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Hostile takeovers: The long term effect on shareholder value of acquiring companies

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Preface and acknowledgements

Abstract

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1. Introduction

Hostile takeovers are acquisitions of target companies of which the management has recommended its shareholders to reject the offer. The existence of hostile takeovers is based on the separation of ownership and control in public companies. Because of the dispersed ownership in public companies, a management team is appointed to control a company's assets and resources. In accordance with the agency theory, a management team may have differing interests from the shareholders. As a result, management may consider an offer unwanted, while the shareholders are in favour of the bid. Hence, takeover attempts considered hostile by management can (eventually) be successfully completed.

A hostile takeover is a term that is often used in a negative association. The hostile character of the process causes hostile offers to 'enjoy' much attention in the media. These reports are usually considered from the perspective of a target because of the social consequences of the takeover. Recent examples include the takeover of Fairstar by Dockwise and the takeover attempt of KPN by the Mexican company América Móvil. Both target companies' management have publicly recommended its shareholders to reject the offer. Especially the KPN-case has caused a lot of commotion, which is emphasised by the fear of losing a Dutch blue chip company to a foreign investor. To prevent the company from being taken over, management can employ certain tools to block or impede a potential takeover. As a result of these anti-takeover defences, a takeover could become too complicated or too costly for a bidder to pursue, and could be aborted. KPN, for example, has tried (but failed) to sell one of its crown jewels – a company's most attractive assets – in order to frustrate the takeover.

If KPN would have been successful in their anti-takeover defence, it would be interesting to see whether América Móvil would pursue their (hostile) takeover attempt. Would they still see upside in the takeover despite management's resistance? Would the benefits of the takeover outweigh the (high) costs of the hostile process? Or lie human characteristics such as management hubris at the basis of the decision to pursue the hostile takeover? In this study, hostile takeovers are addressed from a shareholders perspective and will specifically consider long term shareholder returns of acquiring companies. The goal of this study is to determine whether the decision to proceed a hostile takeover results in long term value creation for the acquirer's shareholders.

To answer this question, first is investigated what the motivations are for acquirers to pursue a hostile takeover. According to the disciplining theory, companies become hostile targets as a result of poor performance, which allows acquirers to benefit from the ample upside. Therefore, hostile targets are

tested on pre-takeover performance. Also, acquirers are tested on pre-takeover performance as they are expected to be efficient companies that are able to benefit from the targets upside. To determine whether hostile takeover create value for acquirers, the performance of the acquirers is also tested after the takeover and is compared with the pre-takeover situation. An accounting study (profit returns) as well as a stock price study (stock returns) has been conducted as performance measures.

A hostile takeover sample of 114 United States companies is constructed and is compared to a set of non-merging benchmark firms to determine abnormal returns. Using the Wilcoxon Signed-Rank test and the Mann-Whitney test, the differences between the sample and the benchmarks is tested for significance. In addition, the sample is also compared to a matched friendly sample. Finally, a regression is performed to seek further understanding on the effects of several deal characteristics on acquirer's post-takeover performance.

The overall conclusions are reasonably in line with the empirical literature. No evidence has been found on underperformance of hostile targets, while there is significant support for acquirer outperformance in hostile takeovers. Post-takeover acquirer performance is significantly negative in terms of profit returns, and additionally there is significant evidence on lower profit returns for the post-takeover period compared to the pre-takeover period. With regard to the regression on post-takeover performance, pre-takeover return has a significant positive influence on profit returns, and the number of bidders a significant effect on stock returns.

To the knowledge of the author, there has not been performed a similar study that researches to what extent hostile takeovers have proven to create value for acquiring shareholders of US companies. Unique features of this study include the benchmark construction methodology and the combination of the thorough analysis of hostile takeover dynamics linked to an empirical and statistical research. Although the hostile takeover is a phenomenon that flourished in the late eighties, they are not to be considered outdated. Het Financieel Dagblad stated on 11 June 2012 that hostile takeovers in the United States have already experienced an increase of 86% compared to 2011. In addition, several experts¹ argue that in these times of economic downturn, hostile takeovers are on a rise. This is motivated by, on the one hand, corporate activists pushing companies with enormous amounts of cash on their balance to employ that cash, and on the other hand, by listed companies being undervalued ('being cheap') on the stock exchange. Recent hostile bids including GlaxoSmithKline - Human Genome Sciences, Dockwise – Fairstar and América Móvil – KPN confirm this.

¹ Amongst others: Bob Profusek, 'Rise in hostile takeovers', Bloomberg, 19 December 2011, and Maureen Farrell, 'Hostile takeovers are back', CNN, 19 April 2012.

The rest of the paper is structured as follows. In chapter 2, a theoretical background is discussed that commences with a broad introduction to mergers and acquisitions and subsequently narrows down to a bidder's perspective on hostile takeovers. In chapter 3 an overview of the existing empirical literature is provided on the performance and characteristics of hostile takeovers. Chapter 4 describes the research methodology applied and the construction of the data. In chapter 5 the results on test are presented and discussed, and finally, in chapter 6 the overall findings are discussed and concluded.

2. Theoretical background

2.1 Introduction

Chapter 2 provides the theoretical background that supports the research at hand. First, there will be given a broad introduction in mergers and acquisitions and some specific characteristics in paragraph 2.2. Next, in 2.3 there will be elaborated on the motivations behind mergers and acquisitions. In 2.4 the six merger waves are described, which provides a background on the specific characteristics of periods of high deal activity. Then in 2.5 the market for corporate control is described after which the link is made to takeover tactics in 2.6. Finally, in 2.7 will be focussed on hostile bids, their consequences and the reasons for their existence.

2.2 Mergers and acquisitions

Mergers and acquisitions (M&A) is the business of acquiring and selling companies, partially or as a whole. The key rationale behind M&A is that a combination of two companies is more valuable than the sum of the parts. Although the terms mergers and acquisitions are often used interchangeable, they are in fact slightly different from another. An *acquisition*, or a takeover, is the purchase of one company (target) by another company (acquirer or bidder). A *merger* is the event where two separate companies come together to combine their business operations to continue as one company. In an acquisition, the bidder is usually substantially larger than the target, while in mergers the two companies are generally of similar size. Moreover, a merger is typically the result of a mutual decision. A special case of a merger is when both companies are joined together in a new established company, which Fillman (1968) as one of the first referred to as a *consolidation*. In this case, the shareholders of both merging companies surrender their stock in exchange (pro rata) for stock of the new established company. A well-known example is the merger of Royal Dutch Petroleum and Shell Transport and Trading Company announced in 2004. A new parent company was created under the name Royal Dutch Shell and the new shares were issued at a 60/40 proportion of ratio in advantage of Royal Dutch Petroleum. The unification of Royal Dutch and Shell Transport was completed on 20 July 2005.

2.2.1 Deal characteristics

In a transaction, several characteristics can be identified that affect the dynamics of a deal process and its outcome. Among those characteristics are legal status, type of buyer, geographical scope, financing method, and attitude of the deal. These items will be discussed individually.

Legal status

The legal status of a company refers to whether the company is a publicly listed or privately held company. There are some important differences between public and private companies that influence M&A. First, listed companies are owned by a large number of (anonymous) shareholders. These investors commonly range from small, private individuals to institutional investors holding large blocks of shares. Because ownership is dispersed in public companies, control is delegated to a board of directors who act on behalf of the shareholders. This entails that a bidder negotiates with the board upon the terms of a potential transaction. The final agreement lies with the shareholders, but until then, management acts as interlocutor.

Private companies are typically owned by individuals or a few large, identifiable investors. In a transaction process, the bidding company normally negotiates directly with the shareholders of a private company. This entails that decision-making usually is less time-consuming and therefore more efficient than in public companies.

Another important aspect of a company's legal status is the provision of information. Capron and Shen (2007) argued that differences in information availability on private versus public companies influence both acquirer's choice of target as well as its performance. Public companies are obligated by regulatory instances such as the Securities and Exchange Commission (SEC), to publish detailed information about company's performance and to issue any relevant news announcements. This information is very useful to stakeholders such as stockholders and debt providers, but can also be very interesting for competitors or corporate raiders. Private companies on the other hand, are not obligated to release this detail of information, and are able to retain inside information within the company. As a result, potential raiders are better able to assess the value and strategy of a public company than that of a private firm. Because of these two characteristics, dispersed ownership and information asymmetry, hostile takeovers practically only occur in the public arena.

Type of buyer

There are two main categories of buyers; strategic buyers and financial buyers. Strategic buyers are firms that acquire companies with activities in a similar line of business, for strategic business reasons. Financial buyers, typically private equity funds, acquire companies as a financial investment, to generate returns. Therefore, financial buyers' strategy is to "buy low, sell high", while strategic buyers pursue a "buy-and-hold" strategy. Moreover, activities of the acquired company are often integrated in the strategic acquirer's company, while with a financial buyer, they are usually not. A well-known practice of private equity is the acquisition through a leveraged buyout (LBO). In an LBO transaction, the target is

acquired for a large part with debt, as to minimise the equity stake, in order to maximise the internal rate of return (IRR) and reduce tax payments. In order to meet interest costs and debt repayments, an ideal LBO candidate is generating large and steady cash flows. In addition, an IRR-maximising strategy often implicates an exit (sale) in the short term. Strategic buyers, on the contrary, have a long term perspective and are interested in targets with large synergy potential. According to Martos-Vila and Rhodes-Kropf (2011), strategic buyers therefore consider targets as an addition to its current business, while financial buyers evaluate targets as standalone projects. Another important difference between financial and strategic buyers, is that (in most cases) financial buyers offer management the opportunity to participate in the acquired company, at a discount (“envy”), which serves as both an incentive and a commitment for management. Strategic buyers on the other hand, usually acquire 100% of the shares and do not allow minority stakes.

There are cases where a strategic player is backed by private equity. From a buyer’s perspective this represents best of both worlds, as the buyer is able to benefit from both synergies as well as financial leverage. A nice example to illustrate this is the Catalpa case. Catalpa is childcare business that Bencis Capital Partners acquired from Waterland Private Equity Investments in 2006 for approximately EUR 50 million. Pursuing a *buy-and-build strategy*², Bencis acquired multiple other childcare companies as add-on acquisition for Catalpa.³ Through the operational synergies of Catalpa and financial strength of Bencis, Bencis was able to create a lot of value. In 2010, Bencis sold Catalpa to Providence (US) for approximately EUR 500 million.

Geographical scope

Originally, businesses focussed on domestic markets and mergers only occurred within a nation. Since late 1980s, when economic globalisation accelerated, M&A activity started to experience an increase in cross-border transactions. Kang and Johansson (2000) defined cross-border M&As as transactions that take place between firms of different national origin, and that function as main vehicle for foreign direct investments (FDI). Brakman et al. (2008) argued that cross-border transactions particular involve developed countries and have become quite substantial over the years. In the 1990s, these international transactions increased very rapidly and accounted for about 25-30% of total M&A activity, according to Schenk (2002). Also the introduction of the monetary unification within Europe (Euro) has had a positive

² When a company pursues a buy-and-build strategy, it acquires a company in a certain industry as a platform to build from. Subsequently, the company acquires additional companies in the same industry. It then merges the companies into a large group in order to benefit from the synergies and sell it at a price higher than the sum of the acquisition expenses.

³ Bencis had devised a clever sale and lease back structure for the real estate in which the childcare businesses were housed.

contribution to international trade and cross-border transactions within Europe. Finkelstein (1999) stated that cross-border M&As have become a fundamental characteristic of the global business landscape.

Companies that conduct a cross-border transaction face some challenges with respect to the differences in doing business with other countries. In his paper, Finkelstein (1999) identified several factors that deviate between countries. Among them are corporate governance structures, regulatory environment, country culture and client behaviour. Another important challenge faced by acquirers, is the resistance from the host country against foreign ownership. As a result of these barriers, unfriendly cross-border transactions are exceptional.

Method of payment

Payment of acquisitions can be either settled in all cash, all stock or in a combination of both. When a bidder chooses to pay in cash, he could either address available cash on the balance, or raise financing in the debt or equity market. There are pros and cons in each method of payment. From a bidder perspective, issuing new stock in the equity market has the undesirable consequence of share base dilution. Besides, as Faccio and Masulis (2004) argued, issuing new shares may affect corporate control structures, especially in case of a dominant shareholder. In addition to these arguments, the fiscal deductibility of interest costs is another argument to prefer debt over equity. This applies in particular to financial buyers who attempt to minimise their equity stake in a transaction. However, the down side of debt financing is that it may induce costs for financial distress. Therefore, the financing decision is strongly influenced by the existing leverage and debt capacity.

In a stock transaction, shares of the target are exchanged for acquiring company's shares, at a fixed or floating exchange ratio. When the exchange rate is floating, the bidder offers a dollar value of shares, which is subsequently divided by the bidder's average stock price during a specified period. In case of a fixed ratio, target shares are exchanged for a specific number of bidder's shares. A stock offer may be preferred when a bidder has limited access to cash or is financially constrained. In addition, Loughran and Vijh (1997) argued that acquirer's managers are likely to choose stock payment when their stock is overvalued.

From a seller's perspective there is also a trade-off between cash or stock payment. At a fixed exchange rate, stock payment imposes uncertainty about the value of the bid and involves a risk that the eventual capital gains decline as the share price declines. Moreover, stock payments usually incur certain conditions that prevent target shareholders from selling acquirer's shares within a specified period. However, according to Frank et al. (1988), an advantage of stock payment is that it does not impose a

direct capital gain. This entails that taxes are deferred until the shares are sold. Contrarily, in a cash transaction capital gains expose no uncertainty, but they do result in a direct tax liability for the sellers.

Attitude

The attitude of a transaction refers to whether the bid is perceived friendly or hostile. A merger is considered friendly when it enjoys the support of target's board of directors, and it is considered hostile when the board rejects the offer. The attitude of a transaction has major influence on the deal process and its characteristics. Among the most important consequences are the high premium that hostile raiders have to pay (Schoenberg and Thornton, 2006), and the information asymmetry that arises from management not willing to share important inside information with the hostile raiders.

2.3 Motives for mergers and acquisitions

There are multiple reasons for companies to consider mergers and acquisitions. It is commonly known that takeovers are motivated by value creation for both acquiring and selling shareholders. The seller (generally) receives a premium for its shares and the bidder benefits from the synergy potential or access to new markets. Gaughan (2010) described synergy as the key principle of merging in the equation:

$$\text{Value (A + B)} > \text{Value A} + \text{Value B} \quad (1)$$

However, as M&A decisions are made by managers, takeovers may also be motivated by maximisation of manager's wealth instead of shareholder's wealth. In this paper, this is referred to as managerialism. Synergy motives are split in growth and efficiency.

2.3.1 Growth

Growth, or revenue enhancement, is one of the most fundamental motives for M&A. Growth can generally be attained in two ways. First is through internal (or organic) growth, by investing in projects with a positive net present value (NPV). Second is through acquiring companies or assets. Although acquisitions motivated by growth may not instantly benefit from synergies, they ought to create returns for investors. In particular, the following motivations are based on the ambition to grow; revenue and market power, diversification, and access to new markets and expertise.

Revenue and market power: A merger could be motivated to increase in size or to eliminate a rival. This enables firms to substantially reduce competition and gain in market power. This will increase company's bargaining power relative to its suppliers and customers, and will likely have a positive effect on earnings.

This kind of merger, sometimes referred to as a monopoly merger, is however limited by antitrust regulations.

Diversification: Large firms generally bear less idiosyncratic risk than smaller firms. Especially companies that are involved in different markets or different products are able to reduce risk. An advantage of a low risk profile is a lower probability of bankruptcy, and consequently, lower borrowing costs and higher debt capacity. In addition, customers will assess a company as more reliable and investors such as pension funds will be more willing to invest. Another reason for companies to diversify their assets is to enter more profitable industries. Berk and DeMarzo (2007), however, argued that knowledgeable investors are – better than the companies they invest in – able to diversify their portfolio according to their preference. In that perspective, companies should concentrate on their core business, and let diversification to its investors.

Access to new markets and expertise: Merging could be an effective strategy to create a foothold in a new market, whether it concerns products, geographical markets or expertise. In many cases it is more convenient for a company to acquire a firm or business unit that already has a certain skill-set or position in the market, than to build it up on its own merits.

2.3.2 Efficiency

Another justification for acquirers to pay a premium for target companies is efficiency gains. Efficiency primarily involves cost reduction through elimination of duplicate cost factors such as redundant personnel and overhead, also referred to as operational synergies by Gaughan (2010). There may also exist financial synergies in the combination of the two companies. These cost reductions result in higher profit margins and consequently in an increase in firm value. The identified efficiency motivations include economies of scale and scope, and inefficient targets and tax benefits.

Economies of scale and scope: Economies of scale refer to the benefits enjoyed from producing on a larger scale. As fixed production costs can be allocated to more units of products, average costs per unit decline. A merged firm may also benefit from economies of scope. These are cost savings due to shared business activities such as research & development, marketing and distribution.

Vertical integration: Berk and DeMarzo (2007) defined vertical integration as the merger of two companies in the same industry that make products at different stages of the value chain. By merging with a supplier, a company benefits from having control over input factors. Similarly, a company may want to do a downstream acquisition to take control over its distribution channels.

Inefficient targets and tax benefits: A firm may be motivated to acquire a company that is run inefficiently or that has large operating losses. In case a firm believes a target is underperforming as a result of management's incompetence, it could generate returns by acquiring the target and replacing incumbent management. Also companies with large operating losses may be good takeover candidates. Because most countries allow tax losses to be compensated with future profits, consolidating the target will (partially) mitigate acquirer's tax burden. The tax savings could be substantial enough to be a motivation for an acquisition.

2.3.3 Managerialism

While the mentioned motivations for M&A have the objective to add value to investors, research⁴ shows that post-merger performance often does not increase compared to pre-merger performance. This implies either that the control premium paid is too high, or that synergies have not been exploited effectively. This could be explained by an incompetent or ignorant management, however, it may also be the case that management consciously entered a value destroying merger. The managerial effects identified include management hubris, empire building and 'eat or be eaten'.

Management hubris: According to the management hubris hypothesis, management of the bidding company overestimates the synergies to be gained from the merger. They believe that their valuation of the target is superior to that of the market. Roll (1986) argued that firms simply pay too much for their targets.

Empire building: Empire building refers to management's aspiration to control large companies, in order to lift their personal status and wealth. Renneboog and Simons (2005) stated in their article that (public) companies with dispersed ownership suffer from high degree of managerial discretion, enabling managers to pursue their own interest instead of those of the shareholders.

Eat or be eaten: Gorton et al. (2005) argued that management acquire companies out of fear of being taken over themselves and losing independence. Especially during merger waves this motive seems to be applicable.

2.4 Historical trends and merger waves

Mergers and acquisitions play an important role in today's economies. Since the 1980s, deal activity has exploded in terms of value and volume. Nowadays, the annual transaction activity amounts to a value well over \$2,000 billion representing over 30,000 deals worldwide. According to Thomson One Banker,

⁴ See chapter 3 for empirical findings on pre- and post-takeover performance.

2011 saw a worldwide deal activity of 31,495 deals representing a total value of over \$2,400 billion (incl. net debt of target).

In times of changing technology, regulations or market conditions, corporate assets generally require restructuring. According to Jensen (1988) new management with a fresh view on the business is better able to make such changes, which is why many takeovers occur in these times. Martynova and Renneboog (2008) stated in their article that it is a well-known fact that the takeover market is characterised by merger waves; wave patterns of the number and value of deals over time. Originally, M&A used to be primarily a US phenomenon, however, since the late 1980s European deal activity started to match US standards. So far, six completed merger waves have been identified⁵.

2.4.1 The six merger waves

First wave – 1900s: The first merger wave commenced after the Depression of 1883 and peaked between 1898 and 1902 (Gaughan, 2010). This period was, according to Martynova and Renneboog (2008), a period of radical technology changes, economic expansion, industrial innovation, the introduction of new legislation and the development of trading in industrial stocks on the New York Stock Exchange (NYSE). During this wave some of today's greatest industrial firms originated, such as Standard Oil, General Electric and American Tobacco Inc. (the predecessor of RJR Nabisco). The wave was primarily characterised by horizontal mergers and ended with the Panics of 1904 and 1907⁶.

Second wave – 1920s: After recovering from World War I, consolidation in the industries subject to the first wave continued. Stigler (1950) considered the second wave as a move toward oligopolies that ended monopoly positions created in the first wave. In addition, many unrelated companies merged, creating the first large-scale conglomerates (Gaughan, 2010). During this period the American economy continued to evolve and much capital was provided to the security markets. The 1929 Crash and the subsequent Great Depression ended the second wave.

Third wave – 1960s: As a result of the Great Depression and World War II, no merger waves emerged until the 1960s. During the third wave, often known as the conglomerate merger period, diversifying mergers that commenced in the 1920s continued. By entering unrelated industries and areas, firms could reduce their earnings volatility and, as mentioned by Lipton (2006), enhance firm value. The conglomerate stocks crashed with the Stock market Crash of 1969, and with it the third wave ended.

⁵ Appendix 1a gives an overview of the aggregate deal activity of the United States since 1897, and appendix 1b reports global deal value and volume since 1980.

⁶ The Panic of 1907, also known as the 1907 Bankers' Panic, was a financial crisis that occurred in the United States when the NYSE fell almost 50% from its peak the previous year. Panic occurred, as this was during a time of economic recession, and there were numerous runs on banks and trust companies.

Fourth wave – 1980s: The fourth wave started around 1981 and coincided with changes in anti-trust regulations, deregulations of the financial sector, creation of new financial instruments and developments in the electronics industry. In the 1980s, the M&A market was noted for an unprecedented number of divestitures, LBOs and hostile takeovers, and accelerated with the explosive rise of junk bond financing⁷. Literature suggests that conglomerates created during the third wave became inefficient and were forced to reorganise. This in combination with huge availability of capital enabled companies to rather easily finance acquisitions, and resulted in an unprecedented number hostile bids. The wave ended at the end of the 1980s with the collapse of the junk bond market and the savings and loans crisis.

Fifth wave – 1990s: The 1990s was the era of the mega-deals. In a period of increasing economic globalisation, companies felt the need to grow through M&A to survive in international competition. As a result of this global view on competition, the M&A market saw an unprecedented surge in cross-border transactions. In combination with the relatively restrained antitrust environment, this led to once-unthinkable mergers, such as Citibank and Travelers, Chrysler and Daimler Benz, Exxon and Mobil, and Vodafone and Mannesmann (Lipton, 2006). Moreover, Martynova and Renneboog (2008) argued that global M&A activity rose even faster as – for the first time in history – continental Europe hit the same deal levels as the US counterparts. Appendix 2 shows the development of the shares of global deal activity, by region. The 1990s deals were mainly characterised as friendly and strategic transactions, and were for a large part paid in stocks. The fifth wave ended with the burst of the dot-com bubble in 2000, in combination with the great scandals like Enron revealed in 2001.

Sixth wave – 2000s: In 2003, hardly three years after the collapse in 2000, M&A activity started to revive; a new merger wave emerged in the US, Europe and Asia that would last approximately four years. Together with the gradual recovery of the security markets, takeover activity picked up again continuing the international industry consolidation of the 1990s. Important factors stimulating this wave were, among others, rise in commodity prices, low interest rates⁸, activism of shareholders and hedge funds, and the tremendous growth of private equity funds (Lipton, 2006). The rise of private equity funds was facilitated by the ample availability of debt and resulted in many LBOs. Alexandridis et al. (2010) argued that the sixth wave came to an end when investors and corporate managers started to realise that the mortgage backed security (MBS) and credit markets were on the verge of collapsing. As crisis unfolded, credit tightened and financing became scarce, bringing deals to a halt.

⁷ The 1980s saw the junk-bond market grow from \$10 billion in 1979 to \$189 billion in 1989, an increase of 34 percent per year.

⁸ As a response to the 9/11 attacks, the Fed lowered interest rates which fuelled to real estate bubble and gave a major boost to the private equity business.

Comparing the six waves, though every wave is different from its predecessor, a few common characteristics can be identified. Every wave seems to be triggered by exogenous factors in either economic, political (including regulatory) or technological context. First, all waves occur in periods of economic recovery and rapid expansion of the financial markets, subsequent to an economic recession or stock market crash. Second, takeover waves are preceded by industrial and technological shocks. These shocks have the effect that assets need to be restructured, and that often results in change of control. Finally, takeovers often occur in periods of regulatory changes. As with regard to the ending of merger waves, it can be concluded that all waves end as a result of a stock market crash or an economic depression.

After having considered the six merger waves, next, the historical trends of hostile takeovers in specific will be discussed.

2.4.2 Hostile takeovers

During the fourth wave, in the eighties, the M&A market saw a unique rise in hostile takeovers, and the term corporate raider made its appearance in the corporate finance practice. In the 1980s, hostile takeovers had become an acceptable and highly lucrative form of expansion. Although the volume of hostile mergers was relatively low compared to all transactions, the relative value was quite substantial, as shown in appendix 3. In his book, Gaughan (2010) explained that corporate raider's main source of income was the proceeds from takeover attempts. Raiders frequently made takeover attempts without taking control over the company. These attempts were designed to sell their minority stake in the target at a price higher than the raider originally paid for. This was achieved by either receiving greenmail payments⁹ or by putting the company in play, receiving a high premium from the alternative bidder.

There were several causes at the basis of the sudden rise of hostile bids. For one, investment bankers played an aggressive role in pursuing M&As. As their success fees represented a risk-free income, they persuaded their clients into doing transactions. Moreover, bankers invented new financial instruments, of which the junk-bond is a well-known example, which facilitated clients in additional financing capacity to use for acquisitions. Next to new financial instruments, banks allowed companies to use large amounts of debt in financing a takeover. This increased the buying power of a bidder and enabled small companies to acquire relatively large companies. This resulted in many acquirers in the market. Finally, a lot of regulations were relaxed, enabling raiders to effectively pursue hostile bids.

⁹ Greenmail is the practice of purchasing enough shares in a firm to be able to threaten with a takeover and thereby forcing the target firm to buy those shares back at a premium in order to suspend the takeover. Greenmail is derived from blackmail and greenback.

The fifth merger wave was accompanied by a second wave of hostile takeovers. In the US, there were less hostile takeovers compared to the 1980s as a result of new regulations in favour of target companies. However, across the Atlantic, hostile takeovers started to become more common. This was underscored by the largest deal of all time, the \$183 billion hostile takeover of Mannesmann by Vodafone.

2.5 Market for corporate control

In a public company, ownership and control are separated. As there are numerous shareholders, a board of directors is appointed to lead the company and is granted decision-making authority. The market for corporate control is the market that determines who is in charge of company's assets and resources. Or as Jensen and Ruback (1983) mentioned in their paper, "the market for corporate control is best viewed as the arena wherein managers compete for the rights to manage corporate resources". Control is initially obtained by acquiring the shares, but is then transferred to the board. Control of shareholders therefore stresses basically no further than to the appointment of the board. Hence, shareholders choose a management that creates the highest value and expresses no loyalty to incumbent management.

The market for corporate control differs substantially between Anglo-Saxon economies and other countries. In most of continental European countries, the majority of the companies are owned by large investors, such as institutional investors, or are family-owned. Only a small fraction is publicly traded and is subject to the market for corporate control. In contrast, in the United States and United Kingdom, most of the shares float and ownership is dispersed. Because of this characteristic, as Franks and Mayer (1996b) acknowledged, the market for control is de facto only applicable in the United States and the United Kingdom.

2.5.1 Free cash flow theory

Following the agency theory described in Jensen and Meckling's (1976) paper, the relationship between shareholders and managers of a firm should be regarded as a principal-agent relationship. The manager (agent) is under contract of the shareholder (principal) and has been granted the rights and authority to manage company's resources. Assuming that the agent is driven by self-interest and is a utility maximiser, it is likely he will not always act in the best interest of the shareholders. Moreover, because the principal is not concerned with daily business, the agent will have superior information about the company. This information asymmetry makes shareholders unable to assess management's performance, unless they incur monitoring and bonding costs to limit the discrepancies in interests.

Free cash flow is cash flow in excess of that required to maintain current business activities. Management ought to invest free cash flow in projects that generate a positive net present value (NPV), i.e. projects of which the returns exceed the cost of capital. If no positive NPV projects are available, free cash flow should be distributed to the shareholders. However, payment of dividends reduces the resources controlled by managers, and thereby their power to control. According to Jensen (1986) managers have incentives to expand their firms beyond the optimal size. According to the free cash flow theory, these inefficiencies increase when companies have substantial free cash flows. An infamous example of wasteful investments is that of RJR Nabisco in the 1980s. The company, active in the tobacco and food industry, generated enormous amounts of cash which it “invested” in projects with no added value, like private jets and corporate condo’s.

2.5.2 Disciplining hypothesis

The agency and free cash flow theory explain the aberrant interests of shareholders and managers, and shareholders’ inability to effectively control for efficient use of resources. When internal mechanisms such as monitoring and management compensation plans fail to align interests, a course of last resort may be found in an external mechanism. A company that operates at sub-optimal levels has a potential upside in profitability and share price. This puts the company in the position of an attractive target for outside investors. By acquiring the company and replacing management, the buyer could capitalise on the efficiency gains and thereby increase performance. Hence, in the situation of a public company, a takeover functions as a useful tool to discipline underperforming management. Mørck, Schleifer and Vishny (1988) recognised that a takeover is the most effective way to change control, and with it, company’s strategy. Moreover, even the threat of a takeover may have a disciplining effect on management. In this perspective, the market for corporate control limits the divergence from shareholder wealth maximisation by managers, as Jensen and Ruback (1983) stated in their article. Takeovers that are motivated by disciplining incumbent management are, for obvious reasons, often characterised as hostile.

A tool for acquiring shareholders to prevent inefficient use of resources by management, is leverage. When a company has substantial amounts of debt, it will inherently have to spend a lot of cash flow on interest costs and debt repayments. Therefore there will be little space for managers to behave inefficiently. Or as Jensen (1988) expressed it, debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers.

2.6 Takeover tactics

A company that considers acquiring another firm would prefer to negotiate privately with the target, rather than to enter a competitive auction. There are several ways a transaction process can be designed. This ranges from a one-on-one deal, with only one bidder, to a broad auction that may include over ten bidders. As is emphasised in appendix 4, every type of process has different dynamics and varying effects on the deal. In an auction, there is a decreased chance for acquirers to be successful and the purchase price is likely to increase (Sarkar et al., 2007). Therefore, a bidder would rather avoid ending up in an auction process. In addition, acquirers would generally prefer to engage in a friendly takeover than in a hostile one. As targets have defensive tools, a hostile takeover attempt could become very costly and could even be cancelled. Nevertheless, there are situations in which an acquirer would choose to commence a hostile process. There are generally three ways to commence a bidding procedure: through a toehold, through a tender offer or through a proxy fight.

Toehold

An initial step that is often taken before entering a bid procedure is the purchase of target's shares in the open market. In doing so, a bidder can establish a *toehold position* from which it could launch an offer. An advantage of a toehold is that the market is unaware of the purchase, which enables the bidder to buy shares without having to pay a premium. Bulow et al. (1999) cited that toehold purchases are used as a means to lower overall costs of an acquisition. In addition, having a minority interest in the target enables investors to influence the board in certain decisions (Choi, 1991). Moreover, when the bidder moves to make an offer, it has a dual role as both bidder and minority target shareholder. Finally, a toehold position may also have a valuable function in an auction process, for both the voting power accompanied with the shares as well as the ability to boost the price for the minority stake.

Toeholds are also acquired by hedge funds and other shareholder activists to force management into a sale process. Companies that are subject to these activist actions, which are motivated by short term returns, are generally believed to be managed inefficiently.

An acquirer can anonymously buy shares until he has reached the 5% threshold. According to SEC regulations, an acquirer that exceeds a 5% equity stake must file with the SEC explaining the reason for the purchase and its intention with the target. The target must be informed simultaneously.

Tender offer

Sridharan and Reinganum (1995) defined a tender offer as a public bid made directly to the firm's shareholders to purchase their shares and consequently capture their voting rights. The prospective acquirer thereby invites all stockholders to tender their stock at a specified price during a specified time.

To persuade the majority of the stockholders to tender their shares, the offered price usually includes a substantial premium. A tender offer is perceived by management either as friendly or as unfriendly. In a friendly tender offer, target's management is (usually) approached prior to the public offer to express acquirer's intentions. Bidder's goal is to attain the board of directors' recommendation on the offer¹⁰. In case the bid is received unfavourably (contested), the bidder has to decide whether to continue or abort its mission. Despite the likely chance of facing takeover defences, a bidder often pursues the contested tender offer, ending up in a hostile process.

It may also occur that a prospective buyer chooses to present the tender offer directly to the shareholders. This is referred to as an *unsolicited tender offer*. By circumventing management's approval, the offer is often perceived as hostile. Unsolicited bids typically occur when a bidder has the intention to replace management.

Proxy fights

A proxy fight, or proxy contest, is an attempt by corporate activists to persuade shareholders to use their proxy votes on contested issues and board positions. Gaughan (2010) stated that proxy contests are political processes in which incumbent management and insurgents compete for shareholder votes. The objective of an acquirer is to get the shareholders to vote in favour of a takeover or for replacement of management, in order to obtain takeover approval. A proxy contest can be an effective tactic to take over a company, especially in combination with a toehold position.

Having discussed three ways to start a bidding procedure, there is one other strategy that should be highlighted. This strategy is referred to as a two-tier bid. Generally, prospective buyers make an offer for (a majority of) the remaining shares of the target. However, in a *two-tier bid*, the bidder acquires a little more than 50% of the total outstanding shares (at a fair premium), as to gain effective control over the company. Consequently, at a later date, the acquirer offers a lower price for the remaining shares. This way the acquirer gains control over the company without having to pay the high premium for all shares. However, this strategy requires more time and patience in making strategic or operational changes.

2.7 Hostile bids

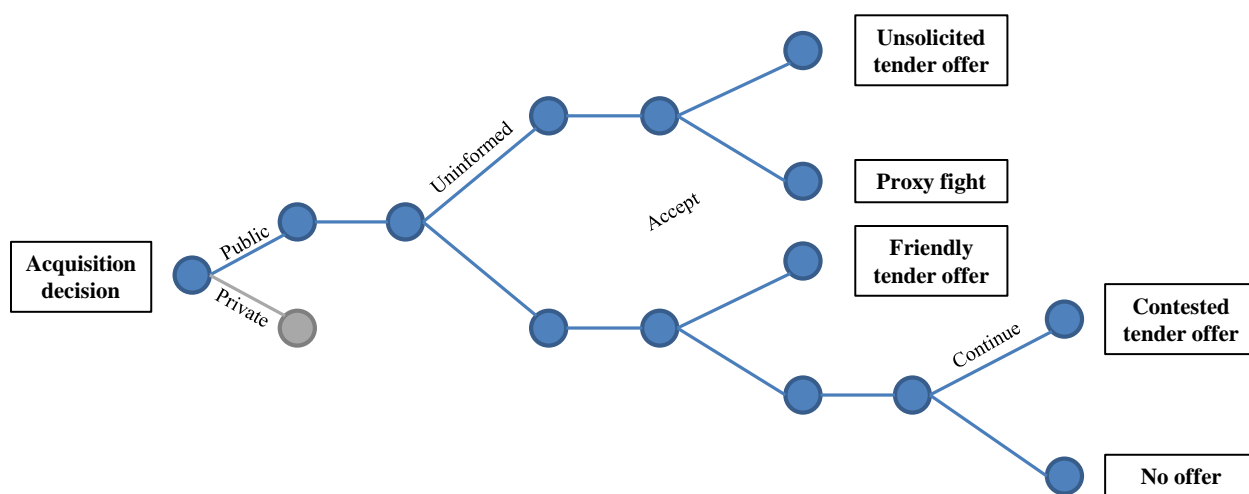
The market for corporate control is the market that determines who is in charge of company's assets and resources. As shareholders decide which managers have control over the company, change of ownership through hostile takeovers often results in change of management. Takeovers are considered hostile when a target's board recommend their shareholders to reject the offer. Pearce and Robinson (2004) recognised

¹⁰ An acquirer's strategy might be to perform a bear hug, which is a strategy to pressure management into taking a public position on the possible takeover.

that a hostile takeover therefore represents a battle for corporate control. There are several situations in which takeover bids may turn out hostile.

Figure 1 displays the decision tree for a company that has the intention to acquire another company. The possible outcomes are no offer, a friendly offer or a hostile offer. When an acquirer chooses to withhold from informing target management of its intentions, the (unsolicited) offer will very likely be considered hostile. This may be the case when the bidder has little confidence in management’s competence, or, as Schwert (2000) put it; “from a bidder’s perspective, a hostile offer is necessary when a private negotiation is unlikely to succeed.”. A proxy contest will also, for obvious reasons, be considered hostile by incumbent management. Whether a toehold position results in a hostile or friendly attitude depends on the situation. If the toehold purchase is motivated by minimising transaction costs or establishing a strategic bargaining position in an auction, the merger could well be friendly. A toehold purchased with the intention to discipline management, will likely be labelled hostile. Finally, a bid initially intended to be friendly could become unfriendly. An example of a so-called contested tender offer was the case in SABMiller’s bid for the Australian brewer Forster’s. Their proposal was unexpectedly declined, after which SABMiller decided to make a tender offer anyway. A SABMiller spokesman formulated in the Guardian, on 17 May 2011: “As there has been no willingness to engage in relation to SABMiller’s proposal on the part of the Forster’s board, SABMiller has decided to make an offer to Forster’s shareholders directly.”.

Figure 1: Decision tree bidding company in takeover attempts



2.7.1 Target’s reaction

Upon receiving a takeover bid, a management team decides (after negotiating with bidder) to recommend its shareholders to accept or reject the bid. There are several reasons to be identified for management to

reject an offer. First, as mentioned earlier, management may reject a bid that imposes a threat to their own position. A second reason might be that the board legitimately believes the bid is too low. And third, the board may also reject a bid because it does not support the strategic changes suggested by the bidding company. A good example is the takeover battle of ABN AMRO between Barclays and the consortium of Banco Santander, Fortis and Royal Bank of Scotland (RBS). Even though the consortium presented a superior bid (higher price, higher portion of cash), the board publicly announced its preference for Barclays. The reason behind it was that the consortium intended to split up ABN AMRO and divide it among the three participating banks. Barclays, mentioned as a white knight in *Het Financieele Dagblad* on 21 March 2007, on the other hand, had barely any overlapping activities and would leave the Dutch bank intact. However, despite management's efforts to promote Barclays, shareholders eventually decided to choose consortium's bid as the winning bid.

Finally, rejection of a bid might be part of tactics to maximise shareholder value, either to boost purchase price or to create a window for competing bidders to enter (Schoenberg and Thornton, 2006). This was also the case in the Mexichem – Wavin takeover. The unsolicited tender offer of 8.50 and 9.00 euro per share were rejected by Wavin's management, which finally resulted in an agreement of 10.50 euro per share.

2.7.2 Takeover defences

When management faces a hostile takeover attempt, there are principally two ways to respond; admit defeat or fight. Although it may initially seem out of the question to withhold from fighting back, it could be the best option for the particular situation. Pearce and Robinson (2004) argued that contesting a hostile bid may deprive stockholders from a rare opportunity to make a substantial return. However, in most instances, management fights back attempting to block the takeover. Whether this is to serve shareholder value or to preserve their own positions, companies seldom accept being taken over by a raider¹¹.

A company has several tools to defend itself from hostile raiders. These defence mechanisms are categorised as preventive, when they are installed prior to the threat, or reactive, when they are deployed after the hostile bid. Schoenberg and Thornton (2006) made the distinction between long-term strategies (preventive) and short-term tactics (reactive).

Preventive defences

Like the saying "the best defence is good offence", the best way to prevent being a takeover target is by pursuing a value maximising strategy. When there is no surplus to be gained, a threat would be senseless.

¹¹ A hostile or corporate raider is a term (with a negative association) used to refer to a hostile bidder. Holderness and Sheehan (1985) identified among others Carl Icahn and Victor Posner as (in)famous examples of hostile raiders.

However, in reality there are very few companies that are certain of their autonomy. For those companies that feel vulnerable to a takeover, preventive defences can be constructed. Among the more frequently used and effective defences are the following: poison pills, golden parachute and staggered board.

Poison pills – A poison pill, also referred to as shareholder rights plan, is a defensive tactic that offers target shareholders the right to buy stock at a discounted price. Poison pills are a form of call options that are activated after a triggering event. There are two kinds of poison pills; flip-in and flip-over. A *flip-in poison pill* offers existing target shareholders the opportunity to buy a certain amount of shares in the target company at a price substantially lower the current trading price. This way, stockholders make an instant profit of the takeover, and more importantly, the shares held by the raider will dilute. The other type is the poison pill with *flip-over rights*. These rights are distributed after the takeover has occurred and enable stockholders to purchase shares of the merged company at a discount. The key objective of a poison pill is to dilute acquirer's shares so that the raider will lose money on its investment. Poison pills are considered very effective defence mechanisms. They are so effective that many activists pressure companies to remove them.

Golden parachute – A golden parachute is a lucrative compensation package awarded to top executives, which can be utilised in the occurrence of certain events such as a takeover. The primary function of the parachute is to align management's interests with those of the (current) shareholders. Shareholder's concern is that the board will be tempted to reject bids that result in the loss of their jobs, even though it is a good bid for the stockholders. The existence of golden parachutes lessens the likelihood of managerial entrenchment. The second reason to introduce golden parachutes is to block takeovers. As takeovers cause the parachutes to be activated, it can become very costly for the acquirer to purchase the stocks. However, in large takeovers, golden parachutes will usually have no decisive effect.

Staggered board – In a normal election process each director has to come up for election at the annual shareholder meeting. When a board is staggered, or classified, the directors are grouped in classes of which each class represents a percentage (often one third) of the total number of director positions. During each term only one class is open for election. This way, corporate raiders are prevented from installing (the majority of) a new management. Moreover, when a board is staggered, hostile bidders must win more than one proxy fight at two successive shareholder meetings to gain control over the target. Bebchuk and Cohen (2005) argued that a staggered board in combination with a poison pill empowers management to practically prevent a hostile bidder from proceeding the purchase. However, as is the case with poison pills, shareholders rights activists are pressuring companies to declassify boards of directors.

Reactive defences

Installing preventive defences will not guarantee a company's independence. Although some raiders may decide to bypass companies with preventive mechanisms, even those targets may still need active defences to fight off takeover attempts. There are also firms that consciously choose to withhold from deploying preventive anti-takeover defences. These firms believe these measures will come at expense of shareholder value, and they do not want to signal that they are not receptive for a possible takeover.

Reactive defences are anti-takeover measures that are deployed after a hostile takeover attempt has been made public. These reactive defences could principally be deployed by any company, and are therefore more prevalent than pre-bid defences. There exist a wide range of alternative post-bid measures, however, the most popular include litigation, standstill agreements, capital structure changes, white knights and MBOs.

Litigation – Litigation refers to taking legal steps to challenge bidder's takeover attempt. There are generally three charges a target can make to repel an attacker. First is the charge that the merger leads to antitrust issues. Second is that the bidder has not adequately presented all relevant information. And third charge involves fraud, claiming that the bidder deliberately presented false facts, thereby depriving stockholder of their rights. Although the primary goal is to obstruct the merger, litigation is often deployed just to stall the hostile attack. While the legal process is ongoing, target's board can develop other strategies to prevent the takeover.

Standstill agreement – A standstill agreement is a contract between an unfriendly bidder and a target company, in which the pursuer agrees not to buy any more stock from the target for a specific period. To compensate the bidder for his inconvenience, the target company pays a fee. Like greenmail, standstill agreements provide compensation for an acquirer not to threaten to take control of the target. In fact, standstill agreements often accompany greenmail (Gaughan, 2010).

Capital structure changes – There are a few options available to ward off a hostile attack through restructuring company's capital. First method is a recapitalisation. A "recap" involves paying shareholders a superdividend, which is primarily financed with considerable amounts of debt. After a recap, a company's financial position is dramatically different than it was before, and is therefore a less attractive target. A second option is to issue additional shares. By issuing more shares, the target company makes it more difficult and costly to obtain control over the target. In addition, the issuance of new shares will have a dilutive effect on shares of a raider that already has a position in the company. A last way to avoid a hostile takeover through changing capital structures is to buy back own shares. As shares are repurchased, they are no longer available to hostile raiders, which could be an effective prevention from

raiders taking control. Besides, a target could employ excess cash for the repurchase, forestalling acquirers to use the cash otherwise, e.g. to pay off debt. However, this option is often not preferable, because equity is more expensive than debt.

In the event a company is under attack of a hostile bidder and a takeover seems inevitable, there exist some final options to prevent controlling interest to transfer to the unfriendly bidder.

White knight – When a company is under attack of an hostile bid, it may seek the help of a white knight. A white knight is a befriended company that is considered a more acceptable acquirer than the hostile bidder. By persuading the white knight to offer a higher price or an otherwise more enticing bid, incumbent managements hopes to maintain control over the company. A variant of the white knight is the white squire defence. A white squire refers to a company that purchases a strategic stake to frustrate the hostile bid, but without the intention of making a full takeover offer.

MBO – A final solution for management to ward off hostile raiders, is to buy the company themselves. In a management buyout (MBO), incumbent management acquires controlling interest of the company. A management buyout is accompanied with several challenges. Among those is firstly the suspicion that management is taking advantage of the situation which will make them rich. Second and more importantly, because management usually does not have sufficient funds to finance the transaction, substantial amounts have to be raised in the capital markets. Therefore, a MBO is often associated with a financial partner and high leverage.

2.7.3 Regulation

As mentioned, active markets for corporate control only exist in the US and the UK. This is mainly due to the typical dispersion of ownership in the Anglo-American corporate governance systems (Armour and Skeel, 2006). However, although M&A activity is significantly larger in the US, hostile takeovers are relatively more successful in the UK. This higher success rate of hostile takeovers in the UK is for a large part explained by differences in regulations between the two countries. In the UK, takeovers are regulated by the City Code on Takeovers and Mergers (“the Code”), which is weighted towards protecting the interests of shareholders. In the US, takeovers are regulated by the Williams Act (1986), which imposes some minimal requirements both by the courts of Delaware and by state anti-takeover statutes (Magnuson, 2008). These regulations enable management of US firms to engage in defensive tactics, while the Code strictly prohibits management from employing takeover defences that frustrate anticipated bids. According to Deakin and Slinger (1997) these developments in the US have had a dampening effect on the market for corporate control. They stated that corporate laws have permitted growth of a battery of takeover defences, making it harder for hostile bidders to successfully execute an acquisition.

2.7.4 Pursuing a hostile takeover

It has been discussed that hostile takeovers often face takeover defences, which could become very costly for acquirers. In addition to these costs, there are more disadvantages to hostile processes compared to friendly processes. Schnitzer (1994) mentioned that hostile takeovers incur expensive advertisement and mailings costs, in addition to the regular high-cost transaction fees. Furthermore, takeover premiums have to be a lot higher to successfully persuade shareholders. Another issue is that of information asymmetry. Information is essential in determining the value of a company, and consequently, obtaining the maximum purchase price. Dolbeck (2003) argued that hostile raiders are limited in their ability to perform due diligence, because they do not have the cooperation of management. This phenomenon is well described in the RJR Nabisco takeover by KKR, one of the largest private equity firms in the world. As KKR was competing with management on the acquisition of RJR, management acted ignorant during the management interviews with KKR, refraining them from important information. As a result, KKR's return on RJR had been very poor. A last disadvantage of hostile takeovers is that integration or implementation of strategic changes at the target may be cumbersome. This will likely go at expense of the synergies assumed prior to the acquisition.

Because of the previously mentioned reasons, bidders usually want to avoid ending up in a hostile process. However, despite their best intentions, an offer may be rejected, leaving the bidder at a choice; abort, start discussions with management (if possible) or continue hostile. Many hostile takeover attempts have proven to fail, either because it becomes too costly or anti-takeover tactics are otherwise successful. However, there are cases in which the raider successfully pursues the takeover attempts, despite the resistance and regulatory limitations. This implies that the bidder must be convinced that the benefits of taking over control outweigh the costs. The sources of these potential (additional) benefits include upside in performance as a result of inefficient management and undervaluation of target company's share price. Moreover, as in regular mergers, and maybe even more, pursuance of hostile takeovers may be subject to managerialism. These motives, including management hubris, empire building and not being willing to lose the battle for control, are hard to scientifically prove, however, they inevitably play part during a process.

2.8 Conclusion

This chapter provides a theoretical background on the research presented in this paper. Mergers and acquisitions in general have been discussed as well as some specific characteristics. It is concluded that hostile takeovers only apply to public firms and that they generally take place within the same nation. Also the motivations for M&A and the particular characteristics of mergers waves have been discussed.

Throughout the chapter the scope changes from a general view on M&A to a focussed perspective on hostile takeovers. In 2.5 the market for corporate control is discussed and is explained that the market for corporate control forms the basis for the existence of hostile takeovers. There is also elaborated on how takeovers become hostile and what targets can do to prevent the takeover. Finally it is argued that despite the resistance of targets, acquirers choose to continue the takeover, implicating that acquirers must be convinced that the benefits outweigh the costs.

3. Empirical literature

3.1 Introduction

In chapter 2, the theoretical background is discussed providing a broader understanding of mergers and acquisitions, and hostile takeovers in specific. Chapter 3 gives an overview of the existing empirical literature on the performance and characteristics of hostile takeovers. In paragraph 3.2, literature on the disciplining theory, including pre-takeover performance and management turnover, is reviewed. Then, in 3.3 post-takeover performance is discussed, after which in 3.4 post-takeover and pre-takeover performance are compared. Finally, in 3.5 literature on the influence of certain transaction characteristics on performance is discussed.

3.2 Disciplining hypothesis

In active markets for corporate control, takeovers are, according to the disciplining hypothesis, effective tools to discipline management. The disciplining theory, also called the inefficient management hypothesis, is based on the notion that target companies are managed at suboptimal levels. While all firms can theoretically be improved by better management, Agrawal and Jaffe (2003) argued that the potential for improvement is clearly greater in firms that are managed poorly. As a consequence, firms with greater unexploited opportunities are recognised as natural candidates for (hostile) takeovers by Brealy and Myers (1991) and Schwert (2000).

Mørck, Shleifer and Vishny (1988) support this view and argued that the motive for a takeover often determines its character. Therefore disciplinary bids are more likely to be hostile as it often results in replacement of management. Rappaport (1990) argued that hostile takeovers represent the most effective check on management autonomy ever devised.

To test the disciplining theory as a motivation for takeovers, one should test for poor pre-bid performance and high post-takeover management turnover.

3.2.1 Pre-takeover performance

This paragraph discusses the empirical findings on pre-takeover performance of takeover targets. First, pre-takeover performance in general is considered, and subsequently, the focus will shift to hostile takeovers. For the disciplining theory to be valid, companies that are being acquired should have an ample upside in operating performance. In other words, they ought to underperform prior to the merger. Underperformance is generally defined as significantly lower performance than the performance of benchmark companies.

Agrawal and Jaffe (2003) reviewed the existing literature¹² on pre-takeover underperformance of takeover targets in general. For the empirical tests of this hypothesis, the authors typically used stock returns or operating profit returns as measures for pre-bid performance. Overall, they did not find much support for poor pre-takeover performance of targets. They concluded that there was no significant underperformance in either the group as a whole, nor was there in subsamples of the group. Merely Q-ratio measures¹³ resulted in mixed evidence on underperformance.

Agrawal and Jaffe's own research demonstrated roughly the same outcome. They measured both operating return on assets (OPA) and operating return on sales (OPS). They found no significant differences in OPA between takeover targets and their control group, however, they did find some evidence that OPS is significantly different between the two groups. Nevertheless, the median of the targets was above that of the control group, suggesting, if anything, that takeover targets outperform their control group. They conclude that in general, disciplining poorly performing management is not a dominant motive for acquisitions.

Next, pre-takeover performance of hostile targets is examined. Franks and Mayer (1996b) concluded that in the one and two-year term, pre-bid performance of targets of successful hostile bids was indeed worse than either the mergers or the matched non-merging sample. However, the effects were neither economically large nor statistically significantly different from zero. Franks and Mayer (1996a) examined four different measures of pre-bid performance, including share price, dividend changes, cash flow rates of return, and Tobin's Q, and found that only Tobin's Q shows significant lower performance for hostile targets. Cosh and Guest (2001) found some evidence that targets in hostile takeovers underperform in terms of stock returns in the one-year prior to the takeover. However, they found only weak evidence that targets perform worse in terms of profitability.

To isolate deal characteristics that result in underperformance, Agrawal and Jaffe (2003) differentiated the sample into subsamples. They subdivided the sample into (among others) mergers versus tender offers, and friendly versus hostile offers. However, for both subsamples they found no significant evidence for underperformance based on OPA/OPS. Similarly, underperformance measured in stock returns has also experienced very limited support from empirical evidence.

¹² The literature reviewed included amongst others Martin and McConnell (1991), Agrawal and Walkling (1994), Agrawal and Jaffe (1995), Kini, Kracaw and Mian (1995), Franks and Mayer (1996), Palepu (1986), Mørck, Shleifer and Vishny (1988), Lang, Stulz and Walkling (1989), Barber, Palmer and Wallace (1995), Graham, Lemmon and Wolf (2001), Mitchell and Lehn (1990), and Shivdasani (1993).

¹³ Tobin's Q is a performance measure defined as the ratio of the market valuation to the replacement cost of firms' net assets.

Finally, Agrawal and Jaffe subdivided the sample into underperforming firms, those with negative average OPA or negative cumulative abnormal returns (CAR), and other firms. They found significant differences in deal characteristics between underperforming targets and other targets. First, the proportion of companies with poor *OPA performance* that are acquired through hostile takeovers, was significantly higher compared to other companies. And second, companies with poorly performing *stock returns* were significantly more often acquired via tender offers. These findings suggest that takeovers of poorly performing firms are more likely to be of disciplinary nature.

To conclude, although theory suggests that takeovers are motivated by disciplining underperforming firms, empirical literature hardly finds significant evidence to verify this hypothesis. However, the lack of poor pre-bid performance does not necessarily mean that a company lives up to its potential. It could well be the case that a company harbours more upside than it currently capitalises on, implicating that the company is managed inefficiently. Therefore, the disciplining hypothesis cannot be rejected.

3.2.2 Management turnover

In a takeover motivated by disciplining arguments, the bidder will replace incumbent management as the bidder considers the current managers to be non-value maximising. Shivdasani (1993) pointed out that in case a board is ineffective in performing its function, agency costs, and consequently the benefits of a takeover for a bidder, are high. Therefore, inefficient management is identified as a potential source of wealth gain by Kennedy and Limmack (1996). In addition, Hermalin and Weisbach (1988) found that when firms perform poorly, they tend to remove insiders and replace them by outsiders to the board.

Nevertheless, it should be noted that, as Franks and Mayer (1996b) argued, management turnover after a takeover is not necessarily to be classified as disciplinary; it could also reflect disagreement regarding strategic redeployment of assets.

Martin and McConnell (1991), Walsh (1988), and Kennedy and Limmack (1996) found that management turnover increases significantly after successful takeovers. When the distinction is made between hostile and friendly takeovers in the sample, Walsh (1989), Martin and McConnell (1991), and Franks and Mayer (1996b) found that hostility had a significant positive impact on the management turnover rate, especially in the first year after the takeover. Moreover, Franks and Mayer (1996b) found that also unsuccessful hostile bids experience significant higher target management turnover than the non-merging benchmark. They concluded that this is consistent with Hirshleifer and Thakor's (1994) prediction that hostile bids reveal information about the quality of managers to the monitors of the firm.

Many papers including Kennedy and Limmack (1996), Martin and McConnell (1991) and Franks and Mayer (1996b), have investigated to what extent management turnover is associated with poor pre-bid

performance. Kennedy and Limmack (1996) summarised that previous studies suggest an inverse relationship between pre-bid target performance and post-bid management turnover. Martin and McConnell (1991) and Hambrick and Cannella (1993) also identified a negative relation between post-takeover CEO turnover and pre-bid performance. Kennedy and Limmack's own observations were that targets in disciplinary bids, i.e. bids after which the CEO is replaced, underperform their counterparts in four out of five years prior to the bid. However, the difference in mean returns between the two groups was not significant. Franks and Mayer (1996b) concluded that there is little evidence for a significant relation between performance and control changes.

To summarise, most papers found a significant increase in management turnover subsequent to a takeover. Especially hostile takeovers seem to be associated with replacement of incumbent management. However, there is little significant evidence to demonstrate the relation between poor pre-bid performance and post-bid management turnover. This seems to be in line with the limited evidence on poor pre-bid performance of takeovers mentioned in 3.1.

3.3 Post-takeover performance

There is extensive research on the post-bid performance of companies involved in a transaction. The post-takeover performance is investigated to determine whether the merger or acquisition has created value, and whether the premium paid by the bidder was justified. Martynova and Renneboog (2008) have performed an extensive literature review on empirical studies regarding takeover profitability. They found that literature is unanimous in its conclusion that takeovers create value for the target and bidder shareholders combined. However, considering the distribution of wealth, practically all literature, including Martynova and Renneboog (2008), Bruner (2001) and Jensen and Ruback (1983), have shown significant abnormal returns for the target shareholders, while evidence on the wealth effects for bidder shareholders is mixed.

Evidence on takeover performance can be distinguished in both short-term and long-term performance. Bruner (2001) investigated 41 studies on short term returns of buyer firms and concluded that the results show a rather even distributions among value destroying (significant negative returns), value conserving (insignificant returns) and value creating (significant positive returns). Campa and Hernando (2004) confirmed in their literature review that evidence on buyer returns is evenly distributed between studies that report negative stock returns and those that report zero and positive stock returns.

As for the short term, literature on the long-term, which usually encompasses a time-frame of one to five years, provides inconclusive evidence on abnormal buyer returns. Franks, Harris, and Titman (1991) found no significant abnormal share price returns for the overall sample of bidders. In addition,

Martynova and Renneboog (2008) concluded that takeovers lead to a decline in share prices over several years subsequent to the transaction. Their review on studies on abnormal profit returns showed that 14 out of 26 studies reported a decline in operating returns of merged firms, 7 showed insignificant changes, and 5 papers provided evidence of a significantly positive increase. They concluded that although empirical evidence on bidder profitability of takeovers is extensive, the conclusions do not converge as to whether takeovers create or destroy value for the bidder in the long run. If anything, the results tend more towards value destruction than value creation for bidders.

Next, the focus will be on the post-bid performance of hostile acquirers. Some studies have researched a sample that is partitioned in subsamples, separating friendly from hostile takeovers or mergers from tender offers. Rau and Vermaelen (1998), for example, have tested on significant differences between tender offers (which often have a hostile character) and mergers. They showed that acquirers in a tender offer earn a small but significant positive abnormal return. Also Loughran and Vijh (1997) found that, on average, stock returns of the acquirer are significantly higher in tender offers. Franks, Harris and Titman (1991) have subsampled hostile takeovers versus friendly takeovers and have found that hostile takeovers have a cumulative abnormal returns (CAR) ranging from 0.1% to 1.3% in the three-year post-acquisition period, while the CAR of friendly mergers ranged from -0.3% to 0.8%. In addition, Higson and Elliot (1998) found that hostile takeovers generated significant buy-and-hold abnormal returns (BHAR) of 13%, while friendly merger had a BHAR of -4%. Other evidence, including Cosh and Guest (2001), Gregory (2005) and Barnes (1998) found marginally higher but insignificant abnormal profit returns for hostile acquirers. Finally, Cosh and Guest (2001) demonstrated that friendly acquirers experienced significant lower stock returns than hostile acquirers.

To summarise, the extensive literature written on post-takeover performance agrees on the notion that takeovers create value. The wealth is distributed for the largest part to target shareholders, whereas the evidence on benefits for bidder shareholders remains inconclusive. However, there is some evidence that bidder (stock) returns are significantly positive in tender offers and hostile acquisitions.

3.4 Comparing pre- and post-takeover performance

Although the literature on post-bid performance is quite extensive, there are few papers that compare post-takeover to pre-takeover performance. In the mentioned literature, post-takeover performance is measured by comparing profit returns or stock returns of a sample company to an industry benchmark or to a comparable friendly merger. However, to judge whether takeovers are successful, one should test whether the performance of the company has changed (improved) as a result of the takeover. To do so,

the relevant literature compares post-takeover acquirer performance (i.e. when the target is incorporated) to the performance of the combination of pre-takeover target and acquirer.

Papers on takeover performance, including friendly takeovers, generally found moderate to strong evidence on performance improvement. Healy, Palepu and Ruback (1992) found a difference between post- and pre-merger profitability (industry-adjusted) of 2.2%, which was significantly different from zero at the 5% significance level. Manson et al. (2000) demonstrated some evidence that, if an industry-adjusted regression method is used, operating and non-operating¹⁴ gains exist for average UK takeovers. Linn and Switzer (2001), lastly, found evidence on significant improvements of 1.8% per annum in the industry-adjusted operating cash flows.

Cosh and Guest (2001) is one of the few papers that investigated the improvement of hostile takeover performance. They found that hostile targets did not have lower pre-takeover profit medians than their control firms, nor that the acquirers significantly outperformed their benchmark in the post-takeover period. However, they did find that the difference in post-takeover and pre-takeover returns was significantly positive for hostile takeovers, and not for friendly mergers.

Finally, Kennedy and Limmack (1996) found that around the announcement period – three months before the bid until four months after the bid announcement – targets in disciplinary bids outperform their non-disciplinary counterparts by a statistically significant stock return of 13.07%.

To summarise, the rather scarce evidence on performance improvement after takeovers showed a small, but significant positive difference on long-term share and profit returns. Cosh and Guest (2001) demonstrated that, although they did not find significant pre- and post-takeover abnormal returns, the performance of hostile takeovers did significantly improve.

3.5 Performance characteristics

To seek further understanding in potential performance differences between hostile and friendly transactions, it would be interesting to investigate some characteristics that could explain these differences. The variables considered include method of payment, relative size, market-to-book ratio, debt-equity ratio, number of bidders, relatedness and attitude.

¹⁴ Manson et al. (2000) identify non-operating performance as the component of the market's assessment of the wealth gains from a takeover that cannot be explained by the independent variable, the estimate of operating gains for that takeover.

Method of payment

The method of payment considers whether the acquisition is paid in cash, shares or in a mix of both. As discussed in chapter two, the financing method has certain implications for the bidder. There are several papers that investigate the impact of payment method on bidder's return. Sudarsanam and Mahate (2006), for example, examined the impact of payment method on acquisitions "since there is consistent evidence that cash acquisitions tend to generate higher shareholder value for acquirers than share exchange offers". They found superior performance of cash acquisitions which is consistent with the results of earlier studies (Gregory, 1997; Loughran and Vihj, 1997; Sudarsanam and Mahate, 2003). Also Schwert (2000), Franks, Harris and Mayer (1988), and Martynova and Renneboog (2008) demonstrated significant outperformance (underperformance) for cash (equity) acquisitions. Cosh and Guest (2001), however, did not find a significant impact of cash payment on hostile takeovers, although they found a significant positive effect on friendly acquisitions.

Relative size

As in the reviewed literature, relative size is defined as the market value of the target relative to the market value of the acquirer. Cosh and Guest (2001) argued that since the relative size of target to bidder is relatively large in hostile takeovers, it could be of explanatory value. Schwert (2000) acknowledged that firms that are large are more likely to be a target of hostile takeovers. He found that the size of target firms is positively related to the likelihood that an offer will be hostile. This could reflect a greater tendency for management entrenchment and correspondingly greater benefits for managers to resist takeover bids. He also demonstrated that larger bidders are associated with higher bidder returns. Moreover, Lang, Stulz and Walking (1991) argued that the gain will be more noticeable if the target is large compared to the bidder, so that bidder returns should be positively related to the relative size of the target. Cosh and Guest (2000) found that the effect on profitability of relative size in hostile takeovers is significantly positive, whereas it is negative in friendly takeovers (although insignificant).

Target and acquirer market-to-book ratio

A company's market value is a value based on the company's expected future free cash flows and therefore includes its growth potential. The book value of a company on the other hand represents the value stated in the annual accounts and is based on past performance. When the market-to-book value ratio (MTBV) is high, it implicates that the company has either a lot of growth potential, or that the share price is overstated. Sudarsanam and Mahate (2003) hypothesised that glamour firms (high MTBV) tend to pay with stock and value firms (low MTBV) with cash. In accordance with the findings on the effect of payment method on performance, they expected value acquirers to outperform glamour acquirers. Sudarsanam and Mahate (2003) indeed found significant outperformance for value firms (9.9%)

compared to glamour firms (-10.8%) on a three-year post-transaction period. These results are consistent with Rau and Vermaelen (1998) who found that low MTBV acquirers outperform high MTBV acquirers in each of the three post-acquisition years. Another interpretation of low MTBV was given by Lang Stulz and Walkling (1989), who considered low market-to-book ratios as poor use of firm's assets. From a target's perspective, Schwert (2000) concluded that target firms with a low stock price (relative to book value), are more likely to be target of a hostile takeover attempt. Finally, Sudarsanam and Mahate (2006) found that friendly acquirers with high stock market ratings destroy more value than hostile acquirers with a similar ratio.

Target and acquirer debt-equity ratio

The company's debt-equity ratio, or financial leverage, has certain implications. The first one is that debt is considered to be an instrument for preventing management from acting inefficiently. Jensen (1986) argued that poorly managed target firms are likely to have too little debt. He, however, found no systematic relation between hostile takeover bids and the debt-equity ratio of the target firm. In addition, Lang, Stulz and Walking (1991) found that also bidders tend to have less room to make bad acquisitions as their debt level is increasing. Maloney, McCormick, and Mitchell (1990) found that bidder returns increase with the bidder's leverage. They explained this as highly leveraged companies being more closely monitored by their creditors, therefore having less room for bad acquisitions. A second implication is that the lower the debt in a company, the higher is its (remaining) borrowing capacity. An acquirer could use this excess capacity of a target to, for example, finance the takeover. This makes the company a more attractive target. Schwert (2000) concludes that among the performance variables, targets with lower debt-equity ratios are more likely to be successfully taken over. However, this result was not significant.

Number of bidders

As discussed earlier, the presence of multiple bidders results in heavier competition than in a one-on-one deal. On the one hand, this may indicate that there is more upside to gain, as more bidders are willing to contest. On the other hand, higher levels of competition are expected to increase the purchase price. This implicates that the bidder's benefits of the transaction diminishes as competition increases. Therefore it is expected that a sales process with multiple bidders will have a negative effect on acquirer's returns. Lang, Stulz and Walker (1991) stated that as competition for the target increases, bidder returns should fall, since the successful bidder has to pay more than in the single bidder case. Also Schwert (2000) and Bradley, Desai, and Kim (1988) found that competition increases the returns to targets and decreases bidder's return. The latter, however, also concluded that total synergistic gains are larger in multiple-bidder acquisitions. Finally, Sudarsanam and Mahate (2006) investigated the impact of single hostile

versus multiple hostile bidders on bidder's wealth. They found that transactions with a single bidder outperform transaction with multiple bidders. This confirms that bidder returns will likely decrease with increasing competition.

Relatedness

Strategic buyers are generally able to pay a higher purchase price than their financial competitors. Because of the higher synergy potential, they also have a lot more to gain. Martynova and Renneboog (2008) examined nine studies to research whether the degree of relatedness of the merging firms' businesses is associated with post-merger profitability. They concluded that there is no significant difference in post-merger profitability of related versus unrelated acquisitions, of takeovers with a focus on strategy versus diversifying mergers, of horizontal versus vertical takeovers, and of takeovers that aim at product expansion versus those that do not. Cosh and Guest (2001) also found no significant impact of related takeovers on takeover profitability. Bruner (2001), however, found that the degree of relatedness between the businesses of buyer and seller is positively associated with market based returns. According to him, diversifying mergers seem to be associated with worse performance than related mergers. Finally, Bhagat et al (1990) found that hostile takeovers often involve acquisitions of firms closely related. Their explanation for their findings is that hostile acquirers are better able to capitalise on synergies in related businesses.

Attitude

The research question of this paper focuses on hostile takeovers. It is argued that the hostile character of a transaction has certain implications on deal characteristics and with it, on its performance. Therefore, it is interesting to isolate the mood of a bid and investigate its impact on performance. Previous research including Martynova and Renneboog (2008) and Sudarsanam and Mahate (2006) showed that the attitude of a bid is an important variable in the performance of a takeover. Martynova and Renneboog argued in their 2008 paper, that hostile bids in the UK significantly outperform friendly ones. In addition, in their 2011 paper they found that friendly bids 'remarkably' underperform in terms of share price returns.

To summarise, seven characteristics of takeover performance which literature has investigated on have been discussed on their statistical significance. Overall, literature shows a significant positive impact on bidder's performance of cash payment, relative size, market-to-book value of bidder, and hostility. Characteristics with a negative relation to performance include equity payment, number of bidders, and target's market-to-book value. There is inconclusive evidence on the debt-equity ratio and the relatedness of takeovers.

3.6 Conclusion

This chapter considered the findings of empirical literature on takeover performance. The disciplining hypothesis, a well-documented motivation for takeovers, encompasses that firms that are managed poorly, will be disciplined. This entails that the targets should demonstrate pre-takeover underperformance (hence the upside for the acquirer) and that management is replaced by the new owner. The existing literature provides inconclusive evidence on target underperformance, for samples of both takeovers in general as well as for hostile takeovers specifically. However, the evidence on management turnover is statistically significant, especially in case of hostile takeovers. With regard to the post-takeover performance, the empirical literature remains inconclusive on the abnormal returns to bidder shareholders. For shareholders of hostile bidders, however, there is some evidence of outperformance. Subsequently, the comparison between pre- and post-takeover is made to research whether takeovers add value for the bidders. The empirical evidence indicates that takeovers demonstrate small but significant improvements for hostile takeovers, but not for friendly ones.

Finally, specific characteristics of takeover performance have been discussed, of which cash payment, relative size, market-to-book value of bidder, and hostility, demonstrated a significant positive effect on performance. Equity payment, number of bidders, and target's market-to-book value showed a significant negative impact, and evidence was inconclusive on the debt-equity ratio and the relatedness of takeovers.

4. Data and methodology

4.1 Introduction

The structure of this chapter is as follows. First in 4.2 is described how the research sample is assembled and constructed. Next, the research methodology and applied tests are formulated in 4.3 for both the accounting study and the stock price study. The hypotheses are discussed in 4.4, after which in 4.5 the construction of the used financial data is described, and finally, in 4.6 the construction of the benchmark companies is discussed.

4.2 Sample construction

The dataset examined consists of a sample of hostile takeovers that is gathered from Thomson One Banker (TOB). TOB defines a hostile offer as “the board officially rejects the offer but the acquirer persists with the takeover”. The criteria reported in table 1 were applied which resulted in a sample of 114 hostile takeovers:

Table 1: Search criteria hostile takeover sample

Criteria	Description	Observations
Acquirer/target nation:	United States of America	226,764
Acquirer/target public status:	Public	36,112
Deal attitude:	Hostile	377
Deal status:	Completed	116
Announcement date:	1 January 1980 to 1 January 2006	114

The sample consists of completed hostile transaction between companies that at that time were listed on a United States stock exchange. The sample period ranges from 1 January 1980 to 1 January 2006. This sample period is chosen because of the rise in hostile takeovers since the 1980s, and is limited to 2006 to be able to assemble post-takeover returns.

In addition, a sample of friendly takeovers¹⁵ is constructed to be able to compare hostile and friendly takeovers. To account for industry specific influences, the friendly sample is matched to the hostile sample based on the following criteria:

- Announcement year;
- Year of completion; and
- Same industry, as measured by the two-digit Standard Industry Classification (SIC) code.

¹⁵ Definition of friendly by TOB: The board recommends the offer to the shareholders.

This resulted in a matched friendly sample of 321 observations. Then, for both samples exclusions are made. Excluded are transactions that do not result in a takeover, i.e. where the percentage of shares acquired is 50 or less. The observations that remain involve an acquisition of 50% or more, resulting in the gain of control and consolidation of annual accounts. Second, companies that are active in financial or real estate industry have been excluded. These companies are subject to special accounting requirements, which make them difficult to compare with other companies. Third, companies that have been involved in other mergers and acquisitions within three years prior and subsequent to the takeover, have also been excluded. Finally, companies have been excluded when their financial information is not or insufficiently available in the data sources.

After these exclusions, the hostile sample comprised of 60 observations and the friendly sample of 168 observations. Table 2 shows per sample how many observations are excluded, and appendix 5 reports a list of the sample transactions. The samples include some well-known companies, for example Alcoa (aluminium), AT&T (telecom), Pfizer (pharmaceuticals), Sara Lee (consumer goods) and Whirlpool (household appliances).

Table 2: Exclusions from sample

	Hostile	Friendly
Observations before exclusions	114	321
<u>After excluding:</u>		
Less than 50% acquired	99	273
Financial and real estate companies	89	224
Involved in other M&A	71	193
Data unavailable	60	168

4.2.1 Data description

In this section the sample data is further examined with regard to several characteristics. An overview of the descriptive statistics is provided in table 3. Panel A presents the distribution of the sample transactions in 5-year periods. In accordance with the theory on merger waves in chapter 2, most (completed) hostile takeovers have been executed in the late 1980s. Also, the decline observed in the first half of the 2000s corresponds to the theoretical chapter. For friendly takeovers, the second half of the 1990s shows the most transactions.¹⁶

¹⁶ This conclusion is somewhat flawed due to the fact that the friendly takeovers have been matched to the hostile sample.

Table 3: Descriptive statistics

Panel A: Distribution of takeovers in 5-year periods

Period	Hostile takeovers		Friendly takeovers	
	Number	Percentage of total	Number	Percentage of total
1980-1985*	13	22%	17	10%
1986-1990	20	33%	37	22%
1991-1995	11	18%	31	18%
1996-2000	11	18%	75	45%
2000-2005	5	8%	8	5%
Total	60	100%	168	100%

Panel B: Deal characteristics

Characteristics	Hostile takeovers		Friendly takeovers	
	Number	Percentage of total	Number	Percentage of total
Related takeovers	34	57%	105	63%
Cash payments	32	53%	59	35%
Single bidders	42	70%	159	95%

Panel C: Size deciles of acquirers and targets at year prior to the takeover

	Hostile takeovers		Friendly takeovers	
	Targets	Acquirers	Targets	Acquirers
1-2	46 (76.7%)	34 (56.7%)	141 (83.9%)	78 (46.4%)
3-4	5 (8.3%)	9 (15.0%)	12 (7.1%)	24 (14.3%)
5-6	7 (11.7%)	4 (6.7%)	4 (2.4%)	18 (10.7%)
7-8	0 (0.0%)	3 (5.0%)	6 (3.6%)	7 (4.2%)
9-10	2 (3.3%)	10 (16.7%)	5 (3.0%)	41 (24.4%)
Total	64	64	168	168

Panel D: Market-to-book deciles of acquirers and targets at year prior to the takeover

	Hostile takeovers		Friendly takeovers	
	Targets	Acquirers	Targets	Acquirers
1-2	2 (3.3%)	3 (5.0%)	23 (13.7%)	11 (6.5%)
3-4	21 (35.0%)	15 (25%)	55 (32.7%)	39 (23.2%)
5-6	15 (25.0%)	10 (16.7%)	30 (17.9%)	34 (20.2%)
7-8	11 (18.3%)	9 (15.0%)	15 (8.9%)	21 (12.5%)
9-10	11 (18.3%)	23 (38.3%)	45 (26.8%)	63 (37.5%)
Total	64	64	168	168

Panel E: Debt-equity deciles of acquirers and targets at year prior to the takeover

	Hostile takeovers		Friendly takeovers	
	Targets	Acquirers	Targets	Acquirers
1-2	0 (0.0%)	4 (6.7%)	24 (14.3%)	11 (6.5%)
3-4	6 (10.0%)	3 (5.0%)	42 (25.0%)	35 (20.8%)
5-6	14 (23.3%)	12 (20.0%)	39 (23.2%)	51 (30.4%)
7-8	33 (55.0%)	32 (53.3%)	41 (24.4%)	58 (34.5%)
9-10	7 (11.7%)	9 (15.0%)	22 (13.1%)	13 (7.7%)
Total	64	64	168	168

* The first period consists of six years

Panel B displays three deal characteristics for both samples, namely industry relatedness, method of payment and number of bidders. Industry relatedness refers to whether the acquirer and target are active in the same industry (as defined by the two-digit SIC code). Method of payment refers to whether the transaction price has been paid in cash, stock or a combination of both. The number of bidders is either one (single) or multiple.

Panel C reports the sample firms assigned to ten deciles based on assets size. The deciles of Panel C are constructed by ranking all firms on asset size and then splitting the difference between the largest and smallest firm in ten even deciles. Next, all firms are assigned to the corresponding decile. The same deciles are used for targets and acquirers.

For hostile targets, almost all companies are concentrated within the smallest six deciles. Also for hostile acquirers most companies are situated in the smaller deciles. Friendly takeovers show a similar image. Panel D reports the market-to-book deciles of the sample companies. For both hostile and friendly targets the market-to-book ratios are rather evenly distributed, with the largest concentration in deciles 3-4. Finally, panel E presents the debt-equity deciles of both samples. Here, the hostile samples show a concentration within the 5 to 8 decile range and friendly within the 3 to 8 range.

4.3 Methodology

To examine the long run performance of hostile takeovers, an accounting study and a stock price study are performed. The accounting study considers profit returns and the stock price study looks at stock returns. Stock returns are direct gains for shareholders, which makes it a suitable performance measure. Profit returns are indirect gains for shareholders, but are well accepted as a performance measure.

4.3.1 Accounting study

For the accounting study, the profit returns of acquirers and targets are examined before and after the takeover, which are referred to as pre-takeover and post-takeover returns respectively. For each sample (hostile and friendly), a unique set of benchmark companies is constructed that functions as a proxy for normal returns. The difference between the return of a sample company and the return of the benchmark company is considered abnormal return. The testing period ranges from three years prior to the event year (pre-takeover) to three years after the event year (post-takeover). The event year (year 0) is excluded because of differences in acquisition accounting methods (Cosh and Guest, 2001). For profit return, year 0 is defined as the year of completion of the takeover, as from then on the accounts will be consolidated.

Profit returns are measured by the operating income before depreciation (OPI). This measure is chosen because it reflects the core activities of a company and is independent of leverage, tax and differences in

accounting methods (for e.g. treatment of depreciation), that could be caused by such corporate events. Barber and Lyon (1996) argued that operating income is a cleaner measure of the productivity of operating assets than earnings. For the sake of comparison, the performance measure should be expressed as a relative figure. Therefore OPI is scaled on average of beginning and ending period total assets of the respective year. In accordance with Cosh and Guest (2001) and Barber and Lyon (1996), book value rather than market value of assets is used. This denominator is chosen to isolate the profit returns from influences of the stock exchange. Other articles, including Linn and Schwitzer (2001), Ghosh (2001), and Powell and Stark (2005), use similar measures.¹⁷

Profit return is defined as operating income before depreciation (OPI) divided by average total assets:

$$R_p = OPI / \text{average total assets} \quad (1)$$

Abnormal profit return is defined as the sample profit return minus the benchmark profit return:

$$AR_{pit} = R_{pit-sample} - R_{pit-benchmark} \quad (2)$$

Where p stands for profit (OPI), i is a sample company and t is year relative to year of takeover.

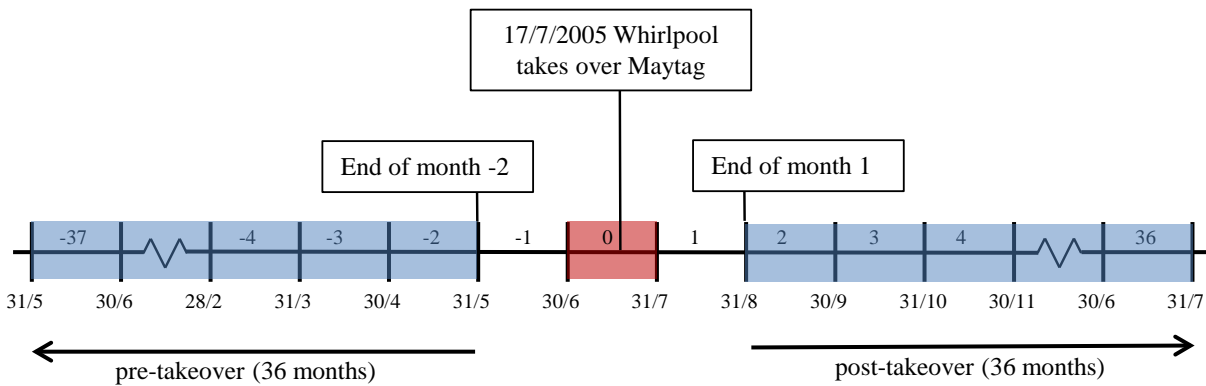
4.3.2 Stock price study

The stock price study considers the stock returns of the sample companies within the testing period. As with the accounting study, the testing period ranges from three years prior to three years after the event date. However, in case of stock returns, monthly (end of month) stock prices are considered, with the month of announcement defined as month 0.

As long term performance is investigated, short term returns resulting from the takeover announcement (announcement returns) should be excluded. To account for these announcement returns, return of year -1 is defined as the period between 13 months before the *end of the event month* to two months before the end of the event month (month -13 to -2). Year +1 is defined as one month after the end of the event month to 12 months after the event month (month +1 to +12). This implicates that there is at least one month between the announcement date and the nearest measurement date. Moreover, the days of announcement are rather evenly distributed over the month. The assumption is made that this three-month window captures the announcement returns. This is in line with articles on announcement returns, including Martynova and Renneboog (2011) and Campa and Hernando (2004). Figure 2 shows a timeline that illustrates the construction of the testing period.

¹⁷ Profit return has also been measured using sales as a denominator. However, this resulted in rather extreme returns as a result of cases with (incidentally) low sales. Therefore, the research on profit returns has been limited to OPI scaled on average assets.

Figure 2: Timeline of testing period



The annual returns are measured using the following testing periods:

- Year -1: month -13 to -2
- Year -2: month -25 to -14
- Year -3: month -37 to -26
- Year 1: month 1 to 12
- Year 2: month 13 to 24
- Year 3: month 25 to 36

To determine the stock returns of the sample companies, the simple buy-and-hold abnormal returns (BHAR) are calculated. BHAR is the difference in stock price between the moment of selling and buying the stock, and includes all intermediate dividends. In the relevant literature on stock returns¹⁸, stock returns are either measured by the BHAR or by the cumulative abnormal returns (CAR)¹⁹. Barber and Lyon (1997) have researched the differences between BHAR and CAR, and concluded that they favour BHAR in tests to detect long run performance. Their argumentation is primarily based on the presence of measurement bias with CARs, as a result of the fact that CAR ignores compounding.

The total stock returns for shareholders include changes in price as well as dividend issuances, both cash and stock. To account for stock dividends, adjustments have to be made in calculating the stock return. The data sourced used for the research (CRSP²⁰) has a variable, factor to adjust price (FACPR), which

¹⁸ Including a.o. Barber and Lyon (1997), Cosh and Guest (2001), Martynova and Renneboog (2008), and Powell and Stark (2005).

¹⁹ CAR is the sum of the monthly abnormal returns.

²⁰ Center for Research in Security Prices.

accounts for issuances of new shares, such as stock dividends or stock splits. FACPR is the number of additional shares per old share, and is described by CRSP as “FACPR is used to adjust stock prices after a distribution so that a comparison can be made on an equivalent basis between prices before and after the distribution”.

Stock prices are adjusted for new stock issues according to the following formula:

$$Adj. \text{ stock price} = (1 + \sum(FACPR_{t-(t-12)})) * \text{stock price}_t \quad (3)$$

Where t is a month relative to the announcement month, after issuance of stock dividend.

The BHAR is the return of a sample company relative to a benchmark company. Therefore, first the buy-and-hold return (BHR) has to be calculated, using the following formula:

$$BHR_{it} = (\Delta \text{ adj. stock price}_{t-(t-1)} + \sum(\text{div}_{t-(t-1)})) / \text{adj. stock price}_{t-1} \quad (4)$$

Where i is a sample company, t a month relative to announcement month, and $\sum(\text{div}_{t-(t-1)})$ is the sum of the cash dividends issued during period t – (t-1). The formula has been checked using CRSP’s monthly holding period returns²¹.

Abnormal buy-and-hold return (BHAR) is the difference in BHR of the sample company and the benchmark company and is defined as:

$$BHAR_{it} = BHR_{it-sample} - BHR_{it-benchmark} \quad (5)$$

4.4 Tests and hypotheses

In this section the hypotheses and the relevant tests are considered. First, pre-takeover performance is discussed, then post-takeover performance, and finally the regression on deal characteristics will be discussed. The hypotheses and tests apply to both profit returns and stock returns, and both are indicated as abnormal return (AR).

4.4.1 Pre-takeover performance

The pre-takeover performance is calculated to determine whether targets or acquirers in hostile takeovers have certain characteristics (in terms of returns) that might contain information about the upcoming takeover. Moreover, pre-takeover returns are calculated as a reference point to compare post-takeover performance to. To test for significant differences between the sample firms and their benchmark, the Wilcoxon Signed-Rank test is performed. This is a non-parametric test that assesses the differences

²¹ CRSP: A return is the change in the total value of an investment in a common stock over some period of time per dollar of initial investment. For period t goes, $r(t) = [(p(t)f(t)+d(t))/p(t)]-1$.

between pairs (therefore, sample size has to be equal), and tests whether these differences are significant. For comparison of hostile (n=60) versus friendly abnormal returns (n=168), the Mann-Whitney test is applied. This test allows different sample sizes of the two datasets, and also tests for differences between the groups. The median abnormal returns are reported to indicate the sign and size of the differences.²² The median value (and not average value) is chosen because of the skewness in the profit returns. This is in accordance to, amongst others, Barber and Lyon (2007), Cosh and Guest (2001), Powell and Stark (2005). The hypotheses on pre-takeover performance are: (i) there is no difference in pre-takeover returns between hostile targets and their benchmark, (ii) there is no difference in pre-takeover returns between hostile acquirers and their benchmark, (iii) there is no difference in pre-takeover abnormal returns between hostile targets and hostile acquirers, (iv) there is no difference in pre-takeover abnormal returns between hostile targets and friendly targets, and (v) there is no difference in pre-takeover abnormal returns between hostile acquirers and friendly acquirers.

- | | | | |
|-------|--|---|--|
| (i) | $H_0: AR_{\text{pre-takeover}}$ hostile target | = | 0 |
| (ii) | $H_0: AR_{\text{pre-takeover}}$ hostile acquirer | = | 0 |
| (iii) | $H_0: AR_{\text{pre-takeover}}$ hostile target | = | $AR_{\text{pre-takeover}}$ hostile acquirer |
| (iv) | $H_0: AR_{\text{pre-takeover}}$ hostile target | = | $AR_{\text{pre-takeover}}$ friendly target |
| (v) | $H_0: AR_{\text{pre-takeover}}$ hostile acquirer | = | $AR_{\text{pre-takeover}}$ friendly acquirer |

4.4.2 Post-takeover performance

Post-takeover returns are calculated to assess both whether merged companies outperform their benchmarks, and to determine how the merged company performs compared to the pre-takeover situation. In order to do so, the pre-takeover returns of target and acquirer companies have to be combined. These so-called pro forma returns are calculated by aggregating the value-weighted returns of both companies for the three consecutive pre-takeover years. For profit returns, the companies are weighted by their relative asset value, and for stock return, the returns are weighted by the relative market value. The same methodology is employed for the calculation of the pro forma benchmark returns. As with the pre-takeover performance, the Wilcoxon Signed-Rank test and the Mann-Whitney test are employed to determine the significance of the differences. The hypotheses on post-takeover performance are: (vi) there is no difference in post-takeover returns between hostile acquirers and their benchmark, (vii) there is no difference in post-takeover abnormal return of hostile acquirer and pre-takeover abnormal return of hostile pro forma firm, (viii) there is no difference in post-takeover abnormal returns between hostile

²² The median is not a test subject in both the Wilcoxon Signed Rank test and Mann-Whitney test, however, the median does contain information about the sign and size of the differences.

acquirers and friendly acquirers, and (ix) there is no difference in post-takeover abnormal returns minus pre-takeover abnormal returns between hostile acquirers and friendly acquirers.

- (vi) $H_0: AR_{\text{post-takeover}} \text{ hostile acquirer} = 0$
- (vii) $H_0: AR_{\text{post-takeover}} \text{ hostile acquirer} = AR_{\text{pre-takeover}} \text{ hostile pro forma firm}$
- (viii) $H_0: AR_{\text{post-takeover}} \text{ hostile acquirer} = AR_{\text{post-takeover}} \text{ friendly acquirer}$
- (ix) $H_0: AR_{(\text{post-pre}) \text{ takeover}} \text{ hostile acquirer} = AR_{(\text{post-pre}) \text{ takeover}} \text{ friendly acquirer}$

4.4.3 Deal characteristics

As third and last test, a regression is performed on the post-takeover performance (both profit and stock performance) of acquiring companies.²³ This ordinary least squares (OLS) regression is performed in order to explain or predict the effect of certain deal characteristics on the post-takeover performance. The following formula is used:

$$y_i = \alpha + \beta_1 * x_1 + \beta_2 * x_2 + \dots + \epsilon \quad (6)$$

Where y is the dependent variable, α is the intercept, β the coefficient of the introduced variables x . The characteristics that are imputed as independent variables in the OLS regression are presented in table 4. These characteristics correspond with the characteristics identified in chapter 3.5.

Table 4: Regression variables

Variable	Type	Definition
Pre-takeover return	Number	Pre-takeover return of the combined company
Attitude	Dummy	1= hostile, 0=friendly
Relatedness	Dummy	1=related (same 2-digit SIC), 0=unrelated
Method of payment	Dummy	1=all cash, 0=not all cash
Number of bidders	Dummy	1=single bidder, 0=multiple bidders
Relative size	Number	Market capitalisation target / acquirer
Market-to-book ratio target	Number	Market capitalisation / book value of equity
Debt-equity ratio target	Number	Liabilities / assets
Market-to-book ratio acquirer	Number	Market capitalisation / book value of equity
Debt-equity ratio acquirer	Number	Liabilities / assets

The regression is performed on three samples: (1) hostile takeovers, (2) friendly takeovers, and (3) the hostile and friendly sample combined. For all of the three groups, the regression is first performed including all variables. Subsequently, variables are excluded one by one based on the least significant p-values. As a result, the adjusted R^2 increases. This action is repeated until the adjusted R^2 of the test is no

²³ A regression has also been performed on the change in performance between pre-takeover and post-takeover performance, however, this resulted in no significant results and has therefore been omitted.

longer increasing. The regression performed with the remaining variables is reported in the second column.

The data on the regression variables has been assembled from both Thomson One Banker and Wharton Research Data Services (WRDS). Deal characteristics, including attitude, relatedness, method of payment and number of bidders have been downloaded from TOB. Financial characteristics including pre-takeover performance, relative size, market-to-book ratio and debt-equity ratio have been extracted from CRSP/Compustat.

4.5 Data construction

The data used for the accounting and event study is gathered from the WRDS database. Both acquiring and target companies of the hostile and friendly are (manually) looked up in the database, for their unique PERMNO code. PERMNO is a unique permanent security identification number assigned by CRSP to each security. Unlike 9-digit CUSIP, ticker symbol and company name, the PERMNO neither changes during a trading history, nor is it reassigned after an issue ceases trading. Companies that were unavailable in the database, were checked for name changes, and then again looked up in WRDS.

4.5.1 Annual accounting data

To obtain the annual accounting data for the sample firms, 264 PERMNOs were uploaded (71 hostile, 193 friendly) in the CRSP/Compustat merged database. Of the hostile sample, the data of 11 firms was insufficiently available, and for the friendly sample 25 firms were excluded due to lack of data.

With regard to the annual accounting data, the following variables (as referred to in CRSP/Compustat) for the date range 1 January 1975 to present were extracted:

- Operating Income Before Depreciation (OIBDP)
- Assets – Total (AT)
- Common/Ordinary Equity – Total (CEQ)
- Liabilities – Total (LT)
- Revenue – Total (REVT)

These data concern the end of fiscal year accounts.

4.5.2 Monthly stock data

To obtain the monthly stock data, the PERMNO codes were uploaded in CRSP. The variables downloaded concerned the period 1 January 1975 to present, and were the following:

- Shares outstanding (in thousands)
- Price (closing or bid/ask average)
- Dividend cash amount

- Factor to adjust for price

The data extracted from WRDS database is matched to the correct company and testing period. In addition, returns are calculated using the aforementioned formulas.

4.6 Benchmark construction

In order to evaluate the performance of the sample returns, the returns have to be compared to some sort of market index. This is done to observe whether certain events, in this case hostile takeovers, trigger abnormal reactions. As the subject of interest is the performance of takeovers, the hostile and friendly sample firms should be compared to a (unique) non-merging benchmark.

In constructing a benchmark, which functions as a proxy for normal returns, the benchmark should have comparable characteristics with the sample firms. Barber and Lyon (1996) have researched different models of constructing a benchmark for profit returns. According to their suggested methodology, sample firm profit returns should be compared to benchmark firms matched on industry (two-digit SIC) and size (assets). The adjustment for industry is justified by the findings that performance tends to be related within an industry. By matching firms in the same industry, the effect of industry shocks is offset. Second, Barber and Lyon (1996) also showed that profit returns could be determined by firm specific factors such as size. Therefore, the control firms are also matched on size.

Profit returns benchmark

In constructing the profit return benchmark, first, all public companies that are active within the testing period were downloaded from CRSP/Compustat. Subsequently, these companies have been uploaded to an Access database, together with the hostile and friendly sample. Because acquirers differ in size in the post-takeover period and the pre-takeover period, the acquirers require different benchmarks. Therefore, the hostile and friendly sample now comprises of six groups with different size characteristics:

- Hostile targets
- Hostile acquirers pre-takeover
- Hostile acquirers post-takeover
- Friendly targets
- Friendly acquirers pre-takeover
- Friendly acquirers post-takeover

Next, each firm in the six sample groups is matched to the all-company database, based on the following criteria:

- Industry (two-digit SIC code);

- Size (70% - 130% of sample firm's asset size²⁴); and
- Year of event period.

Subsequently, all benchmark firms that have been involved in M&A within the testing period, as reported by TOB, have been excluded. Of the remaining firms, the relevant accounting and stock data has been downloaded from CRSP/Compustat, using the same methodology as with the sample firms. Benchmark firms of which the data was unavailable have been excluded. After applying the relevant data to the correct company and testing period, the profit returns have been calculated. Because the sample firms have multiple benchmarks, the median returns of the benchmark firms were calculated for each sample firm. This median serves as a proxy for sample firm's normal profit return, and is subtracted from sample firm's return to calculate abnormal performance.

Stock returns benchmark

In constructing a benchmark for sample firms' stock return, a similar method is applied. In addition to industry and size, Barber and Lyon (1997) identify market-to-book ratio as an important factor to adjust for. They stated that Fama and French (1992) documented a relation between common stock returns and market-to-book ratios. Moreover, Schwert (2000) showed that targets in hostile takeovers tend to have a relatively higher book value than acquirers.

Again, each firm within the six sample groups is matched to the all-company database. For the stock returns, the following criteria applied:

- Industry (two-digit SIC code);
- Asset size (70% - 130% of sample firm asset size);
- Year of event period; and
- Market-to-book (70% - 130% of sample firm market to book ratio²⁵).

Accordingly, the matched benchmark companies were checked for mergers during the testing period, the relevant data was downloaded from CRSP, and the buy-and-hold returns were calculated. The median value that had finally been calculated was subtracted from the relevant sample firm.

There were cases where no median was delivered because of insufficient data or because no benchmark company met the criteria. For these cases, the criteria were stretched to 50% - 150% of sample firm asset size and 50% - 150% of sample firm's market-to-book ratio. In cases where certain sample returns were

²⁴ For pre-takeover returns, asset size of year -1 is considered. For post-takeover returns, asset size of year +1 is considered. This applies to both the profit returns benchmark as for the stock returns benchmark.

²⁵ For pre-takeover returns, market-to-book of year -1 is considered. For post-takeover returns, market-to-book ratio year +1 is considered.

not available, the missing data was filled in with the benchmark median, resulting in an abnormal performance of zero.

4.7 Conclusion

In this chapter the research methodology and the construction of the dataset are discussed. To test for abnormal performance, the Wilcoxon Signed-Rank test and the Mann-Whitney test are applied. For the test on relevant deal characteristics, an ordinary least squares regression is applied. The data used in the tests comprises of a hostile and a friendly sample. Both samples consider pre- and post-takeover data of targets and acquirers. The applied performance measure are profit returns (operating profit return before depreciation scaled on the average book value of assets) and stock returns (buy-and-hold abnormal returns). To determine each company's abnormal returns, benchmark companies are constructed consisting of non-merging firms matched on industry, size and year of takeover for profit returns, and additionally on market-to-book value for stock returns.

5. Results

5.1 Introduction

This chapter discusses the results on the tests described in chapter 4. In 5.2 the results on the two-paired sample tests on pre- and post-takeover performance are presented, for both profit returns and stock returns, and in 5.3 the results on the regression on post-takeover returns are discussed, with several deal characteristics as independent variables.

5.2 Two-paired sample tests on pre- and post-takeover performance

The Wilcoxon Signed-Rank test is used to test the differences between two-paired samples. In this case, the sample returns (hostile and friendly) are compared to their relevant benchmark companies. In addition, the differences between hostile and friendly takeovers are tested. For this analysis, the Mann-Whitney test on two independent samples is used to compare the samples of different size.

In table 5, 6, 7 and 8 the results of the tests on paired differences are presented. Table 5 and 6 report the pre-takeover results of profit returns and stock returns respectively, and table 7 and 8 report the post-takeover results of profit returns and stock returns. Each table reports medians and the p-values on hostile takeovers, friendly takeovers and on hostile versus friendly takeovers. Results are marked as significant by asterisks for significance levels of 1% (***), 5% (**) and 10% (*). The 10% level is allowed because of the relative small sample sizes. This is in accordance with, amongst others, Cosh and Guest (2001), Powell and Stark (2005) and Barber and Lyon (1996).

5.2.1 Pre-takeover performance

According to the disciplining theory, one would expect to see poor pre-takeover performance of hostile targets. However, earlier empirical research on pre-takeover returns generally did not find evidence to support this theory. Pre-takeover performance is researched for both target and acquirer in hostile and friendly takeovers.

Pre-takeover profit returns

Table 5 reports the pre-takeover abnormal profit returns, which is defined as the operating income before depreciation scaled on the average book value of assets. The table contains three panels (Panel A: Targets; Panel B: Acquirers; and Panel C: Targets -/- Acquirers) and three columns concerning hostile sample, friendly sample and hostile -/- friendly sample respectively. The abnormal returns are calculated with respect to non-merging benchmark firms matched on size and industry. The median abnormal returns are reported for each (fiscal) year -3, -2 and -1, for the change in abnormal return from year -2 to

year -1 and from year -3 to year -1, and ultimately, for the average abnormal returns of the three pre-takeover years.

The abnormal returns of hostile and friendly targets and acquirers are calculated as the median value of the differences between the each sample company and its unique benchmark. The three-year average abnormal returns are calculated as the median value of the average of the three pre-takeover years for each sample company's abnormal return. The abnormal returns of the hostile sample minus the friendly sample are calculated as the median value of the differences in abnormal return. The same method is applied for the abnormal returns of target sample minus the acquirer sample. The p-values represent the level of significance of the differences between (i) the sample companies' returns and returns of their benchmarks, (ii) between hostile abnormal returns and friendly abnormal returns, and (iii) between target abnormal return and acquirer abnormal returns.

Panel A of table 5 shows the results on pre-takeover abnormal profit returns for hostile targets. The observed results are insignificant for all pre-takeover years, for both hostile and friendly takeovers. Though insignificant, it is noteworthy to mention that hostile targets show positive abnormal returns in the pre-takeover period. Moreover, hostile targets seem to consistently (but insignificantly) outperform friendly targets, which perform worse than their peers. The abnormal profit returns of acquirers, as presented in panel B, show positive results for both hostile and friendly acquirers. Especially friendly acquirers show significant (statistically as well as economically) positive returns. Hostile acquirers show positive but diminishing returns from year -3 to -1. The three-year average profit return is 1.5% and significant at the 10% level for hostile acquirers and 3.3% and significant at the 1% level for friendly acquirers. The outperformance of the hostile acquirers seems to be in line with the theory suggesting that acquiring companies are efficient businesses. Comparing the performance of hostile and friendly acquirers, the results show that friendly acquirers significantly outperform hostile acquirers in year -1, year -2 to -1, as well as in the three-year average. Panel C reports the differences between targets and acquirers, and shows an insignificant better profit performance of hostile targets compared to their future acquirers. Friendly acquirers, on the other hand, significantly outperform their future targets in all three pre-takeover years.

Table 5: Pre-takeover abnormal profit returns

This table reports the abnormal target and acquirer median profit returns for each of the three pre-takeover years, where -1 is the last fiscal year prior to the takeover. The change in profit returns between year -1 and -2, and year -1 and -3 as well as the average annual profit return of year -3 to -1, is also reported. The benchmark firms are the industry- and size-matched non-merging firms. Profit is measured as the operating income before depreciation, divided by the average book value of assets. The non-parametric tests on significant differences are based on the Wilcoxon Signed-Rank test and the Mann-Whitney test. The numbers in parentheses are p-values.

Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Targets			
-3	0.3% (0.941)	-1.3% (0.318)	1.5% (0.646)
-2	2.1% (0.269)	-0.2% (0.662)	2.3% (0.359)
-1	1.7% (0.320)	-0.1% (0.658)	1.8% (0.262)
(-1) - (-2)	-0.1% (0.854)	-0.3% (0.746)	0.2% (0.936)
(-1) - (-3)	-0.3% (0.802)	0.1% (0.729)	-0.4% (0.727)
Average abnormal profit return -3 to -1	0.3% (0.883)	-0.5% (0.161)	0.8% (0.433)
Panel B: Acquirers			
-3	1.5% (0.036)**	3.0% (0.000)***	-1.5% (0.344)
-2	1.3% (0.026)**	3.5% (0.000)***	-2.2% (0.394)
-1	0.2% (0.259)	4.2% (0.000)***	-4.0% (0.003)***
(-1) - (-2)	-0.1% (0.441)	0.7% (0.021)**	-0.8% (0.060)*
(-1) - (-3)	-0.9% (0.673)	0.5% (0.039)**	-1.4% (0.141)
Average abnormal profit return -3 to -1	1.5% (0.068)*	3.3% (0.000)***	-1.9% (0.035)**

Panel C: Targets -/
Acquirers

-3	-0.9%	-2.1%	1.2%
	(0.457)	(0.010)***	(0.344)
-2	0.2%	-3.9%	4.1%
	(0.724)	(0.011)**	(0.394)
-1	0.3%	-4.1%	4.5%
	(0.904)	(0.000)***	(0.003)***
(-1) - (-2)	0.6%	-1.4%	2.0%
	(0.691)	(0.034)**	(0.060)*
(-1) - (-3)	0.6%	-0.6%	1.2%
	(0.746)	(0.054)*	(0.141)
Average abnormal profit return -3 to -1	0.3%	-3.6%	3.9%
	(0.522)	(0.000)***	(0.100)*

Significantly different from zero at the 1% (***), 5% (**) and 10% (*) levels, using a two-tailed test.

Pre-takeover stock returns

The same analysis as for the profit returns is performed on the pre-takeover abnormal stock returns and is presented in table 6. Stock returns is defined as the buy-and-hold abnormal returns (BHAR) and is calculated as the change in stock price and includes dividends. The BHAR of the sample is calculated relative to a non-merging benchmark that is matched on size, industry and market-to-book ratio. The median returns are reported for each (fiscal) year -3, -2 and -1, for the change in return from year -2 to year -1 and from year -3 to year -1, and finally, for the average abnormal returns of the three pre-takeover years.

The results on pre-takeover abnormal stock returns of targets are presented in Panel A of table 6. The table shows insignificant results for hostile targets, except for year -3 where the return is significantly negative (-3.2%) based on the 5% level. While year -2 shows a small positive abnormal return, the stock return of year -1 is clearly lower than that of the sample benchmarks (-7.7%). Although they are statistically insignificant, the results seem to be in line with the disciplining hypothesis suggesting underperformance in the pre-takeover period. Friendly targets show significant underperformance (-12.5%) in the year prior to the takeover. The analysis of the performance of hostile targets versus friendly targets does not provide significant results, except for year -3 where hostile targets prove to perform worse than their friendly counterparts.

The pre-takeover performance of acquirers reported in Panel B does not show any significant results for hostile acquirers. If anything, the medians show that hostile acquirers underperform relative to their benchmark companies. The comparison between hostile and friendly acquirers provides significant results

Table 6: Pre-takeover abnormal stock returns

This table reports the abnormal target and acquirer median stock returns for each of the three pre-takeover years, where year -3 starts 37 months prior to the announcement month. The change in stock returns between year -1 and -2, and year -1 and -3 as well as the average annual stock return of year -3 to -1, is also reported. The benchmark firms are industry-, size- and market-to-book-matched non-merging firms. Stock return is measured as the buy-and-hold abnormal return, including dividends. The non-parametric tests on significant differences are based on the Wilcoxon Signed-Rank test and the Mann-Whitney test. The numbers in parentheses are p-values.

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Targets				
	-3	-3.2% (0.032)**	3.3% (0.174)	-6.6% (0.038)**
	-2	0.2% (0.312)	-0.2% (0.328)	0.4% (0.600)
	-1	-7.7% (0.282)	-12.5% (0.006)***	4.8% (0.212)
	(-1) - (-2)	-0.9% (0.166)	-9.8% (0.004)***	8.9% (0.452)
	(-1) - (-3)	3.8% (0.608)	-11.2% (0.002)***	15.0% (0.802)
	Average abnormal stock return year -3 to -1	-5.0% (0.226)	-3.7% (0.456)	-1.3% (0.368)
Panel B: Acquirers				
	-3	-5.9% (0.231)	-5.3% (0.161)	-0.6% (0.074)*
	-2	-4.9% (0.183)	-7.3% (0.028)**	2.4% (0.001)***
	-1	-2.9% (0.498)	4.8% (0.157)	-7.7% (0.617)
	(-1) - (-2)	2.2% (0.479)	8.0% (0.045)**	-5.8% (0.045)**
	(-1) - (-3)	0.6% (0.628)	9.7% (0.073)*	-9.1% (0.133)
	Average abnormal stock return year -3 to -1	-3.7% (0.162)	-3.4% (0.225)	-0.4% (0.902)

Panel C: Targets -/
Acquirers

-3	5.0%	12.2%	-7.1%
	(0.357)	(0.028)**	(0.176)
-2	13.8%	7.7%	10.7%
	(0.077)*	(0.009)***	(0.001)***
-1	-5.9%	-9.4%	3.5%
	(0.740)	(0.008)***	(0.444)
(-1) - (-2)	-9.5%	-17.1%	7.6%
	(0.171)	(0.002)***	(0.424)
(-1) - (-3)	-5.7%	-12.7%	7.0%
	(0.959)	(0.004)***	(0.058)*
Average abnormal stock return year -3 to -1	-1.9%	-3.1%	1.2%
	(0.791)	(0.400)	(0.879)

Significantly different from zero at the 1% (***), 5% (**) and 10% (*) levels, using a two-tailed test.

for year -3 (0.6%) and year -2 (2.4%) at the 10% and 1% level respectively. Panel C presents the differences between targets and acquirers. For hostile takeovers, target performance exceeds acquirer performance in year -3 and year -2 (significantly), but is reversed in year -1. Friendly takeovers follow the same trend, with significant results for all three pre-takeover years. Remarkable is the significant return of 13.8% for hostile takeovers in year -2. The theory of acquirers benefiting from poor target stock returns is reasonably offset by their own poor stock performance.

Conclusion

The pre-takeover performance of hostile targets and acquirers has been researched with both profit returns and stock return as performance measures. The overall findings on hostile target pre-takeover performance are in contrast with disciplining theory, but in accordance with findings of previous literature mentioned in paragraph 3.2. There is hardly any evidence on poor pre-takeover returns of hostile targets. However, the implicitly assumed outperformance of hostile acquirers has found significant empirical support for profit returns. To conclude, as mentioned earlier, the lack of pre-takeover underperformance of hostile targets does not necessarily mean that a company lives up to its potential. To answer this question, the change between post-takeover and pre-takeover performance should be investigated.

5.2.2 Post-takeover performance

In chapter 3 it has been argued that takeovers lead to an overall creation of wealth. The positive combined value for acquiring shareholders and selling shareholders has practically unanimous support of the empirical literature. It is also evident that target shareholders in almost all cases make significant

abnormal returns on the sale. The question, however, is to what extent value is created for acquiring shareholders. Literature offers inconclusive evidence on acquirers' performance. Hereafter, the results on post-takeover performance of hostile acquirers are presented. Table 7 displays the post-takeover abnormal profit returns and table 8 reports the post-takeover abnormal stock returns.

Post-takeover profit performance

Table 7 presents the post-takeover abnormal profit returns of acquirers, for which the same definitions are applied as for table 5. Panel A shows the pre-takeover abnormal profit returns of acquiring and target company combined. The abnormal returns are aggregated, with relative asset size used as weights, to be able to compare pre-takeover returns to post-takeover returns.

Panel B reports the median post-takeover abnormal returns for the years 1, 2 and 3 (relative to the year of takeover), for the change in return from year 1 to year 2, and from year 1 to year 3, and finally, for the average abnormal returns of the three post-takeover years. Panel B shows consistent and significant underperformance of hostile acquirers compared to their benchmark (-2.9%, -3.0% and -4.1% resp.). Also the three-year average abnormal return is significantly negative for hostile acquirers. Friendly takeovers, on the other hand, show significant positive returns in the three post-takeover years. This is confirmed by the significant differences reported in the hostile versus friendly column. The difference in average abnormal profit returns between hostile and friendly acquirers is -5.0% and significant at the 1% level. In terms of profit returns, hostile acquirers significantly underperform relative to their benchmark as well as relative to friendly takeovers. Panel C reports the difference between pre-takeover pro forma returns and post-takeover acquirer returns. Both hostile as friendly acquirers perform significantly worse than the combined pre-takeover firm (-2.7% and -0.5% respectively). This is remarkable as one would expect hostile acquirers to be more profitable compared to their benchmarks. This entails that, relative to the benchmarks, there is no improvement in performance. In other words, results show that hostile takeovers do not add value in terms of profit for acquiring shareholders²⁶.

Finally, the difference in post- minus pre-takeover performance between hostile and friendly acquirers – as presented in the third column of panel C – is insignificantly negative.

²⁶ Appendix 6, 7, 8 and 9 report the median values of the samples on an unadjusted basis. These results are rather similar to the results of the abnormal returns.

Table 7: Post-takeover abnormal profit returns

This table reports the effect of takeovers on the abnormal profit returns, calculated relative to non-merging industry- and size-matched benchmark firms. Profit is measured as the operating income before depreciation, divided by the average book value of assets. The pre-takeover returns are the weighted averages pro forma returns of the combined company, weighted by the relative assets values of the two firms. The non-parametric tests on significant differences are based on the Wilcoxon Signed-Rank test and the Mann-Whitney test. The numbers in parentheses are p-values.

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Pre-takeover combined firm				
	-3	0.7%	1.0%	-0.3%
		(0.965)	(0.017)**	(0.157)
	-2	0.8%	1.3%	-0.5%
		(0.099)*	(0.003)***	(0.453)
	-1	0.9%	3.1%	-2.3%
		(0.230)	(0.000)***	(0.022)**
	(-1) - (-2)	0.1%	0.7%	-0.7%
		(0.842)	(0.031)**	(0.185)
	(-1) - (-3)	0.6%	0.4%	0.2%
		(0.263)	(0.040)**	(0.703)
	Average abnormal profit return year -1 to -3	0.5%	2.0%	-1.5%
		(0.752)	(0.000)***	(0.021)**
Panel B: Post-takeover acquirer				
	1	-2.9%	1.5%	-4.4%
		(0.028)**	(0.012)**	(0.002)***
	2	-3.0%	1.7%	-4.6%
		(0.026)**	(0.029)**	(0.002)***
	3	-4.1%	1.6%	-5.7%
		(0.042)**	(0.072)*	(0.007)***
	(2) - (1)	0.1%	-0.1%	0.2%
		(0.580)	(0.529)	(0.427)
	(3) - (1)	0.3%	-0.4%	0.6%
		(0.370)	(0.188)	(0.183)
	Average abnormal profit return year 1 to 3	-3.6%	1.4%	-5.0%
		(0.017)**	(0.019)**	(0.001)***
Panel C: Post -/- pre-takeover				
	Post -/- pre-takeover average abnormal profit return	-2.7%	-0.5%	-2.2%
		(0.025)**	(0.039)**	(0.403)

Significantly different from zero at the 1% (***), 5% (**) and 10% (*) levels, using a two-tailed test.

Post-takeover stock returns

In table 8, the results on the last two-paired tests are presented, for which the same methodology as in table 7 is applied. The same definition of abnormal stock returns (BHAR) is used as in table 6. Panel A presents the results on the pro forma pre-takeover returns of the combined firm. To calculate the pro forma BHAR, the relative market capitalisation of target and acquirer is used as weights.

The results on post-takeover abnormal stock returns are presented in Panel B. This panel, like Panel A, shows remarkably few significant results. In contrast to the previously considered tables, there are no significant results for any relevant performance data. As a result, the medians are considered to draw some (though insignificant) conclusions from this analysis. The post-takeover returns of hostile acquirers show negative returns, which corresponds with the findings in table 7. In contrast to table 7, friendly acquirers underperform compared to their peers. They perform even worse than the hostile acquirers. Comparing post-takeover returns to pre-takeover pro form returns in Panel C, hostile acquirers show insignificant but substantial performance improvement of 4.6%. Compared to their friendly counterparts, hostile acquirers even perform 6.7% better. Because of the lack of significant results, this table is of little use to draw conclusions upon. The medians are, however, quite consistent within the sample and moreover of substantial size.

Conclusion

To determine whether takeovers create value for bidders, the post-takeover performance has been researched. Based on the theory, post-takeover returns of hostile acquirers were expected to outperform. However, the results in table 7 present another conclusion. The post-takeover abnormal profit returns are significantly lower than the benchmark returns, for all post-takeover years. The three-year average abnormal profit returns is -3.6% and significant at the 5% level. Also the differences in post- and pre-takeover returns are opposite to the expectations; the post-takeover profit return is 2.7% worse than pre-takeover. The results presented in table 8 are mainly insignificant and provide little added value to the analysis. Interesting though, is the findings of 4.6% improvement in average abnormal stock returns for hostile acquirers.

Table 8: Post-takeover abnormal stock returns

This table reports the effect of takeovers on the abnormal stock returns, calculated relative to non-merging industry-, size- and market-to-book-matched benchmark firms. Stock return is measured as the buy-and-hold abnormal return, including dividends. The pre-takeover returns are the weighted averages pro forma returns of the combined company, weighted by the relative market capitalisation of the two firms. The non-parametric tests on significant differences are based on the Wilcoxon Signed-Rank test and the Mann-Whitney test. The numbers in parentheses are p-values.

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Pro forma firm				
	-3	-3.2% (0.072)*	3.9% (0.340)	-7.1% (0.284)
	-2	-1.1% (0.401)	-0.2% (0.551)	-0.9% (0.647)
	-1	-7.7% (0.119)	-12.5% (0.469)	4.8% (0.302)
	(-1) - (-2)	0.7% (0.622)	-9.8% (0.777)	10.5% (0.794)
	(-1) - (-3)	3.8% (0.930)	-11.5% (0.974)	15.2% (0.923)
	Average abnormal profit return year -1 to -3	-6.7% (0.025)**	-5.5% (0.136)	-1.2% (0.126)
Panel B: Post-takeover acquirer				
	1	-1.8% (0.751)	-4.4% (0.105)	2.6% (0.352)
	2	-0.5% (0.706)	-3.1% (0.487)	2.6% (0.872)
	3	-5.0% (0.282)	-5.8% (0.143)	0.8% (0.945)
	(2) - (1)	-2.2% (0.502)	3.3% (0.316)	-5.4% (0.288)
	(3) - (1)	2.0% (0.904)	-5.6% (0.950)	7.7% (0.882)
	Average abnormal stock return year 1 to 3	-1.6% (0.571)	1.1% (0.226)	-2.6% (0.993)
Panel C: Post -/- pre-takeover				
	Post -/- pre-takeover average abnormal stock return	4.6% (0.224)	-2.0% (0.397)	6.7% (0.304)

Significantly different from zero at the 1% (***), 5% (**) and 10% (*) levels, using a two-tailed test.

5.2.3 Summary of analysis

The foregoing analysis has been executed to answer the question whether acquirers create value for their shareholders in hostile takeovers. In this attempt, both profit returns and stock returns have served as a measure of performance. They resulted in some different conclusions. Profit returns seem to be more solid than stock returns. On the one hand, this resulted in smaller returns (both positive and negative), but on the other hand it also resulted in more significant findings. The conclusions with regard to the hypotheses have been summarised in table 9. For profit returns as performance measure, hypotheses ii, v, vi, vii and viii are rejected. These are respectively; (ii) there is no difference in pre-takeover returns between hostile acquirers and their benchmark, (v) there is no difference in pre-takeover abnormal returns between hostile acquirers and friendly acquirers, (vi) there is no difference in post-takeover returns between hostile acquirers and their benchmark, (vii) there is no difference in post-takeover abnormal return of hostile acquirer and pre-takeover abnormal return of hostile pro forma firm, and (viii) there is no difference in post-takeover abnormal returns between hostile acquirers and friendly acquirers. For stock returns as performance measure, none of the hypotheses could not be rejected. Finally, the hypothesis on differences between pre- and post-takeover could not be rejected for both performance measures.

Table 9: Summary of hypotheses

		Profit returns		Stock returns	
		H0	Median	H0	Median
Pre-takeover	i.	Not rejected	0.3%	Not rejected	-5.0%
	ii.	Rejected	1.5%	Not rejected	-3.7%
	iii.	Not rejected	0.3%	Not rejected	-1.9%
	iv.	Not rejected	0.8%	Not rejected	-1.3%
	v.	Rejected	-1.9%	Not rejected	-0.4%
Post-takeover	vi.	Rejected	-3.6%	Not rejected	-1.6%
	vii.	Rejected	-2.7%	Not rejected	4.6%
	Viii.	Rejected	-5.0%	Not rejected	-2.6%
	ix.	Not rejected	-2.2%	Not rejected	6.7%

5.3 Regression on deal characteristics

To seek further understanding in the characteristics of the performance of hostile acquirers, and the differences with friendly acquirers, a regression is performed with ten explanatory variables that are mentioned in table 10.

Table 10: Regression variables

Variable	Type	Definition
Pre-takeover return	Number	Pre-takeover return of the combined company
Attitude	Dummy	1= hostile, 0=friendly
Relatedness	Dummy	1=related (same 2-digit SIC), 0=unrelated
Method of payment	Dummy	1=all cash, 0=not all cash
Number of bidders	Dummy	1=single bidder, 0=multiple bidders
Relative size	Number	Market capitalisation target / acquirer
Market-to-book ratio target	Number	Market capitalisation / book value of equity
Debt-equity ratio target	Number	Liabilities / assets
Market-to-book ratio acquirer	Number	Market capitalisation / book value of equity
Debt-equity ratio acquirer	Number	Liabilities / assets

In table 11 and 12 the results are presented of the regression on post-takeover abnormal profit returns and post-takeover abnormal stock returns respectively²⁷. The tables report the results of the regression of the hostile sample, the friendly sample and of both samples combined. Regression (1), (3) and (5) include all variables; regression (2), (4) and (6) are constructed by stepwise eliminating variables with the largest p-value until the adjusted R² no longer increases. The intercept is the expected post-takeover abnormal return when all independent variables have no explanatory power.

In table 11, with post-takeover abnormal profit returns as dependent variable, pre-takeover (pro forma) profit returns is very significant and substantially positive for the hostile, friendly and combined sample. This indicates that there is explanatory power in the pre-takeover returns. All other independent variables have very small and insignificant impact on the post-takeover profit returns. For hostile takeovers all other variables are insignificant. For friendly takeovers, the results of regression (3) show that ‘Relatedness’ is the only significant variable. The results of the combined takeover sample show that ‘Attitude’ is significant in both regression (5) and (6).

²⁷ N does not equal total sample size as a result of insufficient information on certain variables.

Table 11: Post-takeover abnormal profit returns

This table reports the effect of the takeover on abnormal profit returns, calculated relative to non-merging industry- and size-matched benchmark firms. Profit is measured as the operating income before depreciation, divided by the average book value of assets. The pre-takeover returns are the weighted averages pro forma returns of the combined company, weighted by the relative assets values of the two firms. The dependent variable is the average abnormal profit return for the three post-takeover years. The independent variables include Pro forma profit, Attitude, Relatedness, Method of payment, Number of bidders, Relative size, Market-to-book target, Debt-equity target, Market-to-book acquirer and Debt-equity acquirer. P-values are in parentheses.

	Hostile takeovers		Friendly takeovers		All takeovers	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-0.035 (0.703)	-0.034 (0.255)	-0.018 (0.791)	0.000 (0.987)	0.008 (0.877)	-0.001 (0.959)
Pre-takeover profit return	0.919 (0.001)***	0.906 (0.000)***	0.779 (0.000)***	0.790 (0.000)***	0.794 (0.000)***	0.797 (0.000)***
Attitude					-0.045 (0.052)*	-0.041 (0.057)*
Relatedness	-0.011 (0.749)		0.042 (0.092)*	0.034 (0.146)	0.031 (0.119)	0.029 (0.132)
Method of payment	0.036 (0.274)	0.035 (0.219)	0.023 (0.387)		0.021 (0.296)	0.021 (0.266)
Number of bidders	-0.035 (0.367)	-0.031 (0.316)	0.015 (0.781)		-0.011 (0.722)	
Relative size	0.004 (0.836)		0.001 (0.332)	0.000 (0.344)	0.000 (0.347)	0.001 (0.283)
Market-to-book target	-0.003 (0.659)		0.000 (0.894)		0.000 (0.957)	
Debt-equity target	-0.014 (0.910)		-0.029 (0.618)	-0.038 (0.336)	-0.032 (0.522)	-0.042 (0.246)
Market-to-book acquirer	0.004 (0.522)		0.000 (0.424)		0.000 (0.435)	0.000 (0.400)
Debt-equity acquirer	0.016 (0.876)		-0.022 (0.749)		-0.005 (0.924)	
F-statistic	1.61	5.58	5.38	13.00	7.35	11.12
P-value	0.141	0.002***	0.000***	0.000***	0.000***	0.000***
Adjusted R ²	0.089	0.189	0.204	0.230	0.231	0.247
N	57	57	155	155	212	212

Significantly different from zero at the 1% (***), 5% (**) and 10% (*) levels, using a two-tailed test.

Table 12 reports the results of the regression on post-takeover stock returns. In contrast to the profit returns, pre-takeover stock returns are not significant for regression (1) and (2) of hostile takeovers and are also insignificant for regression (3) of the friendly takeover sample. For regression (4) pre-takeover stock return is significant, as well as for regression (5) and (6) on the combined sample. Whereas ‘Attitude’ is significant for profit returns, it is not for stock returns. ‘Relatedness’, on the other hand, has a significant positive effect in regressions (3), (4), (5) and (6). Also the ‘Number of bidders’ has a significant effect on all groups. For hostile takeovers, ‘Number of bidders’ has a negative effect, where the effect is positive for friendly takeovers. For friendly takeovers, also debt-equity ratio of the acquirer has a significant effect after excluding variables that do not contribute to the adjusted R^2 .

To check for the robustness of the underlying data, diagnostic tests have been performed on the regressions reported in table 11 and 12²⁸. The results of these tests show that the data does not suffer from bias such as autocorrelation, multicollinearity or heteroskedasticity.

5.4 Conclusion

This chapter has presented the results on pre-takeover and post-takeover performance of hostile takeovers. With regard to pre-takeover performance of hostile targets, the overall findings are that there is little support for the poor pre-takeover performance suggested by the disciplinary theory. This is, however, in accordance with the findings of empirical literature mentioned in paragraph 3.2. Also in line with the expectations are the findings on pre-takeover profit returns of hostile acquirers, which are significantly positive.

Considering post-takeover performance, hostile acquirers were expected to outperform, but failed to do so. The post-takeover abnormal profit returns are significantly lower than the benchmark returns, for all three post-takeover years. Also the three-year average abnormal profit returns significantly negative with a median of -3.6%.

As with the post-takeover performance, the differences in post- and pre-takeover returns are also contrasting the expectations; post-takeover profit return is with -2.7% significantly lower than pre-takeover. The abnormal stock returns, on the other hand, show a pre- to post-takeover performance improvement of 4.6%. However, this result is not significant which makes it hard to draw conclusion upon.

²⁸ The three tests used include the Durbin-Watson test, the Variance Inflation Factor (VIF) and the White test. The Durbin-Watson statistic is a test statistic that considers the extent to which the residuals from a regression analysis are subject to autocorrelation. The variance inflation factor (VIF) is a check on multicollinearity and indicates whether the independent variables are correlated. The White Test is a test on heteroskedasticity and tests whether the residual variances of the variables are constant.

Table 12: Post-takeover abnormal stock returns

This table reports the effect of the takeover on abnormal stock returns, calculated relative to non-merging industry-, size- and market-to-book-matched benchmark firms. Stock return is measured as the buy-and-hold abnormal return, including dividends. The pre-takeover returns are the weighted averages pro forma returns of the combined company, weighted by the relative market capitalisation of the two firms. The dependent variable is the average abnormal stock return for the three post-takeover years. The independent variables include Pro forma stock, Attitude, Relatedness, Method of payment, Number of bidders, Relative size, Market-to-book target, Debt-equity target, Market-to-book acquirer and Debt-equity acquirer. P-values are in parentheses.

	Hostile takeovers		Friendly takeovers		All takeovers	
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	0.217 (0.323)	0.273 (0.113)	-0.758 (0.000)***	-0.709 (0.000)***	0.132 (0.060)*	0.116 (0.038)**
Pre-takeover stock return	0.189 (0.173)	0.153 (0.196)	0.094 (0.146)	0.108 (0.085)*	0.241 (0.001)***	0.249 (0.000)***
Attitude					-0.031 (0.341)	-0.029 (0.334)
Relatedness	0.124 (0.147)	0.100 (0.188)	0.097 (0.060)*	0.108 (0.024)**	0.079 (0.006)***	0.071 (0.007)***
Method of payment	0.017 (0.834)		0.015 (0.773)		0.037 (0.199)	0.037 (0.156)
Number of bidders	-0.256 (0.008)***	-0.230 (0.006)***	0.593 (0.000)***	0.526 (0.000)***	-0.132 (0.004)***	-0.127 (0.002)***
Relative size	0.006 (0.892)		0.001 (0.365)		0.000 (0.882)	
Market-to-book target	-0.008 (0.638)		-0.002 (0.328)		0.000 (0.847)	
Debt-equity target	-0.277 (0.360)	-0.277 (0.241)	0.092 (0.431)		-0.100 (0.163)	-0.073 (0.131)
Market-to-book acquirer	-0.004 (0.794)		0.000 (0.744)		0.000 (0.650)	
Debt-equity acquirer	0.138 (0.579)		0.148 (0.294)	0.216 (0.074)*	-0.006 (0.937)	
F-statistic	1.34	2.99	4.45	10.13	2.79	4.98
P-value	0.244	0.026**	0.000***	0.000***	0.003***	0.000***
Adjusted R ²	0.051	0.119	0.168	0.181	0.078	0.095
N	57	57	155	155	212	212

Significantly different from zero at the 1% (***), 5% (**) and 10% (*) levels, using a two-tailed test.

Finally, a regression has been performed on post-takeover profit and stock returns, with specific deal characteristics as independent variables. For post-takeover profit returns as explanatory variable, pre-takeover profit return is very significant and substantially positive for the hostile, friendly and combined sample. All other independent variables have very small and insignificant impact on the post-takeover profit returns. For post-takeover stock returns, pre-takeover return is not significant for the hostile sample. Only the 'Number of bidders' shows a significant (negative) effect on post-takeover stock performance.

The analysis in this chapter has been performed to answer the question whether acquirers create value for their shareholders in hostile takeovers and what are the influences of specific deal characteristics on post-takeover performance. The overall conclusion are that hostile targets do not underperform relative to their benchmark and hostile acquirers are not more efficient companies than their benchmark. Hostile takeovers do not result in (significant) value creation for the acquirer's shareholders and companies generally do not become more efficient or better run organisations through takeovers. Apparently, the costs of the acquisitions do not outweigh the realised efficiencies and synergies.

6. Conclusion

This study seeks an answer to whether the pursuance of hostile takeover has proven to create value for the acquirer's shareholders. In answering this question, first the context, dynamics and motivations of hostile takeovers have been discussed. It has been explained that the market for corporate control lies at the basis of the existence of hostile takeovers. Hostile takeovers have been argued to be a useful tool in disciplining management that performs poorly. When targets employ anti-takeover defences to impede the takeover from being effectuated, it becomes more difficult and costly for a bidder to pursue the takeover. Despite the fact that this goes at costs of the return of bidder's shareholders, hostile takeovers have proven to still being pursued.

To investigate the extent to which bidding companies make the right decision to pursue a hostile takeover, the performance of target and acquirer have been researched in both the period prior to the takeover as after the takeover, as well as the change in performance. According to the disciplining theory, the pre-takeover performance of targets was expected to be poor, however, based on empirical research it is concluded that there is no convincing evidence for target underperformance. Also, with regard to post-takeover performance of acquirers, the expectations on outperformance relative to their benchmark has found little empirical support. Based on the small but significant performance improvement demonstrated by the very few papers that have researched pre-takeover performance compared to post-takeover performance, hostile takeovers were expected to create value.

In conducting a research on the value effects of hostile takeovers on acquiring shareholders, the abnormal returns have been calculated of the hostile target and acquirer in the pre- and post-takeover stage. Using two-paired sample tests, the differences between the sample companies and their benchmark have been tested for significance, based on profit returns and on stock returns. As was expected, it is concluded that there is no convincing support for the disciplining theory suggesting pre-takeover underperformance of hostile targets. In addition, the implicitly assumed outperformance of hostile acquirers in the pre-takeover stage has found significant support. With regard to the post-takeover performance, the results are consistently negative and statistically significant for profit returns. Finally, it has been concluded that hostile acquirers perform significantly worse in the long-term post-takeover phase compared to the pre-takeover phase in terms of profit returns. In other words, this paper provides significant evidence that shareholder value for acquiring companies is destroyed by pursuing a hostile takeover.

In this paper, it has been argued that, based on the lack of pre-takeover underperformance of hostile takeovers, the disciplining theory cannot be rejected. The relative poor performance of hostile targets

would not necessarily mean that a company lived up to its potential. With the findings on the difference in post-takeover and pre-takeover performance, however, the rejection of the disciplining theory is justified. What remains unknown is whether these findings are caused by pre-bid managerialism, such as management hubris or empire building, or that it is a result of not being able to capitalise on the existing synergies. I would recommend this to be investigated in further research. After reading this paper it should be clear that hostile takeover are a 'product' of management teams, since target management chooses to consider a offer hostile and bidding management chooses to push through a takeover that will likely destroy shareholder value. Therefore, it would be very interesting to investigate to what extent the role, motivations and characters of the management teams influence the added value of a hostile takeover.

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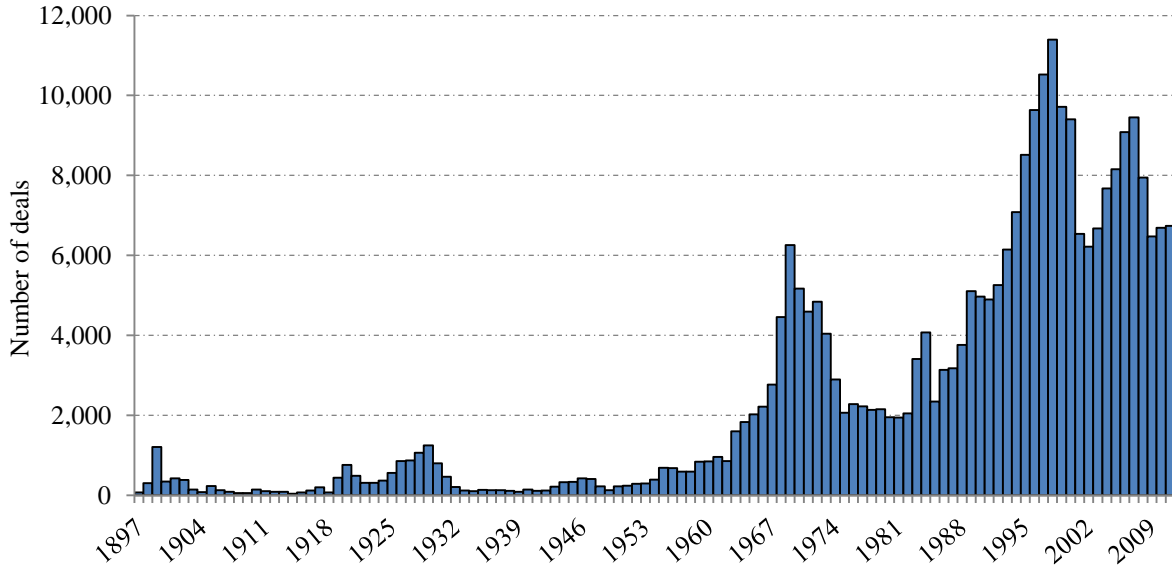
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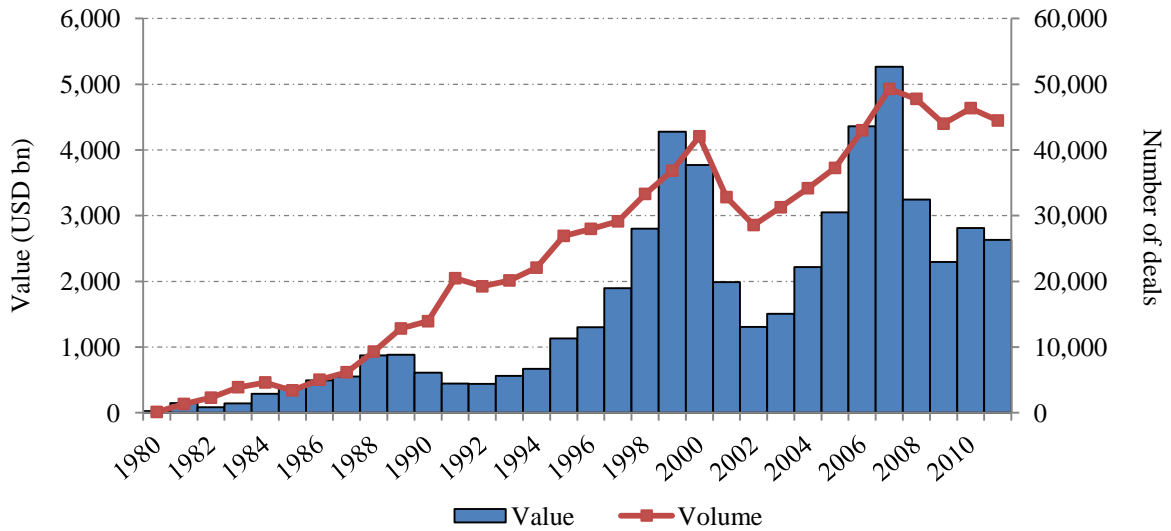
Appendices

Appendix 1a: US merger waves since 1897 (total number of deals)



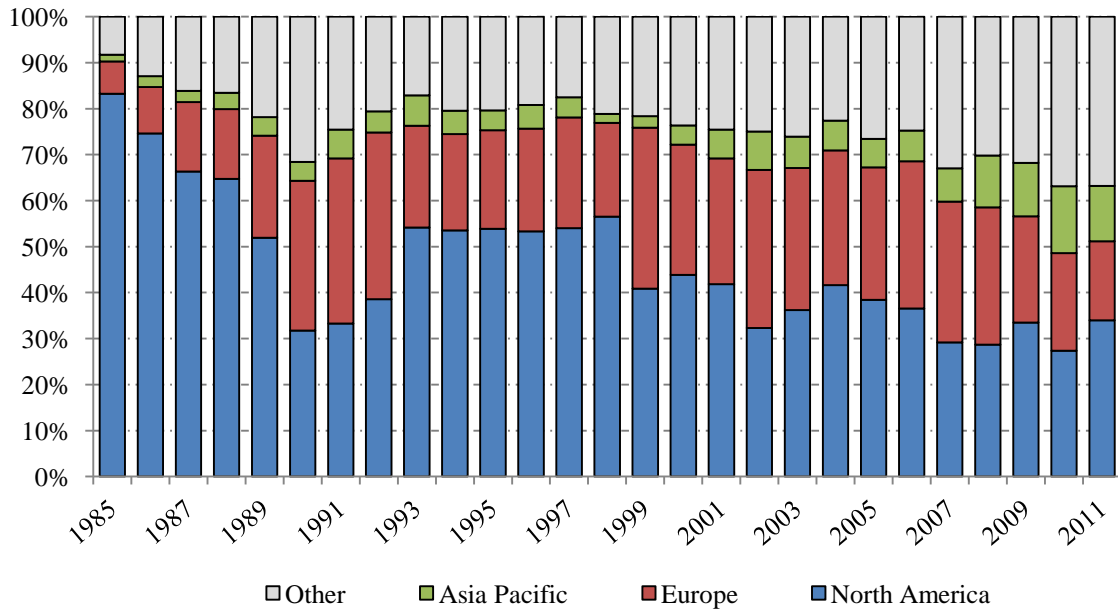
Source: 1897–1904 from Gaughan (1999); 1904–1954 from Nelson (1959); 1955–1962 from Historical Statistics of the US-Colonial Times to 1970; 1963–1979 from Mergerstat Review, 1980–2011 from Thomson Financial.

Appendix 1b: Global merger activity 1980 - 2011 (value and volume)

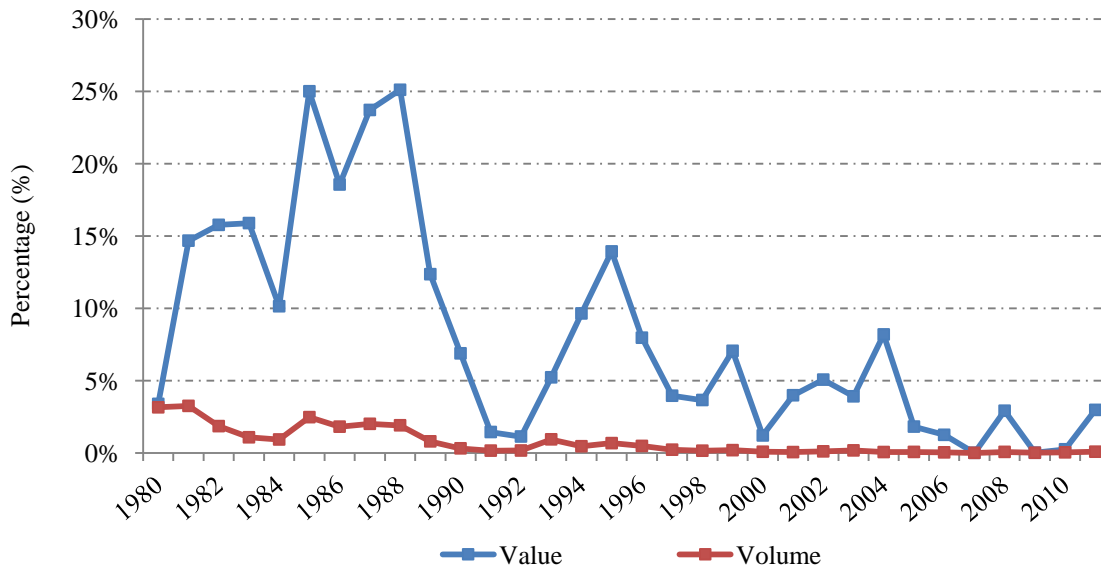


Source: Thomson Financial. Value including net debt.

Appendix 2: Distribution of global deal activity by region (value)



Appendix 3: Hostile takeovers as % of all transaction in the US (value and volume)



Appendix 4: Transaction process

A sales process is either initiated by a buyer or a seller. When the sale is desired, a sales process will be designed. The course of the process is dependent on the type of auction that is initiated.

Type of auctions

A sales process can be approached in several ways, depending on the deal characteristics and seller's requirements. Here, three types of auctions are distinguished: one-on-one sale, controlled auction and public auction. The table presented below reports a comparison between the three auction types.

One-on-one sale

In a one-on-one sale, or negotiated sale, only one prospective buyer is approached. This buyer generally is a strategic player with clear synergies and strategic fit, and is undoubtedly the best candidate. Because of the lack of competition, the seller risks not getting the highest price. Besides, there is a risk of not completing the deal in case the buyer would decide to exit the process. An advantage of a negotiated deal is that the acquisition process could be executed relatively fast compared to a lengthy auction process. Also, a one-on-one is the safest way to secure the sale intention and keep inside information confidential.

Controlled auction

A controlled or targeted auction typically involves three to ten prospective buyers. This type of auction allows a seller to have control over the process and is to a great extent subject to competition. These competitive forces often results in higher pricings. A controlled auction is most effective when there is a clearly identifiable range of bidders. Compared to a one-on-one sale, it could be more difficult to preserve confidentiality in a controlled auction. Prospective bidders may ride the process just to obtain valuable inside information ("fishing expedition"). Moreover, Sarkar et al. (2007) argued that a targeted auction involves high process costs and requires large commitment of management.

Public auction

A public auction employs a competitive bidding process which is likely to achieve the highest value for the seller. It also enhances the likelihood of successfully completing the transaction. Because the prospective sale is often publicly announced, the risk of missing any bidders is minimised. There are, however, drawbacks to public auctions. First, some buyers may withhold from participating in a public auction to avoid the time-consuming process and overpaying for the target. Second, the process is more

difficult to control due to the number of bidders, the awareness of employees and due to publicity. Third, public auctions cause a lot of turmoil for the regular business activities. Fourth, confidentiality is hard to preserve and last, public auctions consume substantial costs and efforts.

Auction process

The choice for a type of auction as well as its execution could have a substantial positive impact on shareholders' proceeds. A typical auction process distinguishes five stages. First is the *preparation stage* in which the auction is prepared and all relevant (marketing) documents, such as the teaser, information memorandum (IM)²⁹ and confidentiality agreement, are written. During the second stage, referred to as the *first round*, the prospective buyers are approached and are asked to submit their initial non-binding offer, within a period of 4 – 6 weeks. Meanwhile, the seller sets up a data room (hardcopy or digital) which serves as hub for buyer's due diligence³⁰ during the second round. The *second round* is all about facilitating (selected) prospective buyers' ability to conduct detailed due diligence and analysis in order to receive binding offers (Rosenbaum and Pearl, 2009). Subsequently, the remaining bidders return a definitive agreement including specific comments as part of the final bid package. In the fourth stage, *the negotiations*, the seller negotiates with the remaining bidders about the final bid terms, attempting to maintain level playing field. When an agreement is reached, the *closing* phase is entered. This phase primarily involves obtaining regulatory and shareholder approvals. When all requirements are met, the transaction is formally completed.

Type of auctions

	Number of bidders	Competition	Confidentiality	Control of auction	Speed of execution
One-on-one	1	None	High	Moderate	Fast
Controlled	3 - 10	Moderate to high	Moderate	High	Moderate
Public	> 10	Full	Low	Difficult	Slow

²⁹ An information memorandum is a marketing document that provides detailed information about seller's operations, financials, strategy and the market.

³⁰ Due diligence is an investigation performed on target company's accounts to confirm material facts with regards to the sale object.

Appendix 5a: Hostile takeover sample firms

Date Announced	Date Effective	Target Name	Acquirer Name
17-7-2005	31-3-2006	Maytag Corp	Whirlpool Corp
24-5-2004	28-7-2005	NeighborCare Inc	Omnicare Inc
29-7-2003	27-10-2003	Elder-Beerman Stores Corp	Bon-Ton Stores Inc
22-2-2002	11-12-2002	TRW Inc	Northrop Grumman Corp
8-5-2001	18-1-2002	Newport News Shipbuilding Inc	Northrop Grumman Corp
13-11-2000	14-3-2002	Willamette Industries Inc	Weyerhaeuser Co
22-2-2000	31-5-2000	Mirage Resorts Inc	MGM Grand Inc
4-11-1999	19-6-2000	Warner-Lambert Co	Pfizer Inc
20-8-1999	2-12-1999	Cyprus Amax Minerals Co	Phelps Dodge Corp
11-8-1999	3-5-2000	Reynolds Metals Co	Alcoa Inc
22-4-1999	18-10-1999	Chock Full O'Nuts Corp	Sara Lee Corp
29-6-1998	22-9-1998	Dawson Production Services Inc	Key Energy Group Inc
4-11-1997	20-5-1998	Safety-Kleen Corp	Laidlaw Environmental Services
21-4-1997	10-6-1997	National Education Corp	Harcourt General Inc
5-12-1996	5-5-1997	Santa Fe Pacific Gold Corp	Newmont Mining Corp
26-2-1996	16-9-1996	Sterile Concepts Inc	Maxxim Medical Inc
27-10-1995	12-3-1996	CBI Industries Inc	Praxair Inc
19-6-1995	18-6-1996	Bally Gaming International Inc	Alliance Gaming Corp
4-4-1995	26-6-1995	Moorco International	FMC Corp
28-3-1995	25-5-1995	Clark Equipment Co	Ingersoll-Rand Co
19-9-1994	3-1-1995	Hampton Resources Corp	Bellwether Exploration Co
19-9-1994	24-2-1995	Magma Power Co	California Energy Co Inc
13-9-1994	13-4-1995	Western Co of North America	BJ Services Co
2-8-1994	21-12-1994	American Cyanamid Co	American Home Products Corp
15-3-1994	28-6-1994	Centex Telemanagement Inc	MFS Communications
3-1-1994	27-4-1994	Mark Controls Corp	Crane Co
7-7-1992	7-12-1992	Durr-Fillauer Medical Inc	Bergen Brunswick Corp
18-12-1990	16-7-1991	Fabricland Inc	House of Fabrics Inc
2-12-1990	19-9-1991	NCR Corp	American Telephone & Telegraph
20-12-1989	27-4-1990	Cipher Data Products Inc	Archive Corp
30-10-1989	26-6-1990	Great Northern Nekoosa Corp	Georgia-Pacific Corp
30-5-1989	28-9-1989	Barry Wright Corp	Applied Power Inc
11-10-1988	10-8-1989	Holly Farms Corp	Tyson Foods Inc
3-10-1988	10-2-1989	Computer Entry Systems Corp	BancTec Inc
22-3-1988	9-6-1988	Lucky Stores Inc	American Stores Co
21-3-1988	7-2-1989	Wilson Foods Corp	Doskocil Cos Inc
2-2-1988	8-4-1988	Manhattan Industries Inc	Salant Corp
6-1-1988	6-5-1988	IU International Corp	NEOAX Inc
28-12-1987	12-2-1988	Computervision Corp	Prime Computer Inc

3-12-1987	28-6-1988	Beard Co	Union Pacific Corp
3-11-1987	6-1-1988	Atlantic Research Corp	Sequa Corp
28-9-1987	24-12-1987	Electro-Biology Inc	Biomet Inc
27-5-1987	30-6-1988	USPCI Inc	Union Pacific Corp
29-10-1986	24-3-1987	Hayes-Albion Corp	Harvard Industries Inc
23-9-1986	29-6-1987	Ryan Homes Inc	NVHomes LP
20-6-1986	3-10-1986	Associated Dry Goods Corp	May Department Stores Co
5-5-1986	16-9-1986	Sperry Corp	Burroughs Corp
21-10-1985	2-1-1986	Southland Royalty Co	Burlington Northern Inc
20-9-1985	28-4-1987	Wm E Wright Co	Newell Co
21-6-1985	25-11-1985	American Hospital Supply Corp	Baxter Travenol Laboratories
15-4-1985	14-8-1985	Informatics General Corp	Sterling Software Inc
25-3-1985	3-6-1985	McGraw-Edison Co	Cooper Industries Inc
1-3-1985	15-5-1985	American Natural Resources Co	Coastal Corp
5-11-1984	21-12-1984	Prentice-Hall Inc	Gulf & Western Industries Inc
31-5-1984	16-11-1984	Jewel Cos Inc	American Stores Co
8-2-1984	18-10-1984	Jonathan Logan Inc	United Merchants & Mnfrs Inc
15-8-1983	9-3-1984	HMW Industries Inc	Clabir Corp
3-1-1983	17-2-1983	Suburban Propane Gas Corp	National Distillers & Chemical
28-6-1982	28-10-1982	Chem-Nuclear Systems Inc	Waste Management Inc
14-8-1981	11-9-1981	Garfinckel Brooks Bros Miller	Allied Stores Corp

Appendix 5b: Friendly takeover sample firms

Date Announced	Date Effective	Target Name	Acquiror Name
19-12-2005	26-1-2006	Ault Inc	SL Industries Inc
18-11-2005	27-2-2006	Scientific Atlanta Inc	Cisco Systems Inc
2-11-2005	28-4-2006	Advanced Power Technology Inc	Microsemi Corp
16-8-2004	15-4-2005	Province Healthcare Co	LifePoint Hospitals Inc
20-6-2003	12-11-2003	Biogen Inc	IDEC Pharmaceuticals Corp
15-4-2003	21-8-2003	Diacrin Inc	GenVec Inc
25-2-2003	30-7-2003	Corvas International Inc	Dendreon Corp
10-2-2003	12-6-2003	Cell Pathways Inc	OSI Pharmaceuticals Inc
17-7-2000	31-8-2000	Harmon Industries Inc	GE
6-4-2000	10-7-2000	Arvin Industries Inc	Meritor Automotive Inc
14-3-2000	25-5-2000	Cordant Technologies Inc	Alcoa Inc
20-12-1999	31-3-2000	Pharmacia & Upjohn Inc	Monsanto Co
1-12-1999	25-2-2000	Medco Research Inc	King Pharmaceuticals Inc
18-11-1999	26-6-2000	North American Vaccine Inc	Baxter International Inc
1-10-1999	29-11-1999	Worthington Foods Inc	Kellogg Co

25-6-1999	23-7-1999	Thorn Apple Valley Inc	IBP inc
17-2-1999	27-8-1999	Doughtie's Foods	SYSCO Corp
21-9-1998	30-10-1998	Gamma Biologicals Inc	Immucor Inc
10-8-1998	7-12-1998	Cliffs Drilling Co	R&B Falcon Corp
30-7-1998	15-10-1998	BetzDearborn Inc	Hercules Inc
27-7-1998	6-11-1998	Gull Laboratories(Fresenius)	Meridian Diagnostics Inc
20-7-1998	6-10-1998	General Signal Corp	SPX Corp
14-7-1998	8-12-1998	Consep Inc	Ringer Corp
24-6-1998	5-10-1998	Penederm Inc	Mylan Laboratories Inc
18-6-1998	28-7-1998	ARCO Chemical Co	Lyondell Petrochemical
4-6-1998	30-11-1998	Telco Systems Inc	World Access Inc
2-6-1998	8-10-1998	RF Power Products	Advanced Energy Inds Inc
29-5-1998	17-8-1998	Arch Petroleum Inc	Pogo Producing Co
19-5-1998	16-11-1998	GTI Corp(Telemetrix PLC)	Technitrol Inc
12-5-1998	25-8-1998	Domain Energy Corporation	Lomak Petroleum Inc
12-5-1998	24-8-1998	Virus Research Institute Inc	T Cell Sciences Inc
11-5-1998	10-8-1998	Western Atlas Inc	Baker Hughes Inc
8-5-1998	12-8-1998	Seragen Inc(Boston University)	Ligand Pharmaceuticals Inc
4-5-1998	29-6-1998	Union Texas Petroleum Holdings	Atlantic Richfield Co
4-5-1998	26-10-1998	Electronic Designs Inc	Bowmar Instrument Corp
17-4-1998	29-10-1998	Garnet Resources Corp	Aviva Petroleum Inc
31-3-1998	29-6-1998	IBAH Inc	Omnicare Inc
2-3-1998	30-3-1998	Coleman Co Inc	Sunbeam Corp
2-3-1998	30-4-1998	First Alert Inc	Sunbeam Corp
2-3-1998	30-4-1998	Signature Brands USA Inc	Sunbeam Corp
24-2-1998	4-5-1998	Somatogen Inc	Baxter International Inc
16-2-1998	4-8-1998	Coherent Communications Sys	Tellabs Inc
2-2-1998	31-3-1998	Pacific Scientific Co	Danaher Corp
21-1-1998	15-5-1998	BKC Semiconductors Inc	Microsemi Corp
12-12-1997	29-5-1998	Lukens Inc	Bethlehem Steel Corp
1-12-1997	19-2-1998	Raptor Systems Inc	AXENT Technologies Inc
21-11-1997	28-1-1998	BDM International Inc	TRW Inc
17-11-1997	2-3-1998	Visigenic Software Inc	Borland International Inc
7-11-1997	28-5-1998	Medicus Systems Corp	QuadraMed Corp
3-11-1997	24-3-1998	Oregon Metallurgical Corp	Allegheny Teledyne Inc
3-11-1997	25-2-1998	Individual Inc	Desktop Data Inc
31-10-1997	27-2-1998	Xpedite Systems Inc	Premiere Technologies Inc
13-10-1997	22-1-1998	Netcom On-Line Communication	ICG Communications Inc
8-9-1997	2-2-1998	CompuServe Inc(H&R Block)	WorldCom Inc
5-9-1997	16-1-1998	Technology Modeling Assoc Inc	Avant! Corp
3-9-1997	30-12-1997	Zytec Corp	Computer Products Inc
14-8-1997	18-12-1997	Technology Service Group Inc	Elcotel Inc
7-8-1997	2-12-1997	Magnetic Technologies Corp	SPS Technologies Inc

30-7-1997	25-11-1997	Protection One Inc	Western Resources Inc
29-7-1997	24-9-1998	Informedics Inc	Mediware Information Systems
28-7-1997	17-11-1997	Cyrix Corp	National Semiconductor Corp
12-5-1997	16-10-1997	Dynamics Corp of America	CTS Corp
10-4-1997	26-6-1997	Microcom Inc	Compaq Computer Corp
31-3-1997	30-6-1997	Cascade Communications Corp	Ascend Communications Inc
14-1-1997	30-4-1997	Tencor Instruments Inc	KLA Instruments Corp
24-12-1996	11-3-1997	New Image Industries Inc	DENTSPLY International Inc
16-12-1996	27-1-1997	Tylan General Inc	Millipore Corp
10-12-1996	1-4-1997	Softdesk Inc	Autodesk Inc
4-12-1996	17-3-1997	Research Medical Inc	Baxter International Inc
28-10-1996	7-5-1997	Cooper & Chyan Technology Inc	Cadence Design Systems Inc
14-10-1996	12-12-1996	Thrifty Payless Holdings Inc	Rite Aid Corp
7-10-1996	2-12-1996	Cheyenne Software Inc	Computer Assoc Intl Inc
4-10-1996	31-12-1996	Pet Food Warehouse Inc	Petco Animal Supplies Inc
19-7-1996	30-8-1996	FluoroScan Imaging Systems	Hologic Inc
26-6-1996	3-12-1996	Monitek Technologies Inc	Sentex Sensing Technology Inc
14-6-1996	23-8-1996	Brenco Inc	Varlen Corp
31-5-1996	15-8-1996	NetStar Inc	Ascend Communications Inc
30-5-1996	10-9-1996	Neolens Inc	Sola International Inc
3-4-1996	17-6-1996	E&B Marine Inc	West Marine Inc
29-1-1996	8-4-1996	Varitronic Systems Inc	WH Brady Co
18-1-1996	2-7-1996	Corvita Corp	Pfizer Inc
16-1-1996	10-4-1996	Orthopedic Technology Inc	Depuy Inc(Corange Ltd)
8-1-1996	30-4-1996	Loral Corp	Lockheed Martin Corp
6-11-1995	10-1-1996	Pratt & Lambert United Inc	Sherwin-Williams Co
31-10-1995	6-2-1996	St Ives Laboratories	Alberto-Culver Co
25-10-1995	27-6-1996	Aspen Imaging International	Pubco Corp
9-10-1995	28-12-1995	American Electronic Components	Echlin Inc
14-8-1995	1-5-1996	Wedco Technology Inc	ICO Inc
8-8-1995	28-8-1995	Script Systems(Infomed Hldgs)	Medic Computer Systems Inc
27-7-1995	13-10-1995	Chipcom Corp	3Com Corp
22-6-1995	30-10-1995	Frame Technology Corp	Adobe Systems Inc
30-5-1995	31-8-1995	Saber Software Inc	McAfee Associates Inc
25-5-1995	8-11-1995	Legent Corp	Computer Assoc Intl Inc
10-5-1995	14-6-1995	Best Power Technology Inc	General Signal Corp
21-4-1995	23-8-1995	Altai Inc	PLATINUM Technology Inc
30-3-1995	21-6-1995	CareerStaff Unlimited Inc	Sun Healthcare Group Inc
10-3-1995	30-6-1995	M/A-COM Inc	AMP Inc
7-3-1995	17-8-1995	Future Now Inc	Intelligent Electronics Inc
7-3-1995	25-8-1995	Trinzic Corp	PLATINUM Technology Inc
23-1-1995	6-9-1995	Intercim Corp	Effective Management Sys Inc
5-1-1995	30-6-1995	ADESA Corp	Minnesota Power & Light Co

28-11-1994	30-6-1995	Chambers Development Co Inc	USA Waste Services Inc
18-11-1994	30-12-1994	Synergen Inc	Amgen Inc
9-11-1994	23-5-1995	Search Exploration Inc	Harken Energy Corp
24-10-1994	2-3-1995	Vermont Research Corp	Storage Computer Corp
8-9-1994	1-3-1995	Xyplex Inc	Raytheon Co
30-8-1994	15-2-1995	Red Eagle Resources Corp	Lomak Petroleum Inc
29-8-1994	30-12-1994	Zenith Laboratories Inc	IVAX Corp
9-8-1994	7-3-1995	Network Systems Corp	Storage Technology Corp
25-7-1994	15-12-1994	BioSurface Technology Inc	Genzyme Corp
13-7-1994	30-12-1994	IDB Communications Group Inc	LDDS Communications Inc
8-3-1994	9-9-1994	Sphinx Pharmaceuticals Corp	Eli Lilly & Co
9-6-1992	29-10-1992	Wetterau Inc	Super Valu Stores Inc
23-7-1991	24-7-1991	Latoka Inc	Lomak Petroleum Inc
14-12-1990	19-4-1991	Memtek Corp	Horsehead Resource Development
24-9-1990	1-11-1991	VeloBind Inc	General Binding Corp
29-6-1990	8-1-1991	Milton Roy Co	Sundstrand Corp
5-12-1989	18-3-1990	Mindscape Inc	Software Toolworks Inc
20-11-1989	5-1-1990	Management Science America Inc	Dun & Bradstreet Corp
9-11-1989	31-7-1990	North-West Telecommunications	Pacific Telecom Inc
15-9-1989	21-3-1990	KMW Systems Corp	Andrew Corp
6-6-1989	13-2-1990	Avant-Garde Computing Inc	Boole & Babbage Inc
9-12-1988	28-3-1989	Morino Associates Inc	Duquesne Systems Inc
1-12-1988	30-6-1989	POP Radio Corp	Heritage Media Corp
21-11-1988	24-1-1989	Woodstream Corp	Ekco Group Inc
31-10-1988	15-12-1988	Palm Beach Inc	Crystal Brands Inc
19-7-1988	30-9-1988	Viking Freight Inc	Roadway Services Inc
18-7-1988	28-12-1988	North Central Laboratories Inc	Nichols Institute
14-3-1988	30-9-1988	RAI Research Corp	Pall Corp
16-2-1988	1-4-1988	Sigmaform Corp	Raychem Corp
3-11-1987	3-3-1988	Savannah Electric and Power Co	Southern Co
28-10-1987	17-6-1988	Graham-McCormick Oil & Gas	Snyder Oil Partners LP
7-9-1987	29-5-1988	UNC Inc	Sequa Corp
24-7-1987	29-9-1987	Bridge Communications Inc	3Com Corp
27-1-1987	16-4-1987	Southwest Forest Industries	Stone Container Corp
30-12-1986	22-5-1987	US Design Corp	Maxtor Corp
24-11-1986	30-12-1986	Scientific Communications Inc	Andrew Corp
22-10-1986	3-4-1987	Hughes Tool Co	Baker International Corp
24-9-1986	30-12-1986	Barber-Greene Co	Astec Industries Inc
24-9-1986	16-12-1986	Raymond Engineering Inc	Kaman Corp
23-9-1986	31-12-1986	American Nucleonics Corp	Eaton Corp
23-9-1986	20-11-1986	Steiger Tractor Inc	Tenneco Inc
5-8-1986	14-10-1986	Ex-Cell-O Corp	Textron Inc
21-7-1986	25-9-1986	McNeil Corp	Pentair Inc

3-7-1986	9-12-1986	Cadec Systems Inc	Cummins Engine Co Inc
12-6-1986	17-12-1986	Worldwide Energy Corp	Triton Energy Corp
22-5-1986	3-9-1986	InteCom Inc	Wang Laboratories Inc
12-5-1986	29-8-1986	Inexco Oil Co	Louisiana Land & Exploration
2-4-1986	1-7-1986	American Cellular Telephone	Mobile Commun Corp of America
24-3-1986	18-6-1986	Magic Chef Inc	Maytag Corp
20-2-1986	30-6-1986	Pioneer Corp	Mesa LP
15-10-1985	3-12-1985	Hoover Co	Chicago Pacific Corp
18-9-1985	18-3-1986	Hybritech Inc	Eli Lilly & Co
24-4-1985	31-7-1985	Dataspeed Corp	Lotus Development Corp
5-3-1985	13-8-1985	Chomerics Inc	WR Grace & Co
1-3-1985	19-6-1985	Compucare Corp	Baxter Travenol Laboratories
31-7-1984	31-8-1984	Institutional Investor Inc	Capital Cities Communications
22-7-1983	28-10-1983	Lanier Business Products Inc	Harris Corp
15-7-1983	31-10-1983	Stokely-Van Camp(Quaker Oats)	Quaker Oats Co
14-1-1983	31-5-1983	Data Terminal Systems Inc	National Semiconductor Corp
13-8-1982	3-12-1982	Cities Service Co	Occidental Petroleum Corp
19-4-1982	20-7-1982	Peavey Co	ConAgra Inc
22-3-1982	18-5-1982	Amarex	Damson Oil Corp
10-8-1981	10-8-1981	Washington Scientific Inds	Kalvar Corp
12-6-1981	27-8-1981	Danly Machine Corp	Ogden Corp
25-2-1981	25-2-1981	US Industries Inc	Clabir Corp
15-1-1981	30-3-1981	Zale Corp	Oshman's Sporting Goods Inc
28-2-1980	16-6-1980	Tyrone Hydraulics	Dana Corp

Appendix 6: Unadjusted pre-takeover median profit returns

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Targets	-3	0.15	0.12	0.03
	-2	0.14	0.12	0.02
	-1	0.14	0.12	0.03
	(-1) - (-2)	-0.01	-0.01	0.00
	(-1) - (-3)	-0.02	-0.01	-0.01
	Average profit return year -3 to -1	0.14	0.12	0.03
	Panel B: Acquirers	-3	0.15	0.16
-2		0.16	0.17	-0.02
-1		0.15	0.18	-0.03
(-1) - (-2)		-0.01	0.01	-0.02
(-1) - (-3)		-0.01	0.01	-0.01
Average profit return year -3 to -1		0.15	0.17	-0.02
Panel C: Targets -/ Acquirers		-3	-0.02	-0.04
	-2	-0.01	-0.05	0.04
	-1	0.01	-0.06	0.07
	(-1) - (-2)	0.00	-0.02	0.02
	(-1) - (-3)	0.00	-0.02	0.02
	Average profit return year -3 to -1	-0.01	-0.05	0.05

Appendix 7: Unadjusted pre-takeover median stock returns

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Targets	-3	0.07	0.11	-0.04
	-2	0.12	0.00	0.12
	-1	0.00	-0.07	0.07
	(-1) - (-2)	-0.10	-0.12	0.02
	(-1) - (-3)	-0.08	-0.20	0.13
	Average stock return year -3 to -1	0.09	0.08	0.01
Panel B: Acquirers	-3	0.15	0.10	0.04
	-2	0.08	0.04	0.04
	-1	0.11	0.14	-0.03
	(-1) - (-2)	0.05	0.11	-0.06
	(-1) - (-3)	0.07	-0.01	0.08
	Average stock return year -3 to -1	0.09	0.18	-0.09
Panel C: Targets -/ Acquirers	-3	0.01	0.03	-0.02
	-2	0.05	-0.06	0.10
	-1	-0.03	-0.25	0.22
	(-1) - (-2)	-0.04	-0.22	0.18
	(-1) - (-3)	-0.07	-0.19	0.13
	Average stock return year -3 to -1	0.00	-0.10	0.10

Appendix 8: Unadjusted post-takeover median profit returns

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Pre-takeover combined firm	-3	0.14	0.14	0.00
	-2	0.14	0.14	0.00
	-1	0.13	0.14	-0.01
	(-1) - (-2)	0.00	-0.01	0.00
	(-1) - (-3)	0.00	0.00	0.00
	Average abnormal stock return year -3 to -1	0.14	0.14	0.00
	Panel B: Post-takeover acquirer	1	0.13	0.15
2		0.13	0.14	-0.01
3		0.13	0.13	0.01
(2) - (1)		0.00	0.00	0.01
(3) - (1)		0.00	-0.01	0.01
Average abnormal stock return year -3 to -1		0.13	0.13	0.00
Panel C: Post -/- Pre-takeover		Post -/- pre-takeover average profit return	-0.01	0.09

Appendix 9: Unadjusted post-takeover median stock returns

	Year relative to takeover	Hostile (N=60)	Friendly (N=168)	Hostile -/- friendly
Panel A: Pre-takeover combined firm	-3	-0.03	0.05	-0.08
	-2	0.02	0.00	0.02
	-1	-0.08	-0.13	0.05
	(-1) - (-2)	-0.02	-0.16	0.14
	(-1) - (-3)	0.03	-0.14	0.17
	Average stock return year -3 to -1	-0.05	-0.04	-0.01
	Panel B: Post-takeover acquirer	1	0.19	0.11
2		0.09	0.09	0.00
3		0.05	0.00	0.05
(2) - (1)		-0.07	0.01	-0.07
(3) - (1)		-0.12	-0.15	0.03
Average stock return year -3 to -1		0.09	0.09	0.01
Panel C: Post -/- Pre-takeover		Post -/- pre-takeover average profit return	0.00	-0.06