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Takeover Waves

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Publication date:
2005

Link to publication in Tilburg University Research Portal

Citation for published version (APA):
Martynova, M., & Renneboog, L. D. R. (2005). *Takeover Waves: Triggers, Performance and Motives*. (TILEC Discussion Paper; Vol. 2005-029). TILEC.

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TILEC

TILEC Discussion Paper

DP 2005-029

TAKEOVER WAVES:
Triggers, Performance and Motives

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October 2005

ISSN 1572-4042

TAKEOVER WAVES:

Triggers, Performance and Motives

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September 2005

Abstract: This paper reviews the vast academic literature on the market for corporate control. Our main focus is the cyclical wave pattern this market exhibits. From the perspective of takeover waves, we address questions such as: Why do mergers and acquisitions (M&As) occur? Does the ensuing transfer of control generate shareholder gains? What are the main profitability drivers in M&As by takeover wave? We find that the pattern of takeover activity and its profitability significantly vary across the various takeover waves. Despite such diversity, all waves have similarities: 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.

JEL codes: G34

Key words: takeovers, mergers and acquisitions, diversifications, takeover waves

Acknowledgments: We are grateful to Marc Goergen, Johannes Ockeghem, Peter Szilagyi, Greg Trojanowski, for valuable comments. Luc Renneboog is grateful to the Netherlands Organization for Scientific Research for a replacement subsidy of the programme 'Shifts in Governance'; the authors also gratefully acknowledge support from the European Commission via the 'New Modes of Governance'-project (NEWGOV) led by the European University Institute in Florence; contract nr. CIT1-CT-2004-506392.

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1. Introduction

It is now a well-known fact that mergers and acquisitions (M&As) come in waves. Golbe and White (1993) were among the first to empirically observe the cyclical pattern of M&A activity. Thus far, five obvious waves have been examined in the 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 as their US and UK counterparts, and M&A activity in Europe hit levels similar to those experienced in the US. The figures by Thomson Financial Securities Data are no doubt commanding: the total number of American[1] and European[2] deals amounted respectively to 119035 and 116925 over the 1990s, almost four (US) and nine (Europe) times more than during the fourth takeover wave of 1983-1989. This fifth wave is similarly impressive in monetary terms, with total (global) transaction value adding up to around US$20 trillion[3], more than five times the combined total for 1983-89. Since mid-2003, M&A activity has been on the rise since its abrupt decline in 2001, which could well indicate that a new takeover wave is the making. This new hike in takeover activity raises a plethora of questions: Why do we observe a systematic rise and fall in M&A activity over time? Why do corporate managers herd in their takeover decisions? Is takeover activity fuelled by capital market developments? 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? Why do we observe time- and country-clustering of hostile takeover activity? And finally, does a transfer of control generate shareholder gains? We will later find that the answers to these questions 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 specifically 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 as well as Continental Europe. We find that takeover activity is usually disrupted by a steep decline in stock markets and a subsequent period of 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

[1] These include all takeover bids in which either a bidder or a target, or both are from the US.
[2] These include all takeover bids in which either a bidder or a target, or both are European.
[3] The figure stands for the total value of all domestic and cross-border M&As worldwide.

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 further influence takeover activity, to the extent that managerial hubris and herding behaviour increases during takeover waves, often leading to poor acquisitions.

The paper is organized as follows. In Section 2, we provide a historical overview of takeover waves. Section 3 focuses on the theoretical models that explain the drivers of M&A activity and the clustering thereof. Section 4 reviews the existing empirical evidence on the rise and fall of M&A activity; we distinguish between the rational reasons for takeovers (like technological shocks), and the behavioural reasons (like agency problems, managerial hubris, and market timing). Section 5 concludes.

2. The history of takeover waves

2.1 The early waves of the 1890s and the 1910s-1920s

In the US, the history of takeover waves goes back to the 1890s.[4] O'Brien (1988) argues that the first, so-called Great Merger Wave was triggered by an economic depression, new state legislations on incorporations, and the development of trading in industrial stocks on the NYSE. This first wave was largely characterized, both in the US and Europe, by the consolidation of industrial production. Stigler (1950) describes this consolidation as 'merging to form monopolies'. According to Lamoreaux (1985), these mergers were mainly motivated by the desire of the merging firms to reduce price competition rather than to exploit scale economies. Horizontal integration led to the creation of many giant companies which grabbed the bulk of market power in their respective industries. The Great Merger Wave came to an end around 1903-05, when the equity market crashed. The First World War later kept M&A activity at a modest level until the late 1910s.

[4] While the early US merger 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 the Continental Europe. Still, the lack of data and empirical studies about European takeovers prior to the 1960s does not necessarily mean that merger activity was not present in that period. Goergen and Renneboog (2004) suggest that first European merger wave started approximately in 1880 and ended in 1904, parallel with the first US wave although the European wave was smaller than that of the US. As in the US, European M&A activity in that period was fuelled by the radical changes in technology and industrialisation processes.

The monopolization efforts that marked restructuring activity under the Great Merger Wave raised public concern. Around 1910, this translated into anti-trust legislation both in the US and Europe. Sudarsanam (2003) argues that the enforcement of these anti-trust laws was responsible for the onset of the second takeover wave, which started in the late 1910s, continued through the 1920s, and collapsed in 1929 with the stock market crash and the ensuing worldwide depression. As anti-trust policy was aimed at cracking monopolies, dominant firms were broken up and their parts divested. Subsequently, firms focused on expansion through vertical integration. Stigler (1950) assesses the second wave as a move towards an oligopolistic structure, as industries were no longer dominated by one giant firm but by two or more corporations. In contrast to the horizontal mergers of the first wave, which aimed at increasing market power, the horizontal mergers and the resulting holding companies/conglomerates of the 1920s focused on achieving economies of scale[5].

2.2 The wave of the 1950s-1970s.

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. It peaked in 1968 and collapsed in 1973, when the oil crisis pushed the world economy into another recession. According to Sudarsanam (2003) the pattern of this third wave was different in the US and the UK: while US takeovers focused on diversification and the development of large conglomerates, transactions in the UK emphasized horizontal integration.[6]

In the US, the beginning of the third M&A wave coincided with a tightening of the antitrust regime in 1950[7]. Shleifer and Vishny (1991) claim that this regulatory reform largely contributed to US firms pursuing diversification objectives when undertaking M&As. The new antitrust regulation made horizontal expansion more problematic, leaving acquisition-minded firms with the only option of purchasing companies outside their own industries. However,

[5] 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).

[6] Fairburn (1989) suggests that the industrial policy adopted in the UK during the 1960s was responsible for the high frequency of horizontal mergers in the 1960s. In 1964, the British government introduced a new policy promoting the creation of "national champions" which would be able to compete on world markets. The Industrial Reorganization Corporation (IRC) was founded to assist mergers of firms in the same line of business. The IRC could exempt merging firms from the antitrust scrutiny. In the following decade (1970s), the policy to promote national champions was abandoned and the focus was on conglomerate integration as in the US.

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

Matsusaka (1996) contests this conjecture by demonstrating that countries without a tough antitrust policy, such as Canada, Germany, and France, also experienced diversification waves in the 1960s. A primary reason for conglomerate strategies is given by Sudarsanam (2003): merging for growth[8]. During the 1960s, companies were searching for growth opportunities in new product markets unrelated to their core business in order to enhance company value and reduce earnings volatility. Sudarsanam proposes that new managerial theories such as the multidivisional form (M-form) of organization developed by Chandler (1962) provided much inspiration for managers to seek growth objectives through conglomerates mergers.

Several authors starting with Williamson (1970) provide alternative explanations for the diversification wave observed in the US. 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.

Another explanation for diversification through takeovers is the 'managerial synergy' theory (Matsusaka, 1991). Managerial synergies are obtained if the expertise of the target management is complementary to that of the acquiring firms. A distinctive feature of M&A activity in the 1960s was that the number of acquisitions where the bidder retained the target management was high. Matsusaka (1993) interprets this as evidence supporting the managerial synergy theory, which assumes that the managerial labour market in the 1960s was riddled with inefficiencies, costly enough to force companies to find managerial talent via the expensive mechanism of the takeover market.

Shleifer and Vishny (1991) contribute to the debate on the drivers of the conglomerate takeover wave by asserting that the third merger wave was also largely driven by the personal

[8] See also Gort (1962), Rumelt (1974), Meeks (1977), Steiner (1975).

objectives of managers. They consider diversification 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. In addition, if the managerial compensation scheme is based on growth benchmarks, managers are incentivized to pursue diversifying acquisitions (possibly at the expense of corporate value). Therefore, Jensen (1986) argues in favour of returning free cash flow to shareholders, rather than overinvesting in value-destroying projects that foster diversification. The common feature of the agency models is that managers forgo the value maximization objective and acquire (unrelated) businesses in order to pursue their personal interests.[9]

Some empirical evidence seems to contradict the agency view. Markets were sometimes found to react consistently positively to diversification announcements. This suggests that markets looked favourably upon some diversification strategies, and did not seem to oppose (or be aware of) acquisitions associated with potentially high agency costs.

In sum, the above studies show that there is no unique explanation for the third wave of mergers and acquisitions, or its peculiar diversification pattern observed in the US[10]. Unrelated diversifications in the 1960s are attributed to aggressive antitrust regulation, underdeveloped external capital markets, weak shareholders control mechanisms, and inefficiencies in the labour market, along with political, economic, social and technological developments.

2.3 The wave of the 1980s

The fourth takeover wave started in 1981, when the stock market had recovered from the preceding economic recession, and ended in 1989. The wave was set off by 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 was characterized by an unprecedented number of divestitures, hostile takeovers, and going-private transactions (leveraged buyouts (LBOs) and management buyouts (MBOs)).

[9] This is also in line with Donaldson and Lorsch (1993), Donaldson (1994), and Jensen (1986, 1993) who argue that, prior to the 1980s, managers had insufficient incentives to focus on shareholder concerns.

[10] For additional explanations of the motives underlying the third takeover wave: see the early studies e.g. Lintner (1971), Lynch (1971), Markham (1973), Nelson (1966), Reid (1968), and Steiner (1975).

Bhagat et al. (1990) and Shleifer and Vishny (1991) explain how the fourth takeover wave emerged with the reversal of the previous wave's inefficient unrelated diversifications. A less stringent antitrust environment, more competitive capital markets, and improved shareholder control mechanisms stimulated companies to de-diversify and refocus on core business (Blair, 1993). Moreover, 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.

Supporters of the internal capital market explanation for the conglomerate wave of the 1960s argue that, as a consequence of economic, technological, and regulatory changes during the 1980s, the external capital market had become more efficient. Hence, the cost of external finance had fallen such that internal capital markets became an unnecessary and costly configuration (Bhide, 1990). The presence of an inefficient internal capital market was often considered to be responsible for the conglomerate discount (Lang and Stulz, 1994; Berger and Ofek, 1995).

In addition to the problems induced by internal capital markets, the earlier conglomerate wave had become associated with a number of further issues, 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). These disadvantages of diversification may have outweighed the alleged advantage of internal cross-subsidisation and forced companies to re-organize in the 1980s.

Another reason why the conglomerate structure was increasingly perceived to be inefficient was its inflexibility to react to industry shocks (Mitchell and Mulherin, 1996).[11] These shocks were caused by deregulation, political events, social policy changes, and economic factors. For instance, the air transport and broadcasting sectors were deregulated in the early 1980s, when long-standing barriers for mergers and consolidation were removed. After the introduction of a new reimbursement policy in 1983 in the US, the medical services and pharmaceuticals sectors experienced intense takeover activity to take advantage of cost reductions. A wave of corporate restructuring in the oil sector was triggered by political events such as the OPEC embargo in 1973 and the Iranian oil export cut-off in 1979. Restructuring in

[11] See Jensen (1986), Morck, Shleifer and Vishny (1988), Jensen (1993), Mitchell and Mulherin (1996), Andrade and Stafford (2004), and Harford (2004).

the food-processing sector was triggered by the low rate of population growth in the 1980s, which pushed firms to sell excess capacity.

Holmström and Kaplan (2001) conclude that a combination of industrial shocks, the limiting of managerial discretion, and the trend of deconglomeration were responsible for the takeover wave of the 1980s. The surge in takeover activity was further catalysed by the intensifying disclosure of corporate information to the market, which also forced companies to focus on the maximization of shareholder value. According to Donaldson (1994), the prime driver of takeovers in the de-diversification wave was the emergence of empowered institutional investors and the shift in power from corporate stakeholders to shareholders. This was also reflected by the high incidence of hostile takeovers. Holmström and Kaplan (2001) regard hostile takeovers and going-private transactions of the 1980s as the main corporate governance mechanisms necessary to reduce agency-related corporate inefficiencies. However, the success of these governance devices and costly forms of corporate restructuring would not have been possible without the increased availability of debt financing, through banks and the liquid junk bond market. Not only did increased leverage make more M&A deals possible, but also inflicted more discipline on management and reduced the agency problems associated with high free cash flow.

2.4 The wave of the 1990s

The fifth takeover wave started in 1993. Like all previous waves, it surged along with an economic boom and halted as a consequence of the equity market collapse in 2000. The magnitude of the fifth wave (1993-2001) is unprecedented both in terms of takeover value and the number of M&A deals. According to the Thomson Financial Securities Data, during this wave, 119035 M&A deals were recorded in the US and 116925 deals in Europe (including the UK). By contrast, there were only 34494 and 12729 such transactions in the US and Europe, respectively, during the fourth merger wave (1983-89). The fifth wave is impressive in monetary terms as well, since its total (global) value added up to US$20 trillion, more than five times the combined total of the fourth wave.

A first striking feature of the fifth takeover wave is its international nature. Remarkably, the European wave was about as large as its US counterpart, and an Asian takeover market also emerged. Second, a substantial proportion of M&As were cross-border transactions, reflecting the growing globalisation of product, services, and capital markets. Domestically-oriented

companies resorted to takeovers abroad as a means to survive the tough international competition created by global markets. Expansion abroad also allowed companies to exploit differences in tax systems, and to capture rents resulting from market inefficiencies such as national controls over labour markets. Third, trends such as deregulation and privatisation triggered cross-border acquisitions in the financial, utilities, and telecom sectors. Fourth, the exorbitant costs of R&D research and the fact that its payoff only emerges over the long run gave further boost to international takeovers in high tech industries, biochemistry, and pharmaceutics.

The Thomson Financial Securities Database shows that during the fifth wave, both cross-border and domestic M&A activity tended to occur between firms in related industries. Although the number of divestitures in the 1990s remained high, their proportion in M&A deals gradually decreased. The dominance of industry-related (both horizontal and vertical) takeovers and the steady decline in the relative number of divestitures during the fifth wave indicate that the main takeover motive was not specialization or corporate restructuring but rather growth to participate in globalized markets. Andrade and Stafford (2001) confirm that the takeover activity during the fourth wave is predominantly motivated by industry restructuring in response to emerging excess capacity, whereas the 1990s merger activity appears to involve more frequently companies with high capacity utilization.

Expansion, often taking the form of mega-deals, requires substantial financing and forces cash-constrained firms to issue equity or debt. Shleifer and Vishny (2003) emphasize the relation between the bull market of the 1990s and the overwhelming use of equity as a method of payment in M&A deals. Overvalued bidders used equity to buy real assets of undervalued (or less overvalued) targets. This suggests that the so-called mispricing premium was an important source of value in M&As of this period. In addition, the market for corporate bonds grew rapidly in the 1990s. Low bank interest rates and a more receptive bank attitude toward risky borrowers also facilitated deal making during the merger wave. Jensen (2004) also associates M&A activity in the late 1990s with the financial markets boom. He describes how overvaluation pushed managers to make takeover bids even if these deals did not create synergistic or other benefits: when the market values the stock price above the future performance expected by management, it is encouraged to undertake acquisitions. This merger-for-growth trap is nicely illustrated by DeJong et al. (2005) for the Dutch multinational Ahold.

The number of hostile bids[12] in the UK and US significantly fell in the 1990s compared to the takeover wave of the 1980s, according to the Thomson Financial Securities Database. This decline in hostile takeover activity can also 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: that hostile takeovers are no longer needed as 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.

Overall, it is widely believed that the globalisation process, technological innovation, deregulation and privatisation, as well as the financial markets boom spurred the fifth M&A wave. The recent literature suggests that takeovers were mainly preoccupied with cost cutting, expanding into new markets, or exploiting a mispricing premium. However, an increasing number of empirical studies provide evidence that many M&A deals undertaken in the late 1990s actually destroyed value (e.g. Moeller et al., 2005). This confirms that many of those transactions suffered from the agency problem induced by the overvaluation of equity.

2.5 A new wave?

Since mid-2003, takeover activity (including 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. The takeover wave coincides with the gradual recovery of economic and financial markets after the downturn that began in 2000. According to the Thomson Financial Database, the volume of M&As rose by 71% in 2004 compared to 2002. In 2004, the acquisitions by US companies amounted to US$ 1.1 trillion from US$ 517 billion in 2002. European M&A activity follows a similar trend. The value of takeover announcements by European bidders totalled to

[12] One should be cautious about statements on the degree of hostility: Schwert (2000) shows that the definition and number of hostile takeovers vary across databases.

US$ 758 billion in 2004 overtaking the value of US$ 517 billion in 2002. Since the beginning of 2002 until the middle of 2005, cross-border acquisitions account for more than 43% of the total value of all M&As by European bidders and 13% of the total value of all M&As by American firms.[13] The annual volume of cross-border takeovers by Chinese companies has grown spectacularly over the last 3 years, from about US$ 3 billion in all of 2002 to almost US$ 19 billion in the first half of 2005.

The telecom sector experiences an intensive M&A activity. At least 10 takeovers between the largest European telecom operators[14] have been consummated in the first part of 2005, 8 of which were cross-border affaires. American telecom companies are consolidating[15] as well, although they remain focused on domestic market. Apart from the telecom sector, hectic takeover activity is seen in the oil and gas, retail, pharmaceutical, utilities, and sport clothes industries.[16]

In contrast to the 1990s and 1980s, the recent hostile takeover activity in the US and Europe is at its lowest level. Thomson Financial Database records 28 contested takeover attempts launched by US acquirers in 2002-2005. In contrast, there were 229 American hostile bids in the first three years of the previous wave (1993-1996), and 217 in the beginning of the fourth wave (1983-1986). Similarly, the European acquirers seem to prefer friendly negotiations to the aggressive bidding. Since the beginning of 2002, the total number of hostile bids in Europe amounts to 32 (17 of which are in the UK), notably less than 106 and 62 bids during the periods 1993-96 and 1983-86, respectively. Also, hostile takeovers emerge in Japan[17] and China.[18]

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[13] The number of cross-border acquisitions account for almost 40% of the all bids made by European bidders and nearly 20% of the bids made by US firms.

[14] These include, a merger between KPN and Telfort (both the Netherlands); acquisition of Meteor by Eircom (both Ireland), of Wind (Italy) by an Egyptian consortium, of Song (Sweden) by TDC (Denmark), of Amena (Spain) by France Telecom (France), of Turkcell Iletisim Hizmetleri (Turkey) by TeliaSonera (Sweden), of several Czech and Romanian mobile operators by Vodafone (the UK), and of Cesky Telecom (Czech Republic) by Telefonica (Spain).

[15] Among the largest US bids are takeovers of MCI (the former WorldCom) by Verizon (a former subsidiary spun out of AT&T), and of AT&T by SBC Communications.

[16] In August 2005, Adidas announced the acquisition of Reebok. The market expects that, as a response to the Adidas-Reebok bid, the two firms' industry rival Nike would shortly announce the acquisition of Puma (The Economist, 6 Aug 2005).

[17] An unprecedented hostile takeover battle has been seen in Japan in 2005. Livedoor, a fast-growing Internet firm, has bought a controlling stake in Nippon Broadcasting System (NBS). To dilute the stake of the rival and oppose the bid, NBS issued poison pills. Livedoor launched a lawsuit against NBS. The battle was complicated by an occurrence of a competing bid by Softbank Investment, an affiliate of the Japanese internet empire Softbank, which was publicly believed to be a white knight, although the company's directors denied this (The Economist, 31 Mar 2005). For a discussion on the emerging Japanese hostile takeover market, its drivers, and consequences for regulatory reforms see Milhaupt (2005).

[18] On February 18 2005, China's top Internet company Shanda Interactive Entertainment announced that it had acquired a stake of 19.5% and is going for control in Sina.com, one of the biggest web portal in the country. In

Although it is early to draw conclusions on the driving forces behind this new wave of takeovers, some trends are already emerging. First, growth in takeover activity is largely being fed by transactions that had been delayed in the preceding period due to the downturn of financial markets and increased uncertainty following the September 11th terrorist attacks. Second, companies that have been unable to digest the market crash of 2000 have, or may become potential targets. The supply of potential target firms has also been increased by some governments selling important share stakes in major national companies. This is especially the case in Asia (more specifically in China). Third, the growth in M&As is spurred by the fact that cash-rich firms seek opportunities to expand into new markets. Finally, private equity investments have also soared, in the retail industry in particular.

2.6 Summary of historical overview

This historical overview has demonstrated that each M&A wave is characterised by a different set of underlying motives. A number of common factors 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 competion. Finally, takeovers often occur in periods when regulatory changes (e.g. related to anti-trust or takeover defence mechanisms) take place.

3. Theoretical explanations for M&A clustering

In the previous section, we described the trends in and main characteristics of M&A activity for a period extending over more than a century. We now turn to the theoretical models which attempt to capture the motives for takeovers.

Broadly speaking, the theories on takeover waves can be classified into three groups. First, neoclassical models suggest that takeover waves emerge due to industrial, economic,

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response, Sina issues a poison pill to dilute Shanda's acquired stake. Both the aggressive bidding strategy and the target firm opposition to the bid were unprecedented for the Chinese industry (The Economist, 24 Feb 2005).

political, or regulatory shocks. A second group of models propose that takeover clustering is driven by self-interested managerial decisions, based on herding, hubris, and agency problems. Finally, a third group of more recent models attribute takeovers to the development of capital markets, and propose that waves occur as a result of (over)valuation-related timing by management.

3.1 Neoclassical models

The neoclassical explanation of M&A-clustering hinges on rational economic factors that motivate many firms to restructure simultaneously. This view dates back at least to Coase (1937), who argues that takeover activity is a response to technological change. Gort (1969) adds economic disturbances such as a disequilibrium in product markets, which stimulates whole industries to restructure. Jensen (1993) states that technological and supply shocks result in excess productive capacity in many industries that ought to reduce this excess capacity by way of mergers. Building on the insights of Gort (1969), Jovanovic and Rousseau (2001, 2002) develop the Q-theory of takeovers. The theory proposes that economic and technological change causes a higher degree of dispersion of corporate growth opportunities (measured by Q-ratios). This triggers the reallocation of capital to more productive firms and more efficient management.

Sudarsanam (2003) develops a taxonomy which contains the above theories but also incorporates the Political, Economic, Social, and Technical dimensions (PEST) influencing M&As. As examples of such changes, he cites tax reforms, reinforcement of anti-trust rules, deregulation, and privatisation. This comprehensive overview explains why we observe different patterns of takeover activity such as the trend of monopolization in the early 1900s, the creation of holding companies in the 1920s, the diversification trend in the 1960s, deconglomeration in the 1980s, and the process of globalisation in the 1990s.

Rhodes-Kropf and Robinson (2004) extend the incomplete contracting models of Hart and Moore (1990) and Hart (1995). This literature predicts that a takeover occurs when there are significant complementarities between firms' assets, and when a takeover hold-up problem and underinvestment result from incomplete contracting.[19] Rhodes-Kropf and Robinson claim that shocks augmenting the assets' complementarities across firms increase takeover activity.

[19] When two parties have complementary projects, they must reach 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.

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.

The models in this section explain takeover clustering by industry, by country, and through time, by way of 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. Thus, 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 (Persons and Warther, 1997).

3.2 Hubris, herding, and agency problem models

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 irrational managerial decision-making or managerial self-dealing in the M&A process.

Jensen (1986, 2004) gives an agency explanation for the existence of value-destroying takeovers: the overcapacity generated by industrial shocks or by booming financial markets. Managerial hubris is the key element in Roll's (1986) explanation of value-destroying takeovers: overconfident managers overestimate the creation of synergetic value. This hubris hypothesis in combination with herding[20] is also able to explain the cyclical patterns in M&A activity. Herding predicts that firms tend to mimic the actions of a leader. In the case of a takeover wave, the first successful takeovers encourage other companies to undertake similar transactions. Since 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, most of their takeovers suffer from managerial hubris. Hence, the combination of herding and hubris predicts that inefficient takeovers follow efficient ones.

Auster and Sirower (2002) develop a behavioural explanation for takeover waves. They argue that these are composed of three distinct stages: development, diffusion, and dissipation.

[20] 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.

The interaction between macro factors and a competitive environment determines the way a takeover wave develops. First, changes in the macro and competitive environment augment the uncertainty and increase the likelihood that takeovers occur. Second, reports of positive results of initial takeovers promote M&A transactions. In the third stage of a takeover wave, limited information processing, hubris, and managerial self-interest fuel the diffusion of M&As. Once it becomes clear to the market that M&A activity yields negative economic outcomes, takeover activity declines rapidly.

In contrast, the model by Gorton, Kahl, and Rosen (2000) shows that value-destroying takeovers can also precede a wave of profitable ones. Key in this model is that managers prefer keeping their firms independent. Managers use an active takeover policy as a defensive mechanism in order not to be taken over themselves. The authors conclude that a defensive (and to some extent inefficient) takeover wave may occur when managers anticipate an effective takeover wave in the near future.

3.3 Market timing models

Two recent theoretical papers develop models in which takeover waves result from managerial timing.[21] In line with Myers and Majluf (1984), managers take advantage of a temporary overvaluation of equity during financial market booms, to use it 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. Hence, 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 will 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 the overvalued companies take advantage of the window of opportunity offered by temporary market inefficiencies.

[21] For a well-structured survey of literature on market timing and other behavioral corporate finance phenomena see Baker, Ruback and Wurgler (2004).

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.

3.4 Summary of theoretical explanations for takeover waves

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.

4. Empirical evidence on the drivers of takeover activity

This section addresses the question of whether or not the theoretical predictions of Section 3 are empirically supported. For this purpose, we survey the existing empirical evidence on M&A profitability for each takeover wave and discuss which motives lead to value creation or destruction.

4.1 Profitability of takeovers

The empirical literature on M&A profitability is extensive. Each takeover wave has inspired academic researchers such that, since the beginning of the 20th century, hundreds of papers have been published on this topic. Several surveys help overview the literature: 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) covering studies over several decades

in his M&A handbook. In this section, we complement the earlier surveys and focus on new insights.

4.1.1 Benchmarking takeover gains

To determine the success of a takeover, one can take several perspectives. First, we can evaluate M&As from the perspective of the target's shareholders, the bidders' shareholders, or calculate the combined shareholder 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 investors 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 in the field since the 1970s.[22] The approach hinges on the assumption that the 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 price. An abnormal return is equal to 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 calculated using asset pricing models such as the market model, or the Fama-French-Cahart four-factor model. A similar approach is applied to assess the long-term shareholder wealth effects of M&As, but this has several disadvantages. First, over longer periods it is more difficult to isolate the takeover effect, as many other strategic and operational decisions or changes in the financial policy with an impact on the share price may have meanwhile arisen. Second, the benchmark performance often suffers from measurement or statistical problems (Barber and Lyon, 1997).[23] Third, most methods rely on the assumption of financial market efficiency, which predicts that the effect of mergers should be fully incorporated in the announcement date returns and not in the long-term abnormal returns. This implies that a negative or positive long-term wealth effect occurs as the market corrects its initially inefficient predictions. Therefore, if the

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

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

long-term wealth effect is significant, one could conclude that the analysis of the short-term wealth effect is misleading, as the market is inefficient in the short-run.

Apart from abnormal returns measured over the short and long run, some studies calculate the operating performance of the merging firms. This usually consists of a comparison of accounting measures prior and subsequent to 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.

4.1.2 Short-term wealth effects

The empirical literature is unanimous in its conclusion that takeovers create value for the target and bidder shareholders combined, 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 1 gives an overview of 64 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.[24] Panels A, B, and C summarize the evidence related to the third, fourth, and fifth waves, respectively, while panel D presents the results of studies comparing several takeover waves.

Target-firm stockholder return

Table 1 shows that the share prices of target firms significantly increase at and around the announcement of a bid. Eckbö (1983) and Eckbö and Langohr (1989) report the cumulative average abnormal returns (CAARs) of the announcement day and the subsequent day. They show that these CAARs amount to 6% for the US and 16% for France, respectively. Panels B and C of Table 1 show that the size of the announcement effects is similar for the fourth and fifth takeover wave. Goergen and Renneboog (2004), for example, report that target shareholders in large European takeovers gain 9% on the announcement day during the fifth takeover wave.

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

Andrade, Mitchell and Stafford (2001) test the differences between the target returns of the three most recent takeover waves, and confirm 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. Six studies report that the price run-up is substantial and often even exceeds the announcement effect itself: the run-up amounts to 13.3% to 21.78% 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 1 about here]

Table 1 also reports that abnormal returns of target firms measured over a holding period of two weeks surrounding the announcement date range from 14 to 44%. The two-week abnormal returns are significantly different across the decades. Bradley, Desai and Kim (1988) and Bhagat et al. (2004) show that these returns amount to 18-19% over the 1960s, 32-35% over the 1980s, and 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 account for this difference.

Thirteen studies included in Table 1 analyse the abnormal returns from the first public announcement through the subsequent month or until the day on which the takeover is completed (all the shares are acquired), whichever is the latest. Table 1 indicates that the magnitude of the post-announcement abnormal gains is similar across all takeover waves. US target firms realize statistically significant abnormal gains of 16 to 22% in friendly M&As over the first month subsequent to the first public announcement. On average, UK target firms outperform their US counterparts over the same period, as they realize post-announcement returns of 18 to 32%. Expectedly, target shareholders in successful but initially hostile M&As were offered higher premiums. When a hostile bid is made, the target share price immediately incorporates the expectation that opposition to the bid will 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, since the means of payment in mergers is usually equity while 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, 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 legal environment and takeover regulation are important determinants of the takeover gains (measured as a bid price over target market value 4 weeks before the announcement). They report that takeover premiums are higher in countries with higher shareholder protection and in countries where the mandatory bid requirement is enforced by law.

Finally, the empirical literature offers no conclusive evidence on whether or not abnormal returns to target shareholders differ between takeovers of related firms and those of unrelated, diversifying firms (Maquieira, Megginson and Nail, 1998). In contrast, 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 six-month window centred on the bid announcement day).

Bidding-firm stockholder returns

There is a considerable contrast between the large share price returns of target firms and the frequently negligible returns of bidding firms. Indeed, immediately around the announcement bidder shareholders realize abnormal returns insignificantly different 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 1); 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), 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 share price run-up prior to a takeover announcement over a one-month period is positive, but mostly insignificant for bidder shareholders. For the third wave, Dodd (1980) and Dennis and McConnell (1986) report that the abnormal bidder gains are close to zero (Panel A of Table 1). Smith and Kim (1994) and Schwert (1996) arrive at analogous (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 effect, 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). The studies comparing the bidders' wealth effects across the various waves (Panel D) confirm the above patterns.

Table 1 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 are in turn 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 bidder stocks, and that these takeovers substantially underperform the all-cash bids.

As is the case for target CAARs, there is inconclusive evidence on the impact of the acquisition strategy on bidder CAARs.[25] 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 that announce industry-related acquisitions and insignificant CAARs of 0.45% for the bidders that announce diversifying acquisition; the difference is statistically significant.

Total gains from takeovers

As the targets' shareholders earn large positive abnormal returns and the bidders' shareholders do not lose on average (Table 1), takeovers are expected to increase the combined

[25] 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.

market value of the merging firms' assets. Bradley, Desai and Kim (1988) report that investors who owned an equal share in both the bidder and the target one week prior to the event date and sold their entire holdings one week after the event day would have earned an abnormal return of 7-8% over the period 1963-84. Bhagat et al. (2004) cover the subsequent period (1985-00) and find that the total takeover gains over this period decreased compared to the previous decades. Furthermore, Bhagat et al. (2004) and Harford (2003) also demonstrate that the total announcement wealth effects of M&As occurring in periods outside the takeover waves are always significantly lower than the gains earned during takeover waves. Both studies also reveal that the highest combined M&A gains are realized at the beginning of takeover waves. This is 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).[26]

4.1.3 Long-term wealth effects

When the event window is extended over several years after the announcement of an acquisition, the magnitude of the estimated M&A effect on the share prices depends on the estimation method. Table 2 shows that the studies employing the market model (MM) tend to show systematically lower stock prices over the three years following the M&A announcement (Panels A-C of Table 2). 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 stock price returns. Barber and Lyon (1997) demonstrate that a portfolio matched by size and by market-to-book ratio is a better benchmark portfolio. With this methodology, the more recent studies reveal insignificant long-term abnormal returns in tender offers and negative ones in mergers (panel D of Table 2).

[Insert Table 2 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 with 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

[26] However, the profitability of unrelated acquisitions reflects a different picture. Akbulut and Matsusaka (2003) present evidence that the waves of unrelated diversifying takeovers are associated with insignificant abnormal returns for combined firms in the first half of takeover waves and with significant abnormal gains in the second half.

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) find long-term abnormal returns to be negative, 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 the target 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 (2004) focuses on acquisitions made by corporate raiders. These acquisitions experience systematic losses in the three years after the bid.

Two studies examine 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 a related business eventuates in higher returns. Conversely, Eckbö (1986) finds that one-year CAARs triggered by diversifying takeovers outperform the ones triggered by industry-related bids. The difference between findings of Haugen and Udell (1972) and Eckbö (1986) suggests that acquisitions between companies operating in the same or related industries pay off over the long run (for example, as a result of a successful R&D program), whereas most of the gains from diversifying takeovers only occur shortly after a bid's completion.

The evidence of this subsection on long-term abnormal returns demonstrates that takeovers lead to a decline in share prices several years following the transaction, whereas Sections 4.1.2 and 4.1.3 have given evidence of significantly positive total gains around the announcement of M&As. The literature suggests two reasons for this. 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). The problems arise from the impossibility to isolate the pure takeover effect from the effect 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. Consequently, financial markets frictions may account for the difference in results. 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 leads to the conclusion that takeover activity destroys value on average, or can at least not fulfil the expectations.

4.1.4 Operating performance

Accounting studies examine the combined gains of takeovers (Table 3). Fourteen out of 25 studies report a post-merger decline in the profitability of merging firms (e.g. Ravenscraft and Scherer, 1987), 6 papers show insignificant changes in firm profitability (e.g. Linn and Switzer, 2001), and 5 papers provide evidence of a significantly positive increase in operating returns (e.g. Carline, Linn and Yadav, 2002).

[Insert Table 3 about here]

The picture is also less clear 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. This conclusion is not upheld for the fourth takeover wave, as Ghosh (2001) finds no statistically significant changes in the growth rate of US companies. Similar 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 3 focus on the degree to which the relatedness of the merging firms' businesses is associated with higher post-merger profitability. There seems to be

no significant difference in the post-merger profitability of related and unrelated acquisitions, of takeovers with a focus strategy and diversifying mergers, of horizontal and vertical takeovers, of takeovers that aim at product expansion and those that do not.

Most studies show that the operating performance of the all-equity acquisitions is significantly lower than of the bids made with 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 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 should be interpreted with caution. Moreover, in addition to the various statistical problems, operating performance studies suffer from accounting distortions such as changes in accounting standards over time and across countries, and from noise in the accounting data.

4.1.5 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 at the negotiating table. 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 a subsequent improvement in operating performance. However, the accounting studies presented in Table 3 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 implies that the anticipated gains from takeovers are on average non-existent or overstated.

4.2 Rational explanations: industry and technology shocks

As discussed in Section 3.1, M&A clustering may be driven by economic motives as a response to *shocks in the business environment*. Golbe and White (1993) show that a series of sine curves provide significant explanatory power for the time series of merger activity data. They show that the parameters characterizing the sine curves are statistically significant and reasonable in magnitude. Furthermore, the fitted sine curves predict the actual timing of peaks and troughs in merger activity well. Several studies relate the cyclical pattern 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. Still, Schary (1991) remarks that takeover activity is far more volatile than macroeconomic time series. Melicher, Ledolter and D'Antonio (1983) emphasize that changes in stock prices and bond yields predict future changes in merger activity best. Conflicting conclusions are drawn by Shugart and Tollison (1984) and Chowdhury (1993): they allege that takeover activity is a random phenomenon which is not explained by macroeconomic factors.

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. Mitchell and Mulherin (1996) show that specific *shocks such as deregulation, oil price shocks, foreign competition, and financial innovations* explain a significant fraction of takeover activity in the 1980s. They 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 restructuring certain industries. Furthermore, the authors 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. That is consistent with the lack of empirical evidence of a post-merger increase in corporate profitability.

Andrade and Stafford (2004) complement Mitchell and Mulherin's (1996) findings with evidence of a strong positive relationship between industry shocks and within-industry takeovers in the 1990s. Whereas the merger wave of the 1990s occurred when industry capacity utilization

was high, takeover activity in the 1970s and 1980s was a response to excess capacity brought about by a variety of economic shocks. Andrade and Stafford conclude 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. The authors also 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.

Harford (2004) 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 neo-classical explanation of takeover activity - but only when capital liquidity is high.

Technological change is often associated with 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) find 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.[27]

In contrast, Rhodes-Kropf and Robinson (2004) substantiate that high-Q acquirers typically do not purchase low-Q targets. 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

[27] Still, while the Q-theory of takeovers can explain most waves, it cannot explain the 1960s conglomerate wave.

contracting. Although they do not test it, Rhodes-Kropf and Robinson (2004) suggest that external shocks affect the assets complementarities across firms and hence lead to an increase in takeover activity.

4.3 Non-rational explanations of takeover waves: hubris, herding and agency costs

While the market expects takeovers to be profitable on average, the evidence of value-destroying takeovers is persistent across takeover waves.

Several studies demonstrate that acquiring firms with *excess cash flow* 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) also support this finding.

Another interesting question is whether *managerial personal objectives* drive value-destroying acquisitions. Lambert and Larcker (1987) find that the bidders' stock price response to acquisition announcements is significantly higher when a larger proportion of managerial income depends on the firms' share price performance rather than on accounting benchmarks. When the bidders' management owns a substantial share stake in the bidding firm, the market reacts more positively to a bid, as management is putting its own wealth at stake (Lewellen, Loderer and Rosenfeld, 1985). More recently, Datta et al. (2001) show that acquiring firms where the management holds equity-based compensation contracts experience significant positive stock price responses to acquisition announcements. These three studies conclude that when managers do not own equity, agency problems may be higher and acquisitions are more likely to destroy corporate value.[28]

The incidence of unprofitable acquisitions is also consistent with Roll's (1986) *managerial hubris* hypothesis. Rau and Vermaelen (1998) claim that an acquisition made by a firm with a low market-to-book ratio (a so-called 'glamour' firm) is affected by managerial hubris, as 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

[28] Morck, Shleifer and Vishny (1990) believe that the management's utility function (rather than the shareholder objective) is responsible for unrelated diversifying acquisitions and the acquisition of growth firms. Consistent with this view, they find that stock market punishes acquirers that purchase a company operating in an unrelated industry or a company with high book-to-market ratio. Berger and Ofek (1995), Maquiera et al. (1998), Doukas et al. (2001) support these findings.

returns than do bidders with high market-to-book 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, whereas 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 (2003) report yet another evidence of managerial hubris. They find that optimistic managers[29] participate more frequently in diversifying and less profitable takeovers.[30]

Harford (2003, 2004) reports that takeovers occurring at the 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 do not support the hubris hypothesis. They claim that the evidence supports Jensen (2004): *high valuations* increase managerial discretion, making it possible for executives to make poor acquisitions when they have run out of good ones.

Further empirical evidence by Gugler et al. (2003) shows that neither industry shocks nor the Q-theory of takeovers can explain the cyclical pattern of takeovers. They show that the number of takeovers motivated by *hubris/agency problems* and by *overvaluation of shares* increases significantly during stock market booms.

4.4 Evidence of market-timing explanation for takeover waves

The market-timing motive received growing attention in the late 1990s, as the number of all-equity financed acquisitions increased dramatically in the US. Andrade et al. (2001) show that all-equity acquisitions represented 32.9% of all US M&As in the 1980s versus 57.8% in the 1990s. Similarly, Martynova and Renneboog (2006) document that equity became a popular source of financing in European M&As; the proportion of all-cash acquisitions fell by half in the 1990s compared to the 1980s. As equity payments (or combinations of equity and cash) dominate when stock market valuation peaked, it appears that companies use the temporal

[29] According to Malmendier and Tate (2003, 2004) managers are classified optimistic if they voluntarily retain in-the-money stock options in their own firms.
[30] For further discussions on the role of hubris in corporate takeovers, see Hietala, Kaplan, and Robinson (2003) and Baker, Ruback and Wurgler (2004).

overvaluation of their shares to acquire firms (often with valuable fixed assets) and extract the mispricing premium.

The empirical literature considers a variety of measures 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. Martin (1996) shows that firms paying for acquisitions with equity have lower book-to-market ratios than those using cash. However, the book-to-market ratio is also considered as a proxy for the firm's growth prospects, where firms with good investment opportunities have lower ratios. Therefore, Martin's result is consistent not only with mispricing but also with the neoclassical interpretation that takeover activity prospers when growth opportunities are high or when firm-specific discount rates are low.

Faccio and Masulis (2005) use a bidder's buy-and-hold cumulative stock return over the year preceding the M&A announcement month (run-up premium) as a proxy for misvaluation. Similar to the Martin's findings, they show that this overvaluation measure is the highest for all-equity deals and lowest for all-cash deals. As is the case with the book-to-market value, the run-up premium is an imperfect measure of misevaluation because it also captures the firm's ability to generate high returns on its future investments. Therefore, Dong et al. (2003) use a more pure measure of mispricing: the 'residual income'-to-market ratio. This measure is free from the impact of a firm's growth opportunities because residual income includes future growth prospects of the firm (analysts' forecasts of future earnings) in addition to the firm's book value. The findings of Dong et al. (2003) 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.

Ang and Cheng (2003) complement the empirical evidence of the misvaluation motive for takeovers by pointing out that the above findings are robust when an industry-relative book-to-price ratio is used as a proxy for market misvaluation. Their findings are consistent with Shleifer and Vishny (2003): the management of the bidding firm takes the profitable opportunity to buy the real assets of a less overvalued target firm using their own overvalued equity, whereas the target managers accept the all-equity bid (unprofitable for long-term oriented target shareholders) because they maximize their own short-term benefits. They support this statement with evidence that all-stock acquisitions are associated with insignificant three-year post-bid

abnormal returns to the incumbent shareholders of the bidding firm and with significant losses to the target shareholders who have retained the shares of the merged firm.

Rhodes-Kropf, Robinson, and Vishwanathan (2004) suggest yet another measure to capture misvaluation. They decompose the market-to-book ratio into three components: firm-specific error, time-series sector error, and long-run market value to book value. In their opinion, only the first component is expected to capture misvaluation. They interpret the observed positive relation between the firm-specific error and the likelihood that a firm will make an acquisition (especially an all-equity one), as evidence that deviations from the 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 market-to-book 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 acquirers are valued significantly higher than targets by the market, with cash acquirers being 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. When examining the long-run market-to-book ratio, Rhodes-Kropf, Robinson and Vishwanathan find that low value-to-book bidders buy high value-to-book firms. While this evidence is consistent with the market mispricing explanations of takeover activity, the authors recognize that alternative explanations exist based on asymmetric information theories.

Harford (2004) designs a test to distinguish empirically between the neoclassical and market misvaluation explanations of M&As. He controls for a variety of factors associated specifically with misvaluation (industry shocks, financial liquidity) to predict the start of a takeover wave. While the industry and liquidity determinants appear to have significant predictive power, misvaluation variables only slightly improve the model. Harford argues that these results are consistent with neoclassical models explaining takeovers as a response to changes in economic environment, while sufficient capital liquidity is necessary to make takeovers feasible. He concludes that the capital liquidity effect, rather than misevaluation, drives M&As and makes them cluster in times of financial market booms.

4.5 Explaining diversifying takeovers

The academic literature presents ample evidence that diversification destroys corporate value.[31] The following evidence support this view. First, the market favours a business focus over diversification. There is consistent evidence (except for the M&As of the 1960s) that a takeover between companies operating in the same or related industry causes significantly larger announcement effects than a conglomerate takeover. Morck, Shleifer and Vishny (1990), Maquieira, Megginson and Nail (1998), Martynova and Renneboog (2006), among many others report that the acquisition of a related business triggers higher returns to the shareholders of the bidding firm. Second, diversified companies are often traded at a discount of up to 15% relative to stand-alone firms (Lang and Stulz, 1994; Berger and Ofek, 1995).[32] Third, a reversal of a diversification strategy pays off. Dittmar and Shivdasani (2003) observe that firms experience a reduction in the diversification discount after a divestiture. Veld and Veld-Merkoulova (2004) show that the announcement of a spin-off yields significant positive returns. John and Ofek (1995) documents that conglomerates selling divisions improve the operating performance during the three years subsequent to the event.[33] Fourth, there is also a systematic trend of firms undoing diversifications. Kaplan and Weisbach (1992), Comment and Jarrell (1995), Scharfstein (1998) show that majority of firms that acquired unrelated businesses have been broken up either in bust-up takeovers or through reorganization.[34]

Standard explanations for forming a conglomerate include agency problems and financial synergies, e.g., internal capital markets. There is ample evidence showing that value-destruction associated with diversification is caused by agency problems or inefficient allocation of internally generated funds. For instance, Palia (1999) shows that diversified firms are traded at a significant discount if the managerial compensation package contains no or only a low proportion of stock and options and if the firm's board size is relatively small. In those cases, managers are more likely to be involved in inefficient diversification strategies. Similarly, Anderson et al. (1998) document that managerial compensation packages in diversified firms

[31] 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 is due to factors other than diversification. For the overview of these studies see Martin and Sayrak (2003).

[32] More recent evidence includes Servaes and Lins (1999), Denis and Thothadri (1999), Lamont and Polk (2002), Dittmar and Shivdasani (2003).

[33] For more evidence see Gertner, Powers, and Scharfstein (2002), Burch and Nanda (2002), Lamont and Polk (2002).

[34] However, Kaplan and Weisbach (1992) do not find supporting evidence that diversifying acquisitions are less successful than related ones.

have lower pay-for-performance sensitivity than of those in non-diversified firms. Capital expenditures by a division of a diversified firm not largely depend on the division's cash flow but also on the cash flow of the firm's other segments (Shin and Stulz (1998)). This internal cross-subsidisation may lead to rent-seeking behaviour by divisional managers, coordination and bargaining problems within the firm and hence result in inefficient investments. These findings are confirmed by Scharfstein (1998), Rajan et al. (2000), and Dittmar and Shivdasani (2003).

It is important to note that the above evidence and the discussion refer to M&As conducted after the 1970s. For the M&As occurred prior to this period, the empirical literature reports that the market favoured diversifications into 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[35], 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) indicating that the proportion of diversifying takeovers in the total M&A activity has decreased following the conglomerate wave of the 1960s. The improved efficiency of the external capital markets in the 1980s is considered the foremost cause for this decline. Baker, Ruback and Wurgler (2004) explain this 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[36] since 1968 suggests '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.

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

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

4.6 Explaining hostility in takeovers

Until recently, the market for corporate control existed mostly in the USA (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 take place in Continental Europe (Martynova and Renneboog, 2006). More recently, hostile takeover activity emerged in Japan and China.

Jensen (1988) defines the market for corporate control as one 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.[37]

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 seen as an alternative corporate governance mechanism that corrects for opportunistic managerial behaviour (Jensen, 1988; Weisbach, 1993).

The view that hostile takeovers function as a corporate governance mechanism is often used to explain the trend of deconglomeration during the 1980s. Bhagat et al. (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. The decline in the proportion of hostile takeovers in the 1990s may also result from the fact that a sufficient number of alternative governance mechanisms are now available (e.g. stock options, shareholder activism, non-executive director monitoring) that encourage management to focus on shareholder value and to restructure when necessary (Holmström and Kaplan, 2001).

In contrast, a growing number of empirical studies report that the disciplining function of hostile takeovers is not the primary motive for the target firm's managers to oppose takeover attempts. Hostility may also result from a bargaining strategy to extract a higher premium for the target shareholders (Schwert, 2000) or from the target directors' viewpoint that the proposed takeover is incompatible with the target's long-term strategy (Lipton, 1979).

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

Some papers document that the accounting performance of the targets of hostile bids is not different from that of friendly acquisitions (Ravenscraft and Scherer, 1987; Martin and McConnell, 1991; Schwert, 2000; Franks and Mayer, 1996). Furthermore, Servaes (1994) and Goldstein (2000) report no evidence of pre-bid free cash flow problems for firms acquired in hostile takeovers. These findings are inconsistent with the prediction that hostile bids target poorly performing companies. Franks and Mayer (1996) and Franks et al. (2001) find no significant relation between high board turnover in hostile bids and underperformance in the year prior to UK bids. Instead, their evidence suggests that the opposition to the bid by incumbent directors reflects the disagreement over the price the bidder is willing to pay.

Another possible reason for bid opposition is the target management disagreement with the bidder's intentions to restructure the company (Lipton, 1979; Jensen, 1993). Holland (1996) shows that institutional raiders hunted for short-term excess gains by taking over firms against the will of the board of directors. Lipton (2001) characterizes this kind of takeover activity as 'two-tier, front-end-loaded, boot-strap, bust-up, junk-bond, hostile tender offers.' As such offers are likely to damage the interests of the long-term oriented shareholders of the target firm[38], a hostile attitude may be a rational managerial response.

The frequent incidence of bust-up hostile tender offers in the 1980s raised public concern in the US. This translated into the Massachusetts (1987) and Delaware (1988) anti-takeover laws that give unlimited power to the target managers to apply anti-takeover defence measures whenever they believe this is in the interests of their shareholders (Ricardo-Campbell, 1997). Since then, the use of statutory and charter amendments as a takeover defences by US corporations is widespread (Comment and Schwert, 1995). The regulatory change is believed to account for the substantial decline in the US hostile takeover activity in the 1990s.

As mentioned earlier, hostile takeovers were almost non-existent in Continental Europe during the 1980s, but occurred in unprecedented numbers during the 1990s. The absence of hostile threats in the 1980s is largely attributed to the concentrated ownership structure prevailed 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-

[38] According to Lipton (1979), hostile takeovers of the 1980s had also indirect effect via demoralizing corporate managers and directors. That is, managers respond to the takeover market pressures by switching to short-term strategies to sustain growth, thereby forgoing beneficial long-term projects and investments.

majority stakes held by one or few investors.[39] 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 or creditor monitoring.

Political changes, regulatory reforms, and changes in 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 changes towards more ownership dispersion, a 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).

4.7 Summary of empirical evidence on the determinants of takeover waves

The empirical evidence listed above 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. Finally, it is important to note that takeover profitability and the takeover patterns significantly vary across the M&A waves and across countries.

5. 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. We find that each M&A wave is characterised by a different set of underlying motives. A number of common factors can nonetheless be found. Takeovers

[39] For recent evidence on ownership structure 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).

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 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 difference in the pattern 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 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 in 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 etc.). A joint analysis of these stories 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 a 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 pattern 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 investigated fully 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. 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	CARs Target, %	CARs Bidder, %	CARs Combined, %
Panel A: Third Takeover Wave, 1950s-1973								
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]	
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	

Study, *sample country*	Sample period	Benchmark return model	Event window (days)	Sample size: T/ B/ C	Type of M&A	CARs Target, %	CARs Bidder, %	CARs Combined, %
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	CARs Target %	CARs Bidder %	CARs 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]	
Zhao and Lehn (2003), *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 (2003), *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 (2003) and Faccio, McConnell and Stolin (2004), *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	CARs Target %	CARs Bidder %	CARs 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 (2002), *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. (2004), *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 2. 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]

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 (2003), *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. (2004), *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 (2004), *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 3. 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] ↑, ↓

Study	Sample period	Sample size	Event window	Type of M&As	Operating Performance Measure	Performance measure adjusted for effect of	Results (↑, =, ↓)
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]
Powel and Stark (2001), *UK*	1985-93		(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] ↓ ↓
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 31 43 19 17	(0, +3Y)	HM-PE HM-NPE VM CM HM-PE HM-NPE VM CM	ROA ROA ROA ROA ROE ROE ROE 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 31	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 (ES) Sales/Total assets (SA) Sales/Employee (SE) Sales Growth (SG)	Performance of main rivals in the industry	↓[*] = = = = =
Odagiri and Hase (1989), *Japan*	1980-87	33	(0, +3Y)	All MA All MA HMA	Gross profit/Assets (GP/A) Sales growth GP/A, SG	Size and industry	↑ ↑ ↓[a], ↓