) to go for 'empire building' instead of returning them to the shareholders. Excess cash makes it possible for managers to make poor acquisitions when they have run out of good ones. Indeed, several empirical studies demonstrate that acquiring firms with excess cash flows tend to destroy value by overbidding. For instance, Harford (1999) shows that the abnormal share price reaction to takeover announcements by cash-rich bidders is negative and decreases with the amount of free cash flow held by the bidder. In addition, cash-rich firms pursuing value-decreasing acquisitions have a higher probability of being taken over themselves in subsequent years. Lang et al. (1991) support this finding.

4.3 Managerial hubris and herding

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[8] This is also in line with Donaldson and Lorsch (1993), Donaldson (1994), and Jensen (1986, 1993).

Roll (1986) brings forward yet another explanation for a series of unsuccessful takeovers in each takeover wave. In his model, *managerial hubris* is the key factor leading to a high number of value-destroying M&As: overconfident managers overestimate the creation of synergetic value.[9] Rau and Vermaelen (1998) claim that an acquisition of a firm with a high market-to-book (MTB) ratio made by a firm with a low MTB (a so-called 'glamour' firm) may be affected by managerial hubris, as the bidder's management is likely to overestimate their abilities to manage an acquisition. In particular, they observe that in the short-run 'glamour' bidders experience higher abnormal returns than do bidders with high MTB ratios (the so-called 'value' bidders), while in the long run this relation is reversed. Berkovitch and Narayanan (1993) design a formal test to distinguish between agency and hubris motives for takeovers. Analysing the correlations between target, bidder and total gains, they find strong evidence of hubris in US takeovers with positive abnormal returns. In contrast, there is evidence of the agency motive in the subsample with negative abnormal returns. Goergen and Renneboog (2004) also show that one third of the large European takeovers in the 1990s suffer from managerial hubris. Malmendier and Tate (2004) report yet additional evidence of managerial hubris. They find that diversifying and less profitable takeovers are more frequently done by optimistic managers who voluntarily retain in-the-money stock options in their own firms.

Roll's *hubris* hypothesis in combination with *herding* is able to explain the cyclical patterns in M&A activity. Herding predicts that firms tend to mimic the actions of a leader.[10] In the case of a takeover wave, the first successful takeovers encourage other companies to undertake similar transactions. As the main motive for the other companies is to mimic the actions of the leader rather than take action based on a clear economic rationale, some of these takeovers suffer from managerial hubris. Hence, the combination of herding and hubris predicts that inefficient takeovers follow efficient ones.

Consistent with this prediction, Harford (2003, 2005) reports that takeovers occurring at a later stage of the takeover wave trigger lower abnormal returns than those at the beginning of the wave. They interpret this finding as the result of *herding, accompanied with hubris or agency problems*. A similar decline in takeover profitability over the 1990s wave is documented in Moeller et al. (2005), but they claim that the evidence supports Jensen (2005): *high valuations* increase managerial discretion, making it possible for executives to make poor acquisitions when they have run out of good ones.

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[9] For further discussions on the role of hubris in corporate takeovers, see Hietala, Kaplan, and Robinson (2003) and Baker, Ruback and Wurgler (2004).
[10] Examples of herding models in finance: Scharftein and Stein (1990), Graham (1999), Boot, Milbourn and Thakor (1999). Devenow and Welch (1996) provide an excellent survey of papers on rational herding in financial markets.

4.4 Market timing

Two recent theoretical papers develop models in which takeover waves result from market timing by corporate managers. Both models are based on the suggestion by Myers and Majluf (1984) that managers take advantage of *temporarily overvalued equity* during financial market booms. The two models predict that managers use overvalued equity as cheap currency for acquiring real assets.

Shleifer and Vishny (2003) argue that clustering in takeover activity occurs because financial bull markets tend to overvalue stocks in the short run, and the degree of *overvaluation* varies significantly across companies. The management of the bidding firm takes the opportunity to buy the real assets of a less overvalued target firm using their own overvalued equity. The bidder takes advantage of the mispricing premium over the longer term when the overvaluation is expected to be corrected. The model hinges on the assumption that *target managers maximize their own short-term private benefits*. This explains why they are willing to accept an all-equity bid even if it is at the detriment of (long-term oriented) target shareholders. Overall, the model predicts that takeover waves are pro-cyclical in relation to the stock market value, because managers of overvalued companies take advantage of the window of opportunity offered by temporary market inefficiencies.

Although the model by Rhodes-Kropf and Vishwanatan (2004) leads to similar predictions, it departs from the previous model in that target managers maximize shareholder wealth and rationally accept overvalued equity in a takeover offer. The reason why target managers accept such an offer results from the fact that uncertainty about takeover gains is correlated with the overall uncertainty in the market. In other words, targets accept all-equity bids, because their managers also tend to overvalue potential takeover synergies as a consequence of overpricing in a soaring equity market. The number of misvalued bids is expected to increase with booming financial markets, when uncertainty about the true value of firms is especially pronounced, and better-informed bidders can exploit their informational advantage at the expense of less-informed targets.

A number of empirical studies test the two market-timing theories of merger waves. The major hurdle of these studies is to find the best measure to capture overvaluation. The book-to-market ratio is among the most frequently used, although some studies also use analysts' earnings forecasts and accounting measures to construct a proxy for mispricing. Dong et al. (2003) use the 'residual income'-to-market ratio as a measure of mispricing. Their findings support the hypothesis that the stock market drives acquisitions. In particular, bidders are on average more overvalued that their targets, the probability of an equity offer increases with the degree of the bidder's overvaluation, and the probability of a hostile bid decreases with overvaluation of the target firm.

Rhodes-Kropf, Robinson, and Vishwanathan (2005) test the market-timing motive for M&As with yet another measure capturing misvaluation. They decompose the market-to-book ratio into three components: firm-specific error, time-series sector error, and long-run market-to-book value. In their opinion, only the first component is expected to capture misvaluation. They interpret the observed positive relation between firm-specific error and the likelihood that a firm will make an acquisition (especially an all-equity one), as evidence that deviations from fundamental value drive takeovers. Also, the evidence indicates that industry-wide takeover activity increases with the time-series sector error, the second component in their MTB ratio decomposition. That is, more acquisitions occur when the industry is over-heated. Bidders with the highest firm-specific error are responsible for the bulk of these acquisitions. Finally, the authors show that cash acquirers are less overvalued than stock acquirers. This evidence supports the view that the mispricing premium is an important motive for choosing equity as a means of payment. This paper also demonstrates that overvaluation drives the decision of the target managers to accept all-cash offers, which is in line with the assumptions of the Rhodes-Kropf and Vishwanatan (2004) model.

Harford (2005) designs a test to distinguish empirically between the business environment shocks and market misvaluation explanations of takeovers. He controls for a variety of factors associated with industry shocks and market misvaluation in order to predict the start of a takeover wave. While the industry and liquidity determinants appear to yield significant predictive power, the variables capturing potential misvaluation only slightly improve the model. Harford argues that these results are consistent with the rational models explaining takeovers as a response to changes in economic environment, whereby sufficient capital liquidity is necessary to make takeovers feasible. He concludes that the capital liquidity effect, rather than misvaluation, drives M&As and makes them cluster in times of financial market booms.

All empirical studies mentioned above succeed in explaining the fifth takeover wave as the result of market timing by corporate managers. However, it remains unclear whether a similar explanation holds for the all-equity takeovers of the second and third takeover waves (see Table 1). Yet another question is whether the two market timing models can explain those 1980s takeovers that were mainly financed with debt.

4.5 Summary of theoretical explanations for takeover waves and empirical evidence

Takeover activity occurs as a result of external economic, technological, financial, regulatory, and political shocks. When takeovers are a response to such shocks and managers take the shareholders' interests at heart, M&A activity is expected to lead to profit optimisation and

shareholder value creation. In contrast, models, which explicitly include herding, managerial hubris, and other agency costs allow for the possibility that value destroying takeovers follow M&As which create value. The empirical evidence indicates that no single theory is able to explain takeover activity and M&A waves. The most consistent finding is that takeovers occurring early in the wave are triggered by industry shocks. These takeovers generate substantial (short-term) wealth to target shareholders and the combined companies are expected to create synergetic gains. The majority of value-destroying acquisitions occur in the second half of the takeover wave. Unprofitable takeovers are a result of both managerial hubris and agency problems. There is growing evidence that overvaluation of the acquiring firms is an important determinant of an increase in takeovers, especially those paid with equity or a combination of equity and cash.

5. Changing characteristics of takeover waves

Table 1 shows that some characteristics of takeovers within each waves such as industry diversification and hostility vary across the decades. In this section, we review the potential explanations for this variation. In particular, we focus on the following two questions: What caused firms to diversify in the 1960s but not in the 1980s or 1990s? And why do we observe time- and country-clustering of hostile takeover activity?

5.1 Explaining the rise and decline in diversification activity

The academic literature presents ample evidence that diversification destroys corporate value (see section 3 for evidence).[11] However, for the M&As that occurred prior to the 1970s, the empirical literature reports that the market favoured diversification into firms consisting of unrelated businesses. An extensive study of diversifying acquisitions by Akbulut and Matsusaka (2003) shows that unrelated acquisitions in the 1960s generated significantly positive abnormal returns to bidder shareholders[12], but were found to be value destroying in later decades. Similarly, Morck, Shleifer and Vishny (1990) observe that stock returns to diversifying acquisitions were statistically insignificant from zero in the 1970s but became negative in the 1980s. There is also a significant body of evidence (e.g. Lichtenberg, 1992, Liebeskind and Opler, 1993; and Montgomery, 1994)

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[11] It is important to note here that a number of studies have recently questioned the evidence on value destruction in conglomerate mergers. These studies argue that poor performance results from factors other than diversification. For an overview of these studies, see Martin and Sayrak (2003).

[12] Similar findings are reported in Matsusaka (1993), Klein (2001), Ravenscraft and Scherer (1987, 1989), Hubbard and Palia (1997).

indicating that the proportion of diversifying takeovers in the total M&A activity has decreased following the conglomerate wave of the 1960s.

Several authors starting with Williamson (1970) provide explanations for the wave of successful diversifying takeovers in the 1960s. First, diversification strategies may help sidestep imperfections in the external capital markets. Bhide (1990) states that capital markets in the 1960s could not be relied upon to allocate resources efficiently. Hubbard and Palia (1999) add that 'relative to the current period, there was less access by the public to computers, databases, analyst reports and other sources of company-specific information; there were fewer large institutional money managers; and the market for risky debt was illiquid. As access to external funds was often severely limited, companies tried to overcome fund-raising problems by developing internal capital markets. Better monitoring, informational advantages, reduced costs of capital, and improved resource allocation were believed to be the benefits of such internal capital markets. Furthermore, as the conglomerate structure allowed the reduction of earnings variability (Lewellen, 1971) and the risk of bankruptcy (Higgins and Schall, 1975; Shleifer and Vishny, 1992), a higher level of leverage could be sustained.

The improved efficiency of the external capital markets in the 1980s is considered the foremost cause for the decline in diversifying takeovers. As the cost of external finance had fallen, internal capital markets became an unnecessary and costly configuration (see e.g. Lang and Stulz, 1994; Berger and Ofek, 1995). In addition, the conglomerate corporate structure was associated with a number of disadvantages such as rent-seeking behaviour by divisional managers (Scharfstein and Stein, 2000), bargaining problems within the firm (Rajan, Servaes and Zingales, 2000), or bureaucratic rigidity (Shin and Stulz, 1998). Perhaps, these disadvantages of diversification have outweighed the alleged advantage of internal cross-subsidisation and lessened the attractiveness of diversifying takeovers in the 1980s.

Baker, Ruback and Wurgler (2004) further explain the trend towards corporate focus and specialization from a behavioural corporate finance point of view. They argue that the conglomerate wave of the 1960s was in part driven as a managerial response to 'a temporary investor appetite for conglomerates'. Baker et al. (2004) state that the investors' demand for the shares of conglomerates was high during the 1960s and the market greeted diversifying acquisitions with positive announcement returns. The reduction in the size of such announcement effects[13] since 1968 suggests

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[13] For evidence see Akbulut and Matsusaka (2003), Klein (2001), Morck, Shleifer and Vishny (1990), Lang and Stulz (1994), Berger and Ofek (1995).

'a switch in investors appetite' away from diversifications. As a response to this shift, managers divested unrelated segments and focused on the expansion of the firm's core business.

5.2 Explaining the rise and decline in hostile takeover activity

Until recently, the market for corporate control took place for the bigger part in the US (Morck et al., 1988; Bhide, 1990; Martin and McConnell, 1991) and in the UK (Franks et al., 2001). However, as of the mid-1990s, an unprecedented number of hostile takeovers cropped up in Continental Europe (Martynova and Renneboog, 2006). More recently, hostile takeover activity also emerged in Japan and China.

Jensen (1988) defines hostile takeover activity as the market for corporate control where management teams compete with one another for the right to manage assets owned by shareholders. The team that offers the highest value to the shareholders takes over the right to manage the assets until it is replaced by another management team that discovers a higher value of the assets.[14] Hostile takeovers are expected to occur when the target firm performs poorly and its internal corporate governance mechanisms fail to discipline managers. Evidence from Hasbrouck (1985), Palepu (1986), Morck et al. (1989), and Mitchell and Lehn (1990) supports this view. Hence, hostile takeovers are considered as an alternative corporate governance mechanism that corrects for opportunistic managerial behaviour.

The view that hostile takeovers function as a corporate governance mechanism is often used to explain the trend of deconglomeration during the 1980s. Bhide (1990) and Shleifer and Vishny (1991) argue that hostile takeovers emerge in the 1980s as a response to the wave of the 1960s that produced a high number of inefficient conglomerates. They explain that when companies failed to recognize the flawed nature of their diversification strategies, or were not fast enough to refocus their operations, hostile raiders were ready to do the restructuring job for them.

However, the number of hostile bids in the UK and US significantly fell in the 1990s compared to the takeover wave of the 1980s. This decline in hostile takeover activity can be attributed to the bull market, as target shareholders are more prone to accept a takeover bid when their shares are overpriced. A second important reason for the reduction in hostile takeover activity was the regulatory changes that took place in the late 1980s. The increasing use of anti-takeover measures in some US states such as Delaware made hostile acquisitions virtually impossible. Holmström and Kaplan (2001) also suggest a third reason: hostile takeovers are no longer needed as

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[14]This argument is valid in a frictionless world, but transaction costs, asymmetries of information, and agency conflicts can prevent efficient transfers of control.

a corporate governance device, given that there are a sufficient number of alternative governance mechanisms (e.g. stock options, shareholder activism, non-executive director monitoring) that encourage management to focus on shareholder value and to voluntarily restructure when necessary.

It is notable that in contrast to the UK and US, the number of hostile bids in Continental Europe actually increased over the 1990s. Interestingly, hostile takeover activity emerged even in countries where it had been completely absent. The absence of hostile threats in the 1980s is largely attributed to the concentrated ownership structure prevailing in Continental European firms. In contrast to the predominantly widely-held UK and US companies, most of Continental European companies are characterized by majority or near-majority stakes held by one or few investors.[15] Such voting rights concentration and the absence of a breakthrough rule makes these companies virtually invulnerable to hostile takeovers. In addition, closely-held companies have less need of monitoring by the market for corporate control, because they can rely on large shareholder monitoring.

Political changes, regulatory reforms, and changes in the business environment in the 1990s were the likely causes for the shift towards more hostility in European M&As. In particular, the increase in bid hostility in Continental Europe may be driven by a gradual change towards more ownership dispersion, reduced complexity in ownership and control structures, weakened institutional barriers to takeovers (like the emergence of new equity markets, high IPO activity, privatisation and deregulation, binding disclosure requirements, and tax reforms), and a gradual shift of corporate priority from a stakeholder consensus model to a model based on shareholder value (Hansmann and Kraakman, 2003).

6. Conclusion and implications for future research

This paper has surveyed the literature on the determinants of M&A activity, and compiled the findings for all five complete waves since the end of the 19th century for the US, the UK, and Continental Europe and Japan. We find that each M&A wave is characterised by a different set of underlying motives. A number of common factors can nonetheless be identified. Takeovers usually occur in periods of economic recovery (following a market crash and economic depression caused by war, an energy crisis etc.). They coincide with rapid credit expansion, which in turn results from burgeoning external capital markets accompanied by stock market booms. The takeover market is also often fuelled by regulatory changes, such as anti-trust legislation or deregulation. Takeover

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[15] For evidence on ownership structures in Continental Europe and the UK, see Barca and Becht (2001), Faccio and Lang (2002) and the ECGI project "Corporate Governance & Disclosure in the Accession Process"(2001).

waves are frequently driven by industrial and technological shocks. We also show that managers' personal objectives can further influence takeover activity: managerial hubris and herding behaviour increase during takeover waves, often leading to poor acquisitions. Finally, takeover activity is usually disrupted by a steep decline in stock markets and a subsequent period of economic recession.

The bulk of M&As are expected to improve efficiency and trigger substantial share price increases at the announcement, most of which are captured by the target-firm shareholders. The differences in the patterns of M&As and their profitability across the decades may be attributed to the heterogeneity in the triggers of takeover waves. Technological, industrial, political, and social shocks, all have different consequences for corporate profitability and hence for the magnitude of the (expected) synergistic gains in takeover transactions. This implies that, when answering the question whether or not takeovers will create or destroy value, it is important to understand why and when merger waves occur. It is not only important to determine whether a takeover takes place in a period with or without intensive M&A activity, but also to find out at which stage of an M&A wave a takeover occurs. Empirical evidence shows that takeovers occurring at a later stage of the takeover wave trigger lower gains to shareholders than those at the beginning of the wave (Moeller et al., 2005). This indicates that waves tend to pass their optimal stopping point and that unprofitable takeovers occurring later in the wave result from limited information processing, hubris, and managerial self-interest.

An important area which has received less academic attention is the decision process companies face to determine how to reorganize (by means of takeovers, spin-offs, recapitalizations, workouts, institutional buyouts or other transfers of control). A joint analysis of these restructuring constitutes a prominent area for future research.

Another challenge in the field of M&As is the cyclical rise and fall of hostile takeover activity. While contested bids of the 1980s received substantial attention from academic researchers, those of the 1990s have been largely ignored. The following issues remain to be addressed: What triggers time and country clustering of hostile takeover activity? Why were unfriendly acquisitions almost non-existent in Continental Europe during the 1980s, and occurred in unprecedented numbers during the 1990s? Do the patterns of contested bids and their profitability vary across the decades and countries? Do hostile tender offers bring about more managerial discipline?

In addition to the problems mentioned above, there are a number of other issues that have not been fully investigated in the literature. The aspects of cross-border mergers and acquisitions warrant comprehensive theoretical and empirical analysis. Differences in corporate law, corporate governance regulation, stock exchange regulation, accounting quality may have a significant impact

on cross-border acquisitions while research remains limited on this topic. Finally, the decision to takeover another company or to resist a bid may also depend on non-economic factors, like the remuneration structure of the managers, their education and the networks they belong to. M&A research on such issues is still in its infancy.

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Table 1. Summary of takeover waves.
This table summarizes the main characteristics of takeover waves most frequently mentioned in the academic literature.

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	New wave (6?)
Period	1890s - 1903	1910s - 1929	1950s - 1973	1981 - 1989	1993-2001	2003-present
Geographical scope	US	US	US, UK, Europe	US, UK, Europe, Asia	US, UK, Europe, Asia	US, UK, Europe, Asia
M&A outcome	Formation of monopolies	Formation of oligopolies	Growth through diversification	Elimination of inefficiencies	Adjustment to globalization processes	Global expansion
Industry relatedness	Focus	Focus	Diversification	Focus	Focus	Focus
Industries	Hydraulic power, textiles industry, iron industry	Steam engines, steel, railways	Electricity, chemicals, combustion engines	Petrochemicals, aviation, electronics, communications technology	Communications /information technology	n. a.
Dominant sources of financing / means of payment	Cash	Equity	Equity	Debt financed / Cash paid	Equity	Debt and Cash financed / Cash paid
Hostile takeover activity	n. a.	n. a.	None (US&UK) None (Europe) None (Asia)	High (US&UK) None (Europe) None (Asia)	Some (US&UK) High (Europe) None (Asia)	Some (US&UK) Some (Europe) Some (Asia)
Cross-border M&A activity	n. a.	n. a.	n. a.	Some	Medium	High
Other specifics				LBOs, MBOs, going-private deals, and divestitures	Mega-deals, divestitures	Deals by private equity funds
Events coinciding with beginning of wave	Economic expansion; industrialisation processes; introduction of new state legislations on incorporations; development of trading on NYSE; radical changes in technology	Economic recovery after the market crash and the First World War; strengthen enforcement of antimonopoly law	Economic recovery after the Second World War; tightening of antitrust regime in 1950	Economic recovery after recession; changes in antitrust policy; deregulation of fin. services sector; new financial instruments and markets (e.g. junk bonds); technological progress in electronics	Economic and financial markets boom; globalization processes; technological innovation, deregulation and privatisation	Economic recovery after the downturn in 2000-01
Events coinciding with end of wave	Stock market crash; economic stagnation; beginning of First World War	Stock market crash; beginning of Great Depression	Stock market crash; oil crisis; economic slowdown	Stock market crash	Stock market crash; 9/11 terrorist attack	n. a.

Table 2. Short-term effects around M&A announcements.

This table presents the market reaction to M&A announcements. The results are for successful domestic takeovers between non-financial firms. The following notation is used.

Types of mergers and acquisitions: T - tender offer, M - merger, MA - M&As, HMA - horizontal M&A, VMA - vertical M&A, RMA - related M&A (non-conglomerate), UMA - unrelated M&A (conglomerate or diversification), A - acquisition, FA - friendly acquisition, HA - hostile acquisition, Stock - all-stock offer, Cash - all-cash offer, Mixed - combination of stock and cash offer, Public (Pub) - Target company is public, Private (Priv) - Target company is private.

Benchmark Return Models: MM - Market model; MAM - Market-adjusted model; CAPM - Capital Asset Pricing model; BMCP - Beta-matched control portfolio (CRSP); FFM - Fama-French Model; VPE -Valuation Prediction Error; PSM - Probability Scaling Method; TTA - Thin-trade adjusted; EV/PA - The ratio of the change in the bidder equity value to the acquisition price; SBM - size and book-to-market ratio matched portfolio, following the Lyon and Barber (1996) methodology. 'Close' refers to the date when the target is delisted from trading on public exchanges

Sample size: T/B/C stands for the number of observations for Target firms/Bidding firms/Combined firms respectively. If the three samples have the same number of observations, only one number is reported.

Significance level: * - significance is not reported; a/b/c - statistical significance at 1%/5%/10%, respectively.

Study, *sample country*	Sample period	Benchmark return model	Event window (days)	Sample size: T/B/C	Type of M&A	CAARs Target, %	CAARs Bidder, %	CAARs Combined %
Panel A: Second and Third Takeover Waves, 1910s-1929 and 1950s-1973								
Leeth and Borg (2000), *US*	1919-30	MM, MAM	(-1, close)	72/466 13/28 59/438 44/156 7/41 68/417 4/28	MA TO M Stock Cash RMA UMA	+15.57[a] +7.31 +18.22[a] +12.61[a] +25.27[a] +12.87[a] +73.72[a]	+0.14 -3.62 +0.38 -1.12 +2.47 +0.61 -2.30	
Dodd and Ruback (1977), *US*	1958-78	MM	(0, +20)	133/124	TO	+20.89[a]	+2.83[b]	
Kummer and Hoffmeister (1978), *US*	1956-74	CAPM	(0, +20)	50/17	TO	+16.85[a]	+5.20[c]	
Bradley (1980) and Bradley and Jarrell (1980), *US*	1962-77	BMCP	(-20, +20)	161/88	TO	+32.18[a]	+4.36[a]	
Dodd (1980), *US*	1970-77	MM in growth returns	(-20, 0) (-10, +10)	71/60 71/60	M	+21.78[a] +33.96[a]	+0.80 -7.22[b]	
Asquith (1983), *US*	1962-76	BMCP	(-2, 0) (-20, 0)	211/196 211/196	M	+6.20[a] +13.30[a]	+0.20 +0.20	
Eckbö (1983), *US*	1963-78	MM	(-1, +1) (-20, +10)	57/102 57/102	HM	+6.24[a] +14.08[a]	+0.07 +1.58	
Asquith, Bruner and Mullins (1983), *US*	1963-79	BMCP	(-20, 0)	54/214	M	+16.8[a]	+2.80[a]	
Malatesta (1983), *US*	1969-74	MM	(0, +20)	83/256	M	+16.8[a]	+0.90	
Dennis and McConnell (1986), *US*	1962-80	MAM	(-19, 0) (-6, +6)	76/90	M	+16.67[a] +13.74[b]	+1.07 +3.24[a]	
Lang, Stulz and Walkling (1989), *US*	1968-86	MM	(-5, +5)	87	TO	+40.30[a]	+0. 01	+11.31[a]
Eckbö, Giammarino and Heinkel (1990), *US*	1964-82	MM	(0, +20)	92 34 56	Stock Cash Mix		+3.86[a] +0.87 +2.10[a]	
Chatterjee (1992), *US*	1963-86	MM	(0, +20)	436	TO	+22.04[a]	+3.33[c]	
Hubbard and Palia (1999), *US*	1961-70	4 methods, Results for MM	(-5, +5)	392	RMA UMA		+1.61[a] +0.24	
Franks, Broyles and Hecht (1977), *UK*	1955-72	MM, TTA	(0, +20)	70	M	+16.0[*]	+4.60[*]	+8.60[*]
Firth (1980), *UK*	1969-75	MM	(0, +20)	434	TO	+28.1[a]	-6.30[a]	

Study, *sample country*	Sample period	Benchmark return model	Event window (days)	Sample size: T/B/C	Type of M&A	CAARs Target, %	CAARs Bidder, %	CAARs Combined %
Franks and Harris (1989), *UK*	1955-85	MM, MAM, CAPM Results for MAM, TTA	(0, +20)	1693/1012 121/46	TO M	+24.0[b] +14.8[b]	+1.2[b] -3.6[b]	
Eckbö and Langohr (1989), *France*	1966-82	MM	(0, +5)	90/52	TO-Public	+16.48[a]	-0.29	
Panel B: Fourth Takeover Wave, 1981-1989								
Travlos (1987), *US*	1972-81	MM	(-10, +10)	60 100	M-Stock M-Cash		-1.6 -0.13	
Morck, Shleifer and Vishny (1990), *US*	1975-87 1975-79 1980-87 1975-79 1980-87	EV/PA	(-2, +1)	326 34 57 120 115	All MA RMA RMA UMA UMA		-0.70 +1.54 +2.88 +0.23 -4.09[b]	
Franks, Harris and Titman (1991), *US*	1975-84	MM	(-5, +5)	399 156 128 114 93 306	All MA Cash Stock Mixed HA FA	+28.04[a] +33.78[a] +22.88[a] +25.81[a] +39.49[a] +24.57[a]	-1.02[c] +0.83 -3.15[a] -1.18 -1.35 -0.92[c]	+3.90[a] +6.41[a] +0.42 +4.38[a] +8.91[a] +2.41[a]
Servaes (1991), *US*	1972-87	MM	(0, close)	577/307/307 125/77/77	FA HA	+21.89[a] +31.77[a]	-0.16 -4.71	+3.29[a] +5.08[c]
Kaplan and Weisbach (1992), *US*	1971-82	MM	(-5, +5)	209/271/209	M&TO	+26.9[a]	-1.49[a]	+3.74[a]
Healy, Palepu and Ruback (1992), *US*	1979-84	MAM	(-5, close)	50	Largest A	+45.6[a]	-2.2	+9.1[a]
Byrd and Hickman (1992), *US*	1980-87	MM	(-1, 0)	128	TO		-1.23	
Smith and Kim (1994), *US*	1980-86	MM	(-5, +5) (-60, -6) (+6, +60)	177	TO	+30.19[b] +7.98[b] -2.95[b]	+0.50 +0.67 +2.76[b]	+8.88[b] +3.26[b] +1.90[c]
Schwert (1996), *US*	1975-91	MM	(-42, -1) (-42, -1) (0, close) (0, close)	959 564 959 564	M TO M TO	+11.90[b] +15.60[b] +4.90[b] +20.10[b]	+1.4[*] +1.70[*] -3.4[*] +2.5[*]	
Maquieira, Megginson and Nail (1998), *US*	1977-96	VPE	(-40, +40)	47 55	UM-Stock RM-Stock	+41.65[a] +38.08[a]	-4.79[c] +6.14[b]	+3.28 +8.58[a]
Chang (1998), *US*	1981-92	MM	(-1, 0)	101 154 131 150	Pub-Cash Pub-Stock Priv-Cash Priv-Stock		-0.02 -2.46[a] +0.09 +2.64[a]	
Walker (2000), *US*	1980-96	MAM	(-2, +2)	230 48	M TO		-1.3[b] +0.51	
Graham, Lemmon and Wolf (2002), *US*	1980-95	MM	(-1, +1)	356	All MA	+22.51[a]	-0.78[a]	+3.4[a]
Franks and Mayer (1996), *UK*	1985-86	MAM	(0, +20)	34 32	FA HA	+18.44[a] +29.76[a]		
Higson and Elliott (1998), *UK*	1975-90	Size decile benchmark	(0, close) (0, +20)	830	All deals	+37.5[a] +31.5[a]	+0.43 +0.20	
Danbolt (2004), *UK*	1986-91	Size-decile, MAM, MM, CAPM	(0, +20) (-2, +1) (+1, +5)	514	Domestic deals	+18.76[a] +20.64[a] -1.85[a]		
Doukas, Holmen and Travlos (2002), *Sweden*	1980-95	MM	(-5, +5)	46 46	RMA UMA		+2.74[a] -2.37[c]	
Kang, Shivdasani and Yamada (2000), *Japan*	1977-93	MM	(-5, +5) (-1, 0) (-1, 0) (-1, 0) (-1, 0)	154 104 50 95 59	All MA RMA UMA Stock Mixed		+2.22[a] +1.4[b] +0.8 +1.0[b] +1.4[c]	

Study, *sample country*	Period	Benchmark model	Window (days)	Sample size: T/B/C	Type of M&A	CAARs Target %	CAARs Bidder %	CAARs Combined %
Panel C: Fifth Takeover Wave, 1993-2001								
Kohers and Kohers (2000), *US: HT companies*	1987-96	MM	(0, +1)	961 673	Cash Stock		+1.37[a] +1.09[a]	
Mulherin and Boone (2000), *US*	1990-99	MAM	(-1, +1)	376/281/281	MA-Public	+21.2[a]	-0.37	+3.56[a]
Datta, Iskandar-Datta and Raman (2001), *US*	1993-98	MM	(-1, 0)	1577 142 337 1382	M TO Cash No Cash		+0.003 +0.23 +0.52[a] -0.10	
Moeller, Schlingemann and Stulz (2004), *US*	1980-01	MM	(-1, +1)	4862 2958 4203 2642 5583	Cash Stock Mixed Public Private		+1.38[a] +0.15[a] +1.45[a] -1.02[a] +1.49[a]	
Fuller, Netter and Stegemoller (2002), *US*	1990-00	MAM	(-2, +2)	456 2060	Public Private		-1.00[b] +2.08[a]	
Lehn and Zhao (2006), *US*	1990-98	MM	(-5, +40)	61 98	CEO turn CEO stay		-7.03[a] +0.28	
Bouwman, Fuller and Nain (2003), *US*	1979-98	MAM	(-1, +1)	222 6 40 930 510 265	TO-Cash TO-Stock TO-Mixed M-Cash M-Stock M-Mixed		+0.36 -0.62 -1.23[a] +0.88[a] -0.79[a] +2.33[a]	
Ang and Cheng (2006), *US*	1984-01	SBM	(-1, close)	848	All deals	+26.11[a]	-0.48[c]	
Bradley and Sundaram (2004), *US*	1990-00	MAM	(-2, +2)	493 1149 4583 1854 12476	Pub-Cash Pub-Stock Priv-Cash Priv-Stock All deals		+0.83[a] -1.29[a] +0.71[a] +1.39[a] +1.45[a]	
Raj and Forsyth (2003), *UK*	1990-98	MAM	(-20, +5)	22 90	Hubris Other	+29.22[b] +27.82[b]	-4.13[b] +0.27	
Sudarsanam and Mahate (2003), *UK*	1983-95	4 methods, Results are for MAM	(-1, +1) (+2, +40)	519	All deals		-1.39[a] +0.14	
Faccio and Stolin (2006) and Faccio, McConnell and Stolin (2006), *Europe*	1996-01	MAM	(-2, +2)	735 436 189 110 3694 2876 201 617	Public-All Pub-Cash Pub-Stock Pub-Mix Private-All Priv-Cash Priv-Stock Priv-Mixed		-0.38 +0.30 -1.81[b] -0.66 +1.48[a] +1.17[a] +3.90[a] +2.14[a]	
Goergen and Renneboog (2004), *Europe*	1993-01	6 methods, Results are for MM (TTA)	(-2, +2)	40/41 53/55 28/32 88/86 30/33 18/23	M FA HA Cash Stock Mixed	+12.62[a] +11.33[a] +17.95[a] +13.56[a] +11.38[a] +13.24[a]	+4.35[a] +1.94[a] -3.43[a] +0.90[c] +2.57[a] +0.22	
Campa and Hernando (2004), *EU*	1998-00	CAPM	(-1, +1)	182	Domestic deals	+3.86[b]	+0.61	+1.33[b]
Martynova and Renneboog (2006), *Europe*	1993-01	6 methods, Results are for MM (TTA)	(-5, +5)	259/1659 380/329 123/120 405/754 185/285 92/412 525/1334 234/774	M FA HA Cash Stock Mixed RMA UMA	+6.25[a] +20.19[a] +22.36[a] +20.17[a] +11.10[a] +17.48[a] +15.16[a] +17.36[a]	+1.07[a] -0.29 -0.18 +1.03[a] +0.66 +1.03[c] +0.98[a] +0.45	

Study, *sample country*	Period	Benchmark model	Window (days)	Sample size: T/B/C	Type of M&A	CAARs Target %	CAARs Bidder %	CAARs Combined %
Holmen and Knopf (2004), *Sweden*	1985-95	MM	(-5, +5)	121	TO	+16.99[a]	+0.32	+4.12[a]
Schaik and Steenbeek (2004), *Japan*	1993-03	MM	(-1, +1)	136	All deals		+0.57	
Bae, Kang and Kim (2002), *Korea*	1981-97	MM	(-5, +5)	107 66 41	M all RM UM		+2.666[b] +3.904[a] +0.672	
Panel D: Takeover Waves Comparison								
Bradley, Desai and Kim (1988), *US*	1963-68 1968-80 1981-84 1963-84	MM	(-5, +5)	51 133 52 236	TO	+18.92[a] +35.29[a] +35.34[a] +31.77[a]	+4.09[a] +1.30 -2.93[a] +0.97[b]	+7.78[a] +7.08[a] +8.00[a] +7.43[a]
Jarrell and Poulsen (1989), *US*	1963-69 1970-79 1980-86 1963-86	MAM	(-10, +20) (-10, +20) (-10, +20) (-20, +10)	74 127 203 526/461	TO	 +28.99[a]	+4.95[a] +2.21[a] -0.04 +1.29[b]	
Loderer and Martin (1990), *US*	1966-68 1968-80 1981-84 1966-84 1966-84	MM	(-5, 0)	970 3401 801 1135 274	All deals All deals All deals M TO		+1.72[b] +0.57[b] -0.07 +0.99[b] +0.52[b]	
Andrade, Mitchell and Stafford (2001), *US*	1973-79 1980-89 1990-98 1973-98 1973-98 1973-98	MM	(-1, +1)	598 1226 1864 3688 2194 1494	All deals All deals All deals All deals Stock No Stock	+16.0[b] +16.0[b] +15.9[b] +16.0[b] +13.0[b] +20.1[a]	-0.3 -0.4 -1.0 -0.7 -1.5[a] +0.4	+1.5 +2.6[b] +1.4[b] +1.8[b] +0.6 +3.6[b]
Fan and Goyal (2006), *US*	1962-70 1971-80 1981-90 1991-96	MM	(-10, +10)	377 569 702 514	VMA			+2.8[a] +2.2[b] +4.5[a] +3.8[a]
Akbulut and Matsusaka (2003), *US*	1950-62 1963-68 1969-73 1974-79 1980-83 1984-89 1990-93 1994-99 2000-02	MAM	(-2, +1)	23 164 57 167 69 114 71 325 103	UMA		-0.46 +0.95[b] +0.07 -0.97[a] -1.79[b] -0.54 -2.74[c] -0.48 -0.18	+0.52 +1.65[a] +0.23 +2.33[a] +0.30 +1.67[a] +0.44 +0.77[b] +0.07
Moeller and Schlingemann and Stulz (2005), *US*	1980-90 1991-01 1998-01	MM	(-1, +1)	448 1519 729	All deals		+0.64[*] +1.20[*] +0.69[*]	
Moeller and Schlingemann (2005), *US*	1985-90 1990-95	MAM	(-1, +1)	1214 2832	Domestic deals		+0.44[a] +1.49[c]	
Bhagat et al. (2005), *US*	1962-68 1968-80 1981-84 1985-88 1989-92 1993-96 1997-00 2000-01	MM The results differ when new PSM is applied	(-5, +5)	71 176 45 214 84 139 210 79	TO	+17.96[a] +27.97[a] +31.90[a] +25.61[a] +29.08[a] +31.92[a] +33.18[a] +44.78[a]	+3.29[a] +0.05 -1.42[c] -0.49 -1.78[a] +0.98 +0.97[c] -0.81	+7.45[a] +6.40[a] +8.12[a] +5.19[a] +3.59[a] +5.05[a] +4.61[a] +3.57[a]

Table 3. Long-term wealth effects subsequent to M&A announcements.

This table presents the share price performance of acquiring companies over the long run. The reported results are for successful domestic takeovers between non-financial firms. The Following notation is used. *Types of mergers and acquisitions*: T - tender offer, M - merger, MA - M&As, HMA - horizontal M&A, VMA - vertical M&A, RMA - related M&A (non-conglomerate), UMA - unrelated M&A (conglomerate or diversification), A - acquisition, FA - friendly acquisition, HA - hostile acquisition, Stock - all-stock offer, Cash - all-cash offer, Mixed - combination of stock and cash offer, Public (Pub) - Target company is public, Private (Priv) - Target company is private.
Benchmark Return Models: MM - Market model; MAM - Market-adjusted model; CAPM - Capital Asset Pricing model; FFM - Fama-French Model; TTA - Thin-trade adjusted; RATS – Returns Across Time and Securities (Ibbotson (1975)).
Returns Measures: CAARs – Cumulative Average Abnormal returns; BHARs – Buy-and-Hold Abnormal Returns; CTARs - Calendar Time Abnormal Returns.
[X] High, Medium and Low refer to subsamples of companies with corresponding high, medium and low Price to Earnings ratio
Significance level: * - significance is not reported; a/b/c - statistical significance at 1%/5%/10%, respectively.

Study	Sample period	Benchmark	Event window (month)	Sample size	Type of M&A	CAARs, ARs or BHARs, %
Panel A: Second and Third Takeover Waves, 1920s-1973						
Haugen and Udell (1972), *US*	1961-67	Return to financial instrument with similar claims on corporate profit	CAARs (0, +48)	21 27 16	RMA UMA Stock	+3.0 +6.6[b] +6.6[c]
Halpern (1973), *US*	1950-65	2-factor model: market and industry, moving average, MM	CAARs (0, +7)	149	Public	+12.76a
Mandelker (1974), *US*	1941-62	MAM	CAARs (+1, +12)	241	M	+0.6[a]
Ellert (1976), *US*	1950-72	MM	CAARs (+1, +48)	135	All deals considered for anti-trust violation	-1.6
Dodd and Ruback (1977), *US*	1958-76	MM	CAARs (0, +60)	124	TO	-5.9
Langetieg (1978), *US*	1929-69	4 methods	CAARs (+1, +12) (+1, +24)	149	M	-6.59 -12.86
Asquith (1983), *US*	1962-76	Beta-decile portfolio	CAARs (0, +12)	196	M	-7.2[a]
Malatesta (1983), *US*	1969-74	MM	CAARs (0, +36)	256	M	-7.6[a]
Bradley and Jarrell (1988), *US*	1976-81	Beta-decile portfolio	CAARs (0, +36)	78	M&TO	-16.0
Magenheim and Mueller (1988), *US*	1976-81	MM	CAARs (0, +36)	26 51	TO M	+6.32[*] -24.37[*]
Franks, Harris and Mayer (1988), *US&UK*	1955-84	MM, MAM, CAPM	CAARs (0, +24)	127 392 221 207	US-Cash US-Stock UK-Cash UK-Stock	-3.6 -1.8[b] +1.75[b] -9.4
Franks, Broyles and Hecht (1977), *UK*	1955-72	MM (TTA)	CAARs (-40, +40)	94	M	-0.04
Firth (1980), *UK*	1969-75	MM	CAARs (+1, +12) (+13,+36)	434	TO	+0.5 -0.4
Franks and Harris (1989), *UK*	1960-85	MM MAM CAPM	CAARs (0, +24)	1048	M&TO	-12.6[a] +4.8[b] +4.5[b]
Kumps and Wtterwulghe (1980), *Belgium*	1962-74	Industry matched	ARs (0, +12) (0, +24)	25	M	+0.068 +0.117
Eckbö (1986), *Canada*	1964-83	MM with lead and lag terms (TTA)	CAARs (+1, +12)	1138 215 552	All M RM UM	+1.00[b] +0.60 +0.74[b]

Study	Sample period	Benchmark	Event window (month)	Sample size	Type of M&A	CAARs, ARs or BHARs, %
Bühner 1991, *Germany*	1973-85	MM	CAARs (+1, +12) (+1, +24)	110	All deals	-6.93 -5.98
Peer (1980), *The Netherlands*	1962-73	Industry, Sharp measure, and Treynor measure	ARs (0, +12) (0, +36) (0, +12) (0, +36)	20 20 9 9	HM HM UM UM	+0.75 +2.26 -0.61 -1.84
Panel B: Fourth Takeover Wave, 1981-1989						
Franks, Harris and Titman (1991), *US*	1975-84	5 models, results for 8-factor model	Average monthly AR during (0, +36)	399 156 128 114 93 306	All deals Cash Stock Mixed HA FA	+0.05 +0.26 -0.17 +0.44 +1.24[a] +0.78[c]
Agrawal, Jaffe and Mandelker (1992), *US*	1955-87	Size and beta-adjusted	CAARs (0, +60)	227 937	TO M	+2.2 -10.26[a]
Loderer and Martin (1992), *US*	1965-86	*Size and beta-adjusted*	CAARs (+1, +60)	155 304	TO M	+1.0 -0.75
Anderson and Mandelker (1993), *US*	1966-87	Size and B/M Size	CAARs (+1, +60)	670	M	-9.31[a] -9.56[a]
Loughran and Vijh (1997), *US*	1970-89	Size and B/M	BHARs (0, +60)	8 92 100 292 142 434	TO-Stock TO-Cash TO-all M- Stock M-Cash M-all	-61.2 +66.4[b] +56.2[b] -5.9 +33.9[b] +7.1
Rau and Vermaelen (1998), *US*	1980-91	Size and B/M adjusted	CAARs (0, +36)	255 316 643 2823	TO-Public TO-all M-Public M-all	+8.56 +8.85 -2.58[a] -4.04[a]
Bouwman, Fuller and Nain (2003), *US*	1979-98	Size and B/M	BHARs (0, +24)	222 6 40 930 510 265	TO-Cash TO-Stock TO-Mixed M-Cash M-Stock M-Mixed	+6.38[c] -26.17 +12.27 -1.76 -7.03[c] -1.87
Limmack (1991), *UK*	1977-86	MM, 3 methods	CAARs (0, +24)	448	M&TO	-4.67[b]
Limmack (1993), *UK*	1977-86	MM	CAARs (0, +24)	203 224 98	HA FA CB	-19.86[a] -8.94b -8.06
Kennedy and Limmack (1996), *UK*	1980-89	Size	CAARs (0, +23)	247	M&TO	-5.08[*]
Gregory (1997), *UK*	1984-92	MM, Size, CAPM, FFM	CAARs (+1, +24)	452	M&TO	-11.82[a]
Chatterjee (2000), *UK*	1977-90	MAM	CAARs (0, +24)	25 153	TO-Large TO-All	-0.4 -4.1
Cosh and Guest 2001, *UK*	1985-96	Size and B/M	BHARs (+1, +48)	58 123	HA FA	-4.0 -22.1[a]
Panel C: Fifth Takeover Wave, 1993-2001						
Datta, Iskandar-Datta and Raman (2001), *US*	1993-98	MM	BHARs (0, +36)	437 48 125 360	M TO Cash No Cash	-10.67[a] +6.20 -18.82[c] -6.0[c]
Kohers and Kohers (2001), *US: HT companies*	1984-95	Size and B/M RATS	BHARs CAARs (0, +36)	304	M	+32.09[a] -18.68[a]

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Study	Sample period	Benchmark	Event window (month)	Sample size	Type of M&A	CAARs, ARs or BHARs, %
Moeller, Schlingemann and Stulz (2004), *US*	1980-01	4-factors based on FFM and Carhart (1997)	Average monthly AR during (0, +36)	12023 1199 396 1047 1553 2060 1970	All deals Pub-Stock Pub-Cash Pub-Mix Priv-Stock Priv-Cash Priv-Mix	+0.018 +0.189 +0.396[b] -0.092 +0.287 +0.206 -0.065
Ang and Cheng (2006), *US*	1984-01	Size, B/M and pre-merger momentum	BHARs (0, +36)	241 350	Pub-Cash Pub-Stock	-2.06 -12.45[a]
Bradley and Sundaram (2004), *US*	1990-00	MAM	CAARs (+1, +24)	12476 1149 493 1854 4583	All deals Pub-Stock Pub-Cash Priv-Stock Priv-Cash	-10.09[a] -6.35[a] -0.00 -14.00[a] -6.76[a]
Conn et al. (2005), *UK*	1984-00	Size and B/M	BHARs (+1, +36) CTARs (+1, +36)	576 2628 576 2628 75 501 1400 1172	Pub-All Priv-All Pub-All Priv-All Pub-Cash Pub-Ncash Priv-Cash Priv-Ncash	-19.78[a] -4.78 -0.40[b] -0.08 +0.06 -0.47[b] -0.14 -0.07
Gao and Sudarsanam (2003), *UK: HT companies*	1990-99	Industry Size and B/M Industry, Size and B/M	CAARs (0, +12)	173	All deals	-34.36[a] +7.09 +1.84[c]
Sudarsanam and Mahate (2003),[x] UK	1983-95	Size, MAM, B/M, Mean-adjusted	BHARs (+2, +36)	17 30 50 36 32 35 519	Cash-High Cash-Med Cash-Low Stock-High Stock-Med Stock-Low All deals	+10.19 +4.15 +4.47 -30.80[a] -18.40[a] -17.85[a] -14.76[a]
Croci (2007), *France, Germany, Italy, Switzerland, UK*	1990-01	Size and M/B	BHARs, (0, +12) (0, +24) (0, +36)	83 50 23	MAs by corporate raiders	-9.47 -24.36[b] -6.94
Panel D: Takeover Waves Comparison						
Mitchell and Stafford (2000), *US*	1961-93	Size and M/B and other benchmarks	BHARs (0, +36)	2068 1029 1039	All deals Stock No Stock	-0.01 -0.084[a] +0.064[b]
Agrawal and Jaffe (2001), *US*	1965-96 1926-96 1926-96 1926-96	Size and M/B	CAARs (-24, -3)	1319 2010 1526 432	All deals All deals M TO	+0.99 +1.52[a] +2.16[a] -0.82
Higson and Elliot (1998), *UK*	1975-80 1981-84 1985-90 1975-90	Size-decile benchmark	BHARs (+1, +24)	305 156 315 776	All deals	-9.95[b] +26.6[a] -6.18 -1.14

Table 4. Post-Merger Operating Performance

This table presents the post-merger operating performance of acquiring (or the combined) companies. The reported results are for successful domestic takeovers between non-financial firms.

Types of mergers and acquisitions: T - tender offer; M – merger; MA - M&As; HM - horizontal merger; VM - vertical merger; CM – conglomerate merger; RMA (RTO) - related M&A (Tender Offer); UMA (UTO) - unrelated M&A (Tender Offer); 2- and 3- digit – degree of relatedness is based on 2- or 3- digit SIC codes; A – acquisition; FA - friendly acquisition; HA - hostile acquisition; Stock - all-stock offer; Cash - all-cash offer; PE – acquisition related to product expansion; NPE – acquisition for reasons other than product expansion.

Results: "↑" - performance measure increases compared to its benchmark; "=" - performance measure is not significantly different from its benchmark; "↓" - performance measure declines compared to its benchmark.

*Event Window*s: 0 – the year or day of announcement; (0, +nY) – the period of n years from the announcement; Close – the day of acquisition completion; (Close, +nD) – the period of n days from the completion; (1950, 1972) – the time period from 1950 to 1972.

Significance level: * - significance is not reported; a/b/c - statistical significance at 1%/5%/10%, respectively

Study	Sample period	Sample size	Event window	Type of M&As	Operating Performance Measure	Performance measure adjusted for effect of	Results (↑, =, ↓)
Mueller (1980), *US*	1962-72	247 132 124 40 33	(0, +3Y) (0, +5Y) (0, +5Y) (0, +5Y) (0, +5Y)	All MA	ROE, ROA, ROS Sales Growth Rate Total assets Growth Rate Leverage Growth Rate Employment Growth Rate	Industry	↓[b], ↓, ↓ ↓[b] ↓[b] ↑ ↓
Mueller (1985), *US*	1950-72	123	Average annually (1950, 1972)	HM VM	Market share	Size and industry	↓[a] ↓[a]
Ravenscraft and Scherer (1987), *US*	1975-77	62	(0, +3Y)	TO	Operating Income/Assets Cash Flow/Assets	Industry	↓[c] ↓
Seth (1990), US	1962-79	102 52 50 102 52 50	(Close, 100D)	TO-all RTO UTO TO-all RTO UTO	Expected cash flow Expected cash flow Expected cash flow Required rate of return Required rate of return Required rate of return	Pre-merger performance	↑[a] ↑[a] ↑[a] ↓ ↓[b] ↓[b]
Healy, Palepu and Ruback (1992), *US*	1979-84	50	(0, +5Y)	Largest	Asset productivity Operating CF returns CF margin on sales Asset turnover R&D rate	Industry	↑[a] ↑[a] = ↑[a] =
Clark and Ofek (1994), *US*	1981-88	25 19	(0, +2Y) (0, +3Y)	MA in which Targets are Distressed	EBITD/Revenues	Industry	↓[a] ↓
Dickerson, Gibson and Tsakalotos (1997), *US*	1948-77	2914	(0, +5Y)	All MA	Rate of Returns on Assets (different measures)	Size, company and time-specific effects	↓[a]
Linn and Switzer (2001), *US*	1967-87	413 152 NA	(0, +5Y)	TO & M Stock RMA	Cash Flow/Market Value	Industry	↑ ↓ ↓
Ghosh (2001), *US*	1981-95	315	(0, +3Y)	All MA All MA All MA All MA Cash Stock RMA FA	Cash Flow Returns/Assets Sales Growth (SG) Cash Flow Margins (CFM) Employees to Sales (E/S) CFM, SG, E/S CFM, SG, E/S CFM, SG, E/S CFM, SG, E/S	Industry, Size and M/B	↑[a] = = ↓ ↑[c], ↑[b], ↑ ↓ , ↓, ↓[a] ↓ , ↓, ↑[b] ↑ , =, ↑
Meeks (1977), *UK*	1964-72	161 73	(0, +3Y), (0, +5Y) (0, +3Y), (0, +5Y) (0, +3Y), (0, +5Y) (0, +3Y), (0, +5Y)	All deals RMA (3-digit) UMA (3-digit) UMA (2-digit)	EBIT/Net Assets	Industry and accounting bias	↓ , ↓[b] ↓[a], ↓[b] ↓[a], ↓[a] ↑ , ↓
Cosh, Hughes and Singh (1980), *UK*	1967-69	109 116 225 109, 116 109, 116	(0, +3Y), (0, +5Y)	HM UM All deals HM, UM HM, UM	Net Income/Net Assets Net Income/Net Assets Net Income/Net Assets Growth of Net Assets Leverage Ratio	Size and Industry	↓ , ↓ ↑ , ↑ ↑ , ↓ ↑[b], ↑[b] ↑[b], ↑[b]

Study	Sample period	Sample size	Event window	Type of M&As	Operating Performance Measure	Performance measure adjusted for effect of	Results (↑, =, ↓)
Powell and Stark (2005), *UK*	1985-93	na	(0, +3Y)	All MA	CF/TMV CF/BV CF/Sales	Industry, Size and M/B	↑[a] ↑ ↑[c]
Carline, Linn and Yadav (2002), *UK*	1985-94	81	(0, +5Y)	All MA Stock HA	Operating Performance (EBITDA/MV)	Industry	↑[a] ↓[b] ↑[a]
Gugler, Mueller, Yurtoglu and Zulehner (2003), *Worldwide*	1981-98	1250 889 181 87 15	(0, +5Y)	All deals US UK Cont. Europe Japan All deals US UK Cont. Europe Japan	Profit/Assets Profit/Assets Profit/Assets Profit/Assets Profit/Assets Sales/Assets Sales/Assets Sales/Assets Sales/Assets Sales/Assets	Industry	↑[b] ↑[c] ↑ ↑ ↓ ↓[a] ↓[a] ↓[b] ↓ ↓
Martynova, Oosting, and Renneboog (2007), *Europe*	1997-01	155 78 10 22 6 104 42 68 34 40	(0, +3Y)	All deals Cash Stock Mix HA FMA TO M RMA (4-digit) UMA (4-digit)	(EBITDA - ΔWC)/BV	Industry, size and EBIDTA/TA	= ↑ ↓ ↓ ↓ ↑ ↓ ↑ = =
Kumps and Wtterwulghe (1980), *Belgium*	1962-74	21	(0, +5Y)	M	Net Income/Equity Net Income/Total Assets Total Assets Growth Rate Leverage Growth Rate	Size and industry	↑ ↑ ↑ ↓
Cable, Palfrey, and Runge (1980), *Germany (FRG)*	1964-74	134	(0, +5Y)	M	ROA, ROE, ROS Assets Growth Rate Sales Growth Rate	Size and industry	↑ = =
Buehner (1991), *Germany*	1973-85	31 43 19 17	(0, +3Y)	HM-PE HM-NPE VM CM	ROA, ROE	Pre-merger preformance	↑, ↓ ↓[b], ↓[c] ↓, ↑ ↓[c], ↓
Janny and Weber (1980), *France*	1962-72	40 40 40 27 43	(0, +4Y)	All MA	Profits/Equity Profits/Assets Profits/Sales Total assets Growth Rate Sales Growth Rate	Size and industry, Sales/assets ratio	↓ ↓ ↓ ↑ ↓
Peer (1980), *The Netherlands*	1962-73	35	NA	HM and CM	ROS, ROE, ROC Total Assets Growth Rate Leverage Growth Rate	Size and industry	↓, ↓, ↓ ↓ ↓
Ryden and Edberg (1980), *Sweden*	1962-76	25 22 22 22 22	(0, +3Y)	All MA	ROE, ROA, ROS Sales Growth Rate Total Assets Growth Rate Leverage Growth Rate Employment Growth Rate	Size and industry	↓[b], ↓, ↓ ↑ ↑ ↑[c] ↑
Ikeda and Doi (1983), *Japan*	1964-75	44	(0, +3Y)	All MA	ROE, ROA Expenses/Sales Sales/Total assets Sales/Employee Sales Growth	Performance of main rivals in the industry	↓[*], = = = = =
Odagiri and Hase (1989), *Japan*	1980-87	33	(0, +3Y)	All MA All MA HMA HMA	Gross profit/Assets Sales growth Gross profit/Assets Sales growth	Size and industry	↑ ↑ ↓[a] ↓