Information, Rationality and M&A Gains

by

Mathias Andreas Schott

Submitted in accordance with the requirements for the degree of

Doctor of Philosophy

The University of Leeds
Leeds University Business School
Centre for Advanced Studies in Finance

March, 2014

Acknowledgements

I would like to express my sincere gratitude and appreciation to my PhD supervisors, Professor Phil Holmes and Dr Iain Clacher for their guidance, encouragement and support in the completion of this thesis. I would also like to thank all members of the Centre for Advanced Studies in Finance (CASIF), especially Mrs Michelle Dickson for the support during my studies.

I would also like to thank my family and friends for their moral support and encouraging me throughout the degree. Special thanks to those who engaged in helpful, critical and stimulating discussions, in particular to Mr He Zhou.

Finally, I am most grateful for the financial support from the University of Leeds Research Scholarship scheme and the Accounting & Finance Division of the Leeds University Business School to carry out this research.

Abstract

A fundamental difference between neoclassical and behavioural finance theory is the perception of information. Whilst the neoclassical finance view assumes perfect information and rational behaviour of market participants, behavioural finance suggests cognitively and emotionally biased perceptions resulting in irrational behaviour. Given these differences, this thesis investigates three issues in the context of M&A gains: (i) The expected reduction of information asymmetries due to the adoption of IFRS in the European Union, (ii) investor perception of information on broader industry factors, and (iii) the impact of investor sentiment on M&A gains.

One of the regulators' intentions in adopting IFRS in the European Union was to promote an efficient financial capital market. The wide range of national accounting standards was considered by some to be a significant source of information asymmetry across European companies. Chapter 4, therefore, examines the effect of the accounting harmonisation on the reduction of information asymmetries based on M&A gains. The overall gains show only a very small effect from the adoption of IFRS. However, the results based on potentially high information asymmetry characteristics, such as EU cross-border deals or stock payments, suggest improved transparency. Based on these results, the adoption of IFRS therefore contributed to an improved information environment within the EU markets.

Chapter 5 analyses the impact of information on broad industry factors. For this purpose, the returns to acquiring companies and their industry prospects are examined. The aim of this study is to establish new insights on the investors' perception of information on an industry level, as well as, their preferences on acquisition strategies

based on the prevailing industry prospects. A positive relationship between industry prospects and the acquirer's gains is found and the effect is persistent in focused deals, but disappears in diversifying deals. Further tests confirm that investors appreciate information on industry prospects, as well as, the growth opportunities acquired in the transaction.

Chapter 6 finally examines the impact of investor sentiment on M&A gains. Several studies link investor sentiment to various areas of finance, as well as, specifically to corporate finance. An irrational bias in the returns to acquiring firms would challenge the traditional notion of announcement returns as an indicator of the acquisition's value creating effect. The results suggest a significant relationship between sentiment and the returns from M&A. Additional tests confirm sentiment research that investors react differently to information asymmetries and valuation signals during positive and negative sentiment changes. As a whole, the findings suggest that investor sentiment influences M&A gains.

Table of Contents

List of Tables

List of Figures

List of Appendices

List of Abbreviations

B/M	Book-to-Market
CAR	Cumulative Abnormal Returns
EC	European Commission
EU	European Union
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFRS	International Financial Reporting Standards
IPO	Initial Public Offering
M&A	Mergers and Acquisitions
P/E	Price-to-Earnings
SIC	Standard Industrial Classification
UK	United Kingdom
US	United States of America

1. Introduction

1.1 Motivation and Background

Information plays a key role in the functioning of financial markets. A fundamental difference in finance theories lies in how information is perceived. For example, neoclassical finance theory assumes a rational market where prices fully reflect all available information (Fama 1970). According to behavioural finance, however, emotional and cognitive factors influence market participant's actions on information (Akerlof and Shiller 2009).

Research on information asymmetries has received considerable attention from theoretical works which highlight the consequences if markets deviate from informational efficiency. Studies on information asymmetries focus on the situation where one party has an informational advantage over the other. As Joseph Stiglitz emphasised during a press conference at Columbia University[1], *"Market economies are characterized by a high degree of imperfections… Even small degrees of information imperfections can have large economic consequences."* Several seminal theories evolved from this line of thought. For instance, Akerlof (1970) shows, that due to asymmetric information between two parties, adverse selection might occur. The monitoring theory by Rothschild and Stiglitz (1976) and Spence's (1973) signalling theory offer a solution to mitigate this problem. The significance and contribution of asymmetric information research has been acknowledged with two Nobel prizes in 1996[2] and 2001[3].

[1] http://www.columbia.edu/cu/news/01/10/josephStiglitz_nobel_2001.html
[2] To James Mirrless and William Vickrey
[3] To George Akerlof, Michael Spence and Joseph Stiglitz

This thesis aims to contribute to this area by investigating different aspects of information and information asymmetry within the context of the gains to bidding companies during M&A announcements. M&A research provides an ideal setting where information, information asymmetry and the perception of information play a crucial role and is reflected in the gains. To analyse the gains, an event study methodology is used which measures stock price movements around M&A announcements.

Although, price movements around announcements may be due to new information, a growing body of research in behavioural finance suggests they may be due to other factors also, particularly information asymmetry and sentiment. For example, Chae (2005) finds that the trading volume decreases if information asymmetries around earnings announcements are high as traders may perceive the adverse selection costs as too great. Mian and Sankaraguruswamy (2012) show that price reactions to earnings announcements are higher for good news in periods of increasing sentiment and lower for bad news during decreasing sentiment.

M&A literature suggests that target shareholders experience positive gains around merger announcements[4], whereas the results on the acquirers' gains are not as clear-cut.[5] The variation in returns to acquiring companies suggests that additional information other than on the pure value of the acquisition are revealed around the announcement (Fuller et al. 2002). Rosen (2006), for example, finds that the market reaction to a merger announcement is positively related to the reaction to recent M&A announcements. However, this 'merger momentum' disappears in the long-run. He suggests that merger momentum results from overoptimism of market participants. Antoniou et al. (2008) find similar results for the UK and suggest that M&A returns might be driven by investor sentiment. However, they do not directly test the impact of investor sentiment.

[4] See, for example, Wansley et al. (1983), Bradley et al. (1988), Harris and Ravenscraft (1991) or Bargeron et al. (2008)

[5] See Chapter 2 for more background information on M&A factors influencing the gains to acquiring companies.

As recent research shows that information asymmetries play a significant role in M&A, clear and full information is essential for the target valuation and so information asymmetries significantly affect the gains to acquiring companies (Officer 2009). Draper and Paudyal (2008) find that due to the release of new information, a revaluation of acquirers with high asymmetric information occurs. The mode of payment can be considered in similar light regarding information asymmetries in M&A. Acquiring managers do not have a complete picture of the true financial position of the target firm before the actual acquisition. If acquiring managers feel private information is withheld, the payment method to target shareholders can be used to minimise the risk of adverse selection (Hansen 1987). Another argument suggests that acquiring managers have a better insight on the valuation of their own company and choose the payment method in a merger accordingly. Similar to Myers and Majluf's (1984) proposed pecking order theory, managers choose a stock payment if they consider their equity as overvalued and cash payments if they perceive their stock as currently undervalued. As a result, investors may infer a signal of the manager's perception of their company's current valuation from the payment method.

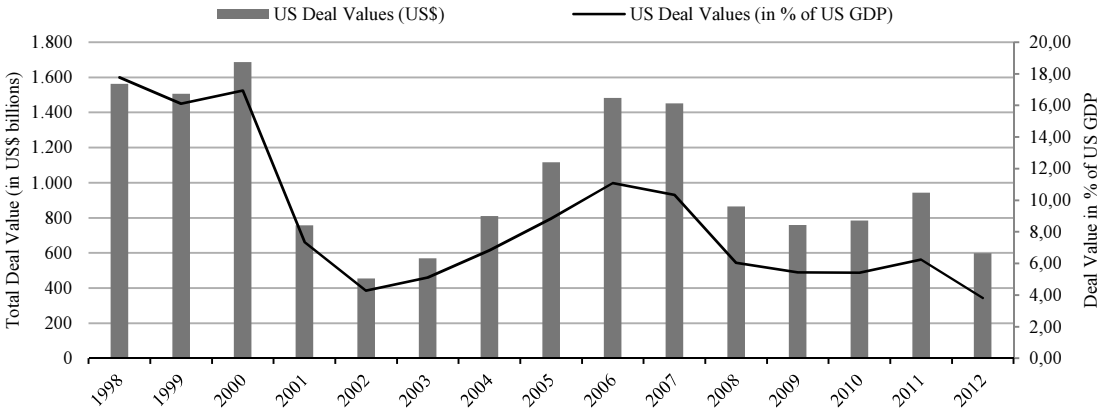
The importance of the market for corporate control, as evidenced by its size, makes M&A an excellent setting in which to examine the research issues of this thesis. Figure 1.1 shows the M&A activity in terms of the total value of completed deals over the last 15 years. During boom periods, the total value of takeovers reaches over US$ 1,400 billion in the United States (Panel A) and over US$ 1,000 billion in the European Union (Panel B). As Figure 1.1 further illustrates, these numbers are equivalent to over 10 per cent of the US and the EU domestic GDPs, respectively. Even in years with less activity, e.g. the recent financial crisis, the total value still accounts for roughly US$ 400 billion in each region. Further, relatively large numbers of transactions per year indicate that M&A is a frequently observed corporate event. Over the past 15 years,

3,184 companies were, on average, acquired per year in the US. This number has never fallen below 2,197 deals and reached 5,150 deals during 'hot' merger markets. The EU, on average, saw 2,717 targets being taken over per year.

Figure 1.1: Characteristics of the US and EU M&A Market

The figures show the total annual values of completed transactions in the US (Panel A) and the EU (Panel B) from 1998 to 2012. Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom comprise the EU countries. The deal data is from SDC Platinum and GDP data from the World Bank. Deal values and GDP data are in US$ at current prices. Deals of at least US$ 1 million are considered.

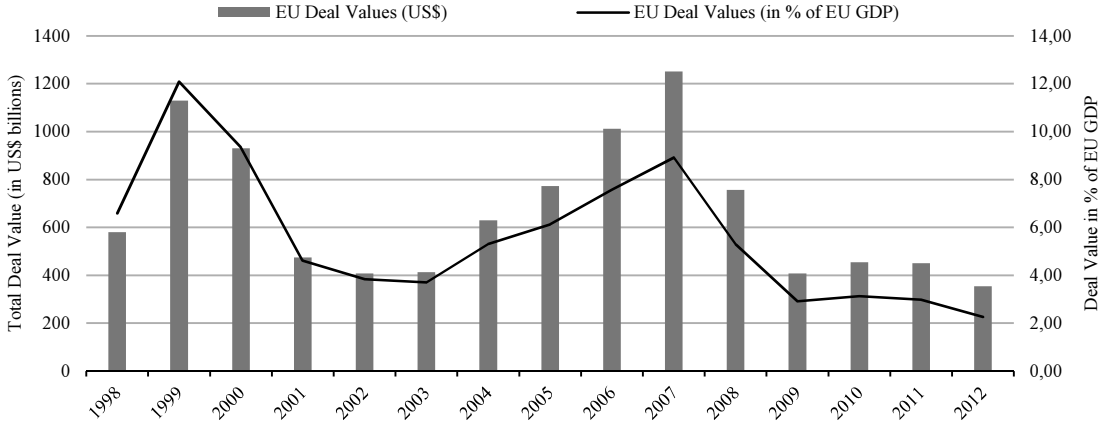
Panel A: Annual Total Deal Values in the US



Number of Transactions per Year:

1998	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*
5,150	4,482	4,437	2,961	2,728	2,812	2,888	3,267	3,520	3,585	2,713	2,197	2,273	2,427	2,313

Panel B: Annual Total Deal Values in the EU



Number of Transactions per Year:

1998	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*
3,283	3,546	3,824	2,658	2,274	2,484	2,602	3,037	3,224	3,435	2,557	1,725	2,176	2,128	1,800

This thesis investigates three research issues related to information, information asymmetry and the impact of sentiment within the context of M&A gains to bidding/acquiring companies:

The first empirical study (Chapter 4) examines the gains to bidding companies prior to and after the adoption of IFRS to provide insights into the extent to which it achieved its aim of reducing information asymmetries. The adoption of IFRS in European Union represents the most significant regulatory accounting change within the European Union with the aim of contributing to the efficient and cost-effective functioning of the European capital markets (REGULATION (EC) No 1606/2002). Further, a consistent accounting standard is expected to improve the level of transparency amongst EU listed companies.

The second empirical chapter (Chapter 5) analyses whether information relating to broad industry factors is of importance to M&A gains. From an M&A viewpoint, corporate managers have several options to react to the growth prospects of their industry. By means of the target's industry, they can alter the business strategy by focusing or diversifying their main operations. Specifically, the study examines whether information relating to growth prospects of an industry is seen as important by investors. Using the gains to acquiring firms, the focus of this chapter is the analysis of the investors' perception of information, as well as, their preferences on acquisition strategies based on the prevailing industry prospects.

The final empirical study (Chapter 6) investigates whether investor sentiment has an effect on the gains to acquiring firms. A growing body of behavioural finance literature suggests that investor sentiment has a significant impact in several areas of finance. The monthly sentiment change index by Baker and Wurgler (2007) is used to identify the existence and magnitude of the impact from investor sentiment on the gains during M&A announcements. By examining these three research issues through the vehicle of

M&A gains, the thesis will provide important insights into the understanding of information and sentiment, as well as, M&A.

The remainder of this chapter is structured as follows. Section 1.2 introduces the research topics and identifies the contributions of the thesis. Section 1.3 outlines the structure of the thesis.

1.2 Research Questions and Contributions

By investigating the gains around M&A announcements, the thesis contributes to the existing body of work that examines information asymmetry and M&A. Additionally, the findings in this thesis also add to accounting, industry life cycle and sentiment literature. The research issues and main contributions of each empirical chapter are summarised below:

1.2.1 Has the Adoption of IFRS had an Impact on the Bidders' Gains?

The first empirical study in Chapter 4 examines the effect of the adoption of IFRS on the shareholder's wealth of European bidders. Prior to 2005, there was a range of national accounting standards, as well as, for some countries, a variety of possible interpretations. This was considered by some as a barrier to create a truly integrated European financial market (EC, COM 95 (508)). For this reason, all companies listed at a stock exchange within the European Union were required to report their financial statements using IFRS from the beginning of the financial year of 2005. The decision to undertake a policy of accounting harmonisation implies that the European Parliament and the Council of the European Union believed that market participants struggled in inferring the information content in financial accounts of foreign companies. By

introducing common accounting standards, information asymmetries were expected to decrease amongst European companies and enrich the financial information environment in the European Union. If this is indeed the case, then the change would be expected to promote greater competition in the M&A market, as the valuation of potential targets will be improved. Specifically, if different accounting standards across countries create a barrier to investors in different countries, then the harmonisation should lead to a situation where bidders are more likely to engage bidding in for, and the acquisition of, targets in foreign countries.

To examine whether information asymmetries have reduced as a result of the change, the returns to bidding companies from 15 European countries for the periods before and after the harmonisation are analysed, using data from 1989 to 2011. The results suggest that the adoption of IFRS had a marginal effect on the overall gains. However, evidence of improved transparency is found in deals that are likely to exhibit a high level of information asymmetries. The results indicate that the adoption of IFRS has indeed decreased information asymmetries of foreign targets. In addition, the findings further suggest a reduction in information asymmetries based on the payment method, which can be used to manage and spread risk between existing and target shareholders. A lower likelihood of stock payments after the adoption of IFRS also suggests increased transparency and lower perceived risks associated with the takeover.

The findings imply that IFRS has improved transparency in potentially high information asymmetry deals and based on these results, the regulators' aim to create an integrated European financial market has made a step forward by promoting greater corporate transparency across the European Union.

1.2.2 Do Investors consider Information on Industry Prospects in M&A?

The next empirical chapter analyses whether only firm-specific characteristics are relevant to M&A returns, or whether information relating to broad industry factors is of importance to M&A gains. To be more specific, company managers have several options from a M&A perspective to respond to the growth prospects of their industry. Corporate diversification may serve as a mean to alter a firm's business strategy. By focusing or diversifying the business activity, acquiring managers can alter the impact of the industry performance on the company's growth rate. By investigating the gains to acquiring firms, this chapter intends to provide new insights into whether information relating to the growth prospects of an industry is seen as important by investors. The investors' perception of information on an industry level, as well as, their preferences on acquisition strategies based on the prevailing industry prospects is analysed.

For this purpose, Chapter 5 examines the investors' perception and its impact of industry prospects on the gains to US acquirers over a period from 1980 to 2011. An examination at an industry-level allows for industry life cycles to be controlled for. Using quarterly industry P/E medians and adapting a technical trading technique to detect trends, the results suggest that acquirers operating in industries with positive industry prospects earn significantly higher returns compared to acquirers with negative industry prospects. Considering the industry relation between the acquirer and target, the results indicate that the gains in focused deals still exhibit the effect of industry prospects, whereas the impact in diversifying deals disappears. The findings suggest that with the acquisition of an industry-related target, the acquirer emphasises the strategic orientation of the combined company to the core business activity. Therefore, the influence of the industry's overall growth rate on the company's prospects remains unchanged after the merger. On the contrary, the acquirer lowers the influence of its

own industry growth rate and diversifies the company's overall growth rate by merging with an industry-unrelated target. The results based on the relative target size and the mode of payment confirms this effect.

Proponents of the efficient market hypothesis claim that corporate diversification should not add any value as individual investors can replicate such behaviour in their own portfolios. The findings, however, imply that corporate managers can create wealth for their shareholders by diversifying their business activities. Some evidence for a behavioural bias regarding the information content is also found in this study. The perception of focused and diversifying deals within different industry prospects is not consistent. Investors seem to have no particular preference on focused or diversifying deals in growing industries, as both deal types yield similar results. However, investors prefer diversifying acquisitions over focused deals in declining industries. As a whole, the findings show that investors consider information on broader industry factors, such as the growth prospects of an industry, as well as, the acquired growth opportunities in M&A deals and suggest behavioural biases are evident.

1.2.3 Does Investor Sentiment influence Acquirers' Gains?

The final empirical examines the question whether M&A gains are generally influenced by sentiment. A considerable amount of theoretical and empirical studies challenge the neoclassical finance theory of an efficient market and advocates a behavioural influence on market participants. Together with the theory on limited arbitrage, investor sentiment builds the foundation of behavioural finance theory, and without investor sentiment, there would be no disturbances to efficient prices (Shleifer 2000b). A growing body of literature links investor sentiment[6] to trading activity and trading behaviour, such as

[6] In the literature, investor sentiment has been seen as consisting of both a rational and irrational component (see, e.g. Verma and Soydemir (2006)). However, as it relates to this research, investor sentiment is typically seen as irrational behaviour within the efficient markets context. In the rest of the thesis, the term will be used in this way, unless explicitly stated.

momentum trading (e.g. Chau et al. 2011) or herding activity (e.g. Blasco et al. 2012). Investor sentiment has been found to also exist in several corporate finance areas, for instance in IPOs (e.g. Brown and Cliff 2004) and dividend premiums (e.g. Baker and Wurgler 2006) or closed-end fund discounts (e.g. Gemmill and Thomas 2002) and mutual fund flows (e.g. Frazzini and Lamont 2008). The significance of this study rests on the assumption that in an efficient market, short-term abnormal returns serve as an indicator of the future financial outcome of the takeover. A significant impact of investor sentiment on the short-term wealth effects would imply that these are not only a reflection of newly available information from the merger, but also that irrational behaviour influences M&A gains.

Baker and Wurgler's (2007) monthly investor sentiment change index serves to investigate the presence and impact of investor sentiment on M&A gains. In a sample from 1980 to 2010, the results suggest that investor sentiment has a statistically and economically significant effect on the returns to US acquirers. The overall gains are significantly higher during positive sentiment changes compared to negative sentiment changes. Additional tests on the mode of payment, target listing status, acquirer's size and over/undervalued acquirers indicate that irrational investors react to information asymmetries and valuation signals differently depending on the sentiment in the market.

The results imply that markets are not always subject to rational behaviour. Investor sentiment can significantly influence prices and the results of this study confirm evidence found in sentiment research that irrational investors' sensitivity to information asymmetries and valuation signals varies during periods of increasing/decreasing sentiment.

1.3 Structure of the Thesis

The rest of this thesis is structured as follows. The next two chapters provide background information relevant to the empirical work in this thesis. While Chapter 2 outlines the relevance of the M&A market and highlights trends and features of M&A, Chapter 3 provides a literature review on the methodology, M&A factors and relevant literature on each empirical chapter. The empirical work begins with Chapter 4 titled *'Information Asymmetries and the Impact of IFRS on Bidders' Gains'* which investigates the expected transparency improvement by the adoption of IFRS in the European Union. This is followed by Chapter 5 *'Industry Prospects and the Impact on Acquirers' Gains'* in which the investors' perception of information based on the acquirer's industry prospects and their acquisition strategies is examined. The third empirical study in Chapter 6 titled *'Investor Sentiment and the Impact on Acquirers' Gains'* analyses the impact and the extent to what investor sentiment influences the gains to acquirers. Finally, Chapter 7 concludes with a summary of the findings and their implications, as well as, suggestions for future research.

2. Institutional Background of M&A

This chapter presents background information and an overview on recent trends and features of M&A. Due to the focus of the empirical studies on M&A in the European Union[7] in Chapter 4 and in the United States in Chapter 5 and Chapter 6, this chapter therefore concentrates on these markets.

2.1 Relevance of the EU and US M&A Markets

Figure 2.1 presents the EU and US M&A markets in relation to the global M&A activity in terms of annual total deal values over the past 20 years. M&A literature suggests that merger activity occurs in waves over time and the graph confirms that the global market experienced two significant peaks over this period. The global market reached US$ 3,211 billion in 2000 and US$ 3,801 billion in 2007.

Owen (2006) refers to these two waves as the 5th and 6th merger wave and states that each merger wave has distinguishing features. For example, cross-border and mega-deals distinguished the 5th merger wave during the late 1990. The 6th merger wave during the mid-2000s was dominated by globalisation and private equity. Moreover, the end of these merger waves coincides with the stock market crash in 2001 and the recent financial crises period.

[7] The examined countries are Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom.

Figure 2.1: Global M&A Activity

This figure shows the global and regional activity in terms of deal values from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

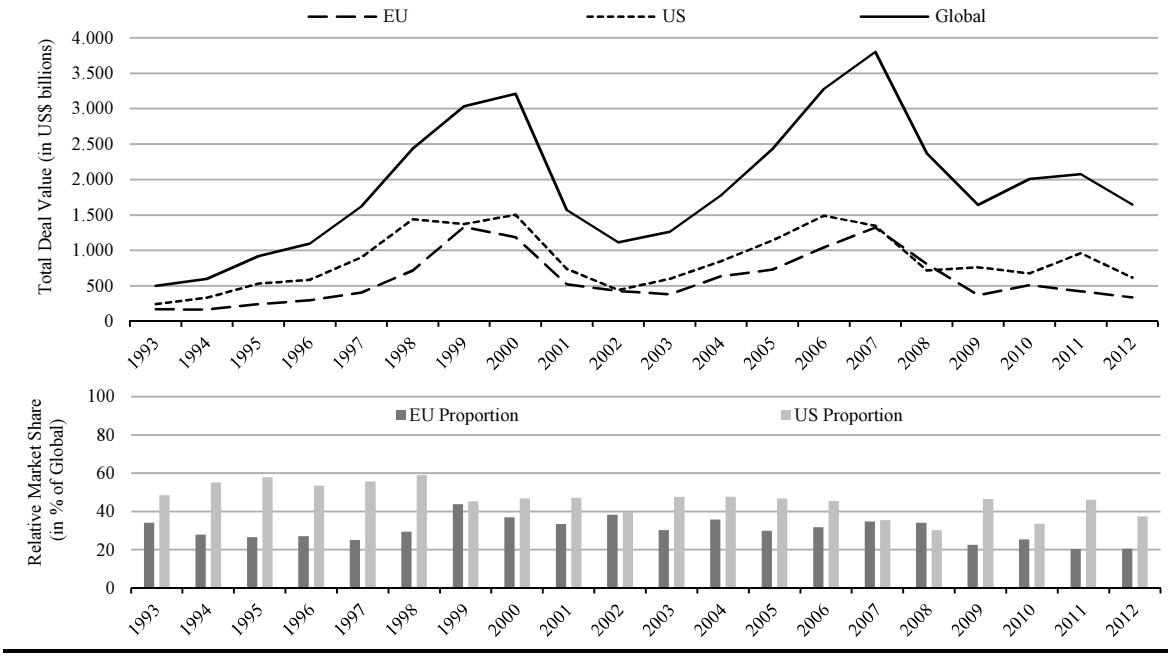


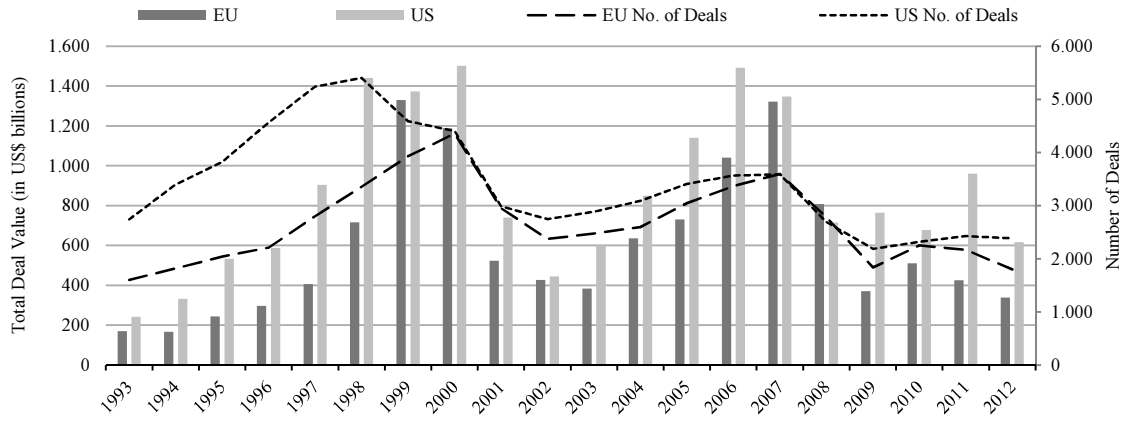
Figure 2.1 also shows the activity of EU and US acquirers and their proportion of the global M&A market. The figure indicates that US acquirers contributed roughly between 30 and 60 per cent per year to the global takeover market over the past 20 years and usually acquired in total more than EU acquirers. The market share of EU acquirers was between 20 and 40 per cent per year over same time period. Moreover, the EU market slightly lagged behind the US market during increasing merger activity periods, but closed the gap at the peak of each merger wave. The graphs demonstrate, by its size and proportion of the global M&A market, the economic relevance of the examined EU and US markets in this thesis.

More detailed information on the deal size and frequency of the EU and US markets is provided in Figure 2.2. Both markets exhibit similar patterns in size and activity. As indicated in the previous figure, the US market was bigger and more active over the past 20 years. The US market saw as much as US$ 1,501 billion worth of takeovers in 2001 and as little as US$ 242 billion in 1993. The annual total market value was US$ 863 billion. In the European Union, the most active year was in 1999 with US$ 1,330 billion,

whereas the least active year was in 1994 with US$ 167 billion. The total deal values were on average US$ 602 billion per year during the period from 1993 to 2012.

Figure 2.2: EU and US M&A Market

This figure shows the M&A activity based on deal values and number of announced transactions in the US and the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.



On average 3,422 deals per year were observed in the US, with a maximum of 5,401 deals in 1998 and a minimum of 2,183 deals in 2008. In the European Union, on average 2,667 deals per year took place over the last 20 years. The highest number of deals was observed in 2000 with 4,351 deals and the lowest in 1993 with 1,604 deals. The graphs again indicate that the EU market lagged behind the US market. Interestingly, the deal frequency of the US market had already slowed down during each merger wave, whilst the EU market was still increasing until the number of deals reached similar levels in both markets.

Some M&A announcements make headlines due to the size of the deals. Table 2.1 presents the 15 largest takeovers by EU (Panel A) and US acquirers (Panel B) over the past 20 years. Surprisingly, the largest deal took place not in the US, but in the EU in 1999 with the takeover of the German Mannesmann AG by the British Vodafone PLC for US$ 202.79 billion. The largest US deal was the takeover of Time Warner by America Online Inc for US$ 164 billion in 2000. Another noticeable feature of these

mega-deals is that 9 of 15 mergers (60 per cent) in the EU and 8 of 15 mergers (53 per cent) in the US took place until 2000, which is in line with Owen's (2006) description of the 5th merger wave. Distinctively, the top 15 US acquisitions are exclusively US domestic deals, whereas the proportion of cross-border deals in the EU is about half. UK acquirers and targets were most involved among the EU deals.

Table 2.1: Largest Takeovers by EU and US Acquirers

This table shows the largest takeovers by EU and US acquirers between 1993 and 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: EU Market

	Acquirer		*Target*		*Deal Value*
Year	*Name*	*Nation*	*Name*	*Nation*	*(US$ bill.)*
1999	Vodafone AirTouch PLC	UK	Mannesmann AG	WG	202.79
2007	RFS Holdings BV	NT	ABN-AMRO Holding NV	NT	98.19
2000	Glaxo Wellcome PLC	UK	SmithKline Beecham PLC	UK	75.96
2004	Royal Dutch Petroleum Co	NT	Shell Transport & Trading Co	UK	74.56
2006	Gaz de France SA	FR	Suez SA	FR	60.86
1999	Vodafone Group PLC	UK	AirTouch Communications Inc	US	60.29
2004	Sanofi-Synthelabo SA	FR	Aventis SA	FR	60.24
2008	InBev NV	BL	Anheuser-Busch Cos Inc	US	52.18
1999	Total Fina SA	FR	Elf Aquitaine	FR	50.07
1998	British Petroleum Co PLC	UK	Amoco Corp	US	48.17
2000	France Telecom SA	FR	Orange PLC	UK	45.97
2009	HM Treasury	UK	Royal Bank of Scotland Group	UK	41.88
1998	Daimler-Benz AG	WG	Chrysler Corp	US	40.47
2000	Vivendi SA	FR	Seagram Co Ltd	CA	40.43
1999	Royal Bank of Scotland Group	UK	National Westminster Bank PLC	UK	38.41

Panel B: US Market

	Acquirer		*Target*		*Deal Value*
Year	*Name*	*Nation*	*Name*	*Nation*	*(US$ bill.)*
2000	America Online Inc	US	Time Warner	US	164.75
1999	Pfizer Inc	US	Warner-Lambert Co	US	89.17
1998	Exxon Corp	US	Mobil Corp	US	78.95
2006	AT&T Inc	US	BellSouth Corp	US	72.67
1998	Travelers Group Inc	US	Citicorp	US	72.56
2001	Comcast Corp	US	AT&T Broadband & Internet Svcs	US	72.04
2009	Pfizer Inc	US	Wyeth	US	67.29
1998	SBC Communications Inc	US	Ameritech Corp	US	62.59
1998	NationsBank Corp, Charlotte, NC	US	BankAmerica Corp	US	61.63
2002	Pfizer Inc	US	Pharmacia Corp	US	59.52
2004	JPMorgan Chase & Co	US	Bank One Corp, Chicago, IL	US	58.66
1999	Qwest Commun Intl Inc	US	US WEST Inc	US	56.31
2011	Shareholders	US	Abbott Laboratories-Research	US	55.51
2009	Vehicle Acq Holdings LLC	US	General Motors-Cert Assets	US	55.28
2005	Procter & Gamble Co	US	Gillette Co	US	54.91

The presented graphs and figures in this section underpin the economic relevance of M&A, as well as, the chosen markets in terms of deal values and deal frequencies. The

EU and US markets contribute a significant proportion to the global M&A activity. These features demonstrate that the EU and US serve as ideal markets to carry out the proposed studies.

2.2 M&A Features and Trends

In this section, key M&A features from the European Union and the United States are highlighted. Due to technical reasons, some of these features are often neglected in M&A research. A lenient sample selection should provide information, which is usually not provided by standard M&A studies.

2.2.1 Cross-Border Activity

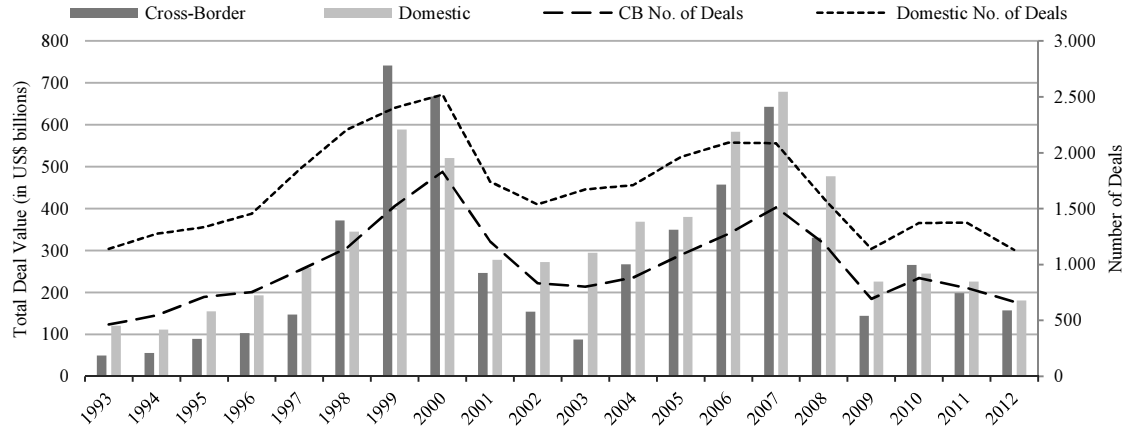
As pointed out in the previous section, EU acquirers engaged more in international acquisitions than US counterparts. Figure 2.3 for the EU and Figure 2.4 for the US provide further information on the cross-border activity in terms of deal values and deal frequencies. Figure 2.3 indicates that EU companies acquired more domestic than foreign firms. Domestic and foreign target deals on average totalled US$ 325 billion and US$ 276 billion per year, respectively. The highest annual total of domestic acquisitions was observed in 2008 with US$ 678.9 billion and the lowest in 1994 with US$ 111.4 billion. In 1999 and 2000, however, cross-border deals exceeded domestic counterparts with annual total values of US$ 741 billion and US$ 667 billion by roughly US$ 150 billion in each of these two years.

The deal frequency also suggests higher domestic merger activity of EU acquirers. The average number of deals per year is consistently higher with 1,680 domestic deals and 987 cross-border deals. Domestic and cross-border reached their peak in 2000 with

2,520 and 1,830 deals, respectively. The lowest numbers were measured in 2012 with 1,130 domestic deals and in 1993 with 465 cross-border deals.

Figure 2.3 Cross-Border Activity of the EU Market

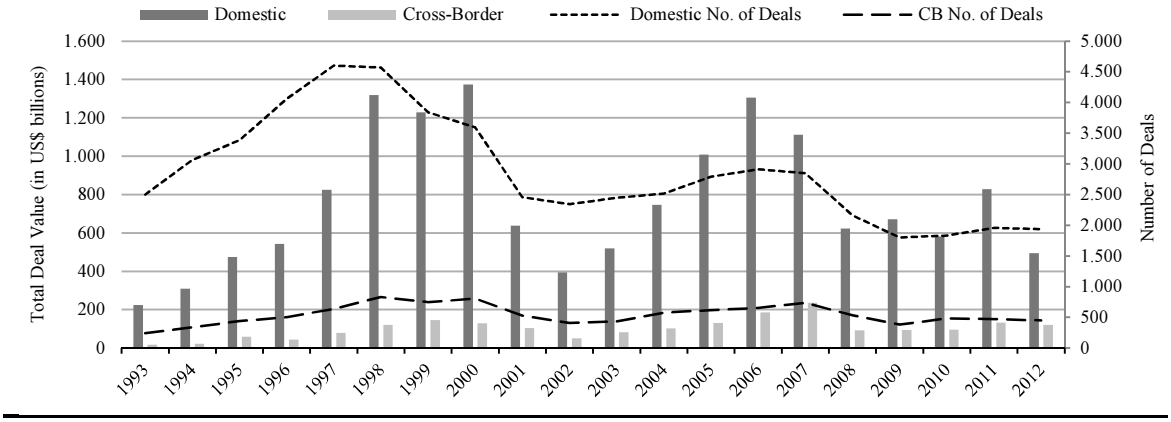
This figure shows the cross-border M&A activity based on deal values and number of announced transactions in the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.



The graphs in Figure 2.4 show that US acquirers engage substantially more in domestic than international deals. On average, 2,881 domestic deals were observed with an annual total value of US$ 761 billion per year. Targets on average had a foreign domicile in 540 deals, summing up to an average of US$ 103 billion per year. Domestic deals reached the highest annual total value with US$ 1,373 billion in 2000 compared to US$ 236 billion for cross-border deals in 2007. The latter figure is close to the lowest annual total of domestic deals measured in 1993 with US$ 224 billion. The lowest total value of cross-border deals was during the same year with US$ 18 billion.

Figure 2.4: Cross-Border Activity of the US Market

This figure shows the cross-border M&A activity based on deal values and number of announced transactions in the US from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.



The reason for this large difference in cross-border activity between the EU and US acquirers may lie in the geographical size of EU member countries. EU companies may simply be forced to internationally diversify in order to expand their businesses.

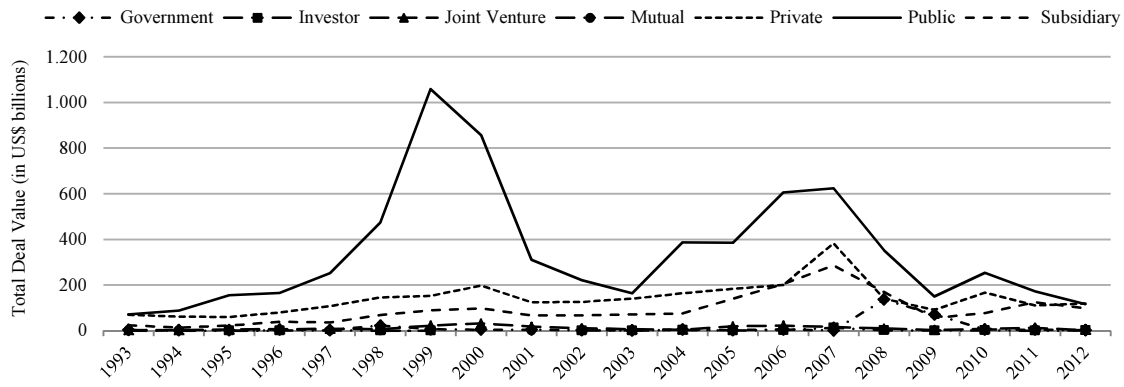
2.2.2 Acquirer Listing Status

M&A research using event study methodology to measure the short-term performance relies on share price data. Therefore, one of the selection criteria in these studies often requires that the examined companies are listed at a stock exchange. Figure 2.5 for the EU and Figure 2.6 for the US present the overall listing status of acquirers over the past 20 years.

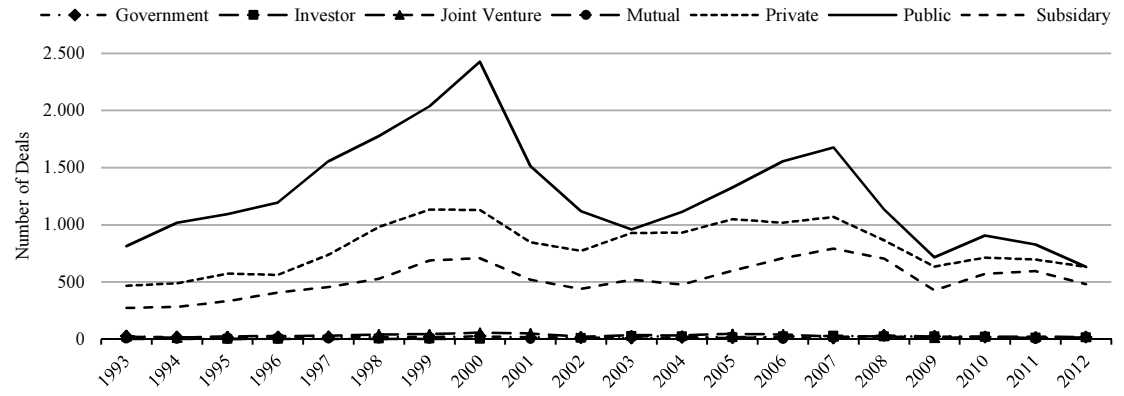
Figure 2.5: Acquirer Listing Status in the EU M&A Market

This figure shows the acquirer listing status in the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: Deal Values



Panel B: Number of Deals



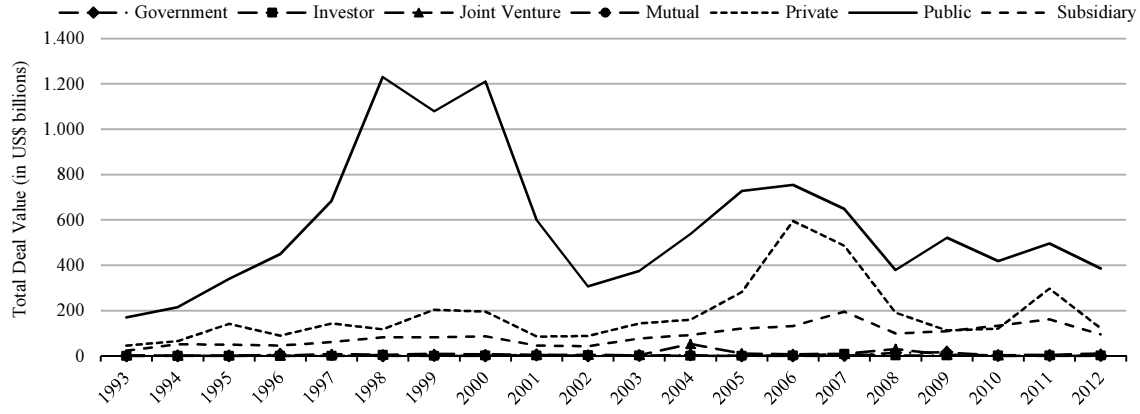
In both markets, listed acquirers were the driving force in terms of the total deal values (Panel A) and deal frequency (Panel B). The average annual deal value by listed companies was US$ 343.3 billion in the EU and US$ 576.4 billion in the US. On average, 1,270 deals per year were observed in the EU compared to 2,093 deals in the US.

Private acquirers represent the second largest group. Their share, however, was significantly smaller. Private firms from the EU acquired on average US$ 144 billion in takeovers per year and engaged on average in 811 deals per year. In the US, private acquirers on average purchased targets for roughly US$ 184.0 billion in about 788 deals per year.

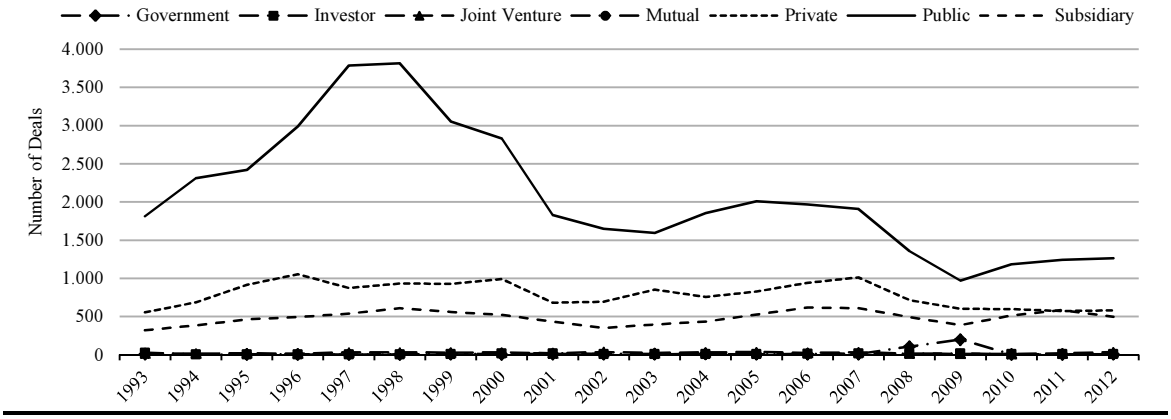
Figure 2.6: Acquirer Listing Status in the US M&A Market

This figure shows the acquirer listing status in the US from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: Deal Values



Panel B: Number of Deals



Subsidiaries were the third largest acquirer type. In the EU and the US, they annually purchased on average companies for US$ 91.2 billion and US$ 89.3 billion, respectively. The M&A activity of subsidiaries in terms of deal frequency was on average 526 deals in the EU and 486 deals in the US per year. The share of the remaining acquirer types was marginal regarding total deal values and deal frequency.

2.2.3 Target Listing Status

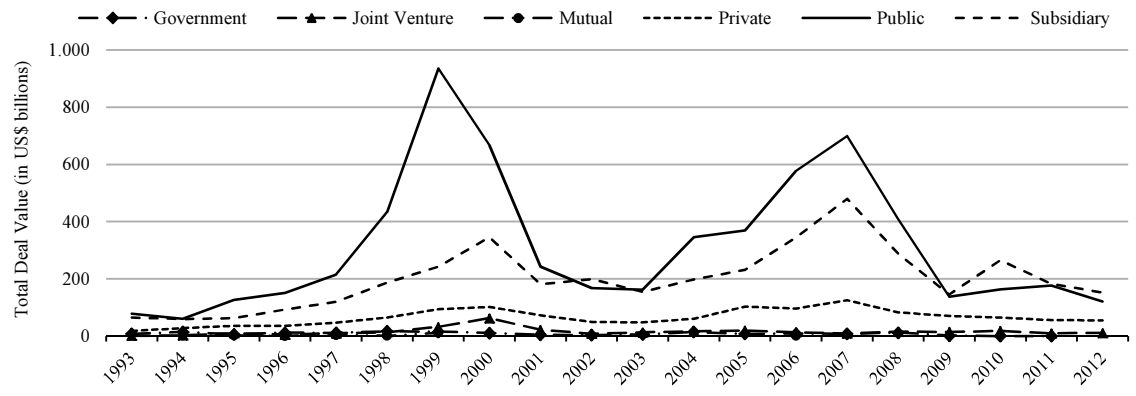
A prominent feature in M&A research is the listing status of targets. Panel A of Figure 2.7 shows that public targets are the largest groups in terms of deal values in the EU. The value of acquired listed targets was on average US$ 312 billion per year. The

maximum of US$ 935.5 billion was reached in 1999. The smallest annual total value of US$ 59.9 billion was observed in 1994. The graph suggests that the deal values were sensitive to the overall stock market. After the stock market crash in 2001 and the recent financial crises period, the total deal values plummeted to the level of private company targets. The average annual total value of private companies was by US$ 65.2 billion substantially smaller. The maximum of acquired private targets of US$ 125.08 billion was measured in 2007 and the minimum in 1993 in with US$ 17.7 billion. Interestingly, the deal frequencies suggest that private companies and subsidiary takeovers were much more targeted (Panel B). On average 1,048 private targets were taken over per year compared to 489 public targets.

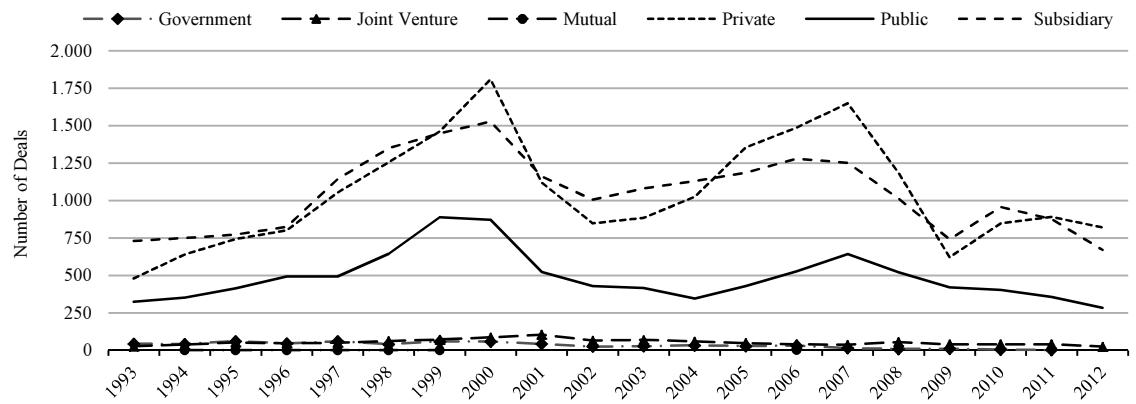
Figure 2.7: Target Listing Status in the EU M&A Market

This figure shows the target listing status in the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: Deal Values



Panel B: Number of Deals

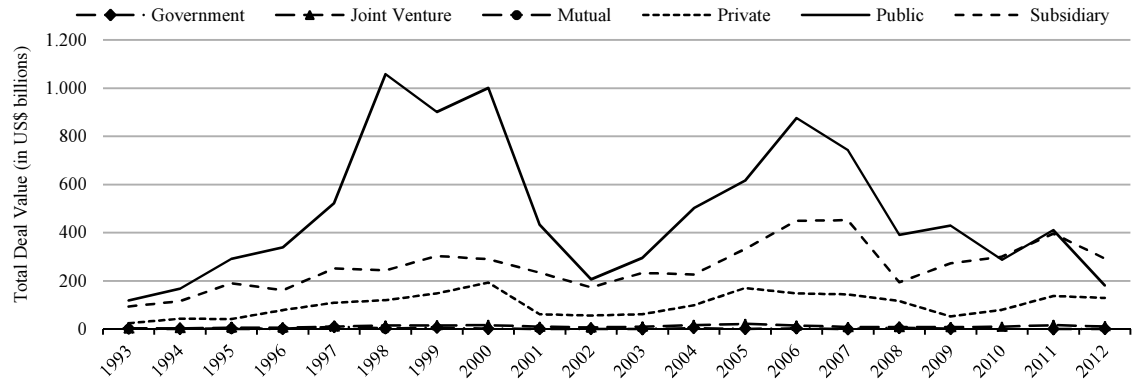


The US data in Figure 2.8 (Panel A) suggests a similar pattern. In terms of total deal values, listed companies were the largest group of targets. The annual average was roughly US$ 488.6 billion. The highest annual total deal value was measured during the 5th merger wave in 1998 with US$ 1,058.2 billion and the minimum of US$ 118.4 billion in 1993. Similar to the EU, the total deal values of listed targets decreased to levels of private targets after the end of each merger wave.

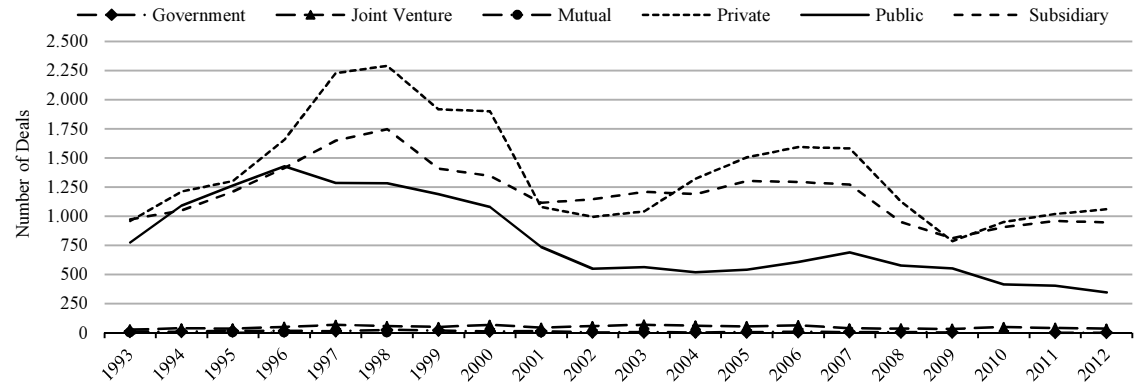
Figure 2.8: Target Listing Status in the US M&A Market

This figure shows the acquirer listing status in the US from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: Deal Values



Panel B: Number of Deals



The figures show that listed targets contributed the largest proportion in terms of deal values. However, the numbers of deals indicate that private companies were most targeted (Panel B). The average number of private target takeovers was 1,376 per year compared to an average of 794 public target takeovers. The highest number of private

target acquisitions was recorded in 1998 with 2,291 deals and the lowest activity of 784 deals was during the financial crises in 2009. The maximum of public target deals was two years earlier in 1996 with 1,428 observations. Ever since the annual number of listed target takeovers decreased to its minimum of 345 deals in 2012. Arguably to the similarity to private companies, subsidiaries are the second most purchased target type with an annual average of 1,194 deals.

Due to the size, private companies and subsidiaries may be easier and faster to integrate. Moreover, acquirers may favour both types of targets because the lack of marketability may allow them to purchase subsidiaries and private companies at a discount.

2.2.4 Method of Payment

Another important feature of M&A is the mode of payment. Depending on the payment choice, it determines the actual price of the target and hence, the dollar gains from M&A. Figure 2.9 shows the annual distribution of the payment method in the EU (Panel A) and US deals (Panel B).

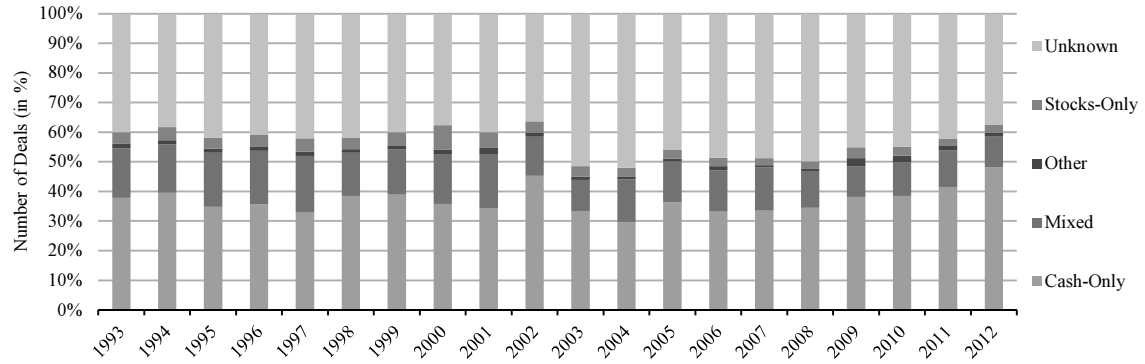
Cash payments in EU M&A were used between 30 to 40 per cent over the past 20 years. Cash offers ranged at similar levels in US M&A. The use of mixed (~15 to 20 per cent) and 'other' payments (~5 per cent) were also relatively similar in both markets. Other payments include special arrangements, such as earn-outs. Stock payments were more popular in the US with about 20 per cent than in the EU with a 5 per cent share until 2000. Post 2000, stock payments tended to be only marginally more preferred in the US. Most striking is the proportion of deals with unknown payments. In the EU, deals with undisclosed payments ranged between 35 and 50 per cent. The payment method was not made public in the US between for roughly 30 to 40 per cent. A reason

might be that more companies are unlisted in the EU and no requirement to disclose deal information exists.

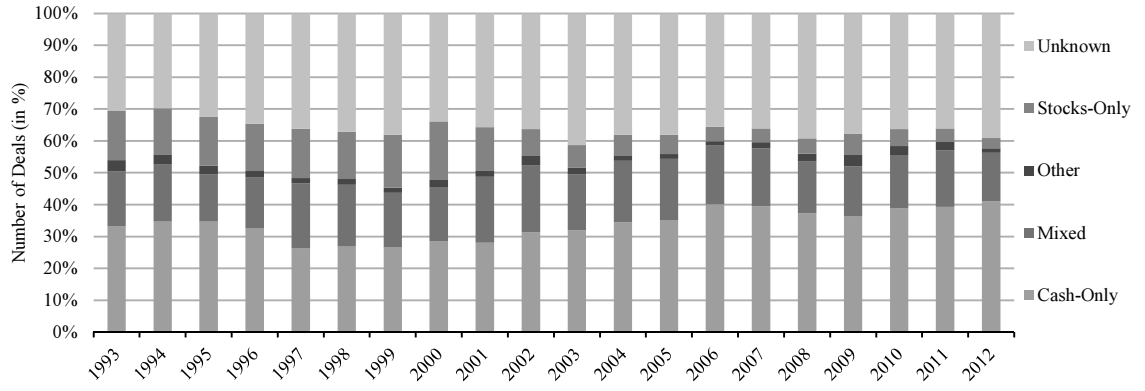
Figure 2.9: Payment Methods in the EU and US Markets

This figure shows the payment methods in the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) and the US from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: EU Market



Panel B: US Market



2.2.5 Corporate Diversification

The industry relation between the acquirer and target determines the source of synergies and time period to realise these. The gains from industry-unrelated acquisitions are considered to primarily involve financial synergies, whereas wealth in industry-related deals is created by production or cost synergies. Figure 2.10 shows the EU (Panel A) and US (Panel B) M&A activity in terms of focused and diversifying deals.

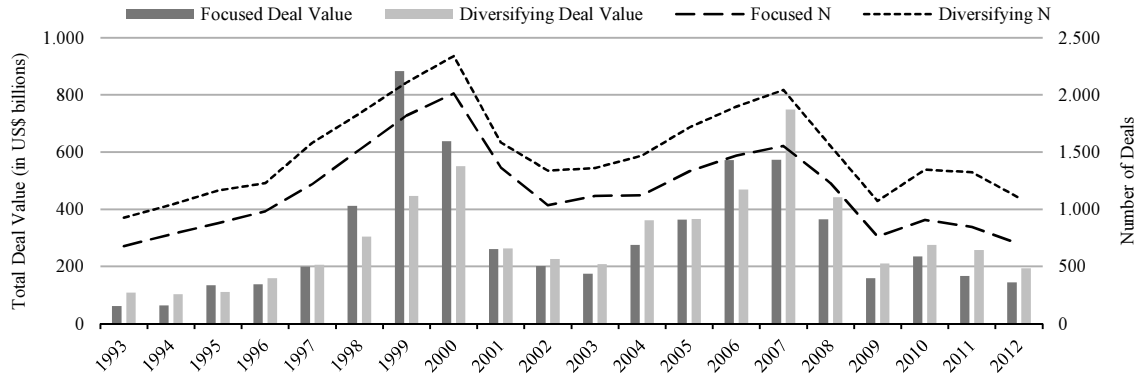
The number of diversifying deals was consistently higher than focused deals in the EU over the last 20 years, ranging from 218 deals in 2001 to 491 deals in 2007. The

annual total values of diversifying and focused deals are relatively similar, except in 1999 when focused deals exceeded diversifying deals by US$ 436.67 billion. As a whole, the deal activity of these deal types exhibits the merger wave patterns as earlier discussed.

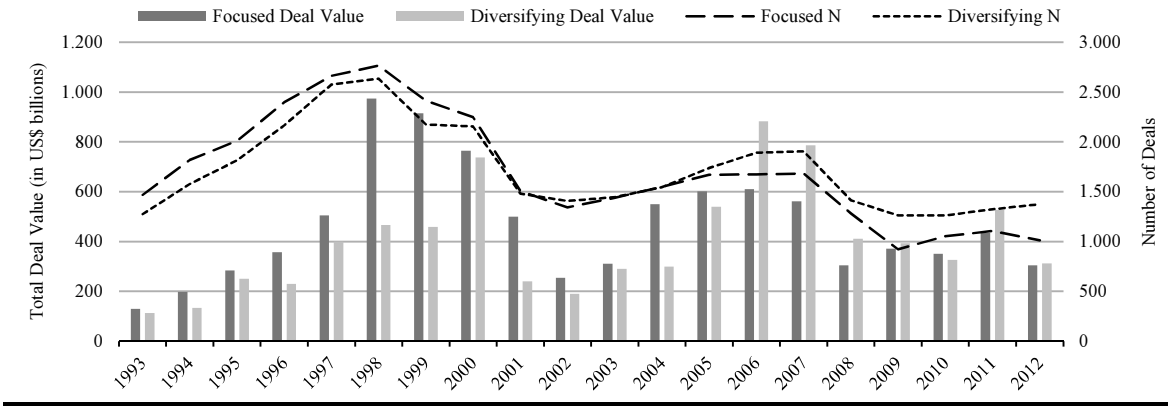
Figure 2.10: Corporate Diversification in the EU and US

This figure shows the payment methods in the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) and the US from 1993 to 2012. The deal data is from SDC Platinum. The minimum deal value is US$ 1 million.

Panel A: EU Market



Panel B: US Market



The US data suggests that there were a slightly higher number of focused deals until 2000. Over the next five years, the deal frequencies suggest almost identical numbers of focused and diversifying deals and from 2005, the diversifying deal type was observed more often. The graphs suggest that during increasing activity, larger focused deals took place. Similar to the EU, however more pronounced, focused deals were most dominant

in 1998 and 1999 with US$ 507.4 billion and US$ 455.6 billion, but also in 2001 and 2004 with US$ 259.6 billion and US$ 250.2 billion.

2.2.6 The Financial Crisis

The presented figures illustrate that the financial crises had not only an effect on the overall economy and stock market, but also on the M&A market. Both, deal values and activity have substantially dropped since 2007. The market disturbance may also have an impact on M&A research. It is easily conceivable that the financial crises may had a significant effect on the negotiation process and hence, the realised acquisition prices. Due to the turmoil in the market, investors might have reacted differently to corporate announcements. A shift in the sentiment of investors, which is also the focus of the third empirical study in this thesis, is expected to impact the abnormal returns from M&A announcements.

3. Literature Review

This literature review consists of three main parts: (i) The first section provides an overview on the literature and theoretical background of the event study methodology, the underlying technique in all three empirical chapters to estimate the gains from M&A. The following two sections summarise (ii) empirical evidence on factors that have been found to impact the gains from M&A and (iii) literature related to the research areas of each empirical chapter.

3.1 Event Study Methodology

Since the seminal papers by Ball and Brown (1968) and Fama et al. (1969) [8], event studies have become an important technique in modern finance research in examining corporate decisions. To highlight the extent and the relevance of this methodology, Kothari and Warner (2007) found over 500 event studies in a census of five leading academic journals.[9] Applied to M&A, this method evaluates the performance according to the stock price reaction on its announcement.

3.1.1 Cumulative Abnormal Returns - The Model

If an unanticipated event occurs, the abnormal stock price reaction is the reflection of the event's impact on the wealth of the firm's shareholders (Brown and Warner, 1980). For a firm i and the time period t, the actual return $R_{i,t}$ of the firm for a time period relative to the event date is:

[8] Corrado (2011) reports Dolley (1933), Myers and Bakay (1948), Barker (1956, 1957, 1958) and Ashley (1962) as even earlier published event study papers.

[9] The Journal of Business, Journal of Finance, Journal of Financial Economics, Journal of Financial and Quantitative Analysis and the Review of Financial Studies

$$R_{i,t} = K_{i,t} + e_{i,t} \tag{3.1}$$

where $R_{i,t}$ is the actual return of stock i at day t, $K_{i,t}$ is the expected return of stock i at day t and $e_{i,t}$ is the unexpected return of stock i at day t.

The formulation of the actual return $R_{i,t}$ in (3.2) allows to rewrite the unexpected or abnormal return $e_{i,t}$ as the difference between actual return $R_{i,t}$ and the expected or predicted return $K_{i,t}$:

$$e_{i,t} = A_{i,t} = R_{i,t} - K_{i,t} \tag{3.2}$$

Before measuring the abnormal return $e_{i,t}$, a model is required to estimate the expected return $K_{i,t}$. Researchers have developed a wide variety of models [10] with several derivations to estimate the expected returns. A market-adjusted return model as stated in Brown and Warner (1985) is followed to measure the wealth effects to the bidding firms. The abnormal returns are calculated by using a market-adjusted return model (3.3) without estimation period:

$$A_{i,t} = R_{i,t} - R_{m,t} \tag{3.3}$$

where $A_{i,t}$ is the abnormal return of stock i at day t, $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return on the corresponding market index of stock i for day t.

Since several companies have multiple bids within a short time period, a market parameter based on an estimation period as in a market model approach has not been calculated. Frequent merger announcements might affect the estimation period, hence making beta coefficient estimations less effective. Moreover, Brown and Warner (1980) show that for short event window studies, beta adjusted estimation models do not significantly improve the quality of the abnormal returns. Several studies, such as Fuller et al. (2002), Faccio et al. (2006), Draper and Paudyal (2008) and Ekkayokkaya et al.

[10] See, for example, Campbell et al. (1997) or Brown and Warner (1980, 1985)

(2009b), apply the same market-adjusted return model for similar reasons. Specifically, the value-weighted domestic Datastream market index of the corresponding EU country where the bidder is listed assists as proxies for the market index in Chapter 4. In Chapter 5 and 6, the value-weighted CRSP index is used for the US samples.

The average cumulative abnormal returns (CAR) (3.4) surrounding 5-days (-2, +2)[11] of the announcement date is estimated as:

$$\overline{A}_t = \frac{1}{N_t} \sum_{t=1}^{N_t} A_{i,t} \tag{3.4}$$

where $\overline{A}_t$ is the average (cumulative) abnormal return over the multi-day interval *t*, $A_{i,t}$ is the abnormal return of stock *i* at day *t* and N_t is the number of sample stocks whose abnormal returns are available at the multi-day interval *t*.

To minimise the bias of outliers on the results and potentially wrong conclusions about the validity of the hypotheses, the cumulative abnormal returns are trimmed (removed) at cut-off points of 1 and 99 per cent.

3.1.2 Statistical Significance

Tests of statistical significance are assessed for each day within the event period and each multi-day interval. The test statistic (3.5) for any event day/window *t* is:

$$t_t = \overline{A}_t / \frac{\hat{S}(\bar{A}_t)}{\sqrt{N_t - 1}} \tag{3.5}$$

where $\overline{A}_t$ is the average (cumulative) abnormal return over the event period *t*, $\hat{S}(\bar{A}_t)$ is the standard deviation is estimated from the time-series of mean abnormal returns, N_t is the number of sample stocks whose abnormal returns are available at event period *t*.

The test statistic is the ratio of the mean abnormal return to its standard error. The

[11] CARs surrounding 3-days (-1, +1) and 11-days (-5, +5) of the announcement date are also calculated and differences footnoted if appropriate. The full set of results is presented in the Appendices.

standard error is calculated from the standard deviation of the time-series of mean abnormal returns to the square root of the number of companies in the sample less one. The null hypothesis is that the mean abnormal return is not different from zero. If the announcements have a significant impact on the returns of companies in the sample the null hypothesis is rejected.

3.2 M&A Factors and the Impact on Acquirers' Gains

3.2.1 Introduction

In the context of this thesis, it is important to comprehend the empirical evidence that M&A research has yielded over the past years. The development of the event study framework enabled researchers to explore more closely the wealth effects from M&A. Empirical papers uniformly confirm that target shareholders experience positive gains around merger announcements (e.g. Wansley et al. 1983; Bradley et al. 1988; Harris and Ravenscraft 1991; Bargeron et al. 2008). On the other hand, the literature also suggests that the gains to acquiring companies are not clear-cut and are dependent on many factors. For this reason, an overview of M&A literature highlights factors which have been found to have a significant effect on the short-term gains to acquiring companies.

3.2.2 Firm Size Effect

The literature offers several arguments why the target size should have an impact on the M&A performance. Roll (1986), for example, argues that larger targets might lead to a better post-merger performance as they tend to be more difficult to integrate into the acquirer's business. As a result of lower competition by rival companies during the bidding process, acquiring companies may purchase larger targets at a lower a price. Consequently, larger targets should lead to higher synergy gains. Jarrell and Poulsen

(1989) find evidence in a regression analysis that larger targets indeed lead to higher returns to acquirers.

Simiarly, Asquith et al. (1983) find that the acquirer's returns are positively related to the relative size of the target. Regression analysis reveals a statistically significant positive relationship between the returns to bidding companies and the ratio of target's and bidder's equity. For example, if the target is half the size of the bidder, the aggregated abnormal return is 1.8 per cent higher than compared to a ratio in which the target is only a tenth of the bidder.

Fuller et al. (2002) investigate on how deal type characteristics, such as firm size, target listing status or mode of payment, affect the gains to bidding companies. Overall, they also find a positive relationship between the relative size of the target and the acquirer's returns. However, the picture changes when they control for the target's listing status. The positive relationship between the acquirer's returns and the relative size of private target and subsidiary takeovers remains, however, the relationship is negative if the target is listed. They argue that the lack of marketability of private targets might be the reason and the target size enhances this effect. The lack of an impartial benchmark impedes the valuation and sale of private target. This situation might strengthen the bidder's negotiation power and they may be able to purchase a private target at a discount.

Empirical evidence suggests that the acquirer's firm size of the acquirer has also an impact on the gains. Moeller et al. (2004) find that the absolute size of acquirer is correlated to the acquirer's gains. They show that small acquirers gain significantly more than large firms. Further investigation on the economic significance of their results suggests that large acquirers pay higher premiums, which might be driven by managerial hubris (Roll 1986).

3.2.3 Target Listing Status

As mentioned, the target listing status has been found to alter the gains from M&A announcements. In Fuller et al. (2002), they also focus on this feature. The results show that bidders experience negative wealth effects when they opt for listed targets, but gain when the target is privately-held or is a subsidiary. Moreover, they find that the acquisition of a public target with cash or a combination of cash and stocks generates insignificant returns but significant negative returns when only stocks are offered. On the other hand, the payment method has no significant effect in private target or subsidiary takeovers.

Chang (1998) suggests that the creation of new blockholders causes the difference in returns to acquirers based on the target listing status. An event study shows that acquirers break even with cash offers for public and private targets. However, the results for stock payments are quite differential. Firms offering stocks to shareholders of privately-held targets experience positive abnormal returns, whereas the same payment method to public targets leads to a negative stock price reaction. Both results are highly significant. Further investigation on stock offers lends support that privately-held companies are often owned by a small number of shareholders and as a result, stock payments create new outside blockholders. These new influential shareholders may serve as an effective way to monitor the management's performance.

Ang and Kohers (2001) concentrate on the gains to bidders and the premiums paid for private targets. Their results show that acquirers of private targets generate positive returns, irrespective of the mode of payment. On the other hand, an acquisition of a public target with stocks leads to a significant loss. Cash and mixed payments have small and statistically insignificant wealth effects. Ang and Kohers (2001) argue that acquirers benefit from the purchase of private targets due to differences in the negotiation process. Negotiations with listed targets are often made public and an offer

might induce managers of rival companies to enter into a bidding competition. In contrast to listed targets, the probability of a hubris-driven acquisition might therefore be lower for a private target. Further, the acquisition of a private target might also minimise another agency aspect. Private targets are usually smaller than their listed counterparts. Hence, the likelihood of empire building motives involved in the acquisition of private targets should substantially be smaller.

Empirical evidence from outside the US is similar. Draper and Paudyal (2006), for example, investigate the effects of the target listing status on the shareholders' wealth of bidding firm in the UK. Overall, they find that bidders gain more if they intend to buy a private firm than compared to a listed company. Draper and Paudyal (2006) also find evidence that gains to bidders of listed and unlisted targets are also dependent on the mode of payment. Cash offers to a listed target generate small insignificant losses, whereas offers with stocks lead to significant losses. Stock offers to private targets, on the other hand, lead to significant positive returns, lending support for the corporate monitoring hypothesis on a positive effect from the creation of new blockholders.

Faccio et al. (2006) investigate the returns to acquirers based on the target listing status in 17 Western countries. They also find similar wealth gain effects to acquirers. On average, listed targets lead to statistically insignificant losses and acquirers of private target experience significant positive returns. The listing effect is persistent over time and by the origin of the acquirer.

3.2.4 Mode of Payment

Once more, the mode of payment has been anticipated as a potential factor to signifcantly moderate M&A gains. Travlos (1987) finds a significant difference in the returns to acquiring companies based on the mode of payment. His analysis shows that

firms offering stocks significantly lose, whereas deals with cash offers insignificantly gain on the announcement day. Further, the difference in returns of both payment methods is highly statistically significant. The negative and only significant stock payment coefficient in a regression analysis supports the signalling hypothesis, which predicts that the payment method signals the acquiring management's perception of their firm's current valuation. As managers have an informational advantage of the firm's value, they will choose the payment method accordingly, i.e. if they consider their firm's stocks as currently overvalued, they will prefer a stock payment. However, if they consider their stocks as currently undervalued, they will opt for a cash payment.

Similarly, Wansley et al. (1987) find insignificant returns to acquirers with stock offers and statistically significant positive returns to acquirers offering cash. Their results are robust to several event windows. Overall, these results also support the signalling hypotheses of the payment method.

Draper and Paudyal (1999) find that these results hold for UK mergers. An offer proposing a stock exchange or a mix of shares and cash generates significant negative abnormal returns. Cash offers have hardly any effect on the shareholders' wealth of the bidding company.

3.2.5 Corporate and Geographical Diversification

There is an ongoing debate on whether corporate diversification benefits shareholders[12] and the evidence contibuted by M&A research to this discussion is mixed, as well. Doukas et al. (2002) document a wealth destroying effect from diversifying M&A deals in Sweden. They find that acquirers in focused deals gain whilst diversifying deals lead to losses. Their findings also suggest a deterioration of cash flows and the return on

[12] See, for example, Lubatkin and Chatterjee (1994) (Extended portfolio theory), Lewellen (1971) (Coinsurance effect), Williamson (1970) (Internal capital market) and Baumol (1967) (Regulation) for supportive literature. For opposing arguments see, e.g., Jensen (1986a,b) (Agency theory) and Stein (1997) (Managerial capabilities).

assets. They argue that corporate diversification is not a value increasing decision as agency costs overrule the benefits of an internal capital market. On the other hand, there is research that indicates corporate diversification as a wealth creating strategy. DeLong (2001) examines US mergers in which at least one of the participants is a bank. He controls for the industrial, as well as, geographic relation between both merger parties. He finds that bidders on average lose in focused deals and gain in diversifying deals. Examination of the geographic scope shows that mergers with a geographical diversification and focus lead to negative wealth effects.

Some studies suggest that a change in the perception of diversifying M&A deals over time. Matsusaka (1993) examines the wealth effects of diversifying mergers during and after the conglomerate wave in the late 1960s. They find evidence that the stock market reacted positively to announcements of diversifying deals during this period, whereas the acquisition of a related target was considered as empire building by investors. Matsusaka (1993) argues that conglomerates were considered as a financial innovation at that time. A set of different business lines served as a valuable substitute for the slowly emerging capital market.

Hubbard and Palia (1999) find further evidence that the substitution of an external capital market by an internal capital market was beneficial in the 1960s. They argue that the returns found for conglomerate mergers during these years can be linked to the state of the capital markets' infrastructure. Investors appreciated conglomerates since external capital markets were not yet fully developed.

Further evidence is provided by Akbulut and Matsusaka (2010). They study the evolutionary development of the stock price reactions to diversifying mergers. By means of several data sources, they construct a sample spanning from 1950 to 2006. The results indicate a change in returns over time and the overall stock price reactions were less harmful to shareholders of diversifying firms than in related mergers. Finally,

they find some evidence that support the internal capital market hypothesis, as well.

A related research stream focuses on the wealth effects of geographical diversification. In Doukas and Travlos (1988), they investigate cross-border deals and find that if acquirers already operate in the target's country, the gains are negative and statistically insignificant. However, if the acquirer expands to a new country, the gains are positive and statistically significant. Further, the results suggest that acquiring companies profit from geographical expansion if the host country is less related and developed relative to the US economy.

For the UK, Conn et al. (2005) study the wealth effects to acquiring companies in cross-border deals. They find that domestic deals lead to higher returns than cross-border acquisitions. The results also show that domestic public targets generate negative returns, whereas acquisitions of public foreign targets break even around the announcement. On the other hand, acquisitions of domestic and foreign private targets generate positive gains. The mode of payment has no significant effect. Overall, they suggest the results support the internalisation of assets by multinational companies.

3.2.6 Information Asymmetries

More recently, some researchers focus on the role of information asymmetries in M&A. Draper and Paudyal (2008) show that undervalued acquirers with high information asymmetries gain most from early bids and the gains decrease for subsequent bids.[13] They argue that the announcement returns to bidding companies contain information on the synergy gains, as well as, revaluation gains from newly available information.

Officer et al. (2009) find that information symmetries on targets also affect the acquirer's returns. They find evidence that targets with highly asymmetric information lead to higher gains to acquiring companies. This is most apparent in deals with stock

[13] Draper and Paudyal (2008) examine a sample of mergers from the UK. Fuller et al. (2002) find similar results for the US.

payments. They argue that stock payments make the price of the target contingent on the merger outcome and therefore can be used to hedge risks if the acquiring managers feel information on the target were withheld.

3.2.7 Market Valuation

Finally, M&A research also found that the current market environment has a significant influence on the gains to acquiring firms. Rosen (2006) finds a positive relationship between the acquirer's gains and the perception of recent merger announcements and the overall stock market. His findings suggest that the short-term gains to acquiring companies exhibit a 'momentum', which is probably caused by investors' overoptimism.

Antoniou et al. (2008) find similar results for the UK. Their findings also suggest that the bidder's returns correlate to how recent mergers have been received and the current market condition. Further, they suggest that their results provide some evidence that investor sentiment seems to drive the bidders' returns. However, they do not directly test the effect of investor sentiment on the bidders' gains.

In similar vein, Bouwman et al. (2009) find that the returns to acquirers are significantly higher during high valuation markets than during low valuation markets. Overall, their findings indicate that takeover activity is driven by managerial herding behaviour.

3.2.8 Conclusion

This literature review focuses on the acquirer's short-term gains, which serve as an instrument to examine the research issues in this thesis. Whilst merger announcements lead to significant positive gains to target companies, M&A literature on the short-term

gains to acquiring firms shows that many factors affect the returns around merger announcements. These factors are multi-layered and span from deal-specific to external features. As a complicating matter, the findings show that these factors also interact and the results are often dependent on subsamples. This aspect impedes clear-cut statements on the acquirer's wealth effects from M&A transactions. Recognising the potential influence, these factors are considered in the three empirical studies, after outlining the methodology and data used to calculate the gains in the following chapter.

3.3 Literature on the Empirical Chapters

3.3.1 The Adoption of IFRS in the European Union

> *"This Regulation [International Financial Reporting Standards] aims at contributing to the efficient and cost-effective functioning of the capital market. The protection of investors and the maintenance of confidence in the financial markets is also an important aspect of the completion of the internal market in this area. This Regulation reinforces the freedom of movement of capital in the internal market and helps to enable Community companies to compete on an equal footing for financial resources available in the Community capital markets, as well as in world capital markets."*
>
> *(Regulation (EC) No 1606/2002, (4), July 2002)*

The objective of financial reporting is to provide users of financial accounts with information that is decision useful. The reasons why stakeholders (e.g. existing and potential investors, suppliers, customers or employees) need to obtain financial information vary widely, but all of these groups suffer from problems of information

asymmetry between themselves and the management of the firm. Financial reports are one way in which information asymmetry can be circumvented. Financial reporting is only of value, however, if the provided information is relevant and faithful. If financial reporting is free of material error, neutral and complete, then this enables users to make confirmatory and predictive statements about the financial health of a firm. Comparability, timeliness, and verifiability are also critical to enhance further the relevance of financial reporting (IASB 2010).

As the European Commission pointed out, the lack of these features due to the range of national accounting standards across European countries was considered as an impediment to a competitive and integrated European capital market. Users of financial accounts encountered several problems raised by numerous options and interpretations or even lack of accounting standards. As a result, the quality of financial statements from EU companies was considered as insufficient for meeting the requirements of international investors. Companies seeking to raise capital outside the European Union were, therefore, forced to prepare two sets of accounts under national and foreign accounting rules. This situation was costly for companies, and a concern was that large companies would be increasingly attracted by US GAAP (EC, COM 95 (508)).

To counter these problems, the Fourth and the Seventh Company Law Directives of the European Council were designed to harmonise the accounting practice in the European Union. They are considered to take a first successful step towards greater comparability of the financial performance among companies in the European Union (EC, COM 95 (508)). The European Commission examined several approaches and came to an understanding that the adoption of International Financial Reporting Standards[14] produced by the International Accounting Standards Board[15] would be the most effective solution.

[14] (IFRS) (formerly International Accounting Standards (IAS))

[15] (IASB) (formerly International Accounting Standards Committee (IASC))

The IASB aims to issue internationally high quality accepted financial reporting standards. To better reflect a firm's economic performance, the IASB produces principle-based standards which offer fewer accounting options and more consistent accounting measurements (IASC 1989). This is considered to increase the accounting quality by limiting the management's opportunistic behaviour and provide investors a better basis for decision making (Ashbaugh and Pincus 2001).

Based on the conclusion that national accounting standards cannot *'ensure a high level of transparency and comparability'*, the European Parliament and the Council of the European Union decided in 2002 to adopt IFRS in order to develop an integrated European capital market (REGULATION (EC) No 1606/2002). From the beginning of the financial year of 2005, companies listed at a stock exchange within in a member state of the European Union were mandated to apply IFRS, whereas member states were given discretion as to whether IFRS adoption would be mandated for unlisted companies.

As the opening vignette states, the perception of the EU was that a unique accounting framework increases the comparability and transparency of European companies, which would result in a more integrated financial market and improved market efficiency in the European Union. Officials considered this action as beneficial regarding their mission to promote growth, sustainable jobs, competition and wealth in the European Union. The Internal Market Commissioner Frits Bolkstein, for example, commented that *"the proposed regulatory framework would benefit consumers, depositors and investors in the European Union by stimulating financial market efficiency and increasing competition" (IP/02/417, March 2002).*

The mandatory adoption of IFRS in the European Union was the biggest change in the accounting landscape ever seen and is heavily discussed by practitioners, as well as,

academics.[16] The vast majority of accounting research suggests that the adoption of IFRS has been a success. Companies benefit from positive economic consequences due to lower information asymmetries between firms and investors. Several studies confirm that comparability (Bae et al. 2008) and transparency (Ding et al. 2007) among IFRS companies has improved. Leuz and Verrechia (2000) and Daske et al. (2008) document increased market liquidity. Further, a number of studies suggest that IFRS has a positive effect on companies' cost of capital (Leuz and Verrechia 2000; Christensen et al. 2007; Daske et al. 2008), and less earnings management is observed (Barth at al. 2008; Ding et al. 2007). Ashbaugh and Pincus (2001) and Cuijpers and Buijink (2005) find higher forecast accuracy and studies on the market reactions to the introduction of IFRS indicate a positive perception of the regulatory accounting change (Comprix et al. 2003; Armstrong et al. 2010).

3.3.2 Information on Industry Prospects and the Returns Acquirers

> *"All M&A Is Local - We can gain more traction by viewing M&A as an instrument of corporate transformation, a response by executives to a turbulent environment. This view does not disregard the behavioural influences on M&A activity that other researchers have exposed, but it points to other drivers as well and, overall, presents a more complex picture."*
>
> *(Bruner 2004)*

A relatively new stream of M&A research focuses on merger activity and the

[16] For academic discussions see, for example, Ball (2006) for a discussion of the pros and cons for investors resulting from IFRS or Whittington (2005) on the adoption of IFRS in the EU. For a wide variety of discussions and opinions of practitioners on this topic, see, for example, the websites of Ernst & Young, Deloitte, KPMG or PricewaterhouseCoopers (PWC).

underlying market conditions as a possible cause. Theoretical and empirical studies demonstrate a link between M&A activity and stock prices. Jovanovic and Rousseau (2002), for example, show in a model that merger activity is correlated with the acquirers' valuation. Shleifer and Vishny (2003) and Rhodes-Kropf and Viswananthan (2004) demonstrate in their models that the market valuation affects the probability of mergers taking place, as well as, the mode of payment used in a deal. In Rhodes–Kropf et al. (2005), empirical evidence suggests that misvaluations drive M&A activity, as well as, the choice of payment. Powell and Yawson (2005) find evidence that takeover activity also clusters across industries. Specifically, low growth, the threat of foreign competition and a high industry-adjusted stock market performance increase the likelihood of takeovers. Rosen (2006) links M&A activity to what he calls 'merger momentum'. Returns to bidding companies are positively correlated to the perception of previous mergers and the overall stock market. Rosen finds that bidders are more likely to experience positive returns when recent bids have been well received or the stock market is performing well. Similarly, Bouwman et al. (2009) document that the returns to acquirers are significantly higher during high valuation markets than during low valuation markets.

As Penman (1996) points out, the P/E ratio has been examined from several academic perspectives. Basu (1977) and Jaffe et al. (1989), for instance, investigate the P/E multiple as an indicator of mispriced stocks. Similarly, Fama and French (1998) also examine the properties of P/E ratios and mispriced stocks, but on an international scale. Graham et al. (1962) and Boatsman and Baskin (1981) interpret the P/E ratio as the earnings capitalization rate and Ball (1978) as a measure of risk. Derived from the Gordon growth model (1962), the reciprocal of the P/E ratio may also be considered to describe the return on equity. Similar to Cragg and Malkiel (1982) and Litzenberger and Rao (1971) who infer a firm's P/E ratio as an earnings growth indicator, in this study

the industry P/E ratio is considered as an indicator of an industry's growth prospects. Copeland et al. (1996) states that today's P/E ratio reflects the economic prospects of an industry for an explicit period. Firms which have experienced several periods of rising earnings exhibit often high P/E multiples, because share prices have often risen faster than earnings (Nicholson 1960). Zarowin (1990) finds that the dominant determinant of the cross-sectional variation and time-series persistence of P/E ratios is forecasted by the long-term growth in earnings per share. Hence, a high P/E ratio indicates a growing industry whereas a declining industry has a low P/E ratio.

3.3.3 Investor Sentiment and its Impact on the Returns to Acquirers

> *"When market sentiment is bullish, managers may feel encouraged to make acquisitions because they believe the market expects firms to undertake growth-enhancing initiatives like acquisitions. By the same token, when the market sentiment is bearish, the market does not expect acquisitions, and managers respond by avoiding acquisitions unless they are reasonably certain that the synergies are large enough to justify going against market sentiment and expectations."*
>
> *(Bouwman et al. 2003)*

In an efficient market, mispricing should not exist because arbitrageurs exploit these opportunities and drive prices back to efficiency (Friedman 1953). A significant number of studies, however, find evidence that challenge this neoclassical finance view. Besides recent asset bubbles and crashes, empirical evidence exists that make it difficult to

explain these anomalies by pure rational behaviour, suggesting that prices are also driven by psychology (Shleifer 2000a).

Investor sentiment is defined by Lee et al. (1991) as the belief that future cash flows and risk do not match the information available. Baker and Wurgler (2007) regard investor sentiment as the investors' propensity to speculate or the investors' optimism or pessimism about stocks. One aspect, however, can be distilled from all proposed definitions: The market price of an asset does not correspond to its fundamental value. Shleifer and Vishny (1997) suggest that rational investors may not try to push prices towards their fundamental values, as betting against sentimental investors is costly and risky. De Long et al. (1990) argue that the behaviour of irrational investors is unpredictable, making arbitrage trading unattractive. Moreover, arbitrageurs may face additional limitations, such as short-term horizons, transaction costs or short selling restrictions, which prevent them from implementing adequate trading strategies.

Most models and studies assume that investor sentiment is driven by irrational behaviour. However, a changing market sentiment could actually be *"a rational reflection of prosperous times to come, an irrational hope for the future, or some combination of the two"* (Brown and Cliff 2005). Rational shifts in sentiment, for example, include reactions to new information on dividends, or news generated by the trading process itself (Shleifer and Summers 1990)[17]. Verma and Soydemir (2006) document rational and irrational factors in investor sentiment in several stock markets.

Rational factors may lead to changes in investor sentiment. However, this study follows the definition of investor sentiment as irrational behaviour. Together with limited arbitrage opportunities, investor sentiment prevents prices from efficiency (Shleifer 2000b).

As mentioned, prices can greatly deviate from their intrinsic values during periods

[17] See also, for example, Hirshleifer (2001)

when sentiment overrides rationality. Several empirical studies document anomalies, which are attributable to a psychological impact on asset prices. Lee et al. (1991), for example, find evidence that discounts on closed-end funds are a proxy for changes in investor sentiment. They suggest that fund discounts are high if the sentiment is pessimistic about the future and low when sentiment is optimistic. Neal and Wheatley (1998) find evidence that closed-end funds predict the difference between the returns of small and large firms.

Another finance area, which seems to be affected by investor sentiment are IPOs. Ritter (1991) documents that returns of IPO stocks reverse over the long-run. He argues that this is due to periodic waves of optimism and particularly impacts stock prices of young growth companies. Baker and Wurgler (2000) find that firms prefer to issue equity before low market return periods and debt before high return periods. They suggest that their findings indicate a stronger predictor of the one-year-ahead returns than other predictors. Cornelli et al. (2006) focus on the European grey market for IPOs and find that small investors act irrationally by overweighting their information, which suggests that these investors are driven by overconfidence. They further state if underwriters and other institutional investors know what sentimental investors are willing to pay then the sentimental investors' optimism will generate short-term price patterns.

According to Brown and Cliff (2005), investor sentiment predicts long-term market returns over the next one to three years. They attribute these findings to limited arbitrage in the long- but not in the short-run. In Baker and Wurgler (2006, 2007), they form a sentiment index and show that investor sentiment has a significant effect on difficult-to-value stocks.

Several theoretical models attribute the behaviour of irrational investors to cognitive

and emotional biases.[18] Kahneman and Tversky (1979) propose prospect theory to explain how investors actually behave, instead of how they should act in an expected utility context. Depending on future prospects, investors are sometimes risk averse or risk seeking and the valuation of prospects depends on gains and losses relative to a reference point. Further, investors are averse to losses because losses are disproportionally felt more than gains (Ackert and Deaves 2010). Black (1986) states that sentimental investors act irrationally on noise in the market as if it were information, believing it would give them an advantage without actually being insider information. Daniel et al. (1998) show that overconfident investors overweight self-generated information and as a result, cause an overreaction of share prices. In addition, if investors exhibit attribution bias, they account success to their personal abilities and attribute losses to circumstances beyond their control. In similar vein, Barberis et al. (1998) demonstrate that when irrational investors receive new information, they tend to pay too much attention to the strength and too little attention to its statistical weight. As a result, share prices underreact to corporate events, such as earnings announcement, but overreact to patterns of good or bad news. Mian and Sankaraguruswamy (2012) find that price reactions to earnings announcements are greater for good news in periods of high sentiment and lower for bad news in low sentiment.

3.4 Conclusion

This literature review demonstrates the relevance of event studies, as a model to evaluate the identified research issues in this thesis. The vast number of articles using this technique underpins the versatility in its application to assess corporate decisions. In the context of M&A research, several factors have been found to influence the returns around announcements. These range from deal-specific to market-wide factors.

[18] See, for example, Grossman and Stiglitz (1980), Black (1986), Campbell and Kyle (1993), Shleifer and Vishny (1997) and Hong and Stein (1999) for further theoretical models

In this context three empirically testable issues have been identifies. This review also provides the background on the literature on: (i) The adoption of IFRS within the European Union, (ii) the relevance of information on industry growth prospects and (iii) the impact of investor sentiment on several finance areas.

4. Information Asymmetries and the Impact of IFRS on Bidders' Gains

4.1 Introduction

This study examines the impact of IFRS on M&A in the European Union. The aim of the mandatory adoption of IFRS in the European Union was to create a more integrated capital market by increasing the transparency among listed companies. To the author's best knowledge, this is the first study to examine if improved transparency due to the accounting harmonisation has had a significant effect on the shareholders' wealth of EU listed acquirers.

The overall gains to acquiring companies suggest that IFRS only had a small impact, but key M&A factors, which are expected to experience a greater magnitude of improved transparency, confirm the predictions. First, the returns from EU cross-border deals indicate that the move to a common set of accounting standards in the European Union facilitates the valuation process of foreign targets which leads to a significant positive change in abnormal returns to shareholders of bidding firms. An economically significant increase in deal values, as well as, the relative target size after the adoption provide evidence that IFRS has indeed improved transparency on foreign listed targets and bidders feel more comfortable to engage in cross-border deals. However, the results indicate that barriers remain after adoption of IFRS, as larger firms engage predominately in foreign acquisitions. Possibly cultural, legal or language barriers may still prevent smaller firms to expand on a European scale. Secondly, the results show a significant positive impact on the returns in stock offers. Further analysis suggests that

IFRS seems to have changed the risk profile of M&A transactions. The use of stocks was dominated to hedge information asymmetries in M&A transactions during the pre-IFRS period and is now merely used as a financing tool. In summary, the regulator has made a step forward in the objective to create an integrated European capital market.

The remainder of the chapter is structured as follows. The next section develops the arguments on the effects of IFRS and provides testable hypotheses. Section 4.3 outlines the sample and applied methodologies to test the hypotheses. Section 4.4 presents and discusses the results. Finally, Section 4.5 concludes with a summary of the findings and their implications.

4.2 IFRS and Bidders' Gains - Hypotheses Development

4.2.1 IFRS and the Impact on the Gains to Bidders

M&A research shows that asymmetric information between bidders and targets has a significant effect on the returns to bidding companies around merger announcements.[19] Given the results from IFRS indicate a positive impact on the transparency and comparability of firms, consequently, if IFRS has contributed to a reduction of information asymmetries, then this should have a significant impact on M&A. The question of whether IFRS has had an impact on the shareholders' wealth effects from M&A will provide important insights into whether the goals of a common mandatory accounting standard across the European Union have been achieved.

Clear and transparent information is important in M&A transactions for two reasons: (i) It improves the decision making for the seeking firm to make a bid and (ii) it helps in determining the price of a potential target. In order to come to a conclusion about a

[19] See, for example, Officer et al. (2009) for intangible assets of targets or Ekkayokkaya et al. (2009b) for limited information on private targets.

firm's value, bidders first need to find an appropriate target. Due to a positive change from IFRS, bidders should be able to more readily understand the company financial information and therefore at a lower cost. In the sense of Akerlof (1970), by removing accounting alternatives and introducing consistent accounting measures, hence improving the transparency on listed companies, acquirers bear less risk in selecting a bad target.

The estimation of a target's fair value and hence its acquisition price is a critical factor that determines a transaction as a value-enhancing or value-destroying activity. If the adoption of IFRS has achieved its goals, then information asymmetries about listed companies in the European Union should have been reduced. As a result, more precise target valuations are expected and the dollar gains to acquirers from M&A increase during the post-adoption period of IFRS. The first hypothesis is therefore,

(H1) The adoption of IFRS had a positive effect on the returns to bidding firms of listed targets.

4.2.2 IFRS and Cross-Border M&A

Since the adoption of IFRS intended to improve transparency among European listed companies, it is expected that cross-border deals should exhibit a significant impact. If a firm decides to enter a new market, it has the choice to do so by setting up new operations, or by acquiring an already established firm in the target market. It has been argued that there are several advantages of entering a market by M&A over founding a foreign subsidiary.

The time period required to execute the expansion is often seen as a great benefit of cross-border M&A. Danbolt (2004) states that setting up a subsidiary in a new market requires establishing relationships with suppliers, installing distribution channels and

the creation of a customer base. Consequently, a long horizon is necessary to successfully establish a new foreign business, whereas cross-border M&A provides a quick market access.

While academics still disagree on the merits of corporate diversification[20], some evidence suggests that shareholders may benefit from a firm's international diversification. If multinational firms operate as arbitrageurs, they may be able to create wealth which cannot be replicated by investors in their own portfolios (Hisey and Caves 1985; Markides and Ittner 1994; Baker et al. 2009).

For example, by engaging in cross-border M&A, a firm may directly invest in a market and, thereby, services an investor's investment objective, if these individuals face constraints, such as trade barriers or restrictions on capital in- or outflow. In many countries, regulators treat personal and corporate income differently. This situation can lead to significant tax advantages for companies. For example, global firms can direct sales and report assets in countries which offer lower tax rates leading to higher after-tax profits (Scholes and Wolfson 1990; Servaes and Zenner 1994).

Cross-border M&A may also facilitate the transfer of knowledge and technology and firms therefore benefit from internalising intangible assets. For instance, the acquisition of a foreign firm can increase economies of scale by expanding technology to a new market or by gaining access to valuable knowledge, such as patents or processes. Similarly, a foreign acquisition may help firms to increase their product lines and differentiate themselves from rivals (Caves 1971).

Further, international firms may also profit from a segmented global market. Expanding operations to a foreign market may increase profitability by either shifting its production sites to low-cost countries or by increased sales from the target markets.

[20] See, for example, Lubatkin and Chatterjee (1994) (Extended portfolio theory), Lewellen (1971) (Coinsurance effect), Williamson (1970) (internal capital market) and Baumol (1967) (Regulation) for supportive literature. For opposing arguments see, e.g., Jensen (1986a,b) (Agency theory) and Stein (1997) (Managerial capabilities).

Further, firms may also benefit from favourable exchange rate exploitation (Froot and Stein 1991; Cebenoyan et al. 1992; Kang 1993).

However, international expansion is not without risks. Acquirers of foreign targets might be confronted with different types and degrees of stakeholder influence. For example, unions and potential strikes may hamper the execution of a business plan (Straume 2003; Lommerud et al. 2006). 'Soft' problems, such as cultural differences, might also hinder the success of a merger and might prevent an optimal information flow between the national operations and social interactions of employees may suffer under these circumstances (Chatterjee et al. 1992; Datta and Puia 1995).

As noted earlier, IFRS as a major change in the European accounting practice is expected to have a significant impact on the reduction of information asymmetries of listed companies in the European Union. Bidders should therefore be able to access relevant information more readily in the post-adoption era, and as a result the reliability of information, should enhance the process of valuing a listed target. Prior to the adoption of IFRS, different national accounting standards and conventions were utilised across the European Union. As a result, considerable uncertainty and lack of transparency could have existed in cross-border takeovers regarding the interpretation and translation of the targets' financial reports. After the adoption of IFRS, this uncertainty has reduced. The analysis and selection of a foreign European target should, in theory, now require similar effort as analysing a domestic target. Hence, acquirers should face smaller barriers to bid for foreign targets and should be encouraged to engage in cross-border acquisitions. After the adoption of IFRS, lower levels of asymmetric information should also reduce the risk of overpayment. More precise target valuations and improved predictability of the expected synergies should lead to less overpayment and consequently, greater gains from M&A. This should be reflected in form of greater gains to bidding companies across the European Union. In summary,

(H2) The adoption of IFRS had a positive effect on the returns to bidding firms of foreign listed targets.

4.2.3 IFRS and Mode of Payment

M&A research has identified that the payment method has a significant effect on the returns of bidding firms.[21] M&A literature suggests that the payment mode signals the acquiring management's perception of their firm's value. Similar to Myers and Majluf's (1984) proposed pecking order theory, a stock payment resembles an equity issuance and has an adverse effect on the acquiring firm's share price because this payment method signals that acquiring managers consider the shares of their firm as overvalued. Cash offers, on the other hand, are preferred if managers of the acquiring firm perceive its shares as undervalued.

An alternative explanation states that the method of payment is dependent on the confidence of the bidding managers in the outcome of the merger. In this sense, the mode of payment is based on potential risk and reward sharing with the target's shareholders (Hansen 1987). Both, acquirer and target only possess asymmetric information. The target's management should know best the value of its assets and will only accept an offer which is higher than their own estimate. On the other hand, the acquiring firm has the choice of an offer in form of cash or stocks. In a cash offer, the bidder bears all risk but also receives all gains from the merger depending on whether the estimated synergies can be realized. The gains to the target shareholders, however, are fixed to the premium offered regardless of the merger outcome. If information asymmetries regarding the target's value exist, the acquirer will prefer to pay with stocks. In a stock offer, the acquirer can transfer risk to target shareholders, but in return also shares the gains from the merger. This makes the payment 'contingent' on the

[21] See, for example, Asquith et al. (1983), Chang (1998), Servaes (1991), Loughran and Vijh (1997) or Draper and Paudyal (1999)

pricing of target and the outcome of the merger. As target shareholders become new blockholders of the combined firm, they participate with their stake in the gains or losses from the merger.

If bidders are able to make more precise projections about the gains from a merger after the adoption of IFRS, the gains are expected to indicate a positive effect. However, stock offers might experience a greater impact. After the adoption of the new accounting standard, stock offers may still signal some uncertainty regarding the transaction. However, the proportion of information asymmetries associated with financial reporting should be eliminated. Hence, the impact from the risk reduction of a misinterpretation of financial accounts should be greater for stock deals than for cash deals. Hence,

(H3) The adoption of IFRS had a positive effect on the returns to bidding firms with stock offers.

4.3 Data and Methodologies

4.3.1 Data and Sample Description

The aim of this study is to analyse the effect of improved target transparency by the mandatory introduction of IFRS in the European Union and its impact on the bidders' gains around M&A announcements. For this purpose, M&A data was obtained from SDC Platinum over a period from 01.01.1989 to 31.12.2011. The sample period has been divided into two sub-periods in order to identify the expected changes in abnormal returns from the adoption: The pre-IFRS period (1989 to 2005) and the post-IFRS period (2006 to 2011).[22] In order to examine the effects on the gains, bidding companies are required to have share price data available from their primary stock exchange

[22] January 1, 2006 was selected as the starting point of the post-IFRS period as from this point in time the first mandatory IFRS annual reports are being published.

located in the European Union.[23] Share prices and accounting data are retrieved from Datastream. Since the new accounting standard is only mandatory for listed companies, the sample is restricted to targets listed in the European Union, as well. Further, information on the reported accounting standard must be available and early IFRS adopters are removed in order to avoid a self-selection bias in the sample. Bidding companies are required to own less 50 per cent of the target's shares before and intended to own more than 50 per cent after the acquisition to reflect a change in control of the target firm. To ensure a consistent sample of mergers, acquisitions types indicated as divestitures, management buy-outs/-ins, employee buy-outs and reverse takeovers are deleted. A size criterion has been applied of at least US$ 1 million[24] in deal value and market value[25] of the bidding company.[26] Mergers announced on a weekend have been removed from the sample and the primary SIC codes of bidders and targets must be available. Deals with SIC codes suggesting that one of the M&A participants operate in the financial[27] or utility[28] industry have been dropped from the sample. Both industries exhibit industry-specific accounting attributes which might distort the results of this study.

As a result, 494 deals survive the sample criteria. This is partly due to the fact that all targets are required to be listed, since IFRS is only mandatory for listed companies and the potential effects of a reduction in information asymmetries is only expected for such firms. As presented in Table 4.1in roughly 40 per cent of the deals, target shareholders were offered a cash payment and about 31 per cent stocks and 21 per cent a mix of both.

[23] Bids announced by bidders located in Austria, Belgium, Denmark, Finland , France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom are analysed. On May 1 2004, further ten countries, i.e. Cyprus (Greek part), the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia and on January 1 2007, Bulgaria and Romania joined the European Union. These twelve new EU countries are, however, not included in the sample.

[24] Standardised with the base date of January 3, 2005

[25] Measured 15 trading days before the announcement

[26] US$ serve as an independent currency to facilitate the comparability, because a significant proportion of the sample period covers a significant time period before the introduction of the €-currency and the United Kingdom, Sweden and Denmark decided to keep their national currencies.

[27] Companies with SIC codes starting with '6'

[28] Companies with 2-digit SIC codes of '49'

For 43 deals or about 9 per cent of all deals, the payment offer was not disclosed. 57 per cent of all deals involve an industrially related target. In about 8 out of 10 deals, the targets have the same domicile as the acquirer. The average acquirer's market capitalisation is US$ 5.3 billion and the average deal size is about US$ 1.2 billion. The relative size of a target is with about 45 per cent on average almost half the size of the acquirer. As presented shortly, the size characteristics of the EU sample are significantly larger than the figures from the US sample, which should be due to the listed target criterion.

Table 4.2 shows that bidders from the United Kingdom are most active with 285 bids, followed by French (47) and German (36) bidders. Firms from the United Kingdom are most sought after receiving 311 bids, followed by Dutch companies (36) and French (30) and German (30) firms.

Table 4.1: Descriptive Statistics of the EU sample

This table presents descriptive statics of M&A announcements by and for firms based and listed within the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) during the period from 01.01.1989 to 31.12.2011. . A bidder is required to be listed at a stock exchange in one of the 15 European member countries, the share price is available from Datastream and the deal and market value of the bidder is at least US$ 1 million. Values are in US$ millions or per cent..

Panel A: Full Sample

	N	%
Full Sample	494	

Panel B: Deal Characteristics

			EU
Mode of Payment	Cash	196	39.68
	Mixed	105	21.26
	Stock	150	30.36
	Unknown	43	8.70
Deal Type	Focused	281	56.88
	Diversifying	213	43.12
Target Listing Status	Private	-	-
	Public	494	100.00
	Subsidiary	-	-
Target Origin	Domestic	394	79.76
	Cross-Border	100	20.24

Panel C: Size Characteristics

	Mean	SD
Acquirer Size (in US$ millions)	5,316.99	14,549.53
Deal Value (in US$ millions)	1,282.46	5,516.42
Relative Target Size (in %)	45.05	54.10

Table 4.2: Distribution of Deals by Bidders' and Targets' Domicile

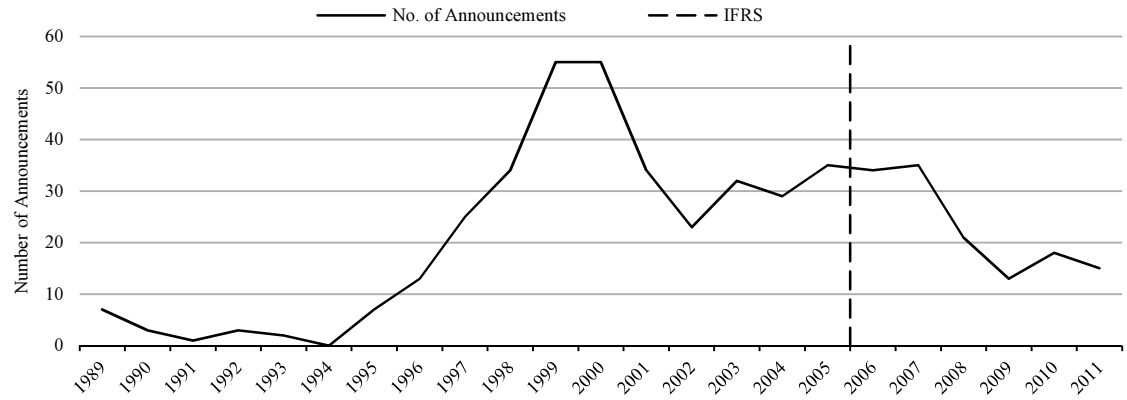
The table presents the geographical distribution of bids announced by, and for firms based, and listed within the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) during the period from 01.01.1989 to 31.12.2011. A bidder is required to be listed at a stock exchange in one of the 15 European member countries, the share price is available from Datastream and the deal and market value of the bidder is at least US$ 1 million.

	Targets' Nation															
Bidders' Nation	*Austria*	*Belgium*	*Denmark*	*Finland*	*France*	*Germany*	*Greece*	*Ireland*	*Italy*	*Luxembourg*	*Netherlands*	*Portugal*	*Spain*	*Sweden*	*UK*	*Total*
Austria	1	0	0	0	0	3	0	0	0	0	1	0	0	0	0	*5*
Belgium	0	2	0	0	0	2	0	0	0	0	0	0	0	0	3	*7*
Denmark	0	0	6	0	0	0	0	0	0	0	2	0	0	1	0	*9*
Finland	0	0	1	4	0	0	0	0	1	0	2	0	0	2	1	*11*
France	0	1	0	0	26	1	0	0	2	0	5	0	0	3	9	*47*
Germany	0	0	0	0	1	21	0	0	2	0	0	0	1	2	9	*36*
Greece	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	*8*
Ireland	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	*6*
Italy	0	0	0	0	1	1	0	0	7	0	2	0	1	0	1	*13*
Luxembourg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*0*
Netherlands	0	1	0	0	0	0	0	0	0	0	17	0	1	0	6	*25*
Portugal	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	*1*
Spain	0	0	0	0	0	0	0	0	0	0	2	0	12	0	4	*18*
Sweden	0	0	1	0	0	0	0	0	0	0	1	0	0	18	3	*23*
UK	0	0	1	1	2	2	2	0	0	0	4	0	0	3	270	*285*
Total	*1*	*4*	*9*	*5*	*30*	*30*	*10*	*1*	*12*	*0*	*36*	*1*	*15*	*29*	*311*	*494*

Figure 4.1 and Table 4.3 show that M&A activity started to increase in 1994 and reached its peak in the years of 1999 and 2000. After a substantial drop until 2002, merger activity recovered until the beginning of the financial crisis in 2007. Since then merger activity has been in decline over the last past years. In total, 358 M&A bids were announced during the pre-IFRS period and 136 bids during the post-IFRS period.

Figure 4.1: Annual Distribution of M&A Announcements

The figure presents the annual distribution of M&A announcements by and for firms based and listed within the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) during the period from 01.01.1989 to 31.12.2011. The cut-off point of the IFRS sub-periods is the 01.01.2006.



The summary statistics of the full sample in Table 4.4 show that toeholds in target companies were on similar levels during both periods with roughly 4.5 per cent. The mean and median of the intended percentage held after the acquisition suggest that in both periods bidders on average intended to make full takeovers in this sample. However, this feature might be due to the change of control criterion. Further, cash offers were on average preferred over stock offers. The cash proportion, however, was higher during the post-IFRS period (52.05 vs. 47.04 per cent), whereas the stock proportion was higher during the pre-IFRS period (31.90 vs. 42.50 per cent). The average deal size, as well as, the average size of the bidders indicates larger merger participants during the post-IFRS. The mean of the relative target size suggests larger targets in the pre-IFRS period, however, the median suggests the opposite. This might be related to the overall stock market valuations in both periods.

Table 4.3: Annual Distribution of M&A Announcements

The table presents the annual distribution of M&A announcements by, and for firms based, and listed within the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) during the period from 01.01.1989 to 31.12.2011. The cut-off point of the IFRS sub-periods is the 01.01.2006.

Period	*Year*	*No. of Announcements*
Pre-IFRS	1989	7
	1990	3
	1991	1
	1992	3
	1993	2
	1995	7
	1996	13
	1997	25
	1998	34
	1999	55
	2000	55
	2001	34
	2002	23
	2003	32
	2004	29
	2005	35
Post-IFRS	2006	34
	2007	35
	2008	21
	2009	13
	2010	18
	2011	15

Table 4.4: Summary Statistics of the Full Sample

The table presents summary statistics of M&A announcements by and for firms based and listed within the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) during the period from 01.01.1989 to 31.12.2011. The cut-off point of the IFRS sub-periods is the 01.01.2006. Values are in US$ millions or per cent.

		Full Sample					
Period	*Variable*	*N*	*Mean*	*Std Dev*	*Median*	*Min*	*Max*
Pre-IFRS	Shares Held at Announcement (in %)	358	4.32	11.32	0.00	0.00	49.90
	Shares Intended to Purchase (in %)	358	96.58	10.68	100.00	50.01	100.00
	Paid in Stocks (in %)	358	42.50	45.69	6.54	0.00	100.00
	Paid in Cash (in %)	358	47.04	46.15	35.19	0.00	100.00
	Paid in Other (in %)	358	1.26	8.20	0.00	0.00	100.00
	Paid in Unknown (in %)	358	9.20	28.54	0.00	0.00	100.00
	Deal Value (in US$ millions)	358	1,201.80	5,785.33	139.66	1.33	75,960.85
	Acquirer's Market (in US$ millions)	358	4,608.71	13,472.54	660.16	5.49	131,849.78
	Relative Target Size (in %)	358	0.46	0.58	0.28	0.00	4.89
Post-IFRS	Shares Held at Announcement (in %)	136	4.49	11.34	0.00	0.00	50.00
	Shares Intended to Purchase (in %)	136	96.61	11.02	100.00	50.46	100.00
	Paid in Stocks (in %)	136	37.90	44.46	0.00	0.00	100.00
	Paid in Cash (in %)	136	52.05	45.92	54.53	0.00	100.00
	Paid in Other (in %)	136	1.23	8.97	0.00	0.00	100.00
	Paid in Unknown (in %)	136	8.82	28.47	0.00	0.00	100.00
	Deal Value (in US$ millions)	136	1,494.77	4,749.39	161.32	2.83	42,244.12
	Acquirer's Market (in US$ millions)	136	7,181.45	16,977.42	753.12	14.56	92,166.08
	Relative Target Size (in %)	136	0.43	0.43	0.31	0.00	2.99

Table 4.5 presents the descriptive statistics based on the target's origin. The size of toeholds increased more for foreign targets from the pre-IFRS to the post-IFRS period (3.57 to 6.89 per cent), indeed toeholds in domestic firms slightly decreased from 4.51 to 3.89 per cent over the two sub-periods. The proportion of stock offers is about double the size for domestic targets than for foreign targets. The percentage of stock offers decreased for domestic targets over time and remained at about the same level for foreign targets. The cash percentage, on the other hand, increased for domestic and foreign targets over time. Noticeably, the average deal value of foreign targets is more than twice as high in the post-IFRS period than in the pre-IFRS period. Foreign targets and the average bidder of foreign targets are larger in both sub-periods than compared with the domestic counterparts. Further, the statistics also show that the proportions of cross-border deals remain relatively constant over both periods (pre-IFRS: 20.39 per cent vs. post-IFRS: 19.35 per cent).

These deal features indicate that with the adoption of IFRS, bidders may have gained confidence in interpreting foreign financial statements, and as a result, the size of foreign targets has increased over time. However, the figures also indicate that acquirers still face some barriers since the average acquirer of a foreign target is more than twice the size of a domestic bidder. Moreover, the numbers also suggest that takeover activity was not affected by IFRS. Larger acquirers probably have the resources to overcome informational constraints.

Table 4.5: Summary Statistics by the Target's Domicile

The table presents summary statistics of M&A announcements by and for firms based and listed within the European Union (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, Sweden and the United Kingdom) during the period from 01.01.1989 to 31.12.2011. The cut-off point of the IFRS sub-periods is the 01.01.2006.

		Domestic Targets						*Foreign Targets*					
Period	*Variable*	*N*	*Mean*	*Std Dev*	*Median*	*Min*	*Max*	*N*	*Mean*	*Std Dev*	*Median*	*Min*	*Max*
Pre-IFRS	Shares Held at Announcement (in %)	285	4.51	11.40	0.00	0.00	49.73	73	3.57	11.03	0.00	0.00	49.90
	Shares Intended to Purchase (in %)	285	97.53	8.98	100.00	50.01	100.00	73	92.87	15.16	100.00	50.04	100.00
	Paid in Stocks (in %)	285	48.18	45.60	50.00	0.00	100.00	73	20.34	39.06	0.00	0.00	100.00
	Paid in Cash (in %)	285	43.80	45.42	29.44	0.00	100.00	73	59.67	47.10	100.00	0.00	100.00
	Paid in Other (in %)	285	0.67	4.61	0.00	0.00	42.40	73	3.55	15.58	0.00	0.00	100.00
	Paid in Unknown (in %)	285	7.35	25.57	0.00	0.00	100.00	73	16.44	37.32	0.00	0.00	100.00
	Deal Value (in US$ millions)	285	1,008.01	5,881.47	119.77	3.82	75,960.85	73	1,958.39	5,364.83	402.78	1.33	32,594.91
	Acquirer's Market (in US$ millions)	285	3,334.56	11,671.51	544.75	5.49	131,849.78	73	9,583.13	18,197.26	3,534.98	13.26	95,081.07
	Relative Target Size (in %)	285	0.50	0.62	0.29	0.00	4.89	73	0.30	0.34	0.22	0.00	1.92
Post-IFRS	Shares Held at Announcement (in %)	109	3.89	10.41	0.00	0.00	50.00	27	6.89	14.49	0.00	0.00	49.00
	Shares Intended to Purchase (in %)	109	96.46	11.33	100.00	50.46	100.00	27	97.23	9.84	100.00	51.10	100.00
	Paid in Stocks (in %)	109	42.15	45.55	23.84	0.00	100.00	27	20.72	35.56	0.00	0.00	100.00
	Paid in Cash (in %)	109	49.09	46.09	47.21	0.00	100.00	27	64.02	44.05	100.00	0.00	100.00
	Paid in Other (in %)	109	1.42	9.98	0.00	0.00	100.00	27	0.45	1.85	0.00	0.00	9.32
	Paid in Unknown (in %)	109	7.34	26.20	0.00	0.00	100.00	27	14.82	36.20	0.00	0.00	100.00
	Deal Value (in US$ millions)	109	603.83	1,288.05	102.18	2.83	7,752.31	27	5,091.53	9,667.87	1,020.02	19.75	42,244.12
	Acquirer's Market (in US$ millions)	109	5,626.41	15,429.85	603.30	14.56	92,166.08	27	13,459.20	21,367.72	3,463.43	42.88	82,875.27
	Relative Target Size (in %)	109	0.41	0.45	0.28	0.00	2.99	27	0.47	0.35	0.45	0.00	1.43

4.3.2 Univariate Framework

To calculate the gains surrounding M&A announcements, an event study methodology using a market-adjusted model is applied. Datastream market indices of the countries where the bidders are listed serve as proxies for the domestic index. Chapter 3 outlines the event study methodology in greater detail.

The average cumulative abnormal returns (CAR) surrounding 5-days (-2, +2)[29] of the announcement date is estimated as:

$$\overline{A}_t = \frac{1}{N_t} \sum_{t=1}^{N_t} A_{i,t} \tag{3.4}$$

where $\overline{A}_t$ is the average (cumulative) abnormal return over the multi-day interval *t*, $A_{i,t}$ is the abnormal return of stock *i* at day *t* and N_t is the number of sample stocks whose abnormal returns are available at the multi-day interval *t*.

4.3.3 Multivariate Framework

The effects of the adoption of IFRS on the gains to bidding companies are analysed by examining the bidders' 5-days (-2, +2)[30] cumulative abnormal returns in a multivariate framework as in equation (4.1):

$$R_i - R_m = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i \tag{4.1}$$

where R_i is the cumulative return to bidder *i* over the specific event window and R_m is the cumulative return of the bidder's domestic Datastream market index. The intercept (α) can then be regarded as a measure of the abnormal return after controlling for the effects of vector X_i of explanatory variables.

[29] CARs surrounding 3-days (-1, +1) and 11-days (-5, +5) of the announcement date are also calculated and differences footnoted if appropriate.

[30] The results for the 5-days event window are presented and regression results based on the 3- and 11-days windows are commented where appropriate.

The following explanatory variables in the regression framework test the proposed hypotheses:

The first hypothesis tests the overall impact of IFRS on the gains. For this purpose, a *post-IFRS* dummy takes on the value of 1 if the deal is announced after the 01.01.2006, otherwise the value of 0.

The second hypothesis is on the impact of information asymmetries in cross-border deals. Here, the *Cross-Border* binary dummy variable takes on the value of 1 if a bid is made for a foreign target, otherwise the value of 0.

The third hypothesis is concerning the payment method and its associated information content. *Cash Offer* is a binary dummy variable which takes on the value of 1 if the payment offer is 100 per cent in cash, otherwise the value of 0. *Stock Offer* is a binary dummy variable which takes on the value 1 if the payment offer is 100 per cent in the bidder's shares, otherwise the value of 0. In this context, the targets' intangible assets serve as a proxy of information asymmetries. *High Intangible Assets* is a dummy variable which takes on the value of 1, if the intangible assets of a target exceed 30 per cent of its total assets, otherwise the value of 0. Intangible assets are standardised by the target's total assets and both last reported before the announcement was made.[31]

The following control variables are used which might have a significant effect in altering to the gains to bidder:

Industry Relation: M&A literature has identified that the industry relation between the acquirer and target often has a significant impact on the shareholders' wealth.[32] This relationship might also determine the ability to estimate future synergies from the transaction and hence may be an indicator for the degree of transparency between acquirer and bidder. *Focused deals* is a binary dummy variable which takes on the value

[31] See, for example, Officer et al. (2009)

[32] See, for example, Morck et al. (1990) , Matsusaka (1993), Hubbard and Palia (1999) or Doukas et al. (2002)

of 1 if the bidder and target share the same primary 2-digit SIC code, otherwise the value of 0.

Relative Target Size: The size of the target in relation to the bidder is often considered as a transparency indicator.[33] Besides the aspect that larger targets have a greater impact on the dollar returns from the transaction, an increasing structural and operational complexity of larger targets might also have an inherent degree of intransparency. *Relative Target Size* is the ratio of the reported deal value to the market capitalisation of the bidder measured 15 trading days before the announcement was made.

Eurozone: In particular situations, IFRS requires a translation or re-measurement of future operations of the target's local currency to the acquirer's presentation currency.[34] Depending on the technique, this will have different implications on the income statement and the balance sheet, as well, on financial ratios of the consolidated accounts. *Eurozone* is a binary dummy variable which takes on the value of 1 if bidder's and target's primary operating location is a €-currency country, otherwise the value of 0.

By regressing M&A factors in each subsample and examining interactive dummy variables in a corresponding pooled regression, it is possible to determine statistically significant changes in the independent variables between the pre- and post-IFRS period. The changes are presented by interactive post-IFRS dummies which take on the value of the respective explanatory variable if the announcement occurred in 2006 or later, otherwise the value of 0. The variables are denoted as *'D_'*.

To reduce the influence of outliers, the approach of studentised residuals as in Francis and Schipper (1999) and Clinch et al. (2002) is followed. By dividing the

[33] See, for example, Asquith et al. (1983) and Fuller et al. (2002)

[34] See, for example, Ekkayokkaya et al. (2009a) for the impact of the introduction of the €-currency on banking mergers

residuals by their standard error, Freund et al. (2006) suggest two positive properties: (i) Standardised residuals have a zero mean and a unit standard deviation. This enables to conclude the deviation of an observation from its mean and determine to obtain an outlier by chance. (ii) Further, this method allows for compensation of outliers that potentially cause problems. Since the sample is relatively small, an absolute cut-off point of 2 is chosen, which is within the suggested range found in the econometrics literature.[35]

Financial data is known to often exhibit a non-constant volatility. This may lead to a violation of the assumptions regarding linear regression models of a constant variance in the error terms. A violation of this assumption may produce biased estimates, however, the main concern are biased standard errors. As a result, a wrong conclusion may be drawn about the validity of the hypotheses. To reduce the risk of Type I and Type II errors and ensure a constant variance of error terms (homoskedasticity), White-corrected[36] standard errors are calculated to arrive to reliable t-statistics.

4.4 Results

4.4.1 IFRS and the Impact on the Gains to Bidders

The first hypothesis proposes an increase in the bidders' gains after the adoption of IFRS. An improved information environment should enable bidders to value targets more precisely, which should ultimately lead to higher absolute gains, as well as, higher returns around the merger announcement.

Figure 4.2 and Table 4.6 present the results of the cumulative abnormal returns of intervals spanning from (-1, +1) to (-5, +5). The most obvious finding is that the CARs

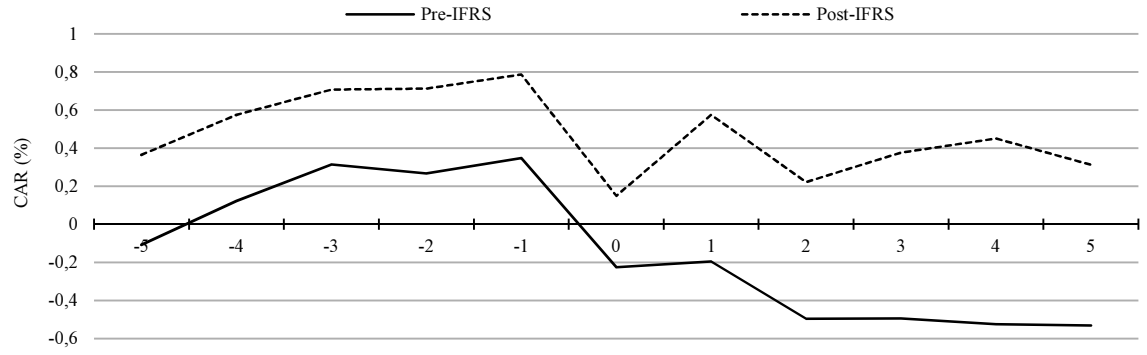
[35] The range is generally from 2 to 3. A studentised residual of 2 is more conservative but less prone to have outliers influence the results and a studentised residual of 3 being more lenient but more likely to have outliers included in the sample.

[36] See White (1980)

are consistently higher in the post-IFRS period than in the pre-IFRS period. The differences between the pre- and post-IFRS abnormal returns increase as the length of the event window increases. Longer event windows (9- and 11-days) suggest small positive but statistically insignificant abnormal returns for deal announcements during the post-IFRS era. The median results signal the same pattern, that abnormal returns are higher during the post-IFRS period.

Figure 4.2: Univariate Framework: Cumulative Daily Abnormal Returns

The figure presents the cumulative abnormal returns (in %) of M&A announcements by firms based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The bidders' returns are calculated using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return on the corresponding domestic Datastream index of stock i for day t. The cut-off point of the IFRS sub-periods is the 01.01.2006.



Overall, the results suggest no statistically significant change in abnormal returns. Throughout the examined event windows, however, the returns are closer to zero in the post-IFRS era, implying indeed improved target valuations. Further, relatively large pre-to-post IFRS changes in returns suggest economic relevance of the adoption of the new accounting standard.

Table 4.6: Univariate Framework: Cumulative Daily Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements by firms based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The bidders' returns are calculated using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return on the corresponding domestic Datastream index of stock i for day t. The cut-off point of the IFRS sub-periods is the 01.01.2006. T-test of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. In parentheses are the corresponding t-stats or p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Mean Returns

Interval	*Pre-IFRS*	*Post-IFRS*	*Pre- vs. Post-IFRS*
(-1, +1)	-0.464 (-1.215)	-0.138 (-0.254)	0.325 (0.644)
(-2, +2)	-0.813* (-1.814)	-0.487 (-0.779)	0.325 (0.693)
(-3, +3)	-0.619 (-1.294)	-0.199 (-0.294)	0.420 (0.634)
(-4, +4)	-0.418 (-0.810)	0.084 (0.123)	0.503 (0.593)
(-5, +5)	-0.534 (-0.985)	0.311 (0.418)	0.845 (0.395)

Panel B: Median Returns

Interval	*Pre-IFRS*	*Post-IFRS*	*Pre- vs. Post-IFRS*
(-1, +1)	-0.625 (0.179)	-0.179 (0.686)	0.446 (0.659)
(-2, +2)	-0.598** (0.073)	-0.414 (0.602)	0.184 (0.583)
(-3, +3)	-0.521 (0.159)	0.136 (0.858)	0.657 (0.516)
(-4, +4)	-0.361 (0.457)	-0.102 (0.772)	0.259 (0.560)
(-5, +5)	-0.596 (0.342)	0.162 (0.558)	0.758 (0.319)

To this point, the univariate analysis does not provide strong statistical evidence that the adoption of IFRS had a highly significant positive impact on the reduction of information asymmetries about target companies. The results indicate a rather qualitative impact. The following dummy variable approach investigates a shift in abnormal returns from the adoption of the new accounting standards in a multivariate framework. A relatively stable proportion of cross-border M&A activity shown earlier in the summary statistics support this view and suggest an investigation of the IFRS implications in a regression model context.

In Table 4.7, the overall effect of the accounting standard on the abnormal returns in the post-IFRS period are examined by using an IFRS dummy variable. Model (1) uses the full sample and in model (2), UK-domestic deals are excluded because they account

for the majority of deals in the sample and might greatly influence the results.[37]

Table 4.7: Multivariate Framework: IFRS

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 5-days cumulative abnormal return (−2, +2) to European bidders and is regressed against a set of explanatory variables in a multivariate framework. The variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country. A post-IFRS dummy includes all deals announced after the 01.01.2006. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (1) includes the full sample and regression (2) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Non UK-Domestic Sample*
	(1)	*(2)*
Intercept	0.09751 (0.18)	1.62751* (1.68)
Relative Target Size	0.07520 (0.15)	0.12455 (0.19)
Focused Deal	-1.26365** (-2.27)	-1.69316** (-2.17)
Eurozone	0.40573 (0.72)	-1.07842 (-1.30)
Post-IFRS	0.14836 (0.26)	0.34477 (0.43)
N	466	211
F-Statistics	1.33	1.66
R^2 *(%)*	1.14	2.12
Adjusted R^2 *(%)*	0.29	1.24

The intercept suggests M&A announcements of listed targets on average break-even with small and insignificant abnormal returns of 0.10 per cent. The coefficient of the relative deal size of the target indicates a statistically insignificant positive relationship of 0.08 per cent. Similarly, the results indicate that the €-currency proxy yields a return of 0.41 per cent, however, the coefficient is statistically insignificant. If the bidder and target operate in the same industry, bidders earn 1.26 per cent less than comparable diversifying transactions. The coefficient is statistically significant at the 5 per cent level. The variable of interest, the IFRS dummy, suggests a small and statistically insignificant increase of 0.15 per cent, which confirms the previous univariate results.

Since the majority of announcements are UK-domestic deals, such deals are

[37] In Appendix A, further results for 3- and 11-days event windows are provided.

excluded and the calculations are repeated to check that the results are not influenced. The intercept suggests that non-UK domestic M&A involving listed targets earn on average a statistically significant positive abnormal return of 1.63 per cent. This is roughly 1.5 percentage points higher than for the full sample. The coefficient regarding the relative size of the target is slightly higher with 0.12 per cent. Focused deals lose statistically significant -1.69 per cent and compared to the full sample is about 0.4 percentage points lower. The currency proxy turns negative in this regression with -1.08 per cent.

The post-IFRS dummy is positive, but statistically insignificant with 0.34 per cent.[38] After removing the UK domestic deals, the variable is more than twice the size of the same coefficient from regression (1). This is an encouraging finding as a significant proportion of domestic deals have been removed from the sample and domestic deals presumably exhibit less asymmetric information asymmetries between acquirers and targets. Cross-border M&A and the implication of IFRS are investigated in greater detail in the next section. Similar to the univariate analysis, the results of the IFRS dummy from both regressions suggest that the level of abnormal returns is not substantially higher for bidding companies after the adoption of IFRS. On this basis, the empirical evidence is not sufficient to accept hypothesis *(H1)* that overall the gains to bidding companies have experienced a significant positive change.

[38] The coefficients based on the 11-days window are positive with 1.05 per cent in model (1) and 1.15 per cent in model (2). Both indicate statistical insignificance, however the magnitude suggests that these results are economically meaningful.

4.4.2 IFRS and Cross-Border M&A

As proposed earlier, there are strong reasons to assume that for specific factors or situations, a single accounting standard across the European Union had a quantifiable effect on the gains to bidding companies. The proposed hypothesis concerns the information asymmetries in cross-border deals. From the descriptive statistics in Table 4.4, the majority of deals are domestic and it is reasonable that bidders of domestic targets face less information asymmetries than in foreign targets. If not, a domestic bidder should, however, be able to spot questionable assets and the corresponding accounting standards more easily and apply an appropriate discount factor to address these issues.

Bidding companies in cross-border deals should experience an impact on the gains from the new accounting standard due to improved transparency. The fact that the proportion of cross-border deals has hardly changed after the accounting harmonisation, suggests that competition on foreign targets remains unchanged. Due to an improved valuation basis and similar competition in the merger market on foreign targets, a positive change in abnormal returns after adoption of IFRS is expected.

Table 4.8 presents the effect of IFRS on the gains from cross-border deals in the IFRS sub-samples and pooled-sample regressions with the earlier described interactive IFRS dummy variables.[39] The F-statistics and adjusted R^2 of the full sample and non UK-domestic regression sets have slightly improved compared to the regression models (1) and (2), but are still low.

[39] The interactive IFRS dummy variables are denoted as '*D_* ' in the tables.

Table 4.8: Multivariate Framework: IFRS and Cross-border M&A

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 5-days cumulative abnormal return (−2, +2) to European bidders and is regressed are regressed against a set of explanatory variables in a multivariate framework. The pre-IFRS regressions contain all M&A deals from 01.01.1989 to 31.12.2005 and the post-IFRS regressions all deals from 01.01.2006 to 31.12.2011. The pooled regressions contain interactive post-IFRS dummies of the respective variable. These IFRS-change dummies are denoted as '*D_*'. The set of explanatory variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country, as well as, a dummy if the deal is a cross-border M&A. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (3) includes the full sample and regression (4) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample			*Non UK-Domestic Sample*		
	(3)			*(4)*		
	Pre-IFRS	*Post-IFRS*	*Pooled*	*Pre-IFRS*	*Post-IFRS*	*Pooled*
Intercept	0.05387 (0.09)	-0.05256 (-0.07)	0.05387 (0.09)	2.92935** (2.29)	0.72898 (0.61)	2.92935** (2.29)
D_Post-IFRS			-0.10643 (-0.11)			-2.20037 (-1.26)
Relative Target Size	0.28526 (0.49)	-1.12881 (-1.11)	0.28526 (0.49)	0.46460 (0.63)	-4.48995** (-2.53)	0.46460 (0.63)
D_Relative Target Size			-1.41407 (-1.21)			-4.95455*** (-2.58)
Focused Deal	-1.52859** (-2.18)	-0.56499 (-0.67)	-1.52859** (-2.18)	-2.28181** (-2.22)	-1.33344 (-1.27)	-2.28181** (-2.22)
D_Focused Deal			0.96360 (0.88)			0.94837 (0.65)
Eurozone	0.32489 (0.46)	0.00897 (0.01)	0.32489 (0.46)	-1.75144* (-1.65)	0.77815 (0.68)	-1.75144* (-1.65)
D_Eurozone			-0.31592 (-0.26)			2.52960 (1.62)
Cross-Border	0.55163 (0.58)	3.02203*** (2.66)	0.55163 (0.58)	-1.26597 (-1.24)	2.93719*** (2.60)	-1.26597 (-1.24)
D_Cross-Border			2.47040* (1.67)			4.20316*** (2.76)
N	337	130	467	152	60	212
F-Statistics	1.27	2.08**	1.31	1.73	3.53**	1.76*
R2 (%)	1.5	6.25	2.52	4.49	20.42	7.28
Adjusted R2 (%)	0.32	3.25	0.60	1.89	14.63	3.15

In the regression set (3), the intercept term indicates that bids for listed targets on average break even in both sub-periods. The dummy variable on the change shows that no statistically significant difference between both time periods exists. The relative target size variables suggest a positive effect on the gains in the pre-IFRS and a negative effect in the post-IFRS period, both statistically insignificant. The negative change is statistically insignificant. However, a change of -1.41 percentage points suggest economic relevance. Focused deals lose statistically significant -1.53 per cent in the pre-

IFRS period and statistically insignificant -0.56 per cent in the post-IFRS period. The difference between the pre- and post-IFRS period is statistically insignificant, but the size of the change suggests economic significance. The currency proxy exhibits small statistically insignificant positive returns in the pre-IFRS period and a break-even during the post-IFRS era. Further, the statistically insignificant change indicates that IFRS had no major impact on this factor.

Cross-border deals earn on average statistically insignificant 0.55 per cent during the pre-IFRS period[40] and experience a statistically significant (10 per cent significance level) positive change of 2.47 percentage points to 3.02 per cent, statistically significant at the 1 per cent level, as well.[41] This is in line with the expected positive change in returns from cross-border deals.

The results with a non-UK domestic subsample are re-examined in the regression set (4). The overall pattern remains the same or the IFRS changes become even more pronounced. The intercept is with 2.93 per cent statistically significant at the 5 per cent level during the pre-IFRS period compared to statistically insignificant 0.73 per cent during the post-IFRS period. The negative change from the pre-IFRS to the post-IFRS period of -2.20 percentage points indicates economic relevance. The coefficient of the relative target size is still statistically insignificant with 0.46 per cent during the pre-IFRS period. But during the post-IFRS period, the estimate is -4.49 per cent and statistically significant at the 5 per cent level. The IFRS-change variable of about 5 percentage points is statistically significant at a 1 per cent level. An industry-related target produces a statistically significant negative loss of -2.28 per cent during the pre-IFRS period. With the adoption of IFRS, the loss decreases by 0.95 percentage points to -1.33 per cent, both statistically insignificant. The acquisition of a Eurozone-target leads

[40] Faccio et al.'s (2006) EU study on the targets' public status does not offer a listed target only regression for direct comparison, however, univariate results suggest that listed acquirers in cross-border transactions experience an insignificant gain of 0.11 per cent. This is similar to the pre-IFRS period findings.

[41] Over an 11-days window, the change in abnormal returns shows a negative sign.

to a loss of -1.75 per cent during the pre-IFRS period, which is statistically significant at a 10 per cent level. A similar target leads to statistically insignificant gain of 0.78 per cent after the adoption of IFRS. Despite a change of 2.53 percentage points and a change in sign, the coefficient is not statistically significant but suggests economic relevance.

The change of returns in cross-border deals increases even further and suggests increased statistical significance compared to the results from the regression sets (3). To be more specific, during the pre-IFRS period, bidders lose statistically insignificant -1.27 per cent. After the adoption of IFRS, gains increase by 4.20 percentage points to 2.94 per cent. Both coefficients are statistically significant at a 1 per cent level.[42]

The results from Table 4.8 show that with the adoption of IFRS, bidders can earn substantially more if they opt for a foreign target, indicating that information asymmetries between bidders and targets have declined in order to generate this change. The summary statistics indicate that the proportion of cross-border deals was relatively unaffected by the IFRS adoption. This suggests that significant barriers must to remain and some bidders are reluctant to diversify internationally, putting more pressure on the gains from cross-border M&A.

With the regression set (6) of Table 4.11, the robustness of the regression results of the non-domestic UK sample are checked by adding the mode of payment. The pattern of results is qualitatively similar to the results from regression set (5), which will be discussed in greater detail in the next section. Except the post-IFRS regression, the adjusted R^2 and the F-statistics of the regressions remain low. The intercept suggests on average positive abnormal returns of 2.59 per cent during the pre-IFRS era. The change of -3.17 percentage points is economically significant. After the adoption of IFRS, deals suffer on average a loss of -0.58 per cent. The relative target size contributes to a small

[42] The results of the 11-days window also suggest a positive and economically meaningful change.

and statistically insignificant gain of 0.37 per cent before and a loss of -4.98 per cent after the adoption of IFRS, statistically significant at the 1 per cent level. The change of -5.35 percentage points is also statistically significant at the 1 per cent level. Focused deals lose -2.19 per cent, which is statistically significant at a 5 per cent, before IFRS and statistically insignificant -1.54 per cent. The IFRS-change variable indicates a statistically insignificant positive change of 0.65 per cent. Cash offers almost break even with a statistically insignificant loss of -0.13 per cent before IFRS and gain by 1.41 percentage points to statistically insignificant 1.28 per cent after the adoption of IFRS. The IFRS change for stock offers of 4.28 per cent is statistically significant at a 5 per cent level. To be more precise, stock offers lose statistically insignificant -1.46 per cent during the pre-IFRS period, but gain statistically significant 2.83 per cent in the post-IFRS period.

Cross-border deals suffer negative returns of -1.40 per cent before the accounting harmonisation and highly statistically significant positive gains of 3.72 per cent afterwards. The change of 5.12 percentage points is statistically significant at the 1 per cent level.[43] A relatively small sample size may hinder us to report statistically significant test statistics for the regressions, but the empirical evidence found in these regression sets are in favour for the proposed hypothesis that bidders gain more in cross-border deals after the adoption of IFRS.

The acquirer's size and the deal value, as well as, the relative target size characteristics in cross-border deals as a possible cause of the change in abnormal returns are further investigated in Table 4.9. Acquirers of foreign companies are on average significantly larger than acquirers of domestic firms in both sub-periods. But more interestingly, foreign targets are significantly larger than domestic targets during the post-IFRS era. The results indicate that foreign targets are more than twice the size

[43] The change in gains over the 11-days event window is with 1.30 percentage points economically meaningful.

in the post-IFRS period, while the size of domestic targets decreases over time. Further, the relative size of foreign targets is significantly smaller than domestic targets in the pre-IFRS period and after the IFRS adoption, the relative size is statistically indifferent. The same pattern is observed in

Table 4.10, testing the median. These results confirm the previous findings that IFRS contributed to an improved transparency on foreign targets. Increased deal values and relative target sizes suggest that a reduction of information asymmetries in cross-border deals.

Table 4.9: Deal Features: Cross-border M&A (Mean Analysis)

The table presents the mean analysis of cross-border deal features of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The acquirer's market value is measured 15 trading days before the bid was announced. The market and deal values are in US$ millions and the price level of the bidder's market index observed at each point in time. The base date is the 01.01.2005. The relative size of target is the deal value divided by the acquirer's market value as described here. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Acquirer's Market Value

	Domestic	*Foreign*	*Domestic vs. Foreign*
Pre-IFRS	3,476.3*** (<.0001)	10,060.7*** (<.0001)	6,584.4*** (0.0004)
Post-IFRS	5,931.1*** (0.0002)	13,459.2*** (0.0030)	7,528.1* (0.0961)
Pre- vs. Post-IFRS	2,454.8 (0.1563)	3,398.5 (0.4425)	

Panel B: Deal Value

	Domestic	*Foreign*	*Domestic vs. Foreign*
Pre-IFRS	1,057.1 (0.0046)	2,037.8*** (0.0030)	980.7 (0.1991)
Post-IFRS	619.4*** (<.0001)	5,091.5** (0.0110)	4,472.1** (0.0239)
Pre- vs. Post-IFRS	437.7 (0.2655)	3,053.7 (0.1317)	

Panel C: Relative Target Size

	Domestic	*Foreign*	*Domestic vs. Foreign*
Pre-IFRS	0.4915*** (<.0001)	0.3031*** (<.0001)	0.1884*** (0.0009)
Post-IFRS	0.4048*** (<.0001)	0.4696*** (<.0001)	0.0649 (0.4968)
Pre- vs. Post-IFRS	-0.0868 (0.1418)	0.1665** (0.0365)	

Table 4.10: Deal Features: Cross-border M&A (Median Analysis)

The table presents the median analysis of cross-border deal features of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The acquirer's market value is measured 15 trading days before the bid was announced. The market and deal values are in US$ millions and the price level of the bidder's market index observed at each point in time. The base date is the 01.01.2005. The relative size of target is the deal value divided by the acquirer's market value as described here. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Acquirer's Market Value

	Domestic	*Foreign*	*Domestic vs. Foreign*
Pre-IFRS	550.3*** (<.0001)	3695.9*** (<.0001)	3145.5*** (<.0001)
Post-IFRS	622.3*** (<.0001)	3463.4*** (<.0001)	2841.13*** (0.0037)
Pre- vs. Post-IFRS	71.9 (0.5467)	232.47 (0.6639)	

Panel B: Deal Value

	Domestic	*Foreign*	*Domestic vs. Foreign*
Pre-IFRS	118.2*** (<.0001)	430.5*** (<.0001)	312.3*** (<.0001)
Post-IFRS	104.5*** (<.0001)	1020.2*** (<.0001)	915.7*** (0.0003)
Pre- vs. Post-IFRS	13.7 (0.7574)	589.7 (0.1583)	

Panel C: Relative Target Size

	Domestic	*Foreign*	*Domestic vs. Foreign*
Pre-IFRS	0.2897*** (<.0001)	0.2262*** (<.0001)	0.0635*** (0.0071)
Post-IFRS	0.2679*** (<.0001)	0.4462*** (<.0001)	0.1783 (0.1529)
Pre- vs. Post-IFRS	0.0218 (0.1544)	0.2200** (0.0105)	

Overall, the gains to bidders in cross-border deals experience an increase after the adoption of IFRS. However, the results also show that some barriers, especially for smaller acquirers, must still exist in the market for corporate control. As a result, competition for foreign targets did not increase after the adoption. Predominately, larger firms engage in foreign acquisitions as they have probably more resources available to overcome the obstacles in cross-border M&A. The results also indicate that acquirers gained more confidence in purchasing larger foreign targets after the adoption of IFRS which might have led to higher NPV projects and consequently, to higher gains to bidding companies. This suggests that the adoption of IFRS had a positive effect on the transparency of foreign listed targets across the European Union by removing the

proportion of risk concerning a misinterpretation of financial statements. Further, the cross-border variable remains statistically significant after adding the mode of payment variables to the regression model. The results support hypothesis *(H2)*, that cross-border deals experience a significant impact from the adoption of IFRS.

4.4.3 IFRS and Mode of Payment

In this subsection, the final hypothesis regarding the IFRS effect on the mode of payment is investigated. The argument by Hansen (1987) on the choice of the payment method in M&A suggests that the preferred payment method is driven by the managers' confidence in the outcome of the deal and the desire to transfer risk. In the context of this study, a significant change in the returns to shareholders based on the payment method due to an altered level of information transparency is expected.

In Table 4.11, the mode of payment variables are added to the regression models. Considering the sample size, the F-statistics and adjusted R^2 of regression set (5) reaches levels of comparable M&A studies.[44] The intercept term suggests that bidders break even before the adoption of the common accounting practice in the European Union. After the adoption of IFRS, bids for listed targets generate a loss of -2.08 per cent, which is statistically significant at the 10 per cent level. The change of 2.10 percentage points can be considered as economically meaningful. The relative target size is positive and statistically insignificant with 0.41 per cent in the pre-IFRS era and also statistically insignificant with -0.86 per cent in the post-IFRS era. The change in signs and return of more than 1.2 percentage points suggest an economic relevant impact of IFRS. Focused deals during the pre-IFRS period produce losses of -1.76 per cent which are statistically significant at the 5 per cent level. After the IFRS adoption, focused deals break even with statistically insignificant returns of -0.10 per cent. Again,

[44] Fuller et al. (2002) present in their M&A study on the target's public listing similar figures from their dummy-dominated regressions.

the change of 1.67 percentage points is economically meaningful. The currency proxy suggests a positive return of 0.97 per cent during the pre-IFRS era and a slightly lower return of 0.61 per cent in the post-IFRS period. The decrease of -0.36 per cent is statistically insignificant.

The coefficient of cross-border variable shows a small insignificant negative return of -0.20 per cent for the pre-IFRS period and a highly statistically significant positive return of 3.02 per cent in the post-IFRS period.[45] The IFRS-change variable suggests a statistically significant increase at the 5 per cent level. This is further evidence regarding the cross-border hypothesis *(H2)*. Before the adoption, cross-border deals might have been considered opaque, but after the adoption this seems to have changed. Bidders, who overcome the potential barriers, are rewarded with significant positive gains.

The presented results suggest that the mode of payment served as mean of altering the risk level in M&A transactions. Cash deals still earn more than stock deals and the results show that cash and stock offers experience an increase in gains after the adoption of IFRS. However, the impact of the IFRS adoption is higher on stock offers. The fact that stock offers experience a change in signs, as well as, an increase by two percentage points underpin the statistical and economic relevance. As a whole, the findings support hypothesis *(H3)*.

Cash offers earn a statistically insignificant positive return of 0.95 per cent before the adoption of IFRS and a statistically significant positive return of 2.40 per cent afterwards. The difference in gains between pre- and post-IFRS is statistically insignificant, but a change in returns of roughly 1.44 percentage points indicates an economically relevant implication.

[45] The coefficient of the 11-days window is 0.83 percentage points economically meaningful.

Table 4.11: Multivariate Framework: IFRS, Cross-border M&A and Mode of Payment

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 5-days cumulative abnormal return (−2, +2) to European bidders and is regressed a set of explanatory variables in a multivariate framework. The pre-IFRS regressions contain all M&A deals from 01.01.1989 to 31.12.2005 and the post-IFRS regressions all deals from 01.01.2006 to 31.12.2011. The pooled regressions contain interactive post-IFRS dummies of the respective variable. These IFRS-change dummies are denoted as '*D_*'. The set of explanatory variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country, as well as, a dummy if the deal is a cross-border M&A. Two dummies represent the mode of payment proxies, cash and stock offers. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (5) includes the full sample and regression (6) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample			*Non UK-Domestic Sample*		
	(5)			*(6)*		
	Pre-IFRS	*Post-IFRS*	*Pooled*	*Pre-IFRS*	*Post-IFRS*	*Pooled*
Intercept	0.02622 (0.03)	-2.08039* (-1.75)	0.02622 (0.03)	2.59271 (1.57)	-0.58067 (-0.40)	2.59271 (1.57)
D_Post-IFRS			-2.10660 (-1.49)			-3.17338 (-1.45)
Relative Target Size	0.40579 (0.67)	-0.85515 (-0.81)	0.40579 (0.67)	0.37288 (0.49)	-4.98182*** (-2.94)	0.37288 (0.49)
D_Relative Target Size			-1.26094 (-1.04)			-5.35470*** (-2.88)
Focused Deal	-1.76345*** (-2.57)	-0.09507 (-0.11)	-1.76345*** (-2.57)	-2.19080** (-2.07)	-1.53745 (-1.38)	-2.19080** (-2.07)
D_Focused Deal			1.66839 (1.50)			0.65335 (0.43)
Eurozone	0.96877 (1.36)	0.60794 (0.60)	0.96877 (1.36)	-0.79548 (-0.69)	0.74645 (0.66)	-0.79548 (-0.69)
D_Eurozone			-0.36083 (-0.29)			1.54194 (0.96)
Cross-Border	-0.20453 (-0.22)	3.01943*** (2.67)	-0.20453 (-0.22)	-1.40282 (-1.30)	3.71936*** (3.76)	-1.40282 (-1.30)
D_Cross-Border			3.22395** (2.22)			5.12217*** (3.50)
Cash Offer	0.94733 (1.15)	2.39356** (2.20)	0.94733 (1.15)	-0.13041 (-0.10)	1.28144 (1.10)	-0.13041 (-0.10)
D_Cash Offer			1.44623 (1.06)			1.41184 (0.82)
Stock Offer	-1.80762** (-2.06)	1.13124 (0.80)	-1.80762** (-2.06)	-1.45908 (-1.11)	2.82275** (2.14)	-1.45908 (-1.11)
D_Stock Offer			2.93885* (1.77)			4.28184** (2.30)
N	334	131	465	151	59	210
F-Statistics	2.91***	2.18**	2.27***	1.14	3.48***	1.41
R^2 (%)	5.06	9.55	6.13	4.55	28.67	8.56
Adjusted R^2 (%)	3.32	5.18	3.43	0.58	20.44	2.50

Stock offers suffer a statistically significant loss of -1.81 per cent at the 5 per cent significance level during the pre-IFRS era and yield positive but statistically insignificant returns of 1.13 per cent during the post-IFRS period. The change of 2.94

percentage points is statistically significant at the 10 per cent level.[46,47] As presented earlier, the stock payment coefficients indicate similar results as in the non-UK domestic regression set (6). The gains from stock offers are negative returns in the pre-IFRS period and positive gains in the post-IFRS period. The change of 4.28 percentage points is statically significant at the 5 per cent level.

To provide further evidence on stock payments as a mean to hedge information asymmetries in M&A transactions, this aspect is examined in a probit model in Table 4.12. This type of model with stock payments as the dependent variable and high intangible assets as the key explanatory variable should yield results in favour of the proposed hypothesis. Intangible assets can be considered as difficult-to-value assets, as the nature of these assets is relatively opaque for an outsider and the value in the financial reports is to some extent dependent on the management's discretion. In the context of this study, stock offers should be less concerned about the risk transfer of a misinterpretation of intangible assets after the accounting harmonisation. If IFRS has contributed to an improved transparency, then the intangible assets coefficient should reflect this change.

The pre-IFRS model and the intangible asset variable are highly statistically significant at the 1 per cent level. Besides the intercept term, the intangible asset variable has the largest estimate. For the post-IFRS period, the results suggest a statistically insignificant model, as well as, a statistically significant intangible assets dummy variable. These findings emphasise the role of intangible assets in explaining the probability of the choice of a stock payment during the pre-IFRS period. The results suggest that stock payments played an important role in hedging risk associated with intangible assets. After IFRS was implemented, the need for risk transfer was lessened

46 The stock payment coefficient is with 1.67 percentage points economically significant.

47 Draper and Paudyal's (2006) report qualitative similar results for the pre-IFRS period. In their UK study on the target listing status, a listed target-only regression indicates a positive insignificant abnormal returns of 0.10 per cent and significant negative abnormal returns of -2.11 per cent for stock offers.

due to improved accounting standards. Indeed, a positive significant relative target size coefficient of the post-IFRS model suggests that stocks may now primarily serve as a financing tool.

Table 4.12: Probit Model: Stock Offer

The table presents the results of a probit model with the dependent variable being stock offers. The explanatory variables are the relative target size (deal value divided by the acquirer's market value), a dummy for focused deals, a dummy if the acquirer and target are from a €-currency country and a dummy variable for target high intangibles assets. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Stock Offer:	*Pre-IFRS*		*Post-IFRS*	
	Estimate	*Pr > ChiSq*	*Estimate*	*Pr > ChiSq*
Intercept	-0.7379***	(<.0001)	-1.1299	(<.0001)
Relative Target Size	0.1762	(0.1526)	0.5638**	(0.0443)
Focused Deal	-0.0690	(0.6419)	0.0813	(0.7454)
Eurozone	0.2977*	(0.0666)	0.1218	(0.6666)
High Intangible Assets	0.6628***	(0.0036)	0.2964	(0.2428)
Likelihood Ratio	13.9076***	(0.0076)	5.9654	(0.2017)
No. of observations (1/0)	100/236		33/97	

Overall, the results support the risk transfer hypothesis of stock payments. The intention to transfer risk due to uncertainties of reporting issues seem to be reduced. The fact that cash offers still earn more further supports this argument. Managers choose cash payments if they are highly confident in a successful outcome of the merger, since there is hardly any incentive to share risk or profits with the targets' shareholders. Stock offers have experienced a significant positive change in abnormal returns in mergers with potential information asymmetries. This indicates that IFRS has contributed to a more transparent information environment in the merger market. Further, the creation of new blockholders in the target country might be a valuable monitoring tool and helpful support for the management team to assess the prevailing market condition. In summary, empirical evidence supports for the third hypothesis *(H3)* regarding the mode of payment in M&A, that a significant increase of abnormal returns in stock payments is expected due to an improved transparency situation.

4.5 Conclusion

With the mandatory adoption of IFRS, another step was undertaken to create a more integrated European Union. This study examines this goal in the market for corporate control. Since the adoption of IFRS is expected to have a greater impact on the reduction of information asymmetries of public companies, a sample of listed target takeovers within the European Union is examined over a time period from 1989 to 2011.

Empirical evidence suggest that the overall gains to bidding companies have not statistically increased. However, a small sample size might hinder to report results at conventional significance levels. But, economically meaningful changes indicate the relevance of IFRS on an improved transparency level of listed targets.

The results in this study also show that the examined information asymmetries proxies do experience a significant change. For example, cross-border deals exhibit a significant positive increase in returns. Further investigations on these results suggest that significant barriers must have remained in the European M&A market since the takeover activity remains constant and acquirers who engage in cross-border M&A are significantly larger. The evidence also suggests that IFRS has helped to gain acquirers' confidence in interpreting financial reports, evidenced by increased deal values and relative target sizes. Higher absolute gains from larger takeovers might be the main source for the significant changes in gains after the adoption of IFRS in the European Union.

Stock offers, the second examined information asymmetry proxy, indicate a significant change as well. As proposed, stock offers show a significant and greater change in gains than cash offers. The results support the hypothesis that stock payments, a mean to transfer risk in M&A transactions has lost some relevance due to more

available information on target firms. Further tests on the targets' high intangible assets support this hypothesis. Before the regulator adopted a common accounting standard in the European Union, a high proportion of intangible assets increased the probability of stock offers. With the adoption of IFRS, this feature diminished and the tests suggest that stock payments primarily serve to finance M&A transactions.

However, this research area is not finalised yet and especially the indicated barriers in cross-border deals require more exploration, so smaller companies may also profit from a more integrated European market. Further, the impact of the recent financial crisis and following years should be taken into consideration later in time. At the completion of this study, several European economies were still in turmoil. Future research might investigate how the effects of an improved transparency among companies in an integrated market might has helped to regain trust and confidence to recover from recession.

In summary, the findings of this study align with the majority of accounting research that the adoption of a single mandatory accounting standard has improved the transparency for listed companies in the European Union. The regulator's reasoning that *"it is important for the competitiveness of Community capital markets to achieve convergence of the standards used in Europe for preparing financial statements, with international accounting standards that can be used globally, for cross-border transactions or listing anywhere in the world" (Regulation (EC) No 1606/2002, (5))* finds support in the results. The findings indicate that IFRS has a positive effect on mergers by reducing the risk of misinterpretation of financial accounts. Further, managers can create value for their shareholders by engaging in apparent high information asymmetry deals. The European Commission's goal to create a more integrated financial market across the member countries of the European Union has made a step forward, however, further actions are necessary to encourage also smaller

firms enter the European M&A market.

5. Industry Prospects and the Impact on Acquirers' Gains

5.1 Introduction

M&A research has identified that target shareholders earn significant positive returns around deal announcements. The findings on the returns to acquiring shareholders are not as clear-cut. Several factors have been identified over the years that have a significant positive, as well as, a negative impact on shareholders' wealth.[48]

To the author's best knowledge, no study has however examined whether information relating to growth prospects of an industry is seen as important by investors. This study intends to fill this gap by investigating the investors' perception of information on an industry level, as well as, their preferences on acquisition strategies based on the prevailing industry prospects. As Robert Bruner's opening quote signifies, industry prospects are expected to have a significant impact on the returns to acquiring firms. To measure and classify the prospects of an industry, quarterly moving industry P/E medians are used in a framework similar to Bollinger Bands. This concept is primarily used in technical stock analysis to detect trends and trading signals.

The findings of this study show that acquirers operating in industries with a positive outlook earn significantly higher returns than acquirers with declining industry prospects. However, once the industry relation between acquirer and target is taken into account, the results reveal that the industry prospects maintain a significant impact on

[48] See, for example, Moeller et al. (2004) for the acquirer's size, Fuller et al. (2002) for the target's relative size, Wansley et al. (1983, 1987) for the mode of payment, Faccio et al. (2006) for the target's listing status.

the gains from focused deals, whereas the effect almost disappears in diversifying deals.

A plausible reason might be that since managers emphasise the strategic orientation of the core business activity in focused deals, the firm's future performance remains to some extent dependent on the acquirer's industry growth. On the other hand, the acquiring company lowers in a diversifying deal the exposure to its industry growth by adding a new business segment to their corporate portfolio.

Further support on the impact of industry prospects on the returns to acquiring companies provides tests on the relative target size and the mode of payment. The relative target size as an indicator of the deal's impact on the company's future results suggests that the industry prospects have a greater impact on focused deals than on diversifying deals. In focused transactions, larger targets have an enhancing effect of industry prospects on the returns to acquiring companies.

Moreover, evidence suggests that the payment method in focused deals also signals the acquiring managers' perception of their company's current value, whereas the results from diversifying deals may support the risk transfer argument. In focused deals, the returns reflect both the valuation signal of the payment method and industry prospects. On the other hand, the results for diversifying transactions are consistent with the previous findings that industry prospects have no significant effect on this deal type. The main findings are robust to a multivariate framework.

The results also suggest a behavioural bias regarding information content. The perception of focused and diversifying deals within different industry prospects is not consistent. Investors seem to have no particular preference for focused or diversifying deals in growing industries, as both deal types yield similar returns. However, investors prefer diversifying acquisitions over focused deals in declining industries.

The rest of the chapter is organised as follows. The next section sets out the

arguments on the impact of industry prospects on the acquirers' returns and offers testable hypotheses. Section 5.3 discusses the data and methodologies to test the hypotheses. In Section 5.4, the findings are presented and discussed. Finally, Section 5.5 concludes with a summary of the findings.

5.2 Industry Prospects and Acquirers' Gains - Hypotheses Development

5.2.1 Industry Prospects and the Impact on the Gains to Acquirers

As mentioned, the prevailing industry prospects are expected to have a significant impact on the shareholder wealth of acquiring companies. Besides the expected financial or operational gains from a merger, the economic success of the combined company is also determined by external factors, such as business cyclicality or growth opportunities. In particular, industry growth or prospects should significantly influence the future performance of a firm. Therefore, evidence in the gains to acquiring companies is expected that investors assess these prospects at the time of a merger announcement.

The price-earnings ratio (P/E ratio) serves in this study as a proxy for the growth prospects of an industry. P/E ratios are readily available in the financial press and widely used amongst investment professionals as a measure of growth prospects. They also find application during the valuation process of many corporate events, such as IPOs or corporate restructuring (Alford 1992). In M&A, for instance, the P/E ratio is used in conjunction with other ratios for a market multiple valuation approach or to determine the deal's accretive or dilutive effect on earnings (Bodie et al. 2008).

Increasing industry P/E ratios over time indicate that growth opportunities are available and firms make use of them to expand their operations. Firms in growing industries exhibit high profit margins and increasing sales figures. In growing industries, the primary motive to engage in M&A is to generate further growth. These circumstances allow companies to achieve this goal by proactively identifying appropriate targets. Acquirers in growing industries may also have more negotiating power than acquirers in declining industries, which may have a positive effect on the target's price and consequently the gains from the merger. Due to a solid earnings history, investors and lenders should also be more willing to provide funds to finance such deals. Overall, firms operating in industries with a positive outlook are expected to create more wealth by engaging in M&A.

On the other hand, declining industry P/E multiples indicate that companies experience a decreasing trend in earnings. This suggests that companies usually face a decline in demand because new technology or substitutes lead to a shift in costumers' preferences. As a result, these industries exhibit production overcapacities. Due to decreasing sales figures, companies have to deal with shrinking profit margins and firms in declining industries often have little growth prospects. Firms need to react to this situation and an acquisition may be the attempt to adjust their business strategy. However, due to the negative outlook, investors might be sceptical about the future of these companies and if a takeover is indeed an appropriate solution.

Based on the prevailing growth opportunities, the perception of companies operating in growing industries is more positive than compared to companies in declining industries. The described properties should also be reflected in the returns to acquiring firms around M&A announcements. Hence,

(H1) Acquiring firms in growing industries experience significantly higher abnormal returns than acquiring firms in declining industries.

5.2.2 Industry Prospects and Corporate Diversification

As mentioned, the main hypothesis proposes that industry prospects have a significant effect on the acquirers' gains. An investigation on the industry relation between acquirer and target should reveal further confirming evidence that the industry prospects have a significant impact on the returns.

In focused deals, the primary source of gains is often from operational efficiency improvements. These involve synergies from either cost reductions or increased sales. In the context of this research, companies in growing industries may also take over a similar business in order to increase their production capacities. It cannot be ruled out that this is also an attempt to gain access to valuable intangible assets, such as R&D, to promote further growth. Overall, focused acquisitions in growing industries should be perceived to produce positive future gains and create shareholders' wealth.

On the other hand, companies in declining industries struggle with deteriorating earnings and managers are forced to react to this situation. From an M&A point of view, an acquiring company has two options: (i) To either remain focused or (ii) diversify their business activities. By focusing on their core business and at the same time on the industry they operate in, managers may intend to acquire market share in order to strengthen their competitive position. Further, cost synergies due to improved operational efficiency may be part to alleviate this situation. However, cost synergies unlike financial synergies should take relatively long to realise because these acquisition strategies require lengthy processes of eliminating duplicate positions or manufacturing facilities. Therefore, a focused deal may not be regarded as an appropriate strategy in this industry condition as this might be an attempt to take over another weak company with poor growth prospects. Irrespective of industry prospects, a focused deal means an unchanged influence of the acquirer's industry growth rate on the combined company growth rate. Based on these aspects, the prevailing industry prospects are expected to

have a significant impact on the returns from focused deals.

Considering diversifying M&A from a portfolio perspective, each segment or division represents a stock of a single-segment firm and a diversified company is comparable to an investment portfolio. This derived portfolio theory predicts that the influence of external impacts should mitigate and hence decrease risk (Lubatkin and Chatterjee 1994). Technically, each division in the portfolio is considered as a cash flow. If these cash flows are less than perfectly correlated, the overall risk of the portfolio should decrease. The theory predicts that the diversification effect should be greatest if the transaction involves two industry-unrelated businesses. In contrast, merging two industry-related firms with similar income streams should not affect diversifiable unsystematic risk (Amit and Livnat 1988; Chang and Thomas 1989). The purchase of an industry-unrelated company with relatively stable cash flows may create an internal capital market and provide acquirers access to a capital source to finance future projects (Williamson 1970). Since uncorrelated cash flow streams are expected to lower the level of corporate risk, lenders might also be inclined to grant more debt (Lewellen 1971), and in the vein of Modigliani and Miller (1958), higher debt levels are positively associated with the value of the firm. Similar to leveraged buy-outs, the repayment of debt over time might be an additional source of shareholders' wealth creation in diversifying deals. With respect to this study, corporate diversification may be a strategy to acquire new growth opportunities outside of the acquirer's industry. Acquirers in diversifying deals will be less dependent on the acquirer's industry growth prospects, because the combined company's performance shifts to some degree to the target's industry growth rate. On this basis, industry prospects should have a less pronounced effect on the returns to acquirers in diversifying deals.

In summary, the acquiring company sets its emphasis with an acquisition of an industry-related target on its main business activity. As a result, the future performance

of the combined company is to a great extent dependent on the industry growth it operates in. A focused deal is therefore a commitment to the industry and its outlook. Hence, the returns to focused acquirers should clearly reflect the different growth opportunities of growing and declining industries. On the contrary, an industry-unrelated target diversifies an acquirer's business and at the same time, diversifies the exposure to the acquirer's industry growth. As a result, the gains to acquiring companies should be less affected by industry prospects. Therefore,

(H2.1) Acquiring companies in focused deals earn significantly greater abnormal returns in growing than in declining industries.

(H2.2) On the other hand, abnormal returns to acquiring companies in diversifying deals are less affected by the industry prospects.

5.2.3 Industry Prospects, Corporate Diversification and Relative Target Size

If industry prospects have a significant effect on the returns to acquiring companies, then they are also expected to manifest themselves with regard to the relative size of the target. As explained earlier, focused deals are expected to be primarily affected by the prevailing industry prospects. In a focused acquisition, the dependence of future operational results remains largely unchanged on the acquirer's industry growth. As the size of a target has a direct influence on the dollar gains from the acquisition and is a significant contributor to the future financial results, the relative target size should have an enhancing effect on the returns to acquiring companies (Asquith et al. 1983).

Due to the size effect, an industry-related acquisition of a large target in a growing industry should lead to larger positive future dollar gains than a small target, whereas a focused takeover of a large target in a declining industry increases the risk of potential

negative future results more than a small target. As a result, the impact of growing and declining industry prospects is more pronounced in focused deals with larger targets.

The impact of the acquirer's industry prospects in diversifying deals is expected to be less pronounced. Returning to the portfolio perspective, the corporate diversification effect reduces predominately corporate risk. However, there might be a difference between relatively large and small targets as this is comparable to altering the asset weights in a portfolio, but the acquirer's industry prospects should not significantly affect the returns to acquiring firms based on the relative target size. As mentioned, the dependence on the industry growth shifts in diversifying deals to some extent to the target's industry performance. Hence,

(H3.1) The abnormal returns to acquiring companies of relatively large targets in focused deals are significantly larger in growing than in declining industries.

(H3.2) The industry prospects have a smaller impact on the abnormal returns to acquiring companies in diversifying deals in terms of the relative target size.

5.2.4 Industry Prospects, Corporate Diversification and Mode of Payment

Further evidence of a significant influence of industry prospects on the returns in focused and diversifying deals is anticipated based on the payment method. A prominent argument in explaining what payment method managers choose, suggests that the payment method signals the perception of the acquiring management's own firm value. Similar to the pecking order theory by Myers and Majluf (1984), a stock payment resembles an equity issuance. Therefore, a stock payment is a negative signal because managers of the acquiring firm perceive their stocks as overvalued. On the other hand, a cash payment signals to the market that managers consider their own

stocks as undervalued and therefore, prefer to pay in cash. Support for this argument is expected to be found in focused deals. The summary statistics indicate that in growing industries acquiring managers in focused deals used more stock-only than cash-only payments. The opposite pattern is found in declining industries that managers choose predominately cash over stock payments. These preliminary results suggest that managers in focused deals may choose a payment method relative to its firm's valuation. Investors might use the valuation signals of cash and stock offers in addition to the industry prospects to value a deal. As a result, both cash and stock payments in focused deals should exhibit firm-specific valuation signals, as well as, industry-specific growth prospects. In detail, focused deals paid in cash have positive returns, whereas stock offers lead to negative returns and additionally deals announced in growing industries have larger returns than in declining industries.

In diversifying mergers, operational synergies are difficult to realise and are almost limited to financial synergies (Leland 2007). As mentioned, industry diversification is expected to reduce business risk and the risk transfer argument by Hansen (1987) may apply to diversifying deals. A stock payment limits the risk to acquiring firm's shareholders, however future gains have to be shared with target shareholders. A stock offer might be well perceived by investors as managers may not have the relevant expertise on the new industry segment. Such hedging strategies may be particularly attractive in declining industries to limit additional risk resulting from the transaction. A cash offer should be a positive signal that the management team is highly confident in a positive outcome of the merger.

As a whole, the impact of industry prospects based on the mode of payment should be most noticeable in focused deals, whereas industry prospects should be less pronounced in diversifying M&A. Thus,

(H4.1) The abnormal returns to acquiring companies in focused deals with stock

are negative and cash deals are positive. For each payment method, focused deals earn more in growing than declining industries.

(H4.2) There is no significant impact of the industry prospects on the abnormal returns in diversifying deals.

5.3 Methodologies and Data

5.3.1 Industry Prospects

To detect a trend in the growth prospects of an industry, a methodology originally stemming from technical trading analysis is adapted. The methodology is closest related to what is commonly known as Bollinger Bands. The underlying idea of these break-out strategies is that moving location measures (e.g. means or medians) smoothen a volatile time series and generate a trading signal (Brock 1992). The inputs and calculation procedures for this trading analysis, however, vary widely. As mentioned, the P/E multiple is used to identify the prospects of an industry. Based on 2-digit SIC codes, first quarterly industry P/E medians are calculated. Moving medians across 5, 9 and 13 quarterly intervals[49] and their standard deviations then form the proxies for the P/E trend:

$$\textit{Upper/Lower Band} = \textit{Moving Median} +/- \textit{Standard Deviation} \quad (5.1)$$

To categorise industry prospects, the industry median when the merger was announced is compared to the bands. If the prevailing median is above the upper limit then the industry is considered as a '*growing industry*'. If the prevailing median is below the lower limit then the industry is categorised as a '*declining industry*' and otherwise as a '*neutral industry*'. In order to minimise the bias of outlier companies and to obtain

[49] These intervals are chosen with the assumption that managers have one, two or three years as an assessment period and use the subsequent quarter to react. The target screening process might have started during the assessment period, however, if no information leakage has taken place, the announcement date should be the first time investors learn about an M&A deal.

representative industry conditions, the calculations are based on medians.

Campbell and Shiller (1988) point out that due to extraordinary items, single annual earnings are too unreliable to value a company. Using the earnings trend over time should reduce this bias and provide a clearer picture. In similar vein, Graham and Dodd (1934) suggest to use average earnings of at least five years or more to value a company.[50]

5.3.2 Univariate Framework

To calculate the gains surrounding M&A announcements, an event study methodology using a market-adjusted model is applied. The value-weighted index provided by CRSP serves as the corresponding market benchmark. Chapter 3.1 outlines the event study methodology in greater detail.

The average cumulative abnormal returns (CAR) surrounding 5-days (-2, +2)[51] of the announcement date is estimated as:

$$\overline{A}_t = \frac{1}{N_t} \sum_{t=1}^{N_t} A_{i,t} \tag{3.4}$$

where $\overline{A}_t$ is the average (cumulative) abnormal return over the multi-day interval *t*, $A_{i,t}$ is the abnormal return of stock *i* at day *t* and N_t is the number of sample stocks whose abnormal returns are available at the multi-day interval *t*.

5.3.3 Multivariate Framework

In addition to a univariate analysis, the effects of industry prospects are investigated by examining the bidders' 5-days (-2, +2) cumulative abnormal returns in a multivariate

[50] This study uses quarterly data of at least five intervals with the assumption that managers react more quickly to their environment.

[51] CARs surrounding 3-days (-1, +1) and 11-days (-5, +5) of the announcement date are calculated and differences footnoted if appropriate.

framework as in equation (5.2):

$$R_i - R_m = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i \quad (5.2)$$

where R_i is the cumulative return to acquirer *i* over the specific event window and R_m is the corresponding CRSP market return. The intercept (α) can then be regarded as a measure of the abnormal return after controlling for the effects of vector X_i of explanatory variables. The following explanatory variables are used in the regression framework to test the proposed hypotheses:

Growing is a binary dummy variable which takes on the value of 1 if the prevailing quarterly 2-digit SIC code industry P/E median is higher than the industry moving median over 9 quarters and the standard deviation, and the value of 0 if the prevailing quarterly 2-digit SIC code industry P/E median is lower than the specific industry moving median and the standard deviation. By using only deals from growing and declining industries prospects, the impact on the returns to acquiring companies can be directly compared after controlling for other influential deal characteristics.[52] The second part of the multivariate analysis examines the magnitude of the industry prospects' impact on the gains by adding a *Growing* and *Declining* dummy to the regression models. In this setting, the full sample of M&A deals is used and *Growing* is a binary dummy variable which takes on the value of 1 if the prevailing quarterly 2-digit SIC code industry P/E median is higher than the industry moving median over 9 quarters and the standard deviation and otherwise the value of 0. *Declining* is a binary dummy variable which takes on the value of 1 if the prevailing quarterly 2-digit SIC code industry P/E median is lower than the industry moving median over 9 quarters less the standard deviation and otherwise the value of 0

To test the hypotheses on corporate diversification, the *Focused* dummy variable

[52] Further regression results based on different variable specifications are presented, as well.

takes on the value of 1 if the bidder and target share the same primary two-digit SIC code, otherwise the value of 0. Based on the deal value to acquirer's market value[53], the sample is split into three equally weighted groups. *Large Target* is a binary dummy variable which takes on the value of 1 if the deal-to-market value is among the group of the largest ratios, otherwise the value of 0. *Cash* is a binary dummy variable which takes on the value of 1 if the payment offer is 100 per cent in cash, otherwise the value of 0. *Stock* is a binary dummy variable which takes on the value of 1 if the payment is 100 per cent in the bidder's shares, otherwise the value of 0.

The following control variables are used in the multivariate framework of equation (5.2):

Acquirer's Market Value: Moeller et al. (2004) and Masulis et al. (2007) find that the acquirer's size has a significant negative impact on the returns to acquiring companies. They attribute this effect to agency-related issues. The *Market Value* is the log of the acquirer's market value measured 15 trading days before the announcement.

Geographical Diversification: Several studies investigate a cross-border effect in M&A (e.g. Morck and Yeung 1992; Doukas and Travlos 1988; Moeller et al. 2005). Acquirers may try to generate further growth by acquiring a target abroad. To control for this effect, the control variable *Cross-Border* is added which is a binary dummy variable that takes on the value of 1 if the target's nation is not the United States, otherwise the value of 0.

Deal Attitude: Berle and Means (1933) argue that conflicts may arise from the appointment of managers who might not always act in the best interest of shareholders. Jensen (1986b) states that hostile takeovers may have a disciplinary effect on managers who do not use available resources efficiently.[54] *Hostile* is a binary variable which takes

[53] Measured 15 trading days before the M&A announcement

[54] See also, for example, Travlos (1987), Morck et al. (1989) or Mitchell and Lehn (1990)

on the value of 1 if the is deal is indicated as a hostile takeover.

Target Listing Status: A wide array of studies[55] confirm that the target listing status has significant influence on the gains to acquiring companies. To control for a possible effect, a *Public Target* binary variable takes on the value of 1 if the target is listed, otherwise the value of 0. *Private Target* is also a dummy variable, which takes on the value of 1 if the target is privately-held, otherwise the value of 0.

Financial data is known to often exhibit a non-constant volatility. This may lead to a violation of the assumptions regarding linear regression models of a constant variance in the error terms. A violation of this assumption may produce biased estimates, however, the main concern are biased standard errors. As a result, a wrong conclusion may be drawn about the validity of the hypotheses. To reduce the risk of Type I and Type II errors and ensure a constant variance of error terms (homoskedasticity), White-corrected[56] standard errors are calculated to arrive to reliable p-values.

5.3.4 Data and Sample Description

This subsection describes the sample used to examine the proposed hypotheses. Deal information is obtained from SDC Platinum. Share prices are downloaded from the CRSP tapes and accounting data from Compustat. The sample period spans from 01.01.1980 to 31.12.2011. The acquirers are required to have their primary listing either on the NYSE, AMEX or NASDAQ stock exchange. The targets' listing status is either public, private or a subsidiary and the deal value must be US$ 1 million or greater. Further, the size of the target relative to the market value of the acquirer[57] is set to be at least 1 per cent. To ensure a change in control, acquirers are required to hold less than 50 per cent before and more than 50 per cent after the completed deal. Cash and stock

[55] See, for example, Faccio et al. (2006) for results on the US and Draper and Paudyal (2006) for the UK.
[56] See White (1980)
[57] Measured at 15 trading days before the merger announcement

payments in this study are paid 100 per cent in cash or stocks, respectively. Any combination of stocks, cash or payments labelled as others are pooled as mixed payments. Announcements cannot fall on weekends as the corresponding stock price reaction cannot reliably be measured. SIC codes are required to categorise the deals as focused or diversifying transactions. Acquirers or targets identified as a holding company by the 2-digit SIC code '67' are deleted from the sample. Acquisition techniques related to MBO/MBI, reverse takeovers or employees are excluded. The same accounts for deal types such as minority stake purchases, acquisitions of remaining interest, privatisations, leveraged buyouts, self-tenders, and share repurchases. In total, 16,202 deals survive the stated sample criteria.

Table 5.1 and Figure 5.1 show the annual distribution of the full sample. The sample exhibits three significant peaks. These coincide with the overall merger activity as presented in Chapter 2. In this sample, the peaks are in 1984 with 392 deals, in 1998 with 1,219 deals and finally, in 2005 with 653 deals.

Figure 5.1: Annual Distribution of M&A Deals

The figure presents the annual distribution of M&A deals by US firms during the period from 01.01.1980 to 31.12.2011. The acquirers are required that their primary listing is either on the NYSE, AMEX or NASDAQ stock exchange. The targets' public status is either public, private or a subsidiary and the deal value is US$ 1 million or greater. Further, the relative size of the target to the market value of the acquirer is more than 1 per cent. To ensure a change in control, acquirers are required to hold less than 50 per cent before and more than 50 per cent after the completed deal. The mode of payment is known and as either cash, stock or as others categorised. Other payment types are grouped to the mixed payments. Announcements cannot fall on weekends as the stock price reaction cannot be reliably measured. SIC codes are required to categorise the deals as focused or diversifying transactions. Acquirers or targets identified as a holding company by the 2-digit SIC code '67' are deleted from the sample. Acquisition techniques related to MBO/MBI, reverse takeovers or employees are excluded. The same accounts for deal types such as minority stake purchases, acquisitions of remaining interest, privatisations, leveraged buyouts, self-tenders, and share repurchases.

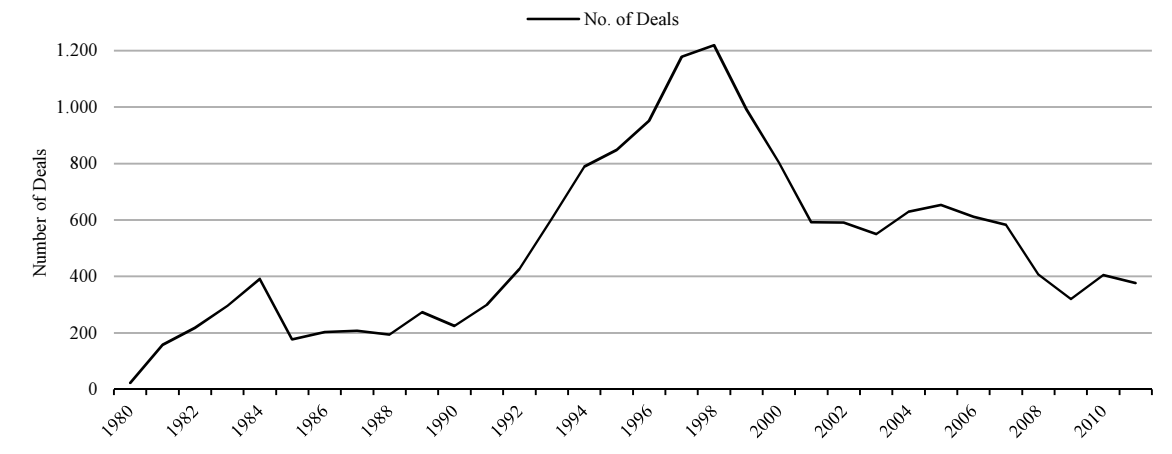


Table 5.1 further indicates that the annual share of focused deals rose to relatively consistent rate of 65 per cent by 1989. The average acquirer's market capitalisation is roughly US$ 650 million bigger in declining than growing industries. Further, the descriptive statistics indicate that the average relative target size slightly higher in declining than growing industry conditions.

Table 5.1: Annual Distribution of M&A Deals

The table presents the annual distribution of M&A deals by US firms during the period from 01.01.1980 to 31.12.2011. Panel A and Panel B show the annual distribution of deals by the full sample and by industry prospects, respectively. Moving P/E medians over 9 quarters are used to measure the industry prospects. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. The average annual acquirers' market values in US$ millions are from CRSP and the average annual relative target size is the deal value from SDC platinum to the acquirer's market value in per cent. If acquirer and target have a matching 2-digit SIC code then the deal is categorised as focused, otherwise as diversifying.

Panel A: Annual Distribution of Deals by the Full Sample

	Full Sample						
		Acquirers'	*Relative Target*	*Diversifying*		*Focused*	
Year	*N*	*Market Value*	*Size*	*N*	*%*	*N*	*%*
1980	23	3,045.27	33.13	14	60.87	9	39.13
1981	158	865.25	25.12	83	52.53	75	47.47
1982	218	573.48	41.19	106	48.62	112	51.38
1983	296	616.81	23.44	154	52.03	142	47.97
1984	392	850.69	31.08	156	39.80	236	60.20
1985	177	1,775.52	57.91	89	50.28	88	49.72
1986	203	1,163.40	36.90	73	35.96	130	64.04
1987	208	1,323.82	33.30	69	33.17	139	66.83
1988	194	1,783.29	46.14	75	38.66	119	61.34
1989	273	1,499.45	29.60	95	34.80	178	65.20
1990	225	1,101.57	35.33	80	35.56	145	64.44
1991	300	1,092.17	23.11	90	30.00	210	70.00
1992	427	879.31	22.98	147	34.43	280	65.57
1993	605	1,073.74	22.90	205	33.88	400	66.12
1994	790	1,122.70	52.94	265	33.54	525	66.46
1995	848	1,341.07	24.23	270	31.84	578	68.16
1996	952	1,433.29	22.86	335	35.19	617	64.81
1997	1,178	1,935.95	24.44	414	35.14	764	64.86
1998	1,219	3,005.80	25.28	416	34.13	803	65.87
1999	993	4,513.30	25.42	321	32.33	672	67.67
2000	803	5,898.72	24.68	280	34.87	523	65.13
2001	592	3,930.73	24.05	202	34.12	390	65.88
2002	591	2,919.09	20.15	210	35.53	381	64.47
2003	550	4,090.74	22.14	177	32.18	373	67.82
2004	630	2,830.89	19.12	190	30.16	440	69.84
2005	653	4,856.28	18.81	200	30.63	453	69.37
2006	612	4,529.39	17.87	221	36.11	391	63.89
2007	583	6,448.92	18.43	214	36.71	369	63.29
2008	407	3,779.48	29.48	141	34.64	266	65.36
2009	320	6,855.40	23.50	112	35.00	208	65.00
2010	405	7,292.68	18.32	143	35.31	262	64.69
2011	377	5,588.68	19.67	142	37.67	235	62.33
Total	*16,202*	*3,034.32*	*25.96*	*5,689*	*35.11*	*10,513*	*64.89*

Table 5.1 Continued

Panel B: Annual Distribution of Deals by the Industry Prospects

	Growing Industries							*Neutral Industries*							*Declining Industries*						
		Acquirers' Market	*Relative Target*	*Diversifying*		*Focused*			*Acquirers' Market*	*Relative Target*	*Diversifying*		*Focused*			*Acquirers' Market*	*Relative Target*	*Diversifying*		*Focused*	
Year	*N*	*Value*	*Size*	*N*	*%*	*N*	*%*	*N*	*Value*	*Size*	*N*	*%*	*N*	*%*	*N*	*Value*	*Size*	*N*	*%*	*N*	*%*
1980	13	4,674.81	18.15	9	69.23	4	30.77	9	1,023.11	54.84	4	44.44	5	55.56	1	60.64	32.49	1	100.00	-	-
1981	49	864.90	27.89	28	57.14	21	42.86	102	867.58	19.68	53	51.96	49	48.04	7	833.70	84.92	2	28.57	5	71.43
1982	74	755.05	20.95	44	59.46	30	40.54	113	510.31	52.23	57	50.44	56	49.56	31	370.31	49.23	5	16.13	26	83.87
1983	194	544.80	22.42	97	50.00	97	50.00	102	753.78	25.39	57	55.88	45	44.12	-	-	-	-	-	-	-
1984	33	1,033.14	29.52	8	24.24	25	75.76	321	893.05	31.18	126	39.25	195	60.75	38	334.43	31.57	22	57.89	16	42.11
1985	59	1,780.44	32.36	27	45.76	32	54.24	115	1,775.12	71.52	61	53.04	54	46.96	3	1,693.68	39.05	1	33.33	2	66.67
1986	95	1,349.93	25.02	29	30.53	66	69.47	104	976.76	48.32	41	39.42	63	60.58	4	1,585.90	22.26	3	75.00	1	25.00
1987	45	941.02	35.77	18	40.00	27	60.00	111	1,374.78	35.58	32	28.83	79	71.17	52	1,546.32	26.27	19	36.54	33	63.46
1988	5	547.17	54.02	3	60.00	2	40.00	102	1,478.43	54.41	40	39.22	62	60.78	87	2,211.75	35.99	32	36.78	55	63.22
1989	57	2,377.11	31.69	19	33.33	38	66.67	205	1,274.79	28.98	73	35.61	132	64.39	11	1,138.47	30.28	3	27.27	8	72.73
1990	39	854.54	75.46	13	33.33	26	66.67	140	1,267.11	25.92	48	34.29	92	65.71	46	807.20	29.94	19	41.30	27	58.70
1991	150	991.24	21.64	36	24.00	114	76.00	145	1,227.66	24.38	53	36.55	92	63.45	5	190.57	30.04	1	20.00	4	80.00
1992	142	1,196.87	15.81	36	25.35	106	74.65	282	718.07	26.51	110	39.01	172	60.99	3	1,003.78	29.97	1	33.33	2	66.67
1993	186	1,370.03	20.40	62	33.33	124	66.67	363	906.42	25.46	136	37.47	227	62.53	56	1,174.25	14.57	7	12.50	49	87.50
1994	62	938.38	22.30	28	45.16	34	54.84	612	970.47	60.91	186	30.39	426	69.61	116	2,024.36	27.28	51	43.97	65	56.03
1995	116	750.11	25.16	46	39.66	70	60.34	693	1,424.04	23.87	205	29.58	488	70.42	39	1,624.38	28.01	19	48.72	20	51.28
1996	382	1,220.14	17.77	106	27.75	276	72.25	505	1,561.72	25.95	209	41.39	296	58.61	65	1,688.08	28.84	20	30.77	45	69.23

Table 5.1 Continued

1997	443	2,387.50	23.47	123	27.77	320	72.23	651	1,754.89	25.68	264	40.55	387	59.45	84	957.86	19.95	27	32.14	57	67.86
1998	401	3,044.54	25.16	134	33.42	267	66.58	501	3,412.49	25.84	174	34.73	327	65.27	317	2,314.04	24.57	108	34.07	209	65.93
1999	37	6,287.85	51.12	8	21.62	29	78.38	770	4,523.14	22.52	259	33.64	511	66.36	186	4,119.58	32.32	54	29.03	132	70.97
2000	256	5,684.85	16.51	86	33.59	170	66.41	393	6,151.55	27.90	160	40.71	233	59.29	154	5,609.02	30.03	34	22.08	120	77.92
2001	185	7,209.79	19.78	80	43.24	105	56.76	387	2,300.33	25.57	115	29.72	272	70.28	20	5,147.54	34.21	7	35.00	13	65.00
2002	88	4,602.47	22.17	28	31.82	60	68.18	322	1,813.95	22.01	118	36.65	204	63.35	181	4,066.70	15.87	64	35.36	117	64.64
2003	99	5,696.46	18.68	22	22.22	77	77.78	443	3,476.16	23.14	151	34.09	292	65.91	8	18,252.31	9.92	4	50.00	4	50.00
2004	265	3,057.70	19.39	67	25.28	198	74.72	350	2,502.23	18.48	114	32.57	236	67.43	15	6,492.60	29.32	9	60.00	6	40.00
2005	159	2,600.11	18.05	56	35.22	103	64.78	410	4,989.64	18.00	119	29.02	291	70.98	84	8,475.99	24.19	25	29.76	59	70.24
2006	102	2,055.21	20.11	37	36.27	65	63.73	439	3,778.93	17.72	158	35.99	281	64.01	71	12,723.98	15.60	26	36.62	45	63.38
2007	102	4,651.93	15.57	38	37.25	64	62.75	401	7,326.24	20.04	144	35.91	257	64.09	80	4,342.54	14.01	32	40.00	48	60.00
2008	20	3,070.53	23.90	4	20.00	16	80.00	157	5,590.43	39.31	60	38.22	97	61.78	230	2,604.96	23.25	77	33.48	153	66.52
2009	16	48,906.89	26.04	10	62.50	6	37.50	264	4,364.05	20.27	86	32.58	178	67.42	40	6,477.73	43.80	16	40.00	24	60.00
2010	57	6,589.79	16.95	22	38.60	35	61.40	309	7,318.05	19.02	110	35.60	199	64.40	39	8,118.92	14.81	11	28.21	28	71.79
2011	101	7,364.33	14.40	36	35.64	65	64.36	212	4,985.81	22.52	81	38.21	131	61.79	64	4,783.47	18.53	25	39.06	39	60.94
Total	*4,032*	*2,993.85*	*22.02*	*1,360*	*33.73*	*2,672*	*66.27*	*10,033*	*2,918.26*	*27.66*	*3,604*	*35.92*	*6,429*	*64.08*	*2,137*	*3,655.55*	*25.39*	*725*	*33.93*	*1,412*	*66.07*

The descriptive statistics in Panel A of Table 5.2 also suggest that the proportion of focused and diversifying deals in growing and declining industries remains relatively similar. The relative target size shows that small targets and medium targets remain relatively constant across all industry prospects with roughly 3 and 10 per cent, respectively. Whereas, the relative target size increases from 56 per cent in growing industries to 61 per cent declining industries. Panel B of Table 5.2 reveals that acquirers in growing industries prefer to buy larger related targets, whereas acquirers with neutral or declining industry prospects purchase larger unrelated targets.

For the full sample (Table 5.2, Panel A), cash-only payments were used in roughly 35 per cent and stock-only payments in roughly 25 per cent of all deals. The summary statistics also show that stock-only deals were preferred in roughly 31 per cent by acquirers in growing industries compared to about 23 per cent in declining industries. Cash-only were used in 30 per cent of the cases in growing industries and roughly 38 per cent in declining industries. This is a first indication regarding the choice of payment method based on the valuation argument. Panel B indicates that this is driven by focused deals. Cash-only deals increase by about 5 percentage points from growing to declining industries and stock-only deals decrease by about 10 percentage points from growing to declining industries. In comparison, the use of cash in diversifying deals increases by roughly 4 per cent and decrease about 5 percentage points in stock deals from growing to declining industries.

Table 5.2: Summary Statistics

The table presents the annual distribution of M&A deals by US firms during the period from 01.01.1980 to 31.12.2011. Panel A shows the summary statistics of the full sample and by the industry prospects. Panel B presents the summary statistics of focused and diversifying deals in growing, neutral and declining industries. Moving medians over 9 quarters are used to measure the industry prospects. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. If acquirer and target have a matching 2-digit SIC code then the deal is categorised as focused, otherwise as diversifying. Cash or stock is a payment in cash-only or stock-only. Mixed is a combination of stocks and cash. The relative target size is deal value from SDC platinum to the acquirer's market value from CRSP. The relative target size has been split into three equally weighted groups.

Panel A: Summary Statistics of the Full Sample and the Industry Prospects

			Full Sample	*Growing Industries*	*Neutral Industries*	*Declining Industries*
Mode of Payment	Cash	N	5,647	1,213	3,612	822
		%	34.85	30.08	36.00	38.47
	Mixed	N	6,497	1,563	4,100	834
		%	40.10	38.76	40.87	39.03
	Stock	N	4,058	1,256	2,321	481
		%	25.05	31.15	23.13	22.51
Industry Relation	Diversifying	N	5,689	1,360	3,604	725
		%	35.11	33.73	35.92	33.93
	Focused	N	10,513	2,672	6,429	1,412
		%	64.89	66.27	64.08	66.07
Relative Target Size	Small	N	5,400	1,384	3,300	716
		Mean	2.82	2.82	2.83	2.80
		%	33.33	34.33	32.89	33.50
	Medium	N	5,401	1,375	3,348	678
		Mean	10.06	9.95	10.10	10.03
		%	33.34	34.10	33.37	31.73
	Large	N	5,401	1,273	3,385	743
		Mean	64.99	55.94	69.24	61.18
		%	33.34	31.57	33.74	34.77

Panel B: Summary Statistics of Focused or Diversifying Deals in Growing, Neutral and Diversifying Deals

			Growing Industries		*Neutral Industries*		*Declining Industries*	
			Diversifying	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Focused*
Mode of Payment	Cash	N	441	772	1,396	2,216	303	519
		%	32.43	28.89	38.73	34.47	41.79	36.76
	Mixed	N	617	946	1,527	2,573	296	538
		%	45.37	35.40	42.37	40.02	40.83	38.10
	Stock	N	302	954	681	1,640	126	355
		%	22.21	35.70	18.90	25.51	17.38	25.14
Relative Target Size	Small	N	493	891	1,272	2,028	252	464
		Mean	2.78	2.84	2.75	2.88	2.86	2.76
		%	36.25	33.35	35.29	31.54	34.76	32.86
	Medium	N	484	891	1,168	2,180	246	432
		Mean	9.97	9.94	10.06	10.13	10.01	10.04
		%	35.59	33.35	32.41	33.91	33.93	30.59
	Large	N	383	890	1,164	2,221	227	516
		Mean	52.35	57.48	81.78	62.66	62.01	60.81
		%	28.16	33.31	32.3	34.55	31.31	36.54

The descriptive statistics in Table 5.3 show that the Business Equipment industry is most active in this sample, followed by Finance, Other and Health. Noteworthy, Finance, Energy and Telecom have a focused deal type rate of over 70 per cent across the full sample. There is no common trend in a shift to focused or diversifying deals in growing or declining industry prospects. Utility firms increase the focused deal type rate to 80 per cent in declining industries. However, the number of deals is too small to draw a reliable conclusion. The remainder of industries indicate rate changes between 0.20 and 11.64 percentage points. The preliminary findings indicate that managers are sensitive to the potential industry growth. The impact of the industry prospects on the gains to acquiring companies is examined in greater detail in the next section.

Table 5.3: Distribution of Deals by Industry

The table presents the distribution of deals per industry by US firms during the period from 01.01.1980 to 31.12.2011. The industry classification is adopted from the Fama and French 12 industry portfolios. Moving medians over 9 quarters are used to measure the industry prospects. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. If acquirer and target have a matching 2-digit SIC code then the deal is categorised as focused, otherwise as diversifying.

	Full Sample				*Growing Industries*				*Neutral Industries*				*Declining Industries*			
	Diversifying		*Focused*		*Diversifying*		*Focused*		*Diversifying*		*Focused*		*Diversifying*		*Focused*	
Industry Classification	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Consumer Non-Durables	287	39.32	443	60.68	70	40.00	105	60.00	193	38.52	308	61.48	24	44.44	30	55.56
Consumer Durables	174	51.63	163	48.37	33	50.00	33	50.00	121	53.54	105	46.46	20	44.44	25	55.56
Manufacturing	946	58.94	659	41.06	207	62.35	125	37.65	569	58.24	408	41.76	170	57.43	126	42.57
Energy	154	24.88	465	75.12	28	25.93	80	74.07	97	24.25	303	75.75	29	26.13	82	73.87
Chemicals	132	43.56	171	56.44	36	43.37	47	56.63	76	45.24	92	54.76	20	38.46	32	61.54
Business Equipment	1,483	35.00	2,754	65.00	343	35.00	637	65.00	970	35.78	1,741	64.22	170	31.14	376	68.86
Telecommunications	216	29.31	521	70.69	61	31.28	134	68.72	132	28.03	339	71.97	23	32.39	48	67.61
Utilities	130	38.81	205	61.19	17	37.78	28	62.22	107	41.15	153	58.85	6	20.00	24	80.00
Shops	552	47.26	616	52.74	110	47.41	122	52.59	363	47.76	397	52.24	79	44.89	97	55.11
Health	474	30.94	1,058	69.06	131	33.42	261	66.58	286	29.85	672	70.15	57	31.32	125	68.68
Finance	362	13.47	2,326	86.53	116	12.13	840	87.87	201	14.28	1,207	85.72	45	13.89	279	86.11
Other	779	40.76	1,132	59.24	208	44.44	260	55.56	489	40.99	704	59.01	82	32.80	168	67.20

5.4 Results

Before analysing the impact of industry prospects on the returns to acquiring firms within a single-factor framework, the overall acquirers' cumulative abnormal returns of the full sample are presented in Panel A of Table 5.4. The average gain to acquirers is qualitative similar with comparable M&A studies. Over a 3-days event window, acquirers gain on average 0.99 per cent. The returns increase to 1.22 and 1.57 per cent over the 5- and 11-days event windows, respectively. The test statistics indicate highly statistically significant results at the 1 per cent level for each event window.

Table 5.4: Full Sample and Corporate Diversification: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1),(-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. Panel A presents the results of the acquirers' returns of the full sample and Panel B by the industry relation of acquirer and target. If acquirer and target have a matching 2-digit SIC code then the deal is categorised as focused, otherwise as diversifying. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by the Full Sample

		(-1, +1)		*(-2, +2)*		*(-5, +5)*	
Full Sample	*N*	*Mean*	*p*	*Mean*	*p*	*Mean*	*P*
All Acquirers	16,202	0.9910***	<.0001	1.2200***	<.0001	1.5729***	<.0001

Panel B: Cumulative Abnormal Returns by the Industry Relation

		(-1, +1)		*(-2, +2)*		*(-5, +5)*	
Industry Relation	*N*	*Mean*	*p*	*Mean*	*p*	*Mean*	*P*
Focused	10,512	0.8873***	<.0001	1.0996***	<.0001	1.3962***	<.0001
Diversifying	5,690	1.1825***	<.0001	1.4425***	<.0001	1.8995***	<.0001
Focused vs. Diversifying		0.2952***	0.0075	0.3429**	0.0125	0.5033***	0.0088

As reference, Fuller et al. (2002) find that acquirers gain on average 1.77 per cent (1 per cent significance level) over a 5-days event window between 1990 and 2000. Rosen (2006) documents that acquirers generate a statistically significant average return of 1.86 per cent over a 5-days event window during the time period from 1982 to 2001. Cai et al. (2011) examine M&A announcements between 1985 and 2009. They measure an average return to acquirers of 0.71 per cent (significance level of 1 per cent) over a 3-days event window.

Statistically significant positive returns to acquiring companies verify the validity of the sample in this study with recent M&A papers and suggest that managers can on average create wealth for their shareholders by engaging in M&A transactions.[58]

5.4.1 Industry Prospects and the Impact on the Gains to Acquirers

This subsection begins by examining the key hypothesis *(H1)* on the expected impact of the prevailing industry prospects on the returns to acquiring companies. The results presented in Table 5.5 show that acquirers in growing industries earn consistently statistically significant (1 per cent level) returns between 1.48 and 1.57 per cent across all three examined intervals. Acquirers with neutral industry prospects earn significant returns between 1.14 and 1.24 per cent and are statistically significant at the 1 per cent level. Takeovers by acquirers in declining industries earn between 0.63 and 0.88 per cent, which are significant at the 1 per cent level, as well. The differences in returns of mergers in growing and declining industries are between 0.68 and 0.94 percentage points. Statistical tests indicate significant differences in returns between deals in growing and declining industries at the 1 per cent level for all intervals.[59]

The positive relationship between the returns to acquiring companies and industry prospects supports hypothesis *(H1)*. The findings suggest that acquirers operating in growing industries generate both statistically and economically significantly higher returns than compared to acquirers in declining industries. Investors may use the relative strength of the past industry performance to evaluate the future outcome of the takeover. Mergers by acquirers taking place in growing industry may be perceived as a strategy to initiate further growth. In this situation, it might be helpful that managers are

[58] The results of 5-days event windows are shown throughout this section, but CARs based on 3- and 11-days event windows are continued to be measured and footnoted if appropriate. The full set of results on the additional event windows are presented in Appendix B.

[59] The 3 and 11-days CARs are qualitatively similar and suggest the same pattern.

not forced to react, but can proactively act. On the other hand, acquirers in declining industries experience a decreasing earnings trend. They face little growth prospects which is subsequently reflected in the announcement returns.

Table 5.5: Industry Prospects: Cumulative Abnormal Returns (-2, +2)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 5-days surrounding the announcement (-2, +2) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry prospects, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcement is above the moving median over the specific period quarters and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcement is below the moving median over the specific period quarters less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Prospects	*N*	*Mean*	*p*	*N*	*Mean*	*P*	*N*	*Mean*	*p*
Growing	3,492	1.5654***	<.0001	4,032	1.4750***	<.0001	4,184	1.5574***	<.0001
Neutral	10,579	1.2226***	<.0001	10,033	1.2392***	<.0001	10,081	1.1424***	<.0001
Declining	2,131	0.6261***	0.0005	2,137	0.6340***	0.0004	1,937	0.8789***	<.0001
Growing vs. Declining		0.9393***	<.0001		0.8410***	0.0001		0.6785***	0.0034

5.4.2 Industry Prospects and Corporate Diversification

Panel B of Table 5.4 again present the acquirers' cross-sectional returns by the industry relation between the acquiring companies and their targets of the full sample before concentrating on the impact of industry prospects. Focused deals earn statistically significant returns of 0.88, 1.10 and 1.40 per cent over the 3-, 5- and 11-days event windows, respectively. Diversifying deals generate with 1.18, 1.44 and 1.89 per cent consistently larger returns during the same event windows, all statistically significant at the 1 per cent level. Tests on the return differences between focused and diversifying deals confirm the statistical significance at least at the 5 per cent level or greater.

On first sight, these results might be surprising, as a common perception is that focused deals should earn higher returns than diversifying deals because operational synergies in focused transactions are considered to be potentially greater than financial

synergies in diversifying deals.[60] However, Akbulut and Matsusaka (2010), who construct a sample period of more than 50 years, point out in their study on corporate diversification that announcement returns of focused and diversifying deals vary over time. Further, diversifying deals were less harmful than focused deals to the shareholders of acquiring companies. The returns from their matching sample period support the results of this study that diversifying deals earn higher returns than focused deals.[61]

Having established first support for the main hypothesis earlier, the returns to acquirers in focused and diversifying deals based on their industry prospects are now examined. Focused deals are expected to earn significantly larger returns in growing than in declining industries, however, industry prospects should not have a significant effect in diversifying deals. As Panel A of Table 5.6 shows, focused deals generate returns between 1.44 and 1.58 per cent in growing industries. The test statistics indicate a significance level of 1 per cent for all intervals. The same deal type earns between 0.48 and 0.72 per cent in declining industries, which are statistically significant at least at the 5 per cent level or greater. The differences in returns from focused deals between growing and declining industries range between 0.83 and 0.86 percentage points, all significant at a significance level of 1 per cent. Highly significant results confirm the expected findings that the prevailing industry prospects have a statistically and economically significant impact on the announcement returns to acquirers in focused deals.

Diversifying deals generate returns between 1.54 and 1.75 per cent in growing industries and the test statistics indicate a significance level of 1 per cent across all intervals. In declining industries, the returns from diversifying deals span from 0.58 to 1.19 per cent and all are statistically significant at least at the 10 per cent level. The

[60] See, for example, Doukas et al. (2002)

[61] Their returns are negative which is most likely due to Akbulut and Matsusaka's (2010) sample criterion of listed targets only.

differences in returns from diversifying deals with growing and declining industries prospects are between 0.33 and 1.17 percentage points. Statistically insignificant test statistics of the 9 and 13 quarterly intervals are in line with the expected results that industry prospects do not have a significant effect on the returns to acquiring companies in diversifying deals.[62]

[62] The 3-days CARs are qualitatively similar and suggest the same patter. The 11-days CARs suggest that industry prospects might have a greater impact over the 5 and 9 quarter intervals.

Table 5.6: Industry Prospects and Corporate Diversification: Cumulative Abnormal Returns (-2, +2)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 5-days surrounding the announcement (-2, +2) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by Industry Prospects and Industry Relation

		5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Growing	2,349	1.4765***	<.0001	2,672	1.4417***	<.0001	2,719	1.5776***	<.0001
	Declining	1,409	0.6511***	0.0027	1,412	0.4788**	0.0259	1,284	0.7218***	0.0025
	Growing vs. Declining		0.8254***	0.0022		0.9629***	0.0002		0.8558***	0.0023
Diversifying	Growing	1,143	1.7480***	<.0001	1,360	1.5406***	<.0001	1,465	1.5199***	<.0001
	Declining	722	0.5773*	0.0734	725	0.9363***	0.0040	653	1.1876***	0.0007
	Growing vs. Declining		1.1708***	0.0036		0.6043	0.1236		0.3323	0.4153

Panel B: Cumulative Abnormal Returns by Industry Relation and Industry Prospects

		5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Prospects	*Industry Relation*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Growing	Focused	2,349	1.4765***	<.0001	2,672	1.4417***	<.0001	2,719	1.5776***	<.0001
	Diversifying	1,143	1.7480***	<.0001	1,360	1.5406***	<.0001	1,465	1.5199***	<.0001
	Focused vs. Diversifying		0.2715	0.3442		0.0989	0.7096		0.0578	0.8226
Declining	Focused	1,409	0.6511***	0.0027	1,412	0.4788**	0.0259	1,284	0.7218***	0.0025
	Diversifying	722	0.5773*	0.0734	725	0.9363***	0.0040	653	1.1876***	0.0007
	Focused vs. Diversifying		0.0739	0.8491		0.4575	0.2394		0.4658	0.2637

The findings confirm hypotheses *(H2.1)* and *(H2.2)*. Highly statistically significant differences in returns suggest that focused deals earn more in industries with positive than with negative prospects. For diversifying deals, this is only true for the 5 quarters interval. Considering longer intervals, diversifying deals earn statistically similar returns in growing and declining industries. This suggests that mainly focused deals are affected by industry prospects. The prevailing industry outlook is a significant factor for acquirers in focused deals, as an industry-related target enhances the concentration on the acquirer's industry. In diversifying deals, a new business segment reduces corporate risk because a new uncorrelated cash flow stream is expected to generate a diversification effect.

As earlier argued, the target's industry prospects might be a significant factor to the returns to acquirers. In focused deals, acquirers and targets operate in the same industry and therefore, the influence of the industry growth rate remains unchanged on the combined company's growth rate. In diversifying deals, however, the growth rate is to some extent a function of the acquirer's and target's industry growth rate. Assuming an efficient market, a direct comparison of focused and diversifying deals should provide evidence on what acquisition strategy is preferred by investors with respect to the outlook of an industry. Industry prospects are expected to influence the investor's perception of these acquisition strategies. In growing industries, acquirers proactively engage in takeovers to promote further growth and the investors' perception of these companies should on average be positive. This is why focused and diversifying deals are expected to generate similar returns in growing industry prospects. In declining industries, an industry-unrelated target diversifies the influence of the current negative industry growth prospects to another industry. Diversifying acquisitions should initiate new impulses for growth and as a result, such deals should lead to positive returns. On the contrary, focused deals emphasise the current business activity. In a negative

industry environment, however, this might not be regarded as an optimal strategy. Hence, the market appreciates diversifying deals with significantly greater returns than focused deals in declining industries.

Panel B of Table 5.6 presents the return differences between focused and diversifying deals by industry prospects. In growing industries, the 5 quarters interval shows that diversifying deals earn by 0.27 percentage points higher returns than focused deals. The 9 and 13 quarters intervals indicate that focused and diversifying deals break even with differences of 0.10 and 0.06 percentage points, respectively. Statistical tests confirm that focused and diversifying deals earn similar returns in growing industries.

The results from deals announced in industries with declining industry prospects suggest the opposite pattern. The difference in returns between focused and diversifying deals of 0.07 percentage points over the 5 quarters interval is not statistically different from 0. The differences increase to 0.46 and 0.47 percentage points over the 9 and 13 quarters intervals, respectively. Overall, longer intervals are in line with the expected results.[63] These results also suggest a behavioural bias regarding the investors' preferences on the acquisition strategies in growing and declining industries. Investors seem to be indifferent regarding the acquisition strategies in growing industries. In both deal types, acquiring companies may be expected to continue with the past performance and engage in further wealth creating takeovers. However, the results from deals in declining industries suggest that investors prefer acquirers to diversify their business activities and seek new growth opportunities outside of acquirer's industry. Further, the mentioned lower risk level due to the diversification effect might give rise to higher returns in diversifying deals.

[63] The 3-days CARs confirm this finding with statistically significant and even larger differences in mean returns. The results of the 11-days CARs do not reveal a clear picture.

5.4.3 Industry Prospects, Corporate Diversification and Relative Target Size

The relative size of the target as presented in Table 5.7 is the focus in this subsection. The relative target size is expected to have an enhancing impact of the industry prospects on the returns to acquirers in focused deals. On the other hand, industry prospects are expected have less influence on the gains from diversifying deals.

Focused takeovers of large targets in growing industries earn between 1.66 and 1.88 per cent, all significant at the 1 per cent level. In declining industries, similar deals produce returns between 0.31 and 1.03 per cent. Only the 5 quarter interval indicates a significance level of 5 per cent. The differences range from 0.59 to 1.36 percentage points and the return differences of the 9 and 13 quarters intervals suggest statistical significance levels of 1 and 5 per cent, respectively. Medium-sized targets lead to returns between 1.44 and 1.61 per cent in growing industries and between 0.78 and 0.84 per cent in declining industries. The statistical tests indicate that the returns from such deals in growing industries are statistically significant at the 1 per cent level and in declining industries, they are statistically significant at the 5 per cent level. The differences in returns between growing and declining industries span from 0.60 to 0.83 percentage points. The 5 quarters interval indicates a significance level of 10 per cent. Relatively small target acquisitions produce returns between 1.19 and 1.32 per cent in growing industries, all statistically significant the 1 per cent level. In declining industries, the returns are between 0.14 and 0.70 per cent. The return of the 13 quarters interval is statistically significant at the 10 per cent level. The test results suggest for the 5 and 9 quarters intervals statistically significant differences at the 1 and 5 per cent level, respectively. Longer intervals are in line with the expected results that industry prospects have a significant impact on the returns to acquiring companies, whereas

smaller takeover targets exhibit a smaller impact.[64]

Diversifying deals with large targets generate between 1.82 and 2.32 per cent in growing industries, all statistically significant at the 5 per cent level. In declining industries, the returns range from 1.44 to 1.63 per cent, which are also statistically significant at the 5 per cent level. The statistical tests on the differences in returns between 0.19 and 0.89 percentage points indicate no statistically significant differences. Medium-sized target takeovers in growing industries lead to returns between 1.49 and 2.14 per cent, all statistically significant at the 1 per cent level. In comparison, similar deals produce returns between -0.04 and 1.05 per cent in declining industries. Only the return of the 13 quarters interval reaches the 10 per cent significance level. The differences range between 0.65 and 2.17 percentage points and except the 5 quarters interval, no statistical significance is indicated. Diversifying takeovers of small targets generate in growing industries positive gains of between 0.78 and 1.04 per cent, all significant at least at a 5 per cent level or greater. In declining industries, the returns range from 0.33 to 0.88 per cent and only the gain of the 13 quarters interval is statistically significant at the 10 per cent level. The differences are between 0.16 and 0.45 percentage points and indicate no statistical significance. Overall, the findings are consistent with the view that the returns from diversifying deals are less influenced by industry prospects and the relative target size has not a pronounced effect.[65]

[64] The 3- and 11-days CAR results support the hypothesis that larger targets in focused deals contribute to a statistical and economic significant impact of the prevailing industry prospects, whereas acquisitions of relatively small targets do not exhibit this effect.

[65] The 3-days CARs support this finding.

Table 5.7: Industry Prospects, Corporate Diversification and Relative Target Size: Cumulative Abnormal Returns (-2, +2)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 5-days surrounding the announcement (-2, +2) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. The relative target is calculated as the ratio of the deals size to the acquirer's market capitalisation. The ratios within the specific deal type are split by the size into three equally-weighted groups. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Relative Target Size*	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Large	Growing	783	1.6257***	<.0001	891	1.6660***	<.0001	906	1.8756***	<.0001
		Declining	470	1.0319**	0.0169	471	0.3050	0.4660	428	0.6231	0.1735
		Growing vs. Declining		0.5937	0.2574		1.3610***	0.0068		1.2525**	0.0192
	Medium	Growing	783	1.6145***	<.0001	891	1.4429***	<.0001	907	1.5388***	<.0001
		Declining	470	0.7824**	0.0351	471	0.8386**	0.0235	428	0.8383**	0.0432
		Growing vs. Declining		0.8321*	0.0661		0.6043	0.1690		0.7004	0.1432
	Small	Growing	783	1.1895***	<.0001	890	1.2159***	<.0001	906	1.3185***	<.0001
		Declining	469	0.1380	0.6647	470	0.2924	0.3655	428	0.7041*	0.0528
		Growing vs. Declining		1.0515***	0.0090		0.9235**	0.0200		0.6145	0.1527
Diversifying	Large	Growing	381	2.3241***	<.0001	453	2.2498***	<.0001	488	1.8200***	<.0001
		Declining	241	1.4375**	0.0482	242	1.6153**	0.0223	218	1.6336**	0.0302
		Growing vs. Declining		0.8866	0.3131		0.6345	0.4478		0.1864	0.8283
	Medium	Growing	381	2.1368***	<.0001	454	1.4924***	0.0001	489	1.6986***	<.0001
		Declining	241	-0.0376	0.9350	242	0.7142	0.1819	218	1.0489*	0.0638
		Growing vs. Declining		2.1745***	0.0006		0.7782	0.2195		0.6496	0.3219
	Small	Growing	381	0.7832**	0.0147	453	0.8797***	0.0059	488	1.0407***	0.0007
		Declining	240	0.3309	0.4525	241	0.4776	0.2417	217	0.8789*	0.0624
		Growing vs. Declining		0.4523	0.3964		0.4021	0.4460		0.1618	0.7704

Similar to earlier findings, industry prospects have a greater impact on the gains from focused deals than diversifying deals. Focused deals concentrate on the main business activities and the company's future performance is more reliant on the industry growth rate. This effect is more pronounced for relatively large targets. Due to the size effect, large target takeovers have a greater impact on the combined company in form of higher absolute dollar gains. In comparison, relatively small target takeovers generally underperform large target takeovers. A diversifying acquisition strategy, however, spreads the growth opportunities beyond the acquirer's main industry. The results also indicate that large diversifying takeovers in declining industries are preferred, possibly due to a substantial reduction of the dependence on the current industry growth, as well as, the acquisition of growth opportunities in other industries. Overall, the results confirm the predictions in hypotheses *(H3.1)* and *(H3.2).*

5.4.4 Industry Prospects, Corporate Diversification and Mode of Payment

Table 5.8 presents the returns to acquiring companies from diversifying and focused deals based on the mode of payment and industry prospects. As in hypotheses *(H4.1)* and *(H4.2)* stated, not only evidence on an impact of industry prospects on the returns in focused deals are expected, but also evidence on valuation signals from the mode of payment. On the other hand, the results are expected to provide support for the risk transfer argument from the payment method in diversifying deals.

Table 5.8: Industry Prospects, Corporate Diversification and Mode of Payment: Cumulative Abnormal Returns (-2, +2)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 5-days surrounding the announcement (-2, +2) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. Cash are deals with cash only offers and are deals with stock only offers are stock. A combination of both is considered as mixed. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1 per cent, 5 per cent and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by Industry Relation, Mode of Payment and Industry Prospects

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Payment Method*	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Cash	Growing	689	1.7333***	<.0001	772	1.6068***	<.0001	753	1.9810***	<.0001
		Declining	473	1.0321***	0.0014	519	0.9317***	0.0022	481	1.0583***	0.0021
		Growing vs. Declining		0.7013*	0.0905		0.6751*	0.0869		0.9227**	0.0320
	Mixed	Growing	835	2.1639***	<.0001	946	2.0967***	<.0001	1,062	2.0193***	<.0001
		Declining	581	1.3229***	0.0004	538	0.9836**	0.0121	485	1.1419***	0.0072
		Growing vs. Declining		0.8410*	0.0731		1.1131**	0.0183		0.8774*	0.0721
	Stock	Growing	825	0.5663**	0.0349	954	0.6585***	0.0070	904	0.7228***	0.0062
		Declining	355	-0.9559**	0.0232	355	-0.9483**	0.0248	318	-0.4277	0.3784
		Growing vs. Declining		1.5222***	0.0020		1.6068***	0.0007		1.1505**	0.0376
Diversifying	Cash	Growing	375	1.8250***	<.0001	441	1.6061***	<.0001	450	1.3382***	<.0001
		Declining	267	1.0392**	0.0244	303	1.1710***	0.0092	274	1.3905***	0.0028
		Growing vs. Declining		0.7858	0.1733		0.4351	0.4277		0.0523	0.9247
	Mixed	Growing	502	1.5866***	<.0001	617	1.3525***	<.0001	681	1.5125***	<.0001
		Declining	321	0.1365	0.7834	296	0.6802	0.2109	262	0.8993	0.1386
		Growing vs. Declining		1.4501**	0.0183		0.6723	0.2887		0.6132	0.3670
	Stock	Growing	266	1.9441***	0.0013	302	1.8293***	0.0017	334	1.7797***	0.0011
		Declining	134	0.7125	0.4159	126	0.9736	0.2485	117	1.3583	0.1323
		Growing vs. Declining		1.2316	0.2388		0.8557	0.4133		0.4214	0.6897

Table 5.8 Continued

Panel B: Cumulative Abnormal Returns by Industry Relation, Industry Prospects and Mode of Payment

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Industry Prospects*	*Payment Method*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Growing	Cash	689	1.7333***	<.0001	772	1.6068***	<.0001	753	1.9810***	<.0001
		Stock	825	0.5663**	0.0349	954	0.6585***	0.0070	904	0.7228***	0.0062
		Cash vs. Stock		1.1670***	0.0019		0.9483***	0.0068		1.2582***	0.0008
	Declining	Cash	473	1.0321***	0.0014	519	0.9317***	0.0022	481	1.0583***	0.0021
		Stock	355	-0.9559**	0.0232	355	-0.9483**	0.0248	318	-0.4277	0.3784
		Cash vs. Stock		1.9879***	0.0002		1.8799***	0.0003		1.4860**	0.0126
Diversifying	Growing	Cash	375	1.8250***	<.0001	441	1.6061***	<.0001	450	1.3382***	<.0001
		Stock	266	1.9441***	0.0013	302	1.8293***	0.0017	334	1.7797***	0.0011
		Cash vs. Stock		0.1191	0.8631		0.2232	0.7348		0.4415	0.4765
	Declining	Cash	267	1.0392**	0.0244	303	1.1710***	0.0092	274	1.3905***	0.0028
		Stock	134	0.7125	0.4159	126	0.9736	0.2485	117	1.3583	0.1323
		Cash vs. Stock		0.3268	0.7408		0.1974	0.8358		0.0323	0.9745

Cash payment in focused deals earn between 1.61 and 1.98 per cent in growing industries and between 0.93 and 1.06 per cent in declining industries. All returns are statistically significant at the 1 per cent level. The return differences of deals with cash payments in growing and declining industries span between 0.68 and 0.92 percentage points. The results of the 5 and 9 quarters intervals are statistically significant at the 10 per cent level and the 13 quarter interval indicates the statistical significance level of 5 per cent. Stock payments generate gains between 0.57 and 0.72 per cent in growing industries, all statistically significant at least at the 5 per cent level or greater. In declining industries, the same deal type leads to negative returns between -0.43 and -0.96 per cent. The 5 and 9 quarters intervals results are statistically significant at the 5 per cent level. The return differences from stock deals in growing and declining industries range between 1.15 and 1.61 percentage points and are statistically significant at the 5 per cent level. The 5 and 9 quarters intervals indicate a significance level of 1 per cent. The results confirm that in focused deals the valuation signal of the payment method and industry prospects are reflected in the gains to acquiring companies. As a result, cash deals generate higher returns than stock deals and for each payment method, deals in growing industries earn more than in declining industries.[66]

Diversifying deals with cash payments earn between 1.34 and 1.83 per cent in growing industries, which are all statistically significant at the 1 per cent level. In declining industries, cash payments lead to returns between 1.04 and 1.39 per cent. The 5 quarters interval result is statistically significant at the 5 per cent level and the remaining intervals are statistically significant at the 1 per cent level. The differences in returns vary between 0.05 and 0.79 percentage points and the statistical tests suggest that the differences in returns are not different from 0. Stock deals generate returns between 1.78 and 1.94 per cent in growing industries, which are statistically significant

[66] The 3-days CARs exhibit an even more pronounced pattern.

at the 1 per cent level. On the other hand, stock payments in declining industries lead to returns between 0.71 and 1.36 per cent. The differences in returns are between 0.42 and 1.23 per cent, but no statistical significance is indicated. The results show that industry prospects do not have a significant effect on the acquirers' gains from diversifying deals, supporting the argument that contrary to a valuation-driven choice of the payment method in focused deals, the rational in diversifying deals is closer related to a risk transfer aspect. Further contributes to this reasoning that stock payments in diversifying deals generate large positive returns and large significant negative gains in focused deals.[67]

The findings support hypotheses *(H4.1)* and *(H4.2)* that based on the perceived information from the mode of payment, the returns from focused deals differ in growing and declining industries. As focused deals lead to a greater concentration on the acquirer's industry, industry prospects and the signal of the acquiring managers' perception of their company's current valuation are both reflected in the gains. The findings again confirm that focused deals are the deal type, which are more affected by industry prospects. This is most obvious when cash deals in growing and stock deals in declining industries are compared. Cash deals in growing industries lead to the largest wealth creation, whereas stock deals in declining industries have the largest wealth destructing effect. On the other hand, the results suggest a different pattern in diversifying deal. The benefits and risks from corporate diversification are perceived differently with respect to the mode of payment. Irrespective of industry prospects, positive returns from diversifying deals with stock payments suggest that investors appreciate the risk reduction from stock payments. For both payment methods, only weak evidence suggest that different industry prospects have a pronounced effect on the returns from this deal type. Instead, statistically indifferent returns of cash and stock

[67] The 3-days CARs show even greater support.

payments in growing and declining industries suggest that investors appreciate corporate diversification. This is most noticeable by comparing stock payments in focused and diversifying deals in declining industries, where the difference in gains is about 2 percentage points.

Panel B of Table 5.8 contains additional tests on the differences in cash and stock payments within the same industry condition. The differences in returns from focused deals in growing industries range from 0.95 to 1.26 percentage points. All results are highly statistically significant at the 1 per cent level. The differences in returns are slightly higher in declining industries. They are between 1.49 and 1.99 percentage points and all statistically significant at around the 5 per cent level or greater.

On the other hand, diversifying deals in growing and declining industries lead to statistically similar returns based on cash or stock payments. In growing industries, the differences in returns between cash and stock payments span from 0.12 to 0.44 percentage points and are statistically insignificant. In declining industries, the return differences between stock and cash payments of 0.03 and 0.33 percentage points are statistically insignificant, as well.

These results further support the hypothesis that the industry growth potential has a greater impact on the gains to acquiring companies in focused deals. This is most obvious in declining industries, where cash payments generate positive returns and stock payments negative returns. On the other hand, diversifying deals with cash and stock offers in growing industries lead to similar results and in declining industries slightly higher returns from stock offers. In the vein of Hansen's (1987) risk transfer argument, the positive returns from cash payments indicate the acquiring management team is highly confident in a positive outcome of the merger.

5.4.5 Multivariate Results

In this section, the findings of the univariate analysis are re-examined in a multi-factor framework in order to confirm their validity under the influence of other significant M&A factors. In Table 5.9, the hypotheses on the effects of growing and declining industries on the returns to acquiring firms are tested. To verify the significance of the impact of industry prospects in M&A, only deals announced in growing and declining industry conditions are considered. For this purpose, the value of the *Growing* dummy variable is 1 if the deal is announced within growing industry prospects and the value of 0 if the deal is announced within declining industry prospects.[68] This comparison directly tests the impact of industry prospects and their difference in returns while controlling for other significant factors. Further, specific subsamples are used to test the hypotheses in each regression. Hence, focused or diversifying deals are the scope in model (2) and (3), and model (4) and (5) are additionally filtered for relatively large targets and model (6) to (9) for deals with cash-only and stock-only payments. Moreover, the magnitude of the impact on the gains to acquiring companies are examined and the results are presented in Table 5.10. The mentioned key variable for the *Growing* and *Declining* binary variables is substituted, i.e. the *Growing* variable is equal to 1 if the deal is announced in a growing industry, otherwise 0. The *Declining* dummy takes on the value of 1 if the deal is announced in a declining industry, otherwise 0. The control variables remain unchanged in this regression analysis. As a consequence of these two different approaches, the sample sizes differ in Table 5.9 and Table 5.10.

The F-statistics in Table 5.9 indicate a significant fit of the models in explaining the variation of the dependent variable. The adjusted R^2 of the models ranges from 1.48 to

[68] In Appendix B, further investigations are presented using a binary variable where the value is 1 if the deal is announced within growing industry prospects and the value of 0 if deals take place in neutral or declining industries (e.g. full sample). Further, the regression results based on a 3- and 11- days event window are provided in Appendix B. These results are commented if appropriate.

8.59 per cent. Considering the number of dummy variables in the regression models, the level is common for this research area. For instance, Fuller et al. (2002) present in their M&A study on the target's public listing similar figures from their dummy-dominated regressions.

The overall impact of industry prospects on the returns to acquiring firms is tested in model (1). The control variables show a familiar pattern from recent M&A studies. For instance, a statistically significant intercept of 3.41 per cent confirms that acquirers on average experience a positive gain around the announcement. A relatively small coefficient of -0.01 per cent, as well as, statistically insignificant test statistics suggest that focused and diversifying deals generate similar returns. Large targets contribute to statistically significantly higher gains of 0.55 percentage points, indicating a greater impact of larger targets on the future results of the combined company. Cash payments generate on average higher returns of 0.55 percentage points, whereas stock payments lead to lower returns of 0.06 percentage points. The p-values, however, indicate that both coefficients are statistically insignificant. Acquirers experience with public and private targets statistically significantly lower gains. The negative impact of a public target is with -2.94 percentage points substantially larger than of a private target with an estimate of -0.69 percentage points. Further, a statistically significant estimate of -0.28 suggests an inverse relationship between the acquirer's size and announcement returns. The cross-border and hostile takeover proxies are statistically insignificant.

Table 5.9: Multivariate Framework: Industry Prospects (Growing and Declining Industry Prospects Only) (-2, +2)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 5-days abnormal returns (-2, +2) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 if it is announced in a declining industry. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.41220***	3.73936***	2.98784***	3.54940***	6.22166***	0.93992	3.51877**	2.96282**	1.99311
	(<.0001)	(<.0001)	(0.0013)	(0.0006)	(0.0002)	(0.3539)	(0.0339)	(0.0233)	(0.4320)
Growing	0.82508***	0.98668***	0.57650	1.60757***	0.42695	0.63771	1.15091***	0.46735	0.60494
	(0.0001)	(0.0001)	(0.1373)	(0.0009)	(0.6155)	(0.1051)	(0.0147)	(0.3798)	(0.5467)
Focused	-0.01109								
	(0.9602)								
Large Target	0.55282**	0.23278	1.15676**			1.79814***	0.11553	1.81542**	1.13050
	(0.0322)	(0.4380)	(0.0186)			(0.0010)	(0.8251)	(0.0296)	(0.4246)
Cash	0.06008	-0.44544	0.93380**	0.60107	1.40229				
	(0.8033)	(0.1390)	(0.0224)	(0.3143)	(0.1168)				
Stock	-0.21561	-0.77338**	1.02930*	-0.20995	1.44494				
	(0.4300)	(0.0131)	(0.0659)	(0.7039)	(0.2637)				
Public Target	-2.94443***	-3.14270***	-2.55982***	-5.25087***	-5.90894***	-1.46850***	-4.18094***	-2.49591***	-2.22023
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0050)	(0.0005)	(0.0001)	(0.2445)
Private Target	-0.68895**	-1.00323***	-0.21045	-1.49661**	-0.39829	-0.36902	-1.23234	-0.70985	1.21807
	(0.0104)	(0.0031)	(0.6341)	(0.0328)	(0.7020)	(0.4040)	(0.3098)	(0.2526)	(0.4712)

Table 5.9 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Focused*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(4)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.28393***	-0.24951***	-0.35895***	-0.13705	-0.55924**	0.00088	-0.23908*	-0.21265	-0.17311
	(<.0001)	(0.0013)	(0.0017)	(0.3211)	(0.0276)	(0.9945)	(0.0845)	(0.1553)	(0.5765)
Cross-Border	-0.12849	-0.19566	-0.15458	0.26931	-0.13907	-0.16014	-2.03136**	0.07809	-0.91728
	(0.6887)	(0.6179)	(0.7809)	(0.7361)	(0.9144)	(0.7570)	(0.0391)	(0.9012)	(0.5787)
Hostile	0.41113	1.23747	-0.62338	1.31560	2.09467	1.84016	-2.96044	1.14296	-2.61442
	(0.6483)	(0.3472)	(0.5625)	(0.4574)	(0.1407)	(0.1425)	(0.2821)	(0.5500)	(0.5537)
N	6,169	4,084	2,085	1,406	610	1,291	1,309	744	428
F-Statistics	24.04***	17.84***	7.81***	15.71***	8.15***	3.78***	11.84***	4.20***	1.90***
R^2 *(%)*	3.30	3.79	3.28	8.25	9.79	2.02	5.99	3.84	3.08
Adjusted R^2 *(%)*	3.15	3.58	2.86	7.73	8.59	1.48	5.48	2.93	1.46

The variable of interest is the *Growing* industry dummy. Similar to the univariate results, the coefficient suggests a higher return of 0.83 percentage points if the acquirer operates in a growing industry than compared to an acquirer in a declining industry. The p-value indicates a statistical significance level of 1 per cent. This result supports the main hypothesis *(H1)* that industry prospects have a significant effect on the acquirer's returns and the effect is still present after controlling for influential M&A factors.[69]

The discussion proceeds by focusing on the estimates of the *Growing* industry dummy and comments on control variables if these show a significant difference from model (1).

By splitting the sample by focused and diversifying deals, regressions (2) and (3) examines the effect of industry prospects on such deals. The *Growing* dummy suggests that acquirers in focused deals earn 0.99 percentage points more in growing industry than in declining industry, which is statistically significant at the 1 per cent level. On the other hand, the test statistics suggest that diversifying deals generate similar results in growing and declining industries. The coefficient indicates that such deals earn 0.58 percentage points more in growing than declining industries, however, the estimate is not statistically significantly different from 0. Consistent with hypotheses *(H2.1)* and *(H2.2)*, industry prospects have a greater impact on focused than diversifying deals. Arguably, the dependence on the acquirer's future industry growth is enhanced in focused deals and therefore, industry prospects play an important role for the future success of the company. On the contrary, the acquirer's industry prospects play a less significant role in diversifying deals because the acquiring company spreads with a more diversified business the growth potential to new industries.[70]

Model (4) and (5) test the impact of industry prospects on focused and diversifying

[69] The results on the full sample and results based on the 3- and 11-days CARs are qualitatively similar.

[70] The results on the full sample and results based on the 3-days CARs are qualitatively similar. The 11-days CARs on the full sample are also qualitatively similar. Based on a direct comparison, the impact of industry prospects on the statistically significant in focused and diversifying deals and have a similar impact.

deals based on large target takeovers. The key variable suggests that returns are 1.61 percentage points higher in focused deals if the acquirer operates in a growing industry, which is statistically significant at the 1 per cent level. Compared to the full sample (1) and the focused deals subsample (2), the coefficient increases substantially. As proposed, large targets magnify the industry's prospects in focused deals. For diversifying deals, the coefficient is also positive, but statistically insignificant. Possibly due to the acquisition of new growth opportunities outside of the acquirer's industry, diversification strategies may be appreciated in growing, as well as, declining industries. Overall, these findings again confirm that industry growth prospects play a greater role in industry-related than industry-unrelated acquisitions.

Regression (6) to (9) examine the impact of industry prospects on the gains to acquiring companies in focused and diversifying and by the mode of payment. The results based on cash and stock payments in focused deals are presented in models (6) and (7). Regression (6) shows that deals with cash payments in growing industries lead to higher returns of 0.64 percentage points. The test statistics indicate a significance level of 10.51 per cent. Similarly, regression (7) indicates that deals with stock payments generate higher returns of 1.15 percentage points if focused deals are announced in growing industries. The coefficient is statistically significant at the 1 per cent level. Both *Growing* industry growth coefficients suggest that the valuation signal of the payment method, as well as, industry prospects are reflected in the gains to acquirers from focused deals.[71] These findings align with the presented results from the univariate framework and confirm hypothesis *(H4.1)*.

Model (8) and (9) present the results from diversifying deals and by the mode of payment. For cash deals, the *Growing* industry dummy is 0.47 percentage points and statistically insignificant. In stock deals, the *Growing* industry dummy is 0.60

[71] The results on the full sample and the 11-days CARs on the full sample are also qualitatively similar. In case of the 3-days CARs and the 11-days CARs, industry prospects are in both regression models statistically significant.

percentage points and also statistically insignificant. Large p-values confirm hypothesis *(H4.2)* that industry prospects have a less pronounced effect on the returns to acquiring companies in diversifying deals. Investors may realise that operational synergies are limited from acquisitions of industry-unrelated targets and the managers' expertise might not cover the newly acquired industry requirements.[72] As a whole, the regressions show that the impact of industry prospects is robust to other influential M&A factors. As expected, the results suggest that industry prospects have a greater impact on the returns from focused deals.

Having confirmed a significant impact of industry prospects on the returns in a multi-factor framework, the magnitude of the impact is investigated in Table 5.10. The same regression models as reported above are used, but a *Declining* industry dummy is added.[73] The *Growing* variable is equal to 1 if the deal is announced in a growing industry, otherwise 0. The *Declining* dummy takes on the value of 1 if the deal is announced in a declining industry, otherwise 0. The F-statistics and adjusted R^2 remain at similar levels across regression (1) to (9).

[72] The regressions on the full sample confirm the presented results. The Growing Industry coefficients exhibit qualitatively similar magnitudes and statistical significance. The 3-days CARs, industry prospects are statistically insignificant as well. In case of the 11-days CARs, industry prospects in diversifying deals with cash payments are statistically significant.

[73] Control variables are commented if they are qualitatively different to previous reported results.

Table 5.10: Multivariate Framework: Industry Prospects (Full Sample, Growing and Declining Industry Prospects Variable) (-2, +2)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 5-days abnormal returns (-2, +2) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 otherwise. *Declining* is a binary variable, which takes on the value of 1 if the deal is announced in a declining industry and 0 otherwise. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.57005***	3.57987***	3.49250***	4.90444***	6.92542***	2.35670***	3.72684***	3.22346***	4.83154***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0001)	(<.0001)	(0.0011)
Growing	0.33328**	0.41337**	0.23294	0.70743**	0.58500	0.21311	0.43140	0.30092	0.64663
	(0.0201)	(0.0173)	(0.3584)	(0.0364)	(0.2964)	(0.4555)	(0.1589)	(0.4010)	(0.3338)
Declining	-0.50752***	-0.60062***	-0.31799	-1.02610**	0.08597	-0.44587	-0.80257*	-0.15336	0.11003
	(0.0086)	(0.0098)	(0.3552)	(0.0152)	(0.9089)	(0.1815)	(0.0793)	(0.7475)	(0.9030)
Focused	-0.02769								
	(0.8327)								
Large Target	0.56404***	0.40816**	0.84156***			1.36899***	-0.58568*	1.63472***	-0.37913
	(0.0002)	(0.0251)	(0.0025)			(<.0001)	(0.0972)	(0.0006)	(0.6246)
Cash	0.06382	-0.25498	0.62275***	0.34967	1.19296**				
	(0.6518)	(0.1509)	(0.0080)	(0.3205)	(0.0203)				
Stock	-0.30824*	-0.66065***	0.46545	-1.05710***	-0.02883				
	(0.0722)	(0.0009)	(0.1645)	(0.0035)	(0.9685)				
Public Target	-2.67442***	-2.85781***	-2.30610***	-4.31288***	-4.11375***	-0.92919***	-3.50858***	-1.66558***	-2.38869**
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0026)	(<.0001)	(<.0001)	(0.0250)
Private Target	-0.44030***	-0.63456***	-0.13511	-0.83934**	-0.73211	-0.43460*	-0.60748	-0.33736	0.23321
	(0.0046)	(0.0014)	(0.5899)	(0.0422)	(0.2043)	(0.0972)	(0.4201)	(0.3279)	(0.8129)

Table 5.10 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.25874*** (<.0001)	-0.20748*** (<.0001)	-0.34259*** (<.0001)	-0.26958*** (0.0022)	-0.71000*** (<.0001)	-0.15054** (0.0396)	-0.22742** (0.0161)	-0.26065*** (0.0062)	-0.44475** (0.0122)
Cross-Border	0.05230 (0.7913)	0.37828 (0.1396)	-0.55161* (0.0752)	0.98380* (0.0766)	-1.39610** (0.0477)	-0.07735 (0.8077)	-0.21831 (0.7751)	-0.04551 (0.9033)	-3.20598*** (0.0004)
Hostile	0.72054 (0.2417)	1.52021 (0.1417)	-0.15280 (0.8234)	1.91197 (0.1546)	1.24734 (0.1926)	2.15327* (0.0925)	-3.62855 (0.1127)	-1.71419** (0.0464)	2.01331 (0.5959)
N	16,202	10,513	5,689	3,627	1,774	3,507	2,949	2,140	1,109
F-Statistics	43.74***	34.90***	16.26***	32.31***	13,82***	7.02***	19.99***	8.52***	5.72***
R^2 (%)	2.89	3.22	2.78	7.44	6.59	1.58	5.16	3.10	3.99
Adjusted R^2 (%)	2.82	3.12	2.61	7.21	6.11	1.35	4.90	2.73	3.29

In model (1), which uses the full sample, deals with growing industries prospects earn 0.33 percentage points more, whereas the in declining industries acquirers earn -0.51 percentage points less. Both coefficients are statistically significant, the *Growing* industries coefficient at the 5 per cent level and the *Declining* industries coefficient at the 1 per cent level. This suggests that both industry prospects have a significant effect on the announcement returns. Further, the coefficients indicate that a negative outlook has a slightly greater impact.[74]

In model (2) and (3), the sample is split by the industry relation between acquirer and target to analyse the magnitude of the impact. In focused deals, acquirers generate higher returns of 0.41 percentage points in growing industries and in declining industries the return is by -0.60 percentage points lower. The *Growing* industry dummy is again significant at the 5 per cent level and the *Declining* industry variable at the 1 per cent level. On the other hand, diversifying deals in growing industries generate higher returns of 0.23 percentage points and lower returns of -0.32 percentage points in declining industries. The test statistics suggest that both coefficients are statistically not different from 0. This again provides evidence that focused deals experience generally a greater impact by industry prospects. Moreover, the estimates suggest that declining industry prospects have a slightly larger impact on the acquirers' gains.[75]

The magnitude of the impact based on relatively large targets is examined in model (4) and (5). Focused deals earn statistically significantly higher returns by 0.71 percentage points in growing industries and significantly lower gains of -1.03 percentage points in declining industries. The test statistics suggest that diversifying takeovers of large targets in growing industries lead to higher returns of 0.59 percentage points, which is statistically insignificant. A statistically insignificant estimate of 0.09

[74] The results of the 3- and 11-days CARs are qualitatively similar. Indeed, the results suggest that the impact increases with longer event windows.

[75] The results of the 3-days CARs are qualitatively similar. The declining industry coefficient based on the 11-days CARs in diversifying deals exhibit a statistically significance.

indicates that a declining industry environment have hardly any impact on the acquirer's gains from diversifying deals with large targets. A comparison of the estimates from focused deals suggests that negative industry prospects have a greater impact than positive industry prospects on the gains. Despite statistically insignificant coefficients, some economic relevance can be attributed to a greater impact of growing industry prospects on the returns from diversifying deals. Moreover, the results support the hypothesis and previous findings that industry prospects have a greater impact on focused deals than diversifying deals and the relative target size has an enhancing effect in focused deals.[76]

In model (6) to (9), the focus lies on the impact of industry prospects based on the mode of payment in focused (regression 6 and 7) and diversifying deals (regression 8 and 9). Similar to previous observations, declining industries have a greater impact than growing industries on the gains from focused deals. In detail, focused deals with cash payments generate higher returns of 0.21 percentage points in growing industry conditions and lower returns of -0.45 percentage points if such deals are announced within declining industry prospects. Both coefficients are statistically significant at the 5 per cent level. With respect to stock payments in focused deals, such deals earn 0.43 percentage points more in growing industries prospects. However, the test statistics indicates a statistically insignificant coefficient. The *Declining* industry prospects variable indicates that focused deals in such industries earn -0.80 percentage points less if the target is paid in stocks, which is statistically significant at the 10 per cent level. For diversifying deals, regressions (8) and (9) show a similar pattern first observed in model (5) that positive industry prospects have a greater impact than compared to negative prospects. The *Growing* industry variable has coefficients of 0.30 in cash and of 0.65 in stock payments. On the other hand, cash payments underperform by -0.15

[76] The results of the 3- and 11-days CARs are qualitatively similar. Further, the results suggest that the relatively large targets have a magnifying effect once the event windows are increased.

percentage points in declining industry prospects, whereas the same industry condition has a positive impact of 0.11 percentage points in deals with stock offers. The p-values suggest that all coefficients are not statistically different from 0.[77]

As a whole, the results confirm the earlier reported findings that the acquirer's industry prospects have a significant impact on the announcements gains. Moreover, the regression results suggest that a negative industry outlook has a greater impact than a positive outlook in focused deals. Investors might be sceptical about an acquisition of an industry-related target to react to a declining industry environment. On the other hand, economically relevant estimates suggest that growing industry prospects have a greater impact in diversifying deals. This acquisition strategy might be considered to promote further future growth, once the current acquirer's main industry returns to normal growth rates. Further, statistically insignificant variables suggest that investors might not be reluctant to diversifying acquisition strategies in declining industry environment.

5.5 Conclusion

M&A research focusing on external factors, such as market conditions, has identified significant effects on deal characteristics and gains. This study contributes to this area by investigating the investors' perception of information on an industry level, as well as, their preferences on acquisition strategies based on the prevailing industry prospects.

Examining a large sample of 16,202 US deals over a time period of more than 30 years and quarterly industry P/E multiples as a proxy of the growth potential shows that acquiring firms earn significantly more if they operate in growing industries than compared to declining industries.

[77] The results of the 11-days CARs are qualitatively similar. In the case of the 3-days CARs, the *Growing* industry coefficient in focused deals with stock payments is statistically significant.

Once the impact by the industry relation between acquirer and target is investigated, the results indicate that focused deals are predominately affected by industry prospects. Focused deals earn significantly more in growing industries than declining industries. Arguably, acquiring companies emphasise their strategic orientation on their core business with an industry-related target. As a result, industry growth plays an important role on the future performance of the company. On the other hand, diversifying deals generate similar results irrespective the prevailing industry prospects, as an acquisition of an industry-unrelated target diversifies future growth opportunities to new industries.

The results also show that acquirers earn similar returns by focusing or diversifying their business activities in growing industries. In both deal types, acquirers earn significant positive abnormal returns. These results suggest that acquirers are expected to continue the past performance and create more wealth by engaging in acquisitions. Some evidence for a behavioural bias regarding the information content is found in declining industries. Investors prefer diversifying acquisitions over focused deals in declining industries, which implies that investors appreciate that acquiring companies with declining industry prospects seek new growth opportunities in new industries. A acquisition strategy to strengthen their market share by a takeover of an industry-related target might not be considered as appropriate.

Further support provides the results on the relative target size and the mode of payment. The relative target size, as a proxy of deal's impact on the future performance, shows a significant difference in the returns from focused acquisitions of large companies between growing and declining industries. The findings suggest that large targets lead to more pronounced effects of industry prospects in focused deals. On the other, industry prospects seem to play a minor role in diversifying deals.

The results of the mode of payment support the argument that these signal the acquiring managers' perception on the current valuation of their company to market.

Both, the perceived information of the payment method and industry prospects are reflected in the abnormal returns. In diversifying deals, some evidence is found supporting the risk transfer hypothesis of the payment method. The results are robust to a multivariate framework. Further regression analysis also reveals that overall the impact of declining industry prospects is slightly greater in focused deals, but growing industry prospects have a greater impact on the returns to acquiring companies from diversifying deals.

Overall, the findings of this study provide evidence that investors appreciate information on industry growth potential and have preferences on acquisition strategies based on the acquirer's industry prospects. As in the opening quote stated, an acquisition might be a response to adjust the business strategy to the prevailing industry prospects. Based on the results of the returns, corporate managers can actively create wealth by considering the outlook of an industry.

6. Investor Sentiment and the Impact on Acquirers' Gains

6.1 Introduction

The behavioural aspect of why managers undertake M&A has been the focus of research for a considerable time now. Roll (1986), for example, argues that some managers are driven by hubris. Accordingly, managers are subject to excessive self-confidence in takeovers believing they are able to create value, even if the acquisition price exceeds the fair value of the target. Jensen (1986a) argues that managers with substantial free cash flows and unused debt capacities tend to engage in value-destroying transactions. Shleifer and Vishny (1989) present an entrenchment model in which managers undertake investments that reduce the probability of being replaced, even if the investments do not create shareholders' wealth.

A relatively new stream of M&A research investigates on how managers reacting to stock market valuation. A model by Jovanovic and Rousseau (2002), for instance, shows that merger activity is correlated to the acquiring firms' valuations. In Shleifer and Vishny (2003) and Rhodes-Kropf and Viswananthan (2004), models demonstrate that the market valuation affects the probability of mergers taking place and the mode of payment used in the transaction. Rhodes–Kropf et al. (2005) provide empirical evidence that misvaluations have an impact on the merger activity and the choice of payment. Further, Bouwman et al. (2009) find that short-term announcement returns are significantly higher during high-valuation markets than during low-valuation markets. Their findings also suggest that herding behaviour of managers causes M&A activity.

To the author's best knowledge, no study has, however, examined the impact of investor sentiment on the shareholders' wealth surrounding M&A announcements. Together with limited arbitrage, investor sentiment provides the foundations of behavioural finance (Shleifer 2000b). Investor sentiment causes disturbances to prices and limited arbitrage prevents prices being driven back to efficiency. A growing body of studies link investor sentiment to trading activity and trading behaviour. For instance, Chau et al. (2011) finds evidence for investor sentiment in momentum trading and Blasco et al. (2012) documents that investor sentiment affects herding activity.

Investor sentiment has been found to also be important in several corporate finance related research areas. For example, Brown and Cliff (2004) find evidence for sentiment in IPOs[78], Baker and Wurgler (2006) in the dividend premium, Gemmill and Thomas (2002) for closed-end funds[79] and Frazzini and Lamont (2008) for mutual funds flow[80].

With respect to M&A, Rosen (2006) finds 'momentum' in the gains to acquiring companies. This effect disappears in the long run and he argues that merger momentum is caused by investors' overoptimism. Antoniou et al. (2008) find similar results for the UK and suggest that investor sentiment may drive the gains to bidding companies. However, they do not directly test investor sentiment in their study.

As stated in the opening quote, sentiment about the future gains from M&A may change over time and changes in sentiment are expected to have a significant impact on the returns to acquiring companies. A significant impact of investor sentiment on the short-term wealth effects would imply that the gains are not only the reflection of newly available information from the merger announcement, but also that irrational behaviour influences these gains.

This study reveals strong evidence that changes in sentiment have a significant effect

[78] See also, for example, Brown and Cliff (2005)
[79] See also, for example, Swaminathan (1996), Elton et al. (1998), Sias et al. (2001), Baker and Wurgler (2006, 2007)
[80] See also, for example, Indro (2004)

on the returns to acquiring firms. Overall, acquiring firms gain significantly higher returns during positive sentiment changes than during negative sentiment changes. Key M&A factors confirm the effect of investor sentiment on the returns around the merger announcement. As suggested by sentiment research, similar patterns are found in this study that irrational investors are sensitive to information asymmetries and valuation signals. Transactions with stock payments experience a significant response to changes in investor sentiment, whilst cash deals are relatively less affected. The results suggest that cash payments are a positive valuation signal irrespective of the current sentiment. Stock payments are, however, a bad signal that acquirers perceive themselves as overvalued and the prevailing sentiment has an enhancing effect on the returns. Further, sentiment has a greater impact on the gains from takeovers of private than public targets. The findings imply that greater information asymmetries are the potential source of this effect. Similarly, the results indicate that gains to smaller acquirers are more greatly affected by changes in sentiment than are those to larger acquirers. Further, sentiment changes significantly impact the returns to overvalued acquirers, whereas the returns to undervalued acquirers do not show a significant response to sentiment, but a general revaluation effect. The stated results are robust to a multivariate framework, as well as, several event windows. As a whole, the findings support the view that investor sentiment significantly influences prices and the returns from M&A deals are not always subject to pure rational behaviour. This study establishes a significant link between investor sentiment and the returns to acquiring firms.

The rest of the chapter is organised as follows. The next section builds the arguments with regards to the potential effects of investor sentiment by several significant deal features. Each argument offers a testable hypothesis. Section 6.3 sets out the data and methodology used to test the proposed hypotheses. Section 6.4 presents and discusses the results and Section 6.5 summarises the findings and draws the conclusion.

6.2 Investor Sentiment and Acquirers' Gains - Hypotheses Development

6.2.1 Investor Sentiment and the Impact on Gains to Acquirers

As research indicates, investor sentiment has a significant impact in many finance areas and similar evidence is expected on the returns to acquiring firms. From the perspective of a sentimental investor, an inverse relationship between the level of confidence and risk aversion should exist. During increasing levels of sentiment, investors may be overoptimistic on the value-creating effect of acquisitions and pay less attention to the risk aspects involved in a merger. As a result, the investors' overoptimism translates into increasing returns to acquiring firms when sentiment increases. In contrast, the risk awareness is expected to increase during decreasing levels of sentiment. Increasing risk aversion may lead investors to be more sceptical about a profitable outcome of the merger. In fear of potential losses, investors become pessimistic and returns to acquiring firms decrease during decreasing sentiment. As a result,

(H1) Investor sentiment has a significant impact on the abnormal returns to acquiring companies.

6.2.2 Investor Sentiment and Mode of Payment

Further evidence on the impact of investor sentiment is expected to influence the returns based on the mode of payment in M&A. An argument explaining the returns to acquirers regarding the payment method states that the acquiring management signals their perception of their firm's current valuation by the choice of the payment method. Similar to Myers and Majluf's (1984) pecking order theory, a stock payment resembles

an equity issuance. If the acquiring managers consider their stock as overvalued, they favour stock payments to settle with target shareholders. If managers perceive their own stock as undervalued, then the preferred payment method is cash. In summary, a stock payment is a bad signal, whereas a cash payment implies positive news. As mentioned, sentimental investors tend to irrationally value perceived information (Barberis et al. 1998). In the search for new information (Black 1986), investors may consider the signal from the mode of payment at the merger announcement, because they may consider managers to have better insights on the fair value of the firm.

When investor sentiment decreases, investors' perception of risk should increase and confidence diminishes. The negative signal of the stock payment may have an additional detrimental effect on the returns because investors are more nervous and more risk averse during declining sentiment. However, when investor sentiment improves, so should the investors' confidence and optimism. The attitude shifts from risk aversion to risk seeking and investors may pay less attention to this signal during increasing sentiment. As a result, returns in stock payments should exhibit clear signs of investor sentiment.

Cash payments are a positive signal because it signals that acquiring managers consider their stock as undervalued. This should lead to an overall positive reaction as this payment method reveals a potential investment opportunity. Even during decreasing sentiment, deals with cash payments may still experience positive returns. Therefore, the impact of investor sentiment on the returns from cash deals should be less pronounced. Therefore,

(H2) Investor sentiment has a greater impact on the abnormal returns to acquirers with stock-only than cash-only deals.

6.2.3 Investor Sentiment and Target Listing Status

M&A deals with greater information asymmetries are expected to exhibit a greater impact of investor sentiment. Baker and Wurgler (2007) state a company's sensitivity to sentiment depends on the subjectivity to determine the true value. If information asymmetries contribute to subjectivity in value estimations, the target's listing status should provide further evidence.

As a result of lower reporting requirements and regulatory standards, information asymmetries should be greater for private companies and impede the valuation, as well as, affect the accuracy of their estimated fair values (Fuller et al. 2002; Ekkayokkaya et al. 2009b). Consequently, bidders may not capture the complete picture about a private target's financial situation before the actual takeover. The lack of full information is, therefore, expected to make private target takeovers more prone to investor sentiment. During increasing sentiment, investors should be more enthusiastic and pay less attention to risk stemming from asymmetric information between acquirers and private targets. On the other hand, during decreasing sentiment, investors are expected to be overly cautious and higher levels of potential information asymmetries may increase the perceived risk in private target takeovers. Due to a more pronounced effect from overconfidence (Daniel et al. 1998) and overoptimism in private target takeovers, acquiring firms are expected to experience greater gains during increasing than decreasing sentiment.

In contrast, financial information on listed targets should be readily available. Due to listing requirements, public companies disclose financial reports on a regular basis. Further, listed companies are scrutinised by the media and analysts, which should also have a positive effect on the transparency of these companies. Therefore, listed target takeovers should exhibit smaller information asymmetries. Sentiment might still cause a disproportionate reaction to M&A announcements, but on the basis of higher

transparency, investor sentiment should have a smaller impact on the returns from listed target takeovers. Hence,

(H3) Investor sentiment has greater impact on the abnormal returns to acquirers of private than public targets.

6.2.4 Investor Sentiment and Acquirer's Size

Further evidence on the sentiment's impact is expected regarding the acquirer's size. Baker and Wurgler (2007) state that difficult-to-value companies[81] are especially prone to investor sentiment. Among other characteristics, they propose that small companies are more sensitive to broad waves of investor sentiment. Lee et al. (1991) find that small firms are disproportionately held by individuals and individual investors are predominantly noise traders. Lee et al. (2002) document similar results that shareholders of small capitalisation stocks are predominantly individuals. Using a database of retail investor transactions, Kumar and Lee (2006) show that the trading behaviour of individuals is systematically correlated. Further, they find that the trading behaviour co-moves with the returns of stocks with high retail concentration.[82] Research also suggests that smaller companies can be characterised by higher levels of information asymmetries (Banz 1981; Barry and Brown 1984). Due to less available information, smaller companies may be perceived as riskier.

Given the evidence that small firms exhibit more information asymmetries and are disproportionally held by individual investors, gains to smaller acquirers are also expected to experience a significant impact to changes in investor sentiment. During decreasing sentiment, irrational investors should become less confident about a positive outcome of a merger, as well as, holding a perceived risky stock in the form of a small

[81] Stocks of low capitalisation, younger, unprofitable, high-volatility, non-dividend paying, growth companies or stocks of firms in financial distress

[82] Small-cap, value, lower institutional ownership and lower priced stocks

company in their portfolio. As a result, the returns to small acquiring companies decrease during a declining sentiment environment. The risk aspect should play a minor role during increasing sentiment, where overconfidence dominates the behaviour of irrational investors. As a whole, the returns to small acquirers should exhibit a significant impact of the prevailing sentiment.

Due to greater public interest, information asymmetries on large companies should be consequently lower. Further, institutional investors are predominantly invested in large companies and should be less influenced by irrational mood swings in the market. Their professionalism and a considerable stake should also provide them with sufficient influence to request more information if required. However, large acquirers may not completely circumvent the sentiment's impact, but a smaller magnitude on the returns should be observed compared to small acquirers. Therefore,

(H4) A change in investor sentiment has greater impact on the abnormal returns to smaller acquirers than larger acquirers.

6.2.5 Investor Sentiment and Over- and Undervalued Acquirers

As mentioned, Baker and Wurgler (2007) argue that the main difference in the sensitivity of companies to sentiment lies in the difficultly and subjectivity to determine their true values. Companies that appeal to investors' imaginations should be more sensitive to sentiment, leading to a more pronounced effect from investors' overconfidence (Daniel et al. 1998) and extent of conservatism (Barberis et al. 1998).

To the extent that overvaluation is driven by overconfidence and overoptimism, and that these are likely to be greater during periods of increasing sentiment than periods of decreasing sentiment, changes in sentiment are expected to impact markedly on the

gains to such firms from M&A. Following recent overconfidence and overoptimism on a specific firm that led to an overvaluation, a merger announcement during an increasing sentiment may further fuel the perception about this company's prosperous future and the merger's value creation potential. In the case of an announcement during decreasing sentiment, however, a negative sentiment shift may cause scepticism about current valuation levels, as well as, the gains from the merger. As a result, the gains to overvalued acquirers are expected to be significantly higher during increasing sentiment than during decreasing sentiment.

Irrespective of the sentiment direction, an M&A announcement might trigger a revaluation of undervalued acquirers. In the vein of Fuller et al. (2002) and Paudyal and Draper (2008), the announcement of a merger might attract more public attention and release new information on the acquirer. The merger announcement might, therefore, reveal an investment opportunity leading to positive gains regardless of the current direction of investor sentiment. As a whole, investor sentiment should not have a substantial impact on the gains to undervalued acquirers. Therefore,

(H5) Investor sentiment has greater impact on the gains to overvalued acquirers than undervalued acquirers.

6.3 Methodologies and Data

6.3.1 Investor Sentiment

For the analysis, the monthly composite investor sentiment change index by Baker and Wurgler (2007) is used.[83] They apply a first principal component analysis of six commonly referred investor sentiment proxies.[84] Specifically, the upper 50 per cent of

[83] Data is taken from Jeffrey Wurgler's hompage: http://people.stern.nyu.edu/jwurgler/

[84] The closed-end fund discount, the NYSE share turnover, the number of IPOs, the average first-day returns, the equity share in new issues, and the dividend premium

positive changes of the index data from 1980 to 2010 are categorised as *increasing* and the lower 50 per cent of negative changes as *decreasing* investor sentiment. The remainder are pooled as *neutral* investor sentiment changes. The time period of the index data is identical to the M&A sample. To determine the sentiment when a deal is announced, the month of the deal announcement is matched with the investor sentiment classification of the previous month.[85]

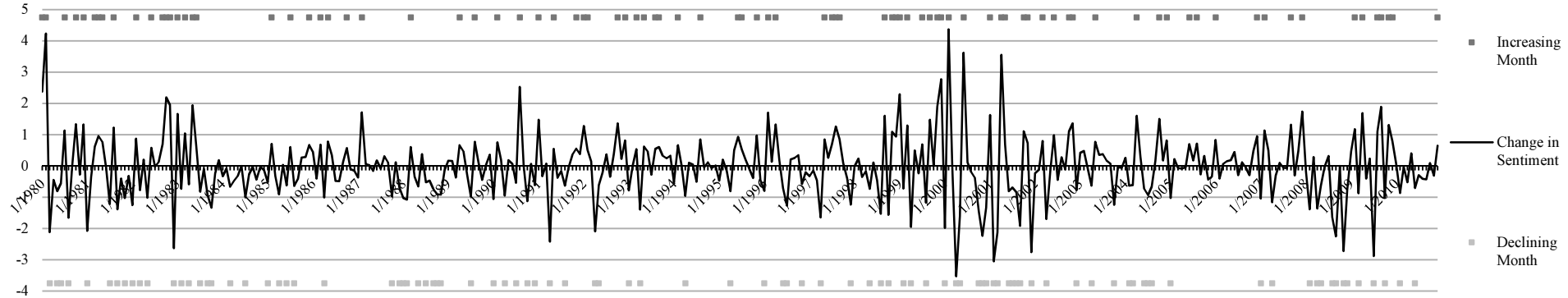
Sentiment change index for the sample period is plotted in Figure 6.1. The markers above the graph show the months of *'increasing'* sentiment and below the months of *'decreasing'* investor sentiment. The markers indicate that the relevant changes are relatively evenly distributed between *'increasing'* and *'decreasing'* sentiment. Of 372 examined months (31 years), 96 months are classified as decreasing investor sentiment months and 90 months classified as relevant increasing investor sentiment months. Over time, the markers seem to cluster around the stock market crash in 1987 and its aftermath, around the crash in 2001 and finally since the beginning of the most recent financial crises period in about 2008.

.

[85] In a robustness test, the methodology and calculations are repeated using the entire data of the investor sentiment change index (1965 to 2010). The results are qualitatively similar and presented in Appendix C.

Figure 6.1: Distribution of Investor Sentiment Months

This figure shows the graphically the investor sentiment changes across the sample period from 01.01.1980 to 31.12.2010. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes.



Sentiment	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*Total*
Increasing	5	4	5	4	0	3	3	1	1	2	2	3	4	4	2	3	2	4	3	6	2	5	4	1	3	2	2	3	0	6	1	*90*
Neutral	3	4	3	3	10	5	8	9	4	9	5	7	6	6	9	8	6	6	6	3	4	0	6	9	4	9	10	7	5	3	9	*186*
Declining	4	4	4	5	2	4	1	2	7	1	5	2	2	2	1	1	4	2	3	3	6	7	2	2	5	1	0	2	7	3	2	*96*

Figure 6.2 presents the annual distribution of deals by investor sentiment, as well as, the total annual distribution of deals. The sample exhibits three significant peaks. As mentioned in Chapter 5, the first increase in merger activity coincides to what is referred to as the fourth merger wave during the early 1980s. This merger wave has been characterised by focused deals, hostile takeovers and corporate raiders. The next increase and highest number of deals occurred during the late 1990s. This period was highlighted by cross-border and mega-deals. The sixth and last merger wave[86] took place during the mid-2000s. Here motives of M&A were dominated by globalisation and private equity (Owen 2006).

In this sample, the peaks are in 1984 with 392 deals, in 1998 with 1,219 deals and finally in 2005 with 653 deals. The selection procedure yields 3,872 relevant deals during increasing investor sentiment and 3,672 relevant deals during declining investor sentiment.

6.3.2 Univariate Framework

To calculate the gains surrounding M&A announcements, an event study methodology using a market-adjusted model is applied. The value-weighted index provided by CRSP serves as the corresponding market benchmark. Chapter 3.1 outlines the event study methodology in greater detail.

The average cumulative abnormal returns (CAR) surrounding 5-days (-2, +2)[87] of the announcement date is estimated as:

$$\overline{A}_t = \frac{1}{N_t} \sum_{t=1}^{N_t} A_{i,t} \tag{3.4}$$

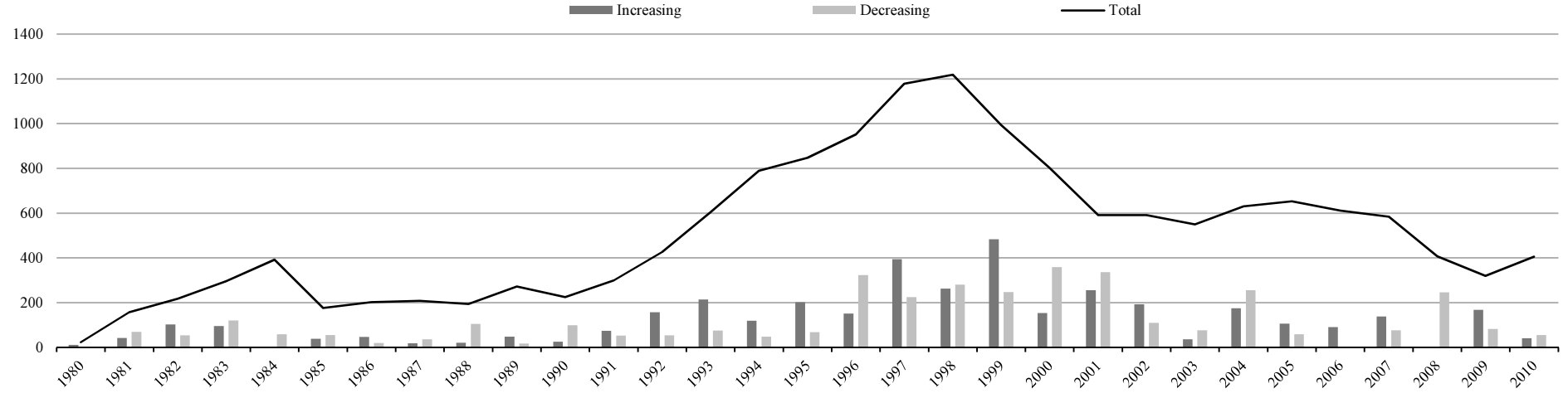
[86] Some speak (e.g. see KPMG) of a new (7th) merger wave currently taking place with focus on BRICS (Brazil, Russia, China and South Africa) countries.

[87] CARs surrounding 3-days (-1, +1) and 11-days (-5, +5) of the announcement date are also calculated and differences footnoted if appropriate.

where $\overline{A}_t$ is the average (cumulative) abnormal return over the multi-day interval t, $A_{i,t}$ is the abnormal return of stock i at day t and N_t is the number of sample stocks whose abnormal returns are available at the multi-day interval t.

Figure 6.2: Distribution of Deals by Investor Sentiment

This figure shows the annual distribution of deals by the investor sentiment across the sample period from 01.01.1980 to 31.12.2010. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Qualifying deals are by US firms during the period from 01.01.1980 to 31.12.2010. The acquirers are required that their primary listing is either on the NYSE, AMEX or NASDAQ stock exchange. The targets' public status is either public, private or a subsidiary and the deal value is US$ 1 million or greater. Further, the relative size of the target to the market value of the acquirer is more than 1 per cent. To ensure a change in control, acquirers are required to hold less than 50 per cent before and more than 50 per cent after the completed deal. The mode of payment is known and as either cash, stock or others categorised. Other payment types are grouped to the mixed payments. Announcements cannot fall on weekends as the stock price reaction cannot be reliably measured. SIC codes are required to categorise the deals as focused or diversifying transactions. Acquirers or targets identified as a holding company by the 2-digit SIC code '67' are deleted from the sample. Acquisition techniques related to MBO/MBI, reverse takeovers or employees are excluded. The same accounts for deal types such as minority stake purchases, acquisitions of remaining interest, privatisations, leveraged buyouts, self-tenders, and share repurchases.



Sentiment	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*	*1986*	*1987*	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*Total*
Increasing	12	42	103	96	0	39	47	19	21	48	26	74	158	214	120	202	151	395	263	483	154	256	193	36	175	107	91	138	0	168	41	*3,872*
Neutral	8	46	61	79	333	83	136	152	68	207	100	173	215	315	622	578	477	558	675	262	290	0	288	437	199	487	521	369	162	69	309	*8,279*
Declining	3	70	54	121	59	55	20	37	105	18	99	53	54	76	48	68	324	225	281	248	359	336	110	77	256	59	0	77	246	83	55	*3,676*
Total	*23*	*158*	*218*	*296*	*392*	*177*	*203*	*208*	*194*	*273*	*225*	*300*	*427*	*605*	*790*	*848*	*952*	*1,178*	*1,219*	*993*	*803*	*592*	*591*	*550*	*630*	*653*	*612*	*584*	*408*	*320*	*405*	*15,827*

6.3.3 Multivariate Framework

Besides a univariate analysis, the effects of the investor sentiment is investigated by examining the bidders' 5-day[88] (-2, +2) cumulative abnormal returns in a multivariate framework as in equation (6.1):

$$R_i - R_m = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i \quad (6.1)$$

where R_i is the cumulative return to acquirer *i* over the specific event window and R_m is the corresponding CRSP market return. The intercept (α) can be regarded as a measure of abnormal return after controlling for the effects of vector X_i of explanatory variables. The following explanatory variables test the proposed hypotheses in a regression framework:

In Table 6.7, the dummy variable *Increasing Sentiment* takes on the value of 1 if the month of the deal announcement matches the upper 50 per cent of positive changes of the Baker and Wurgler (2007) monthly investor sentiment change index of the previous month and the value of 0 if the deal is announced in a decreasing sentiment month. In a comparison of the impact's magnitude in Table 6.8, the models contain *Increasing* and *Decreasing Sentiment* variables. Both variables are dummies, which have the value of 1 if the deal is announced during increasing or decreasing sentiment, respectively, otherwise the value of the dummies is 0.

Cash and *Stock* are dummy variables which take on the value of 1 if the payment method is a 100 per cent in cash or stock, respectively. If the target is publicly listed then the variable *Public Target* takes on the value of 1, otherwise the value of 0. If the deal information indicates that the target is privately held, then the variable *Private Target* is 1, otherwise 0. The *Acquirer Size* is the natural logarithm of acquirers' market capitalisation. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market

[88] Regressions using the 3- and 11-days CARs as the dependent variable are also calculated and the results footnoted where appropriate. The full sets of results are reported in Appendix C.

ratio. This ratio, favoured by Fama and French (1992), states the book value of common equity to its market value. Firms with poor prospects have low stock prices relative to their equity book value (hence, high book-to-market ratios), on the other hand, companies with a prosperous future have high stock prices relative to their book value of equity (hence, low book-to-market ratios). The Fama and French definition[89] is followed to calculate the ratio: *"Market equity (size) is price times shares outstanding. Price is from CRSP, shares outstanding are from Compustat (if available) or CRSP. Book equity is constructed from Compustat data and is the book value of stockholders' equity, plus balance sheet deferred taxes and investment tax credit (if available), minus the book value of preferred stock. Depending on availability, the redemption, liquidation, or par value (in that order) is used to estimate the book value of preferred stock. Stockholders' equity is the value reported by Compustat, if it is available. If not, we measure stockholders' equity as the book value of common equity plus the par value of preferred stock, or the book value of assets minus total liabilities (in that order)."* Companies with a ratio of less than 1 are considered as overvalued and higher than 1 as undervalued.

Relative Target Size: The target's size is expected to have a direct influence on the dollar returns from the acquisition and is a significant contributor to the future financial results (Asquith et al. 1983).[90] The *Relative Target Size* is calculated as the natural logarithm of the deal value[91] to the acquirer's market value measured 15 trading days before the announcement.

Industry Relation: Theory, as well as, empirical studies have not arrived at a consensus weather corporate diversification benefits or harms shareholders' wealth.[92]

[89] Kenneth French provides a detailed definition of this ratio and its components on his homepage: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/variable_definitions.html.

[90] See also Fuller et al. (2002) for empirical results.

[91] Provided by SDC Platinum

[92] See, for example, Lubatkin and Chatterjee (1994) (Extended portfolio theory), Lewellen (1971) (Coinsurance effect), Williamson (1970) (Internal capital market) and Baumol (1967) (Regulation) for supportive literature. For opposing arguments see, e.g., Jensen

To control for a potential influence on the returns, the dummy variable *Focused* takes on the value of 1 if the acquirer and target have a matching 2-digit SIC, otherwise the value of 0.

Geographical Diversification: Several studies investigate a cross-border effect in M&A (e.g. Morck and Yeung 1992; Doukas and Travlos 1988; Moeller et al. 2005). Acquirers may try to generate further growth by acquiring a target abroad. To control for this effect, the control variable *Cross-Border* is added which is a binary dummy variable which takes on the value of 1 if the target's nation is not the United States, otherwise the value of 0.

Hostile Attitude: Berle and Means (1933) argue that conflicts may arise by the appointment of managers which might not always be in the best interest of shareholders. Jensen (1986a) states that hostile takeovers may have a disciplinary effect on managers who do not use available resources efficiently.[93] *Hostile* is a binary variable which takes on the value of 1 if the is deal is indicated as a hostile takeover.

Financial data is known to often exhibit a non-constant volatility. This may lead to a violation of the assumptions regarding linear regression models of a constant variance in the error terms. A violation of this assumption may produce biased estimates, however, the main concern are biased standard errors. As a result, a wrong conclusion may be drawn about the validity of the hypotheses. To reduce the risk of Type I and Type II errors and ensure a constant variance of error terms (homoskedasticity), White-corrected[94] standard errors are calculated to arrive to reliable p-values.

(1986a,b) (Agency theory) and Stein (1997) (Managerial capabilties). For example, Denis et al. 2002, and Doukas et al. 2002 suggest that corporate diversification destroys shareholders' wealth. Akbulut and Matsusaka (2010) find that returns vary over time.

[93] See also, for example, Travlos (1987), Morck et al. (1989) or Mitchell and Lehn (1990)

[94] See White (1980)

6.3.4 Data and Sample Description

Similar to Chapter 5, the US market serves to test the proposed hypotheses in this empirical chapter. For this reason, the data and sample selection of Chapter 5 were reused and reapplied for this study, the only difference being a shorter sample period of one year (01.01.1980 to 31.12.2010).

As presented in Table 6.1 (Panel A), the final sample consists of 15,827 deals. The average market value of an acquirer is US$ 2.9 billion. The average target size (deal value) is US$ 386 million and targets worth about US$ 6,115 billion are acquired in total over the entire sample period. The target size is on average[95] roughly a quarter of the acquirer's size.

Panel B indicates that roughly 24 per cent of the deals took place during a growing sentiment and roughly 23 per cent during a declining sentiment. The average acquirer's market capitalisation is US$ 3.2 billion during declining sentiment and about US$ 200 million bigger than during increasing sentiment. The total and average deal value shows a similar picture. In total, targets worth about US$ 1,635 billion were taken over during declining sentiment compared to US$ 1,495 billion during increasing sentiment. The average target is also more than US$ 50 million larger during a declining sentiment. However, the relative size of the targets compared to the size of the acquirers is during both sentiment changes relatively similar with about 25 per cent.

Panel C shows the descriptive statics by the investor sentiment and the mode of payment. During both sentiment changes, the distribution of the chosen payments is relatively similar. Cash are used in about 8 per cent of the deals. Mixed payments account for roughly 10 per cent and stock payments for about 6 per cent. The average sizes of an acquirer and a target is again larger during declining investor sentiment. The average target is substantially larger in in stock deals than cash deals and so is the

[95] Calculated as the cross-sectional average

average size of an acquirer.

The distribution of the target listing status (Panel D) is again fairly similar during increasing and declining sentiment. Private and public targets, as well as, subsidiaries account for roughly 11, 6 and 6 per cent of the deals during increasing and declining sentiment, respectively. The average acquirer and target is again larger during declining sentiment. For increasing and declining sentiment, public targets are more than 10 times the size of a private target. The relative target size confirms the pattern that public targets are larger than private targets. The ratio suggests that a public target is about twice the size relative to the acquirer than a private target.

Panel E presents the descriptive statistics of the acquirer's size categorised in three groups. Large acquirers are worth on average US$ 8,222 million during increasing and US$ 9,062 million during declining sentiment. Medium-sized acquirers have an average market capitalisation of US$ 476 million and US$ 493 million during increasing and decreasing sentiment, respectively. Acquirers grouped as small are US$ 86 million in increasing and US$ 94 million in declining sentiment. Further, large acquirers take over targets which are on average between US$ 1,044 million and US$ 1,210 million during increasing or declining sentiment. In comparison, the average deal size of a small acquirer is US$ 22 and 29 million during increasing and declining sentiment, respectively. The relative target size suggests that small acquirers purchase relatively larger targets than large acquirers. The numbers indicate that targets are between 35 and 39 per cent of a small acquirer's market capitalisation and between 16 and 17 per cent of a large acquirer.

Finally, the descriptive statistics with regards to the acquirer's valuation are shown in Panel F. The figures suggest that predominantly overvalued acquirers engage in takeovers. These deals account for more than 90 per cent of the sample. An overvalued acquirer is roughly US$ 2.5 billion larger during decreasing sentiment, whereas

undervalued acquirers are about by the same amount larger during increasing sentiment. Similar are the numbers for the deal value. Targets taken over by overvalued acquirers are on average at least three times larger than by undervalued acquirers. The relative target size indicates that undervalued acquirers merge with proportionally larger targets.

Table 6.1: Descriptive Statistics of the Sample

This table shows the descriptive statistics of the sample over a period from 01.01.1980 to 31.12.2010. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. Qualifying deals are by US firms during the period from 01.01.1980 to 31.12.2010. The acquirers are required that their primary listing is either on the NYSE, AMEX or NASDAQ stock exchange. The targets' public status is either public, private or a subsidiary and the deal value is US$ 1 million or greater. Further, the relative size of the target to the market value of the acquirer is more than 1 per cent. To ensure a change in control, acquirers are required to hold less than 50 per cent before and more than 50 per cent after the completed deal. The mode of payment is known and as either cash, stock or others categorised. Other payment types are grouped to the mixed payments. Announcements cannot fall on weekends as the stock price reaction cannot be reliably measured. SIC codes are required to categorise the deals as focused or diversifying transactions. Acquirers or targets identified as a holding company by the 2-digit SIC code '67' are deleted from the sample. Acquisition techniques related to MBO/MBI, reverse takeovers or employees are excluded. The same accounts for deal types such as minority stake purchases, acquisitions of remaining interest, privatisations, leveraged buyouts, self-tenders, and share repurchases. Market and deal values are in US$ millions. The relative target size is in per cent.

Panel A: Descriptive Statistics of the Full Sample

			Acquirer's Market Value		*Deal Value*		*Relative Target Size*
	N	*%*	*Sum*	*Mean*	*Sum*	*Mean*	*Mean*
Full sample	15,827	100.00	47,055,793	2,973.13	6,114,715	386.35	26.11

Panel B: Descriptive Statistics by Investor Sentiment

			Acquirer's Market Value		*Deal Value*		*Relative Target Size*
Sentiment	*N*	*%*	*Sum*	*Mean*	*Sum*	*Mean*	*Mean*
Increasing	3,872	24.46	11,340,613	2,928.88	1,495,343	386.19	24.17
Neutral	8,279	52.31	23,894,397	2,886.15	2,984,227	360.46	27.45
Declining	3,676	23.23	11,820,782	3,215.66	1,635,145	444.82	25.12

Panel C: Descriptive Statistics by Investor Sentiment and Mode of Payment

				Acquirer's Market Value		*Deal Value*		*Relative Target Size*
Sentiment	*Mode of Payment*	*N*	*%*	*Sum*	*Mean*	*Sum*	*Mean*	*Mean*
Increasing	Cash	1,210	7.65	3,774,129	3,119.12	246,793	203.96	17.56
	Mixed	1,612	10.19	3,818,975	2,369.09	672,350	417.09	30.82
	Stock	1,050	6.63	3,747,509	3,569.06	576,200	548.76	21.60
Neutral	Cash	3,019	19.07	11,335,800	3,754.82	698,275	231.29	18.88
	Mixed	3,178	20.08	7,287,217	2,293.02	1,243,492	391.28	33.14
	Stock	2,082	13.15	5,271,380	2,531.88	1,042,459	500.70	31.18
Declining	Cash	1,214	7.67	4,149,261	3,417.84	281,725	232.06	19.88
	Mixed	1,555	9.82	3,599,118	2,314.55	688,144	442.54	30.54
	Stock	907	5.73	4,072,403	4,489.97	665,276	733.49	22.85

Panel D: Descriptive Statistics by Investor Sentiment and Target Public Status

				Acquirer's Market Value		*Deal Value*		*Relative Target Size*
Sentiment	*Target Listing Status*	*N*	*%*	*Sum*	*Mean*	*Sum*	*Mean*	*Mean*
Increasing	Private	1,857	11.73	2,077,656	1,118.82	133,405.20	71.84	18.29
	Public	1,032	6.52	6,952,161	6,736.59	1,125,983.92	1,091.07	34.03
	Subsidiary	983	6.21	2,310,797	2,350.76	235,954.20	240.03	24.95
Neutral	Private	3,964	25.05	4,818,392	1,215.54	295,117.75	74.45	21.71
	Public	2,109	13.33	13,554,248	6,426.86	2,168,225.76	1,028.08	38.51
	Subsidiary	2,206	13.94	5,521,757	2,503.06	520,883.04	236.12	27.18
Declining	Private	1,735	10.96	2,406,730	1,387.16	143,033.16	82.44	18.16
	Public	949	6.00	6,759,589	7,122.85	1,242,844.54	1,309.64	37.21
	Subsidiary	992	6.27	2,654,462	2,675.87	249,267.23	251.28	25.74

Table 6.1 continued

Panel E: Descriptive Statistics by Investor Sentiment and Acquirer's Size

				Acquirer's Market Value		*Deal Value*		*Relative Target Size*
Sentiment	*Size of Acquirer*	*N*	*%*	*Sum*	*Mean*	*Sum*	*Mean*	*Mean*
Increasing	Large	1,291	8.16	10,614,434	8,221.87	1,348,293	1,044.38	16.06
	Medium	1,291	8.16	615,718	476.93	118,435	91.74	21.26
	Small	1,290	8.15	110,461	85.63	28,615	22.18	35.21
Neutral	Large	2,760	17.44	22,305,983	8,081.88	2,634,453	954.51	14.98
	Medium	2,760	17.44	1,341,296	485.98	275,373	99.77	21.30
	Small	2,759	17.43	247,118	89.57	74,401	26.97	46.06
Declining	Large	1,225	7.74	11,100,841	9,061.91	1,481,954	1,209.76	16.46
	Medium	1,226	7.75	604,887	493.38	117,692	96.00	20.52
	Small	1,225	7.74	115,054	93.92	35,499	28.98	38.40

Panel F: Descriptive Statistics by Investor Sentiment and Acquirer's Valuation (Book-to-Market)

				Acquirer's Market Value		*Deal Value*		*Relative Target Size*
Sentiment	*Acquirer's Valuation*	*N*	*%*	*Sum*	*Mean*	*Sum*	*Mean*	*Mean*
Increasing	Overvalued	3,095	22.27	10,585,474	3,420.19	1,319,381	426.29	20.05
	Undervalued	270	1.94	273,979	1,014.74	74,594	276.28	43.27
Neutral	Overvalued	6,821	49.09	22,365,796	3,278.96	2,638,620	386.84	21.35
	Undervalued	483	3.48	408,217	845.17	113,788	235.59	76.79
Declining	Overvalued	2,955	21.27	10,925,970	3,697.45	1,315,370	445.13	20.87
	Undervalued	272	1.96	199,245	732.52	42,434	156.01	36.48

6.4 Results

6.4.1 Investor Sentiment and the Impact on the Gains to Acquirers

This subsection begins by examining the key hypothesis *(H1)* that investor sentiment has a significant impact on the acquirers' gains. Table 6.2 shows the returns to acquiring companies during increasing, neutral and decreasing investor sentiment.

During increasing investor sentiment, acquirers earn between 1.36 and 2.42 per cent. The returns are statistically significant at the 1 per cent level for all three examined event windows. During neutral sentiment changes, the returns are between 1.00 and 1.50 per cent. The statistical tests indicate again a significance level of 1 per cent. The returns to acquiring companies during declining sentiment are between 0.63 and 0.90 per cent and also statistically significant at the 1 per cent level. The differences in

returns between increasing and decreasing sentiments are 0.73, 0.90 and 1.52 percentage points for the 3-, 5- and 11-days event windows, respectively. All return differences are statistically significant at the 1 per cent level.

Table 6.2: Investor Sentiment: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Investor Sentiment	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Increasing	3,881	1.35547***	<.0001	3,872	1.68618***	<.0001	3,879	2.41669***	<.0001
Neutral	8,260	0.99577***	<.0001	8,279	1.20994***	<.0001	8,254	1.50357***	<.0001
Decreasing	3,686	0.62647***	<.0001	3,676	0.78882***	<.0001	3,694	0.89876***	<.0001
Increasing vs. Decreasing		0.72900***	<.0001		0.89736***	<.0001		1.51793***	<.0001

These first findings clearly support the main hypothesis *(H1)* that investor sentiment has a significant impact on the gains to M&A. The returns show that a positive change in investor sentiment leads to larger returns than during a negative sentiment change. Highly statistically significant test results confirm these findings. Further, the magnitude of this impact also underpins the economic relevance. As mentioned, the return and risk perception of investors may change during a sentiment change. In a positive environment, investors might be overconfident that mergers create wealth and pay less attention to risk. During a negative change, investors become more risk averse and doubt that the merger might be as profitable as they believe during an increasing sentiment. As confidence decreases, so do the returns to acquiring companies.

6.4.2 Investor Sentiment and Mode of Payment

This subsection examines investor sentiment and its effect on the returns by the mode of payment. When sentiment changes, the signal from the mode of payment is expected to

have an enhancing effect on the returns. Specifically, the impact is expected to manifest itself in a more pronounced way in stock payments than in cash payments.

In Table 6.3, cash-only deals earn between 1.42 and 2.02 per cent during increasing sentiments and between 1.35 and 1.73 per cent during decreasing sentiment. All individual returns are statistically significant at the 1 per cent level. The differences in returns for cash-only deals are between 0.08 and 0.29 per cent. The statistical results indicate no significant impact by investor sentiment. Small differences in the returns during increasing and declining sentiment suggest hardly any economic relevance, which is in line with the prediction.

Stock-only deals, on the other hand, show a different pattern. During increasing sentiment, the returns are between 0.57 and 2.03 per cent. The results of the 3-days event window indicate a statistical significance at the 5 per cent level and the 5- and 11-days event windows are statistically significant at the 1 per cent level. Stock deals during decreasing sentiment have small positive or negative, as well as, statistically insignificant returns between -0.36 and 0.18 per cent. The differences in returns between increasing and decreasing sentiment levels range from 0.94 to 1.85 per cent. All examined event windows indicate a statistical significance of 1 per cent. Economically and statistically significant results confirm the the expected results that investor sentiment has a significant impact on stock-only deals. Moreover, a substantially greater effect on stock-only than on cash-only deals is in line with the prediction *(H2)*.

Table 6.3: Investor Sentiment and Mode of Payment: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Cash are deals with cash only offers and are deals with stock only offers are stock. A combination of both is considered as mixed. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Mode of Payment	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Cash	Increasing	1,214	1.42332***	<.0001	1,210	1.62833***	0.0000	1,211	2.01566***	<.0001
	Neutral	3,013	1.21102***	<.0001	3,019	1.28854***	0.0000	3,012	1.65395***	<.0001
	Decreasing	1,214	1.34623***	<.0001	1,214	1.46084***	0.0000	1,212	1.72767***	<.0001
	Increasing vs. Decreasing		0.07709	0.7568		0.16749	0.5683		0.28799	0.4569
Mixed	Increasing	1,614	1.81527***	<.0001	1,612	2.05348***	0.0000	1,612	2.96871***	<.0001
	Neutral	3,174	1.23706***	<.0001	3,178	1.63891***	0.0000	3,176	1.77499***	<.0001
	Decreasing	1,558	0.64678***	0.0003	1,555	0.74457***	0.0003	1,568	0.67462**	0.0137
	Increasing vs. Decreasing		1.16849***	<.0001		1.30891***	<.0001		2.29409***	<.0001
Stock	Increasing	1,053	0.57249**	0.0139	1,050	1.18895***	0.0000	1,056	2.03391***	<.0001
	Neutral	2,073	0.31347**	0.0334	2,082	0.44119**	0.0104	2,066	0.86710***	<.0001
	Decreasing	914	-0.36418	0.1597	907	-0.03481	0.9053	914	0.18412	0.6177
	Increasing vs. Decreasing		0.93667***	0.0070		1.22376***	0.0026		1.84979***	0.0004

Mixed payments, which are likely to contain stocks, show similar results as stock-only deals. Deals with a mixed payment lead to positive gains between 1.82 and 2.97 per cent during increasing sentiment and between 0.65 and 0.74 per cent during decreasing sentiment. All individual returns are highly statistically significant. The differences of gains from mixed payments in increasing and decreasing sentiment are between 1.17 and 2.29 percentage points, which are statistically significant at the 1 per cent level. These results support the hypotheses on the gains from stock payments.

Overall, the results are in line with hypothesis *(H2)* that investor sentiment does not impact the returns from deals with cash payments to a great extent, but the returns from deals with stock payments exhibit a significant impact. Irrational investors may treat information differently, especially if they regard it as insider information. A cash payment is a positive sign that managers consider their own firm as undervalued. Irrespective of the sentiment direction, this signal indicates a lucrative investment opportunity and leads to large and highly significant positive returns during increasing and decreasing sentiment changes. Following this logic, a stock payment is a warning signal that managers opt to pay in stocks as they consider their company as currently overvalued. During increasing sentiment, this signal might have less strength, as irrational investors tend to be highly confident and risk seeking. However, a declining sentiment may have a fuelling effect. Investors are more sensitive to risk and less confident and if a merger announcement then contains a stock payment investors may overreact to this signal.

6.4.3 Investor Sentiment and Target Listing Status

This subsection examines the returns to acquirers considering investor sentiment and the target's listing status. As discussed, research shows that information asymmetries have a significant impact on the returns from M&A. Similarly, empirical evidence indicates

that companies which exhibit information asymmetries are more likely to be affected by investor sentiment. Therefore, takeovers of private targets are expected to experience a greater impact of investor sentiment changes than public target takeovers. The results are presented in Table 6.4.

The results are qualitatively similar to findings on the target listing status in the M&A literature. For instance, Fuller et al. (2002) find within a sub-period (1990 to 2000) of the sample that acquirers of public targets lose on average statistically significant -1.00 per cent, whereas, the acquisition of a private target leads on average to a statistically significant gain of 2.08 per cent.

In this study, acquirers of public targets lose between -0.60 and -0.24 per cent during increasing investor sentiment. Statistical tests suggest a significance level of 1 per cent for the 3- and 5-days event windows. The results of the 11-days event window are statistically not different from 0. During decreasing sentiment, public targets lead to losses of between -1.22 and -0.36 per cent. Similar to the returns in increasing sentiment, the 3- and 5-days event windows are significant at the 1 per cent level. The returns over the 11-days window are statistically insignificant. Overall, the differences in returns decrease with an increasing length of the event windows. The 3-days event window with a return difference of 0.64 percentage points is statistically significant at the 5 per cent level and longer event windows suggest statistically insignificant results.

Table 6.4: Investor Sentiment and Target Listing Status: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Public target is if a target publicly listed on a stock exchange. Private target is held by private investors. Subsidiary is if the target is labelled as a subsidiary by SDC Platinum. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Target Listing Status	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Public	Increasing	1,031	-0.58050***	0.0039	1,032	-0.60159***	0.0093	1,040	-0.23764	0.4244
	Neutral	2,104	-0.65763***	<.0001	2,109	-0.66837***	<.0001	2,114	-0.46511***	0.0097
	Decreasing	948	-1.22207***	<.0001	949	-1.02096***	<.0001	957	-0.35804	0.2516
	Increasing vs. Decreasing		0.64157**	0.0275		0.41937	0.2123		0.12040	0.7800
Private	Increasing	1,862	1.91396***	<.0001	1,857	2.29852***	<.0001	1,857	3.22795***	<.0001
	Neutral	3,955	1.43955***	<.0001	3,964	1.70549***	<.0001	3,944	2.00713***	<.0001
	Decreasing	1,747	0.98336***	<.0001	1,735	1.28538***	<.0001	1,739	1.14306***	<.0001
	Increasing vs. Decreasing		0.93060***	<.0001		1.01314***	0.0004		2.08489***	<.0001
Subsidiary	Increasing	988	2.32318***	<.0001	983	2.93120***	<.0001	982	3.69366***	<.0001
	Neutral	2,201	1.77887***	<.0001	2,206	2.11521***	<.0001	2,196	2.49436***	<.0001
	Decreasing	991	1.76563***	<.0001	992	1.65168***	<.0001	998	1.67824***	<.0001
	Increasing vs. Decreasing		0.55755*	0.0654		1.27952***	0.0004		2.01542***	<.0001

The acquisition of a private target during increasing investor sentiment generates statistically significant positive returns between 1.91 and 3.23 per cent and between 0.98 and 1.29 per cent during decreasing sentiment. Each abnormal return is statistically significant the 1 per cent level. Statistically significant differences between 0.93 and 2.08 confirm the relevance of the investor sentiment's impact on the returns to acquiring companies. Highly statistically, as well as, economically significant differences in returns from deals involving private targets suggest a significant investor sentiment impact. In comparison, the returns to acquirers based on the target listing status confirm the prediction *(H3)* that investor sentiment has a greater effect on the returns from private target than on public target takeovers.

Primarily due to a size and marketability effect, Fuller et al. (2002) describe acquisitions of subsidiaries as very similar to private target takeovers. The results in this study confirm their findings. During increasing sentiment, the purchase of a subsidiary leads to positive gains between 2.32 and 3.69 per cent, whereas similar targets lead to positive gains between 1.65 and 1.77 per cent during decreasing sentiment changes. All individual returns are significant at the 1 per cent level. The differences in returns range from 0.56 to 2.02 percentage points and the test statistics suggest a significance level of 10 per cent for the results of the 3-days event window and the 1 per cent level for the remaining 5- and 11-days event windows. In the vein of Fuller et al.'s (2002) notion, the results provide further evidence on the predictions of the impact of investor sentiment on private target takeovers and associated information asymmetries.

As a whole, the results support hypothesis *(H3)* that the returns from private target takeovers experience a greater impact from investor sentiment changes than compared to public target acquisitions. Research shows that companies which exhibit potentially high levels of information asymmetries are more likely to experience an impact if investor sentiment changes. M&A research has found similar results with regards to

information asymmetries affecting returns around the merger announcement. As private targets are not required to constantly disclose financial information and are not under close scrutiny (e.g. analysts), private target takeovers exhibit a greater impact if investor sentiment changes. The results are consistent with the view that when sentiment in the market changes, irrational investors change their perception of risk. In bullish markets, these investors seem to be overly confident and risk seeking. On the other hand, investors fear losses during declining investor sentiment and at the same time, change their perception of available information. They are more apprehensive of incomplete information, such as in private target takeovers. As a result, private target acquisitions experience a greater magnitude of investor sentiment changes than public target takeovers.

6.4.4 Investor Sentiment and Acquirer's Size

Research on investor sentiment suggests that smaller firms experience a greater impact then larger companies. Since smaller firms are considered to have greater information asymmetries, returns to smaller acquirers are expected to be more affected by investor sentiment than larger acquirers. In Table 6.5, the results of the returns based on acquirer's size are presented.

Table 6.5: Investor Sentiment and Acquirer's Size: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Acquirer's size is the natural logarithm of acquirers' market values, sorted by size and split into three equally-sized groups. The upper group is categorised as large, the middle group as medium and the lowest group as small. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Acquirer's Size	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Large	Increasing	1,294	0.33732**	0.0402	1,291	0.56532***	0.0036	1,293	1.01514***	0.0001
	Neutral	2,753	0.32971***	0.0011	2,760	0.39201***	0.0008	2,751	0.60233***	0.0001
	Decreasing	1,229	-0.19303	0.2720	1,225	0.03133	0.8751	1,231	0.46636*	0.0683
	Increasing vs. Decreasing		0.53035**	0.0273		0.53399*	0.0547		0.54878	0.1368
Small	Increasing	1,293	2.17801***	<.0001	1,290	2.36016***	0.0000	1,293	3.47607***	<.0001
	Neutral	2,753	1.75674***	<.0001	2,759	2.17556***	0.0000	2,751	2.55755***	<.0001
	Decreasing	1,228	1.41498***	<.0001	1,225	1.46701***	0.0000	1,231	1.53585***	<.0001
	Increasing vs. Decreasing		0.76303**	0.0148		0.89315**	0.0147		1.94022***	<.0001

During increasing investor sentiment, large acquirers gain between 0.34 and 1.02 per cent. The returns during the 3-days event window are statistically significant at the 5 per cent level and the 5- and 11-days event windows are statistically significant at the 1 per cent level. During decreasing sentiment, the returns to large acquirers range from -0.19 to 0.47 per cent. Only the 11-days event window indicates a statistical significance level of 10 per cent. The differences in gains between increasing and decreasing sentiment are between 0.53 and 0.55 percentage points. The 3- and 5-days event windows are statistical significant at the 5 and 10 per cent level, respectively.

Small acquirers experience positive gains of between 2.18 and 3.48 per cent during positive sentiment changes and between 1.41 and 1.54 per cent during decreasing sentiment. The individual returns are statistically significant at the 1 per cent level. The differences in returns of between 0.76 and 1.94 percentage points indicate not only economic relevance, but are also all statistically significant at least at the 5 per cent level.

As proposed in hypothesis *(H4),* economically and statistically significant results show that small acquirers experience a greater impact by changes in sentiment than larger acquirers. Arguably higher information asymmetries induce investors to shift their investments from smaller companies to perceived safer assets during a negative sentiment change. Due to higher transparency, larger companies may be considered less risky. Larger firms are usually followed by more analysts and are under constant scrutiny by the media and public. Additionally, the size effect makes them 'too big to fail' and investors may place a premium on this characteristic. As mentioned earlier, research shows that the shareholder structure is considerably different in small and large firms. Small firms are disproportionally held by individual investors, whereas institutional predominantly invest in larger firms. This aspect might expose smaller companies more to investor sentiment as individuals may follow a behavioural

investment style. Moreover, research shows that small companies are more likely to be overvalued and that such firms are more prone to sentiment changes. In the case of declining sentiment, irrational investors may panic or may not expect these firms to engage in value-creating acquisitions. In a bullish market environment, investors are overconfident about the future of the company and the outcome of an acquisition. The analysis in the next subsection will explore the impact on over- and undervalued acquirers in more detail. It should be emphasised that the results also indicate a significant impact of investor sentiment on the returns to large acquirers, even though the magnitude of about 0.5 percentage points is only a third of the impact on small acquirers.

6.4.5 Investor Sentiment and Over- and Undervalued Acquirers

The proposition that overvalued acquirers are likely to show an impact of investor sentiment, whereas undervalued acquirers experience a revaluation at the merger announcement is the focus of the last univariate test. If this argument is correct, then a greater impact on the returns to overvalued than undervalued acquirers is expected. Table 6.6 presents the results of the sentiment's impact concerning the acquirer's valuation.

Table 6.6: Investor Sentiment the Acquirer's Valuation: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. The acquirer's valuation is book-to-market ratio of the previous reported quarter. If the book-to-market is smaller than 1 then the acquirer is categorised as overvalued, if smaller than 1 then the acquirer is categorised as undervalued. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Acquirer's Valuation	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Overvalued	Increasing	3,101	1.14895***	<.0001	3,095	1.51206***	<.0001	3,101	2.14517***	<.0001
	Neutral	6,813	0.90430***	<.0001	6,821	1.10081***	<.0001	6,810	1.37080***	<.0001
	Decreasing	2,960	0.39830***	<.0001	2,955	0.60964***	<.0001	2,964	0.77649***	<.0001
	Increasing vs. Decreasing		0.75065***	<.0001		0.90242***	<.0001		1.36868***	<.0001
Undervalued	Increasing	269	1.62252***	<.0001	270	1.63319***	<.0001	265	2.41808***	0.0005
	Neutral	482	1.03238***	<.0001	483	1.43021***	<.0001	483	2.09334***	<.0001
	Decreasing	271	1.56941***	<.0001	272	1.52091***	<.0001	273	1.50555**	0.0197
	Increasing vs. Decreasing		0.05311	0.9282		0.11228	0.8763		0.91253	0.3327

During increasing sentiment, overvalued acquirers earn between 1.15 and 2.15 per cent, which are statistically significant at the 1 per cent level. The returns to overvalued acquirers during decreasing sentiment are between 0.40 and 0.78 per cent and also are statistically significant at the 1 per cent level. The return differences between increasing and decreasing sentiment range between 0.75 and 1.37 percentage points. Across all three examined event windows, the results of statistical tests at the 1 per cent level suggest a highly significant effect of investor sentiment on the returns to overvalued acquirers.

The returns to undervalued acquirers are slightly higher. During increasing sentiment, undervalued acquirers generate abnormal returns between 1.62 and 2.42 per cent, which are statistically significant at the 1 per cent level. During decreasing sentiment returns are between 1.51 and 1.57 per cent. The 3- and 5-days event windows are statistically significant at the 1 per cent level and the 11-days event window indicates a statistical significance level of 5 per cent. The differences in returns are statistically insignificant, suggesting no relevant sentiment impact on the returns to undervalued acquirers. However, the aspect that the gains to undervalued acquirers are consistently higher supports the argument that undervalued acquirers experience a revaluation around the merger announcement.

The presented results confirm the prediction of hypothesis *(H5)* that overvalued acquirers experience a greater impact during sentiment changes than undervalued acquirers. Due to more pronounced behavioural effects, the results suggest that the gains to overvalued companies are prone to investor sentiment. After a period of overconfidence on a specific firm leading to an overvaluation, a merger announcement during a broad positive sentiment change might further support this perception. In the case of an announcement during a decrease in sentiment, investors may become sceptical about current valuation levels, as well as, the gains from the merger. The gains

to undervalued acquirers, on the other hand, do not show an impact by sentiment. In fact, similar evidence earlier found by Draper and Paudyal (2008) suggest that undervalued acquirers experience a revaluation. A merger announcement may receive more attention by the public than other corporate events and at the same time, may release new information on the acquirer. Positive returns during increasing and decreasing sentiment, similar in magnitude and statistical significance, suggest that the undervalued acquirer gains investors' focus again as an attractive investment opportunity.[96]

6.4.6 Multivariate Framework

The univariate results show that investor sentiment significantly affects the announcement returns to acquirers. The hypotheses are re-examined in a multivariate framework as in equation (6.1) and the results are presented in Table 6.7 and Table 6.8. A regression analyses verifies the significance of the investor sentiment effect on the returns to acquiring companies after controlling for other relevant M&A factors. To verify the significance of the sentiment impact, only deals announced during increasing and decreasing sentiment are examined in Table 6.7. For this purpose, models (2) to (9) use the specific subsamples and the *Increasing Sentiment* dummy. The variable takes on the value of 1 if the deal is announced in an increasing sentiment month and the value 0 if the deal is announced in a decreasing sentiment month. In Table 6.8, *Increasing Sentiment* and *Decreasing Sentiment* dummies are added to the models to examine the magnitude of each sentiment direction. As a consequence of the different aims of the regression analyses, the sample sizes in Table 6.7 and Table 6.8 differ. More precisely, deals during neutral investor sentiment are dropped in Table 6.7 to verify the effect and existence of investor sentiment in M&A, whereas the models in Table 6.8 use the full

[96] Jeffrey Wurgler also provides data on an investor sentiment level index. Using the same methodology, the results are not as clear-cut. The overall picture suggests that returns are higher during low sentiment levels. The results are shown in the Appendix C.

sample to examine the magnitude of the increasing and decreasing investor sentiment impact.

Model (1) of Table 6.7 uses all deals in increasing and declining investor sentiment to check the robustness of the results regarding the main hypothesis that investor sentiment has a significant impact on the returns acquiring companies. A statistically significant intercept of 2.76 suggests that after controlling for influential M&A factors, acquirers earn on average a positive return around the merger announcement. The results show that cash payments contribute to statistically insignificantly higher returns of 0.31 percentage points, whereas stock payments lead to statistically insignificantly lower returns of -0.37 percentage points. The coefficients of the public and private targets suggests that both target types lead to statistically significantly lower returns of -2.95 and -0.41 percentage points, respectively. The acquirer's size indicates a statistically significant negative relationship of -0.20 and so does the valuation proxy, the acquirer's book-to-market ratio with -0.84. Relatively large targets lead to statistically significantly higher returns of 0.31 percentage points. The industry relation coefficient nearly breaks even with -0.10 percentage points and is statistically insignificant. Foreign targets lead to a statistically insignificant lower return of -0.49 percentage points and a hostile takeover leads to a statistically insignificant higher return of 0.94 percentage points. The adjusted R^2 from regression (1) to (9) are between 1.95 and 6.73 per cent.

The variable of prime interest, the *Increasing Sentiment* dummy has a coefficient of 0.88 percentage points after controlling for other return-influencing effects and is highly statistically significant at the 1 per cent level. This supports hypothesis *(H1)* that the prevailing investor sentiment has a significant impact on the returns to acquiring companies around the announcement. Deals announced during increasing sentiment generate higher returns than during decreasing sentiment, even after controlling for

other relevant factors.[97]

The discussion of the results from model (2) to (9) concentrates on the coefficients of the *Increasing Sentiment* variable and control variables are commented if there is a significant difference from regression (1).

[97] The results based on the 3- and 11-days CARs are qualitatively similar.

Table 6.7: Investor Sentiment: Multivariate Framework (Increasing and Declining Sentiment Deals Only) (-2, +2)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2010. The dependent variable is the 5-days abnormal returns (-2, +2) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutra*l*'* investor sentiment changes. The examined sentiment index period matches the sample period. *Increasing Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in an increasing sentiment environment and 0 if the deal is announced in a declining sentiment. The *Relative Target Size* is the natural logarithm of the deal value to acquirer's market value. *Focused* is a binary variable which takes on 1 if the acquirers and target's 2-digit SIC code match, otherwise 0. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public target* is if a target publicly listed on a stock exchange. *Private target* is held by private investors. *Acquirer Size* is the natural logarithm of acquirers' market values. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market ratio. *Cross-border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	2.75819***	5.48386***	2.73504***	1.82495*	3.85452***	-0.43354	2.11524***	1.98071***	2.72846
	(<.0001)	(0.0009)	(0.0096)	(0.0614)	(0.0034)	(0.5535)	(0.0002)	(0.0016)	(0.2376)
Increasing Sentiment	0.87673***	1.36748***	0.20888	1.08897***	0.24315	0.91474**	0.46949*	0.94447***	0.05622
	(<.0001)	(0.0008)	(0.4810)	(0.0002)	(0.4664)	(0.0138)	(0.0914)	(<.0001)	(0.9369)
Cash	0.30840			0.03760	0.98774**	1.03245**	0.15977	0.20949	0.68191
	(0.1683)			(0.9127)	(0.0227)	(0.0161)	(0.6347)	(0.3716)	(0.3661)
Stock	-0.36625			0.14713	-1.09409***	0.58976	-0.36299	-0.29247	-0.36347
	(0.1764)			(0.7045)	(0.0084)	(0.2482)	(0.3874)	(0.2882)	(0.7946)
Public Target	-2.95278***	-4.37086***	-1.42163***			-3.62307***	-2.55400***	-3.13157***	-1.74644*
	(<.0001)	(<.0001)	(0.0003)			(<.0001)	(<.0001)	(<.0001)	(0.0750)
Private Target	-0.41036*	-1.18514	-0.58686*			-0.00789	-0.69595*	-0.34161	-0.79448
	(0.0977)	(0.2153)	(0.0991)			(0.9861)	(0.0722)	(0.1861)	(0.3622)
Acquirer Size	-0.20287***	-0.28033*	-0.24307**	-0.14984	-0.39733***			-0.13326**	-0.32666
	(0.0019)	(0.0597)	(0.0192)	(0.1891)	(0.0003)			(0.0435)	(0.2240)
Acquirer's B/M	-0.83787**	-0.72805	-0.89463	-1.72727***	0.79953	-0.29549	-1.59864***		
	(0.0122)	(0.4049)	(0.1380)	(0.0003)	(0.2399)	(0.5783)	(0.0056)		

Table 6.7 continued

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Relative Target Size	0.30661***	-0.10220	0.55216***	0.68511***	-0.86753***	0.91299***	-0.21411	0.26774***	0.39784
	(0.0014)	(0.6189)	(0.0007)	(<.0001)	(<.0001)	(<.0001)	(0.1178)	(0.0071)	(0.2742)
Focused	-0.09560	-1.24320**	0.07675	-0.52640*	0.10856	-0.61880	0.33494	-0.11058	0.04354
	(0.6457)	(0.0157)	(0.8013)	(0.0934)	(0.7885)	(0.1250)	(0.2753)	(0.6083)	(0.9553)
Cross-Border	-0.49067	-2.37068***	0.15324	-0.62086	-0.69677	-1.09222	0.12540	-0.37846	-1.76841
	(0.1177)	(0.0058)	(0.6998)	(0.2362)	(0.2263)	(0.1451)	(0.7461)	(0.2392)	(0.2078)
Hostile	0.93822	-2.50119	1.36727	-11.14256*	2.31205**	1.81367	0.14474	0.59349	2.27362
	(0.3503)	(0.5103)	(0.3063)	(0.0746)	(0.0272)	(0.5018)	(0.8704)	(0.5682)	(0.4466)
N	6,592	1,671	2,209	3,093	1,782	2,196	2,198	6,050	542
F-Statistics	21.65***	13.31***	5.38***	6.81***	8.86***	7.64***	9.78***	22.68***	1.28
R^2 (%)	3.49	6.73	2.15	1.95	4.31	2.38	4.28	3.62	2.35
Adjusted R^2 (%)	3.33	6.22	1.75	1.66	3.82	2.94	3.84	3.46	0.51

The univariate results on the impact of investor sentiment changes with regards to stock payments is verified in model (2) and cash payments in model (3). A greater impact on the returns from deals with stock payments than with cash payments is expected. The *Increasing Sentiment* dummy is in stock deals with 1.37 percentage points statistically significant at the 1 per cent level. In contrast, increasing investor sentiment in cash deals only contributes to higher returns of 0.21 percentage points and the test statistics indicate statistical insignificance for the coefficient. This is supportive evidence for hypothesis *(H2)* that stock-only deals experience a greater effect on the returns in M&A than cash-only deals.[98] As suggested, irrational investors may be sensitive to the valuation signal from the payment method. Irrespective of the direction of the sentiment change, a cash offer may signal that the acquiring managers consider their own stocks as currently undervalued and at the same time, the merger announcement reveals a new investment opportunity. A stock payment, on the other hand, may indicate that the acquiring managers perceive their company as currently overvalued. Due to changing levels of confidence and the perception of risk, sentimental investors may either pay less attention to that signal during increasing sentiment or an increased loss aversion may lead to a more pronounced effect on the gains during decreasing sentiment.

In models (4) and (5), the effects of the investor sentiment by the target listing status are analysed. For this purpose, model (4) uses a subsample of private target takeovers and model (5) uses only listed target takeovers. The sentiment dummy indicates that private and listed target takeovers earn 1.09 and 0.24 percentage points more in increasing than decreasing sentiment. Further the sentiment coefficient suggests that investor sentiment has a statistically significant impact on private target deals at the 1 per cent level, whereas listed target deals are statistically unaffected. These results

[98] The regression results based on the 3- and 11-days CARs are qualitatively similar.

support hypothesis *(H3)* and arguably, greater investors' sensitivity to information asymmetries when investor sentiment changes may lead to a greater impact on the gains from private target takeovers than from listed target deals.[99]

The hypothesis regarding the acquirer's size are re-examined in regression (6) and (7). By filtering the sample for small acquirers in model (6) and for large acquirers in model (7), a greater impact from a change in investor sentiment on the returns to smaller than to larger acquirers is expected to be found. The key variables show that small and large acquirers experience a statistically and economically significant effect from changes in investor sentiment. Small acquirers gain 0.91 percentage points more during increasing sentiment than during negative changes in sentiment. The coefficient is statistically significant at the 1 per cent level. Large acquirers generate higher returns of 0.47 percentage points during increasing sentiment than compared to decreasing sentiment, which is significant at the 5 per cent level. The findings show that investor sentiment has a significant impact on the returns to acquiring companies considering the acquirer's size. The results also indicate that investor sentiment has greater impact on smaller than larger acquirers, which confirms hypothesis *(H4)*.[100] Arguably, smaller acquirers may exhibit more information asymmetries, making such companies more prone to investor sentiment.

The last regression models (8) and (9) analyse the investor sentiment's impact on the returns based on the acquirer's valuation. All overvalued acquirers are pooled in regression (8). Regression (9) contains all acquirers which were undervalued when the merger was announced. As proposed in hypothesis *(H5)*, changes in sentiment should have a greater impact on the returns to overvalued than undervalued acquirers. The coefficients of the sentiment dummy suggest that the returns of overvalued companies

[99] The regression results based on the 3- and 11-days CARs are qualitatively similar. In addition, the sentiment variable in the 3-days CARs regression of listed targets is statistically significant

[100] The regression results based on the 3- and 11-days CARs are qualitatively similar. The sentiment variable in the 11-days CARs regression of large acquirers is statistically not different form zero.

experience a greater impact of 0.94 percentage points during increasing sentiment, which is statistically significant the 1 per cent level. In contrast, sentiment changes have hardly any effect on undervalued acquirers. The dummy coefficient is with 0.06 percentage points statistically insignificant. This confirms the univariate results, as well as, hypothesis *(H5)* that investor sentiment has a greater effect on overvalued acquirers and that undervalued acquirers experience a revaluation around the merger announcement.[101]

The multivariate results from Table 6.7 confirm the hypotheses, as well as, the univariate results that investor sentiment has a significant effect on the returns to acquiring companies after controlling for other influential deal characteristics. Acquiring companies gain statistically and economically higher returns during increasing than decreasing investor sentiment.[102] Consistent with sentiment research, the findings suggest that irrational investors are sensitive to information asymmetries and valuation signals.

In Table 6.8, the hypotheses are re-examined by adding two sentiment dummy variables, an *Increasing* and *Decreasing Sentiment* variable. The *Increasing Sentiment* variable takes on the value of 1 if the deal was announced during increasing sentiment and the *Decreasing Sentiment* variable takes on the value of 1 if the deal was announced during decreasing sentiment, otherwise the dummies are 0. In a direct comparison of the two coefficients, conclusions on the magnitude and significance of increasing and declining sentiment changes can be drawn. The remaining control variables are the same as presented in Table 6.7.[103]

In model (1), the full sample serves to analyse the overall effect of investor sentiment. The coefficients suggest that an increasing sentiment change has a positive

[101] The regression results based on the 3- and 11-days CARs are qualitatively similar.

[102] Except in regression (9), where an economically meaningful intercept provides support for a revaluation of undervalued acquires around the announcement.

[103] Control variables are commented if appropriate.

impact of 0.47 percentage points, which is statistically significant at the 1 per cent level. The decreasing sentiment dummy, on the other hand, indicates a negative impact of -0.40 percentage points, which is significant at the 5 per cent level.[104] The findings suggest that changes in sentiment statistically, as well, as economically impacts the gains to acquiring companies. Moreover, the results also indicate that an increasing sentiment has a greater impact on the overall returns from M&A.

Model (2) and (3) investigate the investor sentiment's impact based on the mode of payment. In deals with stock-only payments, the acquirer's gains experience during increasing investor sentiment a positive effect of 0.84 percentage points. The p-value indicates a 1 per cent significance level. During decreasing sentiment, the returns are by -0.51 percentage points lower. However, the coefficient is statistically not different from 0. In deals with cash offers, increasing and decreasing investor sentiment has a positive effect of 0.29 and 0.08 percentage points, respectively. However, both coefficients are statistically insignificant.[105] Similar to regression (1), the magnitude of the coefficients also indicate that a positive sentiment change has a greater impact on the wealth effects to acquiring firms. Further deals with stock payments are more affected than deals with cash payments. This confirms and is consistent with the argument that the payment signals the managers' perception of their company's current valuation.

[104] The regression results based on the 3-days CARs are qualitatively similar. The regression results based on the 11-days CARs suggest that the impact on the returns is slightly greater during increasing sentiment.

[105] The regression results based on the 11-days CARs are qualitatively similar. The regression results based on the 3-days CARs suggest that the impact on the returns in stock deals is greater during decreasing sentiment.

Table 6.8: Investor Sentiment: Multivariate Framework (Full sample, Increasing and Decreasing Sentiment Variable) (-2, +2)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2010. The dependent variable is the 5-days abnormal returns (-2, +2) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. The examined sentiment index period matches the sample period. *Increasing Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in an increasing sentiment environment and 0 otherwise. *Declining Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in a declining sentiment environment and 0 otherwise. A *Relative Target Size* is the natural logarithm of the deal value to acquirer's market value. *Focused* is a binary variable which takes on 1 if the acquirers and target's 2-digit SIC code match, otherwise 0. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Acquirer Size* is the natural logarithm of acquirers' market values. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market ratio. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.51291***	4.57935***	2.27711***	2.36440***	3.78087***	0.92210*	1.99691***	2.73697***	3.95295**
	(<.0001)	(<.0001)	(0.0007)	(0.0002)	(<.0001)	(0.0670)	(<.0001)	(<.0001)	(0.0153)
Increasing Sentiment	0.46768***	0.83957***	0.29473	0.60964**	-0.04189	0.12459	0.14412	0.48537***	0.21293
	(0.0033)	(0.0097)	(0.2270)	(0.0122)	(0.8787)	(0.6910)	(0.5238)	(0.0033)	(0.7282)
Decreasing Sentiment	-0.40303**	-0.50910	0.08474	-0.47654**	-0.29355	-0.78507***	-0.30773	-0.45015***	0.11115
	(0.0110)	(0.1389)	(0.7212)	(0.0486)	(0.3016)	(0.0099)	(0.1844)	(0.0062)	(0.8502)
Cash	0.13398			-0.06868	1.00649***	0.33313	0.09428	0.03295	0.61714
	(0.3674)			(0.7576)	(0.0006)	(0.2443)	(0.6698)	(0.8321)	(0.2346)
Stock	-0.58246***			-0.01794	-0.98763***	0.04071	-0.53473*	-0.51355***	-0.74260
	(0.0011)			(0.9433)	(0.0005)	(0.9032)	(0.0544)	(0.0047)	(0.4228)
Public Target	-2.57998***	-2.84439***	-1.18273***			-3.44938***	-2.07506***	-2.70410***	-1.88291***
	(<.0001)	(<.0001)	(<.0001)			(<.0001)	(<.0001)	(<.0001)	(0.0050)
Private Target	-0.34564**	-0.02257	-0.35436			-0.21418	-0.35868	-0.29042*	-0.66242
	(0.0336)	(0.9703)	(0.1079)			(0.4779)	(0.1520)	(0.0851)	(0.2817)
Acquirer Size	-0.26223***	-0.32734***	-0.20818***	-0.20724***	-0.37664***			-0.19257***	-0.53509***
	(<.0001)	(0.0008)	(0.0015)	(0.0049)	(<.0001)			(<.0001)	(0.0026)
Acquirer's B/M	-0.91146***	-0.42736	-0.88219**	-1.49287***	0.27392	-0.54440	-1.34371***		
	(<.0001)	(0.4505)	(0.0199)	(<.0001)	(0.5357)	(0.1407)	(0.0003)		

Table 6.8 continued

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Relative Target Size	0.29253***	-0.13056	0.61799***	0.66738***	-0.70347***	0.81983***	-0.13609	0.25951***	0.31444
	(<.0001)	(0.3641)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.1560)	(0.0001)	(0.2348)
Focused	-0.05100	-0.74506**	-0.08046	-0.20032	0.05589	-0.27861	0.23370	-0.07088	0.00758
	(0.7081)	(0.0226)	(0.6796)	(0.3247)	(0.8363)	(0.2936)	(0.2349)	(0.6150)	(0.9887)
Cross-Border	-0.05853	-1.61821***	0.08443	-0.06034	-0.25187	-0.67190	0.26412	0.03567	-1.15303
	(0.7781)	(0.0073)	(0.7425)	(0.8543)	(0.5460)	(0.1479)	(0.3300)	(0.8674)	(0.2009)
Hostile	0.52924	-1.32099	-0.21397	-8.06384	1.66243**	0.69450	0.01029	0.29732	1.57994
	(0.4339)	(0.5492)	(0.8153)	(0.1008)	(0.0176)	(0.6990)	(0.9884)	(0.6696)	(0.4561)
N	13,896	3,455	4,986	6,568	3,654	4,630	4,633	12,781	1,025
F-Statistics	40.33***	20.11***	11.26***	11.47***	13.12***	11.84***	15.38***	39.89***	3.42***
R^2 (%)	3.37	5.52	2.21	1.72	3.48	2.74	3.53	3.30	3.58
Adjusted R^2 (%)	3.29	5.24	2.02	1.57	3.21	2.51	3.30	3.22	2.53

The impact of investor sentiment in private and listed target deals is examined in models (4) and (5). In private target takeovers, increasing and decreasing sentiment has a statically significant effect on the returns to acquiring companies. Acquirers gain 0.61 percentage points more during a positive sentiment change and -0.48 percentage points less in decreasing sentiment. The p-values indicate for both coefficients a significance level of 5 per cent. In listed target takeovers, increasing sentiment has a negative impact with -0.04 percentage points and the test statistics suggest statistical insignificance. The decreasing sentiment dummy has of -0.29 percentage points a negative impact on the returns and is statistically insignificant, as well.[106] Consistent with the view of varying sensitivity to information asymmetries, the findings confirm the significance of investor sentiment in private target takeovers and suggest a positive sentiment change has a greater impact on such takeovers.

Models (6) and (7) analyse the effects by the acquirer's size. Small acquirers experience a positive effect of 0.12 percentage points if the deal was announced during increasing sentiment. The test statistics suggest that the coefficient is not statistically different from 0. During negative changes of sentiment, similar acquirers suffer a statically significant negative effect of -0.79 percentage points. With 0.14 percentage points, large acquirers experience a small positive effect from increasing sentiment changes. During declining sentiment, large acquirers exhibit statistically insignificant lower returns of -0.31 per cent.[107] The findings regarding the acquirers' size indicate that small acquirers experience statistically and economically significant impact during decreasing sentiment, suggesting that irrational investors are sensitive to information asymmetries during decreasing sentiment.

Finally, the impact of investor sentiment changes on over- and undervalued acquirers

[106] The regression results based on the 11-days CARs are qualitatively similar. The regression results based on the 3-days CARs suggest that the impact on the returns in private target takeovers is greater during decreasing sentiment.

[107] The regression results based on the 5- and 11-days CARs are qualitatively similar.

is examined in model (8) and (9). An increasing investor sentiment has with 0.49 percentage points a positive effect on overvalued acquirers. During a decreasing sentiment, returns to overvalued acquirers are -0.45 percentage points lower. Both estimates are statistically significant at the 5 per cent level. Undervalued acquirers, on the other hand, experience a positive effect in increasing and decreasing sentiment with 0.21 and 0.11 percentage points, respectively. However, the dummy variables are statistically insignificant.[108] Overall, the results economically and statistically significant results support hypothesis *(H5)* that overvalued acquirers are prone to investor sentiment. In the case of undervalued acquirers, positive gains during increasing and decreasing sentiment are rather consistent with the argument that acquirers experience a revaluation around the merger announcement.

The results of this regression analysis suggest that firms, which are expected to be prone to investor sentiment, experience a greater impact of increasing sentiment. Overconfidence and a risk seeking attitude during bullish market conditions may disproportionally fuel the perception of such firms and their acquisitions, leading to higher gains from M&A. As a whole, the multivariate results confirm the findings of the previous section that investor sentiment has a significant effect on the returns to acquiring firms, even after controlling for other relevant M&A features.

6.5 Conclusion

The concept of an efficient market is probably the most dominant framework in explaining the functioning of the financial market. The efficient market hypothesis, as an underlying assumption of many models and arguments, facilitates the exploration of markets for academics, as well as, practitioners. It assumes investors who act rationally on the basis of the available information which is instantaneously reflected in the

[108] The regression results based on the 3-days CARs suggest that the impact on the returns to overvalued acquirers is greater during decreasing sentiment.

observed market prices. However, a significant number of studies in several areas of finance challenge this concept by revealing anomalies which cannot be explained by the neoclassical finance view, but suggest a behavioural aspect in investors' actions. This study adds to this literature by examining the impact of investor sentiment on M&A. To be more specific, the effect of changes in investor sentiment on the returns to US acquirers is analysed in over 16,000 deals over a sample period of 31 years.

The findings show that acquiring companies earn significantly higher returns during increasing than decreasing investor sentiment. Arguably, investors gain confidence about the outcome of a merger during a positive change in sentiment and overreact too such announcements. A risk seeking attitude may also contribute to an increase in returns. On the contrary, if the sentiment decreases so does the confidence of investors. As a result, the perception of risk shifts to risk aversion and investors are pessimistic about a profitable outcome of mergers.

The mode of payment provides further support for the impact of investor sentiment. Cash deals show hardly any impact from sentiment changes, whereas stock transactions experience a significant impact. The results indicate that the returns from deals with stock payments reflect the overvaluation signal together with the positive or negative effect of the sentiment change. The combined effect leads to a significant impact on the returns between increasing and decreasing sentiment. In cash deals, the undervaluation signal is more dominant as it probably reveals a new investment opportunity.

The results from the target's public listing status also confirm the predictions. Private target takeovers experience a greater impact than the acquisition of listed targets. As sentiment decreases, investors become more risk averse and as private targets are required to disclose less financial information, they become more sensitive to information asymmetries. During increasing sentiment, the results are consistent with investors tending to be overly confident and risk seeking. As a result, information

asymmetries play a less significant role and the returns to acquiring firms are higher. Due to higher reporting standards, public targets should exhibit lower levels of information asymmetries and the results suggest that investor sentiment has a lower impact on the returns to acquiring companies of public targets.

In line with investor sentiment research, small acquirers experience a greater effect than large acquirers. Smaller companies tend to be predominantly held by individual investors which makes the returns from M&A announcements prone to the sentiment in the market. Further, smaller companies are considered to have higher information asymmetries.

With regards to the valuation of the acquirers, overvalued acquirers show a significant impact by investor sentiment, whereas the returns to undervalued acquirers in increasing and declining sentiment are not different. The returns to overvalued acquirers suggest that the overconfidence that led to an overvaluation is carried forward during increasing sentiment, whereas decreasing sentiment causes are scepticism. The gains to undervalued acquirers indicate a revaluation effect at the merger announcement irrespective by the sentiment change.

The univariate results are robust to a multivariate framework and confirm the respective hypotheses that the returns to acquiring firms are significantly different during increasing and declining investor sentiment. A multivariate analysis on the magnitude of the impact reveals that acquirers, that are expected to be more affected by investor sentiment, experience a greater effect by positive changes in sentiment. Overconfidence and risk seeking of irrational investors in a bullish market may have stronger effect on the gains.

Our findings confirm Bouwman et al.'s (2003) proposition that the returns to acquirers reflect investor sentiment. These findings add to a growing body of literature that stock price movements are also driven by irrational behaviour rather than by pure

rational responses to new information. The economic and statistical significance of the results suggests that M&A gains should be adjusted for investor sentiment in order to make more precise statements on the wealth creating effects. Moreover, the findings imply that event studies can serve as a useful tool to gain further knowledge on the influence of investor sentiment on share price movements.

7. Conclusion

7.1 Background to the Thesis

This thesis contributes to an understanding of information and information asymmetry research by analysing the gains to acquiring companies around merger announcements in a variety of contexts. Research suggests that new information is not solely responsible for price movements, but also other factors, such as information asymmetry and sentiment, may have an impact on prices. Due to the size of the M&A market and the frequency of M&A transactions, such deals provide an ideal setting for analysis of these issues.

The contributions of this thesis are not limited to information, information asymmetry and M&A literature. The findings also relate to accounting, industry life cycle and sentiment research.

The first empirical chapter examines the expected reduction of information asymmetries due the mandatory adoption of IFRS in the European Union. The second empirical chapter analyses the investors' perception of information on industry prospects and their preferences regarding specific acquisition strategies. The third empirical chapter studies the impact of investor sentiment on the gains to acquiring companies.

The main findings and their implications of each empirical chapter can be summarised as follows:

7.2 Summary of Findings and Implications

7.2.1 The Adoption of IFRS had an Impact on the Bidders' Gains in High Information Asymmetries Deals

With the beginning of the financial year of 2005, all companies listed at a stock exchange within the European Union were required to disclose their financial reports using IFRS. The regulator's aim was to promote an integrated European financial market by improving transparency of listed companies. Using M&A gains as indicator of the impact of the accounting change on information asymmetries, the success of the IFRS implementation in the European Union was examined.

The results confirm that IFRS had a positive effect on high information asymmetry deals. The change in gains suggests that the accounting harmonisation has improved the transparency of foreign targets. In addition, substantially increased deal values of foreign acquisitions over the two periods suggest that acquirers have fewer problems in interpreting the financial statements of foreign targets in EU cross-border deals. As a consequence, acquirers are more willing to engage in potentially riskier transactions evidenced by larger relative target sizes. However, the results also indicate that some barriers remain as larger bidders in cross-border deals are still significantly larger after the adoption of IFRS. Secondly, a significant change in gains based on stock payments further indicates a reduction of information asymmetries. The results from a probit model also provide evidence that information asymmetries have been reduced. Based on the probability of the use of stock payments in M&A transactions, the findings indicate that stock payments served as a tool to manage risk evolving from the acquisition during the pre-IFRS era. After the adoption of IFRS, stocks are more likely being used to finance the deals.

The findings imply that the adoption of IFRS has improved transparency in

potentially high information asymmetry deals and the results suggest that the regulator's intention to promote and create a European financial market by reducing information asymmetries on listed companies was partly a success.

7.2.2 Acquirers' Gains reflect Industry Prospects

The second empirical chapter investigates the question whether information related to broad industry factors is of importance to M&A gains. For this purpose, the M&A gains to acquiring companies based on their industry prospects and the investors' preferences on different acquisition strategies are examined.

The results show that investors value information on broad industry factors, such as industry prospects. A positive industry outlook leads to significantly higher returns than negative prospects. The findings also indicate that investors consider to the acquired industry growth prospects. The gains from acquisitions of related and unrelated targets reveal that the effect is persistent in focused deals but disappears in diversifying deals. The results suggest that in a focused deal, the acquirer emphasises its strategic orientation on its core business activity and therefore, the company's growth rate remains highly correlated to the overall industry growth. In a diversifying deal, however, the acquirer diversifies the growth rate of the combined company by purchasing an industry-unrelated company. Further supportive evidence was found with regards to the relative target size, which can be considered as an indicator of the deal's impact on future financial results. The findings suggest an enhancing effect in focused deals. On the other hand, the gains in diversifying deals remain relatively unaffected by industry prospects. The gains based on the mode of payment also confirm the effect of industry prospects and the mentioned pattern regarding corporate diversification. The returns suggest that the mode of payment conveys a valuation signal in focused deals, as well as, the growth prospects of the industry. Diversifying deals again remain relatively

unaffected by industry prospects. Using different event windows and regression analyses yield similar results. Finally, the gains also suggest a behavioural bias on the returns with respect to the perception of corporate diversification. Investors prefer companies with a negative industry outlook to diversify their business activity rather than to purchase an industry-related target. A diversifying acquisition may be considered as a strategic diversification to acquire new growth opportunities, whereas investors are less optimistic on a strategy to acquire market share to initiate growth within a declining industry. On the other hand, investors seem to have no particular preference in growing industries. Both deal types might be regarded as profitable, focused deals by initiating further growth in form of greater market share or realising operational synergies. In diversifying deals, this might be achieved by financial synergies to finance further growth or as a proactive response to seek future growth opportunities outside of the acquirer's current industry.

Overall, the results imply that investors value information on industry prospects, as well as, the acquired growth opportunities in the deal. Moreover, the results suggest that corporate managers can create wealth for their shareholders by diversifying their business activities regardless of the industry prospects. This is in stark contrast to the neoclassical finance view on corporate diversification that in an efficient market context, corporate diversification should not add any value since individual investors should be able to replicate this activity in their own portfolios.

7.2.3 Investor Sentiment has an Impact on Acquirers' Gains

The last empirical chapter examines whether M&A gains are generally influenced by irrationality. Opposing to the neoclassical view on rationality and efficiency, a growing body of literature proposes a behavioural aspect in the functioning of financial markets. A behavioural impact on M&A gains would contribute new evidence that stock price

reactions are not purely caused by new information.

The findings suggest that investor sentiment has a statistically, as well as, an economically significant impact. The overall gains are significantly higher during positive than during negative sentiment changes. Additional tests confirm the findings from investor sentiment research that irrational investors behave differently to information asymmetries and valuation signals when sentiment increases or decreases. For instance, the gains from stock payments experience a significant impact by changes in investor sentiment, while the returns from cash payments are relatively little affected. The results suggest that cash payments exhibit a positive valuation signal irrespective of the prevalent sentiment. However, stock payments represent a bad signal that acquiring companies perceive themselves as overvalued and sentiment changes have an additional enhancing effect on the returns. Further, sentiment has a greater impact on takeovers of private target than public targets. Similarly, the results indicate that smaller acquirers are greater affected by changes in sentiment than larger acquirers. In both cases, potentially greater information asymmetries on private and smaller companies may be the source of this effect. Finally, overvalued acquirers experience a significant impact by sentiment changes, whereas undervalued acquirers exhibit no significant effect. The returns to overvalued acquirers suggest that the overconfidence that led to an overvaluation is carried forward during increasing sentiment, whereas decreasing sentiment causes scepticism. The gains to undervalued acquirers indicate that investors revaluate these acquirers and positive gains irrespective of the sentiment direction suggest that undervalued acquirers are considered as a profitable investment opportunity. The univariate results are robust to several event windows and a multivariate framework.

The findings establish a significant link between investor sentiment and M&A gains to acquiring companies. At the same time, it challenges the neoclassical view that the

announcement returns reflect the value of wealth creation from the merger. The results suggest that irrationality is present in M&A gains and has a significant impact on these returns. As the level of investors' confidence changes, so does the perception of the ability of value creation from M&A.

7.3 Direction of Future Research

This thesis contributes to the literature in several finance areas. Naturally, new questions worthwhile for investigation arose during the course of these studies:

Based on the results, the adoption of IFRS in the European Union contributed to an improved information environment. However, the results also indicate that predominately large companies profit from a common accounting standard. More research is needed to discover the remaining barriers that smaller companies can benefit from the merits of an integrated European financial market. More participants in the M&A market would not only promote competition, but might also serve as a monitoring tool for the performance of managers and companies. To gain further insights on this topic, the returns and premiums paid to target companies are also worthwhile examining. Following the development of the hypotheses that acquirers should be able to value target companies more accurately after the adoption of IFRS, then it is likely to find a direct effect of the accounting harmonisation on the premiums and returns to target companies.

The second empirical work documents evidence that information on industry growth prospects is important to investors, as well as, their preferences on specific acquisition strategies as a responds to the industry prospects. Future research may analyse the long-term performance of these deals to examine whether the acquiring firms can actually realise the perceived growth opportunities at the time of acquisition. Further, as the

focus is exclusively on mergers and acquisitions, divestitures might be also a reasonable strategy to respond to the industry growth prospects. Therefore, future studies in this area might incorporate the sell-side of the deals as an exit strategy of a declining industry.

Finally, the third empirical study establishes a significant link between investor sentiment and the gains to acquiring companies. The results suggest that future M&A research should control for prevailing investor sentiment when examining the short-term performance of M&A deals to draw more precise conclusions on the value creating effect of M&A. Long-term investor sentiment may also be worth examining. The investors' perception and attitude towards some finance-related issues might change over time and explain some findings in the literature. For instance, returns in diversifying deals vary over time and future research may investigate to what extent investor sentiment can explain the variability in the returns.

Bibliography

ACKERT, L. F. & DEAVES, R. 2010. *Behavioral finance: Psychology, decision-making, and markets* Mason, OH, South-Western.

AKBULUT, M. E. & MATSUSAKA, J. G. 2010. 50+ Years of diversification announcements. *Financial Review.* 45 (2), 231-262.

AKERLOF, G. A. 1970. The market for "lemons": Quality uncertainty and the market mechanism. *Quarterly Journal of Economics.* 84 (3), 488-500.

AKERLOF, G. A. & SHILLER, R. J. 2009. *Animal spirits: How human psychology drives the economy, and why it matters for global capitalism,* Princeton, NJ, Princeton University Press.

ALFORD, A. W. 1992. The effect of the set of comparable firms on the accuracy of the price earnings valuation method. *Journal of Accounting Research.* 30 (1), 94-108.

AMIT, R. & LIVNAT, J. 1988. Diversification strategies, business cycles and economic performance. *Strategic Management Journal.* 9 (2), 99-110.

ANG, J. & KOHERS, N. 2001. The take-over market for privately held companies: The US experience. *Cambridge Journal of Economics.* 25 (6), 723-748.

ANTONIOU, A., GUO, J. & PETMEZAS, D. 2008. Merger momentum and market valuations: the UK evidence. *Applied Financial Economics.* 18 (17), 1411-1423.

ARMSTRONG, C. S., BARTH, M. E., JAGOLINZER, A. D. & RIEDL, E. J. 2010. Market reaction to the adoption of IFRS in Europe. *Accounting Review.* 85 (1), 31-61.

ASHBAUGH, H. & PINCUS, M. 2001. Domestic accounting standards, International Accounting Standards, and the predictability of earnings. *Journal of Accounting Research.* 39 (3), 417-434.

ASHLEY, J. 1962. Stock prices and changes in earnings and dividends: Some empirical results. *Journal of Political Economy.* 70 (1), 82-85.

ASQUITH, P., BRUNER, R. F. & MULLINS, D. W. 1983. The gains to bidding firms from merger. *Journal of Financial Economics.* 11 (1-4), 121-139.

BAE, K.-H., TAN, H. & WELKER, M. 2008. International GAAP differences: The impact on foreign analysts. *Accounting Review.* 83 (3), 593-628.

BAKER, M., FOLEY, C. F. & WURGLER, J. 2009. Multinationals as arbitrageurs: The effect of stock market valuations on foreign direct investment. *Review of Financial Studies.* 22 (1), 337-369.

BAKER, M. & WURGLER, J. 2000. The equity share in new issues and aggregate stock returns. *Journal of Finance.* 55 (5), 2219-2257.

BAKER, M. & WURGLER, J. 2006. Investor sentiment and the cross-section of stock returns. *Journal of Finance.* 61 (4), 1645-1680.

BAKER, M. & WURGLER, J. 2007. Investor sentiment in the stock market. *Journal of Economic Perspectives.* 21 (2), 129-151.

BALL, R. 1978. Anomalies in relationships between securities yields and yield-surrogates. *Journal of Financial Economics.* 6 (2-3), 103-126.

BALL, R. 2006. International Financial Reporting Standards (IFRS): Pros and cons for investors. *Accounting and Business Research.* 36 (sup1), 5-27.

BALL, R. & BROWN, P. 1968. An empirical evaluation of accounting income numbers. *Journal of Accounting Research.* 6 (2), 159-178.

BANZ, R. W. 1981. The relationship between return and market value of common stocks. *Journal of Financial Economics.* 9 (1), 3-18.

BARBERIS, N., SHLEIFER, A. & VISHNY, R. W. 1998. A model of investor sentiment. *Journal of Financial Economics.* 49 (3), 307-343.

BARGERON, L. L., SCHLINGEMANN, F. P., STULZ, R. M. & ZUTTER, C. J. 2008. Why do private acquirers pay so little compared to public acquirers? *Journal of Financial Economics.* 89 (3), 375-390.

BARKER, C. A. 1956. Effective stock splits. *Harvard Business Review.* 34 (1), 101-106.

BARKER, C. A. 1957. Stock splits in a bull market. *Harvard Business Review.* 35 (3), 72-79.

BARKER, C. A. 1958. Evaluation of stock dividends. *Harvard Business Review.* 36 (4), 99-114.

BARRY, C. B. & BROWN, S. J. 1984. Differential information and the small firm effect. *Journal of Financial Economics.* 13 (2), 283-294.

BARTH, M. E., LANDSMAN, W. R. & LANG, M. H. 2008. International accounting standards and accounting quality. *Journal of Accounting Research.* 46 (3), 467-498.

BASU, S. 1977. Investment performance of common-stocks in relation to their price-earnings ratios: Test of efficient market hypothesis. *Journal of Finance.* 32 (3), 663-682.

BAUMOL, W. J. 1967. *Business behavior, value and growth,* New York, Harcourt, Brace & World.

BERLE, A. A. & MEANS, G. C. 1933. *The modern corporation and private property,* New York, NY, Macmillan.

BLACK, F. 1986. Noise. *Journal of Finance.* 41 (3), 529-543.

BLASCO, N., CORREDOR, P. & FERRERUELA, S. 2012. Market sentiment: a key factor of investors' imitative behaviour. *Accounting & Finance.* 52 (3), 663-689.

BOATSMAN, J. R. & BASKIN, E. F. 1981. Asset valuation with incomplete markets. *Accounting Review.* 56 (1), 38-53.

BODIE, Z., KANE, A. & MARCUS, A. J. 2009. *Investments,* Boston, Mass.; London, McGraw-Hill.

BOUWMAN, C. H. S., FULLER, K. & NAIN, A. S. 2009. Market Valuation and Acquisition Quality: Empirical Evidence. *Review of Financial Studies.* 22 (2), 633-679.

BOUWMAN, C. H. S., FULLER, K. P. & NAIN, A. 2003. The performance of stock-price driven acquisitions. *Working Paper.*

BRADLEY, M., DESAI, A. & KIM, E. H. 1988. Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. *Journal of Financial Economics.* 21 (1), 3-40.

BROCK, W., LAKONISHOK, J. & LEBARON, B. 1992. Simple technical trading rules and the stochastic properties of stock returns. *Journal of Finance.* 47 (5), 1731-1764.

BROWN, G. W. & CLIFF, M. T. 2004. Investor sentiment and the near-term stock market. *Journal of Empirical Finance.* 11 (1), 1-27.

BROWN, G. W. & CLIFF, M. T. 2005. Investor sentiment and asset valuation. *Journal of Business.* 78 (2), 405-440.

BROWN, S. J. & WARNER, J. B. 1980. Measuring security price performance. *Journal of Financial Economics.* 8 (3), 205-258.

BROWN, S. J. & WARNER, J. B. 1985. Using daily stock returns: The case of event studies. *Journal of Financial Economics.* 14 (1), 3-31.

BRUNER, R. F. 2004. All M&A is local. *Batten Briefings.* 3 (1).

CAI, J., SONG, M. H. & WALKLING, R. A. 2011. Anticipation, acquisitions, and bidder returns: Industry shocks and the transfer of information across rivals. *Review of Financial Studies.* 24 (7), 2242-2285.

CAMPBELL, J. Y. & KYLE, A. S. 1993. Smart money, noise trading and stock-price behavior. *Review of Economic Studies.* 60 (1), 1-34.

CAMPBELL, J. Y., LO, A. W. & MACKINLAY, A. C. 1997. *The econometrics of financial markets* Princeton, NJ, Princeton University Press.

CAMPBELL, J. Y. & SHILLER, R. J. 1988. Stock-prices, earnings, and expected dividends. *Journal of Finance.* 43 (3), 661-676.

CAVES, R. E. 1971. International corporations: Industrial economics of foreign investment. *Economica.* 38 (149), 1-27.

CEBENOYAN, A. S., PAPAIOANNOU, G. J. & TRAVLOS, N. G. 1992. Foreign takeover activity in the U.S. and wealth effects for target firm shareholders. *Financial Management.* 21 (3), 58-68.

CHAE, J. 2005. Trading volume, information asymmetry, and timing information. *Journal of Finance.* 60 (1), 413-442.

CHANG, S. 1998. Takeovers of privately held targets, methods of payment, and bidder returns. *Journal of Finance.* 53 (2), 773-784.

CHANG, Y. & THOMAS, H. 1989. The impact of diversification strategy on risk-return performance. *Strategic Management Journal.* 10 (3), 271-284.

CHATTERJEE, S., LUBATKIN, M. H., SCHWEIGER, D. M. & WEBER, Y. 1992. Cultural differences and shareholder value in related mergers: Linking equity and human capital. *Strategic Management Journal.* 13 (5), 319-334.

CHAU, F., DEESOMSAK, R. & LAU, M. C. K. 2011. Investor sentiment and feedback trading: Evidence from the exchange-traded fund markets. *International Review of Financial Analysis.* 20 (5), 292-305.

CHRISTENSEN, H. B., LEE, E. & WALKER, M. 2007. Cross-sectional variation in the economic consequences of international accounting harmonization: The case of mandatory IFRS adoption in the UK. *International Journal of Accounting.* 42 (4), 341-379.

CLINCH, G., SIDHU, B. & SIN, S. 2002. The usefulness of direct and indirect cash flow disclosures. *Review of Accounting Studies.* 7 (4), 383-404.

COMPRIX, J. J., MULLER, K. A. & STANDFORD-HARRIS, M. 2003. Economic consequences from mandatory adoption of IASB standards in the European Union. *Working Paper Penn State University.*

CONN, R. L., COSH, A., GUEST, P. M. & HUGHES, A. 2005. The impact on UK acquirers of domestic, cross-border, public and private acquisitions. *Journal of Business Finance & Accounting.* 32 (5/6), 815-870.

COPELAND, T., KOLLER, T. & MURRIN, J. 1996. *Valuation: Measuring and managing the value of companies*, Wiley Frontiers in Finance.

CORNELLI, F., GOLDREICH, D. & LJUNGQVIST, A. 2006. Investor sentiment and pre-IPO markets. *Journal of Finance.* 61 (3), 1187-1216.

CORRADO, C. J. 2011. Event studies: A methodology review. *Accounting & Finance.* 51 (1), 207-234.

CRAGG, J. G. & MALKIEL, B. G. 1982. *Expectations and the structure of share prices*, University of Chicago Press.

CUIJPERS, R. & BUIJINK, W. 2005. Voluntary adoption of non-local GAAP in the European Union: A study of determinants and consequences. *European Accounting Review.* 14 (3), 487-524.

DANBOLT, J. 2004. Target company cross-border effects in acquisitions into the UK. *European Financial Management.* 10 (1), 83-108.

DANIEL, K., HIRSHLEIFER, D. & SUBRAHMANYAM, A. 1998. Investor psychology and security market under- and overreactions. *Journal of Finance.* 53 (6), 1839-1885.

DASKE, H., HAIL, L., LEUZ, C. & VERDI, R. 2008. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of Accounting Research.* 46 (5), 1085-1142.

DATTA, D. K. & PUIA, G. 1995. Cross-border acquisitions: An examination of the influence of relatedness and cultural fit on shareholder value creation in U.S. acquiring firms. *Management International Review.* 35 (4), 337-359.

DE LONG, J. B., SHLEIFER, A., SUMMERS, L. H. & WALDMANN, R. J. 1990. Noise trader risk in financial markets. *Journal of Political Economy.* 98 (4), 703-738.

DELONG, G. L. 2001. Stockholder gains from focusing versus diversifying bank mergers. *Journal of Financial Economics.* 59 (2), 221-252.

DENIS, D. J., DENIS, D. K. & YOST, K. 2002. Global diversification, industrial diversification, and firm value. *Journal of Finance.* 57 (5), 1951-1979.

DING, Y., HOPE, O.-K., JEANJEAN, T. & STOLOWY, H. 2007. Differences between domestic accounting standards and IAS: Measurement, determinants and implications. *Journal of Accounting and Public Policy.* 26 (1), 1-38.

DOLLEY, J. C. 1933. Characteristics and procedure of common stock split-ups. *Harvard Business Review.* 11, 316-326.

DOUKAS, J. A., HOLMEN, M. & TRAVLOS, N. G. 2002. Diversification, ownership and control of Swedish corporations. *European Financial Management.* 8 (3), 281-314.

DOUKAS, J. A. & TRAVLOS, N. G. 1988. The effect of corporate multinationalism on shareholders' wealth: Evidence from international acquisitions. *Journal of Finance.* 43 (5), 1161-1175.

DRAPER, P. & PAUDYAL, K. 1999. Corporate takeovers: Mode of payment, returns and trading activity. *Journal of Business Finance & Accounting.* 26 (5/6), 521-558.

DRAPER, P. & PAUDYAL, K. 2006. Acquisitions: Private versus public. *European Financial Management.* 12 (1), 57-80.

DRAPER, P. & PAUDYAL, K. 2008. Information asymmetry and bidders' gains. *Journal of Business Finance & Accounting.* 35 (3/4), 376-405.

EKKAYOKKAYA, M., HOLMES, P. & PAUDYAL, K. 2009a. The Euro and the changing face of European banking: Evidence from mergers and acquisitions. *European Financial Management.* 15 (2), 451-476.

EKKAYOKKAYA, M., HOLMES, P. & PAUDYAL, K. 2009b. Limited information and the sustainability of unlisted-target acquirers' returns. *Journal of Business Finance & Accounting.* 36 (9/10), 1201-1227.

ELTON, E. J., GRUBER, M. J. & BUSSE, J. A. 1998. Do investors care about sentiment? *Journal of Business.* 71 (4), 477-500.

EUROPEAN COMMISSION 1995. COM 95 (508) - Accounting harmonisation: A new strategy vis-à-vis international harmonisation

EUROPEAN COMMISSION 2002. IP/02/417 - Financial services: Commission welcomes significant progress in European Parliament on Financial Services Action Plan.

EUROPEAN PARLIAMENT AND THE COUNCIL 2002. Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the application of International Accounting Standards. *Official Journal of the European Communities.*

FACCIO, M., MCCONNELL, J. J. & STOLIN, D. 2006. Returns to acquirers of listed and unlisted targets. *Journal of Financial & Quantitative Analysis.* 41 (1), 197-220.

FAMA, E. F. 1970. Efficient capital markets: A review of theory and empirical work. *Journal of Finance.* 25 (2), 383-417.

FAMA, E. F. 1991. Efficient capital markets: II. *Journal of Finance.* 46 (5), 1575-1617.

FAMA, E. F., FISHER, L., JENSEN, M. C. & ROLL, R. 1969. The adjustment of stock prices to new information. *International Economic Review.* 10 (1), 1-21.

FAMA, E. F. & FRENCH, K. R. 1992. The cross-section of expected stock returns. *Journal of Finance.* 47 (2), 427-465.

FAMA, E. F. & FRENCH, K. R. 1998. Value versus growth: The international evidence. *Journal of Finance.* 53 (6), 1975-1999.

FRANCIS, J. & SCHIPPER, K. 1999. Have financial statements lost their relevance? *Journal of Accounting Research.* 37 (2), 319-352.

FRAZZINI, A. & LAMONT, O. A. 2008. Dumb money: Mutual fund flows and the cross-section of stock returns. *Journal of Financial Economics.* 88 (2), 299-322.

FREUND, R. J., WILSON, W. J. & SA, P. 2006. *Regression analysis: Statistical modeling of a response variable,* Burlington, Mass., Elsevier: Academic Press.

FRIEDMAN, M. 1953. The case for flexible exchange rates. *Essays in Positive Economics.* Chicago, IL: University of Chicago Press.

FROOT, K. A. & STEIN, J. C. 1991. Exchange rates and foreign direct investment: An imperfect capital markets approach. *Quarterly Journal of Economics.* 106 (4), 1191-1217.

FULLER, K., NETTER, J. & STEGEMOLLER, M. 2002. What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. *Journal of Finance.* 57 (4), 1763-1793.

GEMMILL, G. & THOMAS, D. C. 2002. Noise trading, costly arbitrage, and asset prices: Evidence from closed-end funds. *Journal of Finance.* 57 (6), 2571-2594.

GORDON, M. J. 1962. *The investment, financing, and valuation of the corporation,* Homewood, Ill., R.D. Irwin.

GRAHAM, B. & DODD, D. L. 1934. *Security analysis,* New York, McGraw-Hill.

GRAHAM, B., DODD, D. L. & COTTLE, S. 1962. *Security analysis: Principles and technique,* New York, McGraw-Hill.

GROSSMAN, S. J. & STIGLITZ, J. E. 1980. On the impossibility of informationally efficient markets. *American Economic Review.* 70 (3), 393-408.

HANSEN, R. G. 1987. A theory for the choice of exchange medium in mergers and acquisitions. *Journal of Business.* 60 (1), 75-95.

HARRIS, R. S. & RAVENSCRAFT, D. 1991. The role of acquisitions in foreign direct investment: Evidence from the US stock market. *Journal of Finance.* 46 (3), 825-844.

HASBROUCK, J. 1985. The characteristics of takeover targets and other measures. *Journal of Banking & Finance.* 9 (3), 351-362.

HIRSHLEIFER, D. 2001. Investor psychology and asset pricing. *Journal of Finance.* 56 (4), 1533-1597.

HISEY, K. B. & CAVES, R. E. 1985. Diversification strategy and choice of country: Diversifying acquisitions abroad by U.S. multinationals, 1978-1980. *Journal of International Business Studies.* 16 (2), 51-64.

HONG, H. & STEIN, J. C. 1999. A unified theory of underreaction, momentum trading, and overreaction in asset markets. *Journal of Finance.* 54 (6), 2143-2184.

HUBBARD, R. G. & PALIA, D. 1999. A reexamination of the conglomerate merger wave in the 1960s: An internal capital markets view. *Journal of Finance.* 54 (3), 1131-1152.

INDRO, D. C. 2004. Does mutual fund flow reflect investor sentiment? *Journal of Behavioral Finance.* 5 (2), 105-115.

INTERNATIONAL ACCOUNTING STANDARDS BOARD 2010. Conceptual framework for financial reporting.

INTERNATIONAL ACCOUNTING STANDARDS COMMITTEE 1989. Towards the international harmonisation of financial statements. *Accountancy.*

JAFFE, J., KEIM, D. B. & WESTERFIELD, R. 1989. Earnings yields, market values, and stock returns. *Journal of Finance.* 44 (1), 135-148.

JARRELL, G. A. & POULSEN, A. B. 1989. The returns to acquiring firms in tender offers: Evidence from three decades. *Financial Management.* 18 (3), 12-19.

JENSEN, M. C. 1986a. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review.* 76 (2), 323-329.

JENSEN, M. C. 1986b. The takeover controversy: Analysis and evidence. *Midland Corporate Finance Journal, Vol. 4, No. 2, Summer 1986.*

JOVANOVIC, B. & ROUSSEAU, P. L. 2002. The Q-theory of mergers. *American Economic Review.* 92 (2), 198-204.

KAHNEMAN, D. & TVERSKY, A. 1979. Prospect theory: An analysis of decision under risk. *Econometrica.* 47 (2), 263-291.

KANG, J. K. 1993. The international market for corporate control: Mergers and acquisitions of US firms by Japanese firms. *Journal of Financial Economics.* 34 (3), 345-371.

KOTHARI, S. P. & WARNER, J. B. (eds.) 2007. *Econometrics of event studies,* Amsterdam: Elsevier-North-Holland.

KUMAR, A. & LEE, C. M. C. 2006. Retail investor sentiment and return comovements. *Journal of Finance.* 61 (5), 2451-2486.

LEE, C. M. C., SHLEIFER, A. & THALER, R. H. 1991. Investor sentiment and the closed-end fund puzzle. *Journal of Finance.* 46 (1), 75-109.

LEE, W. Y., JIANG, C. X. & INDRO, D. C. 2002. Stock market volatility, excess returns, and the role of investor sentiment. *Journal of Banking & Finance.* 26 (12), 2277-2299.

LELAND, H. E. 2007. Financial synergies and the optimal scope of the firm: Implications for mergers, spinoffs, and structured finance. *Journal of Finance.* 62 (2), 765-807.

LEUZ, C. & VERRECCHIA, R. E. 2000. The economic consequences of increased disclosure. *Journal of Accounting Research.* 38, 91-124.

LEWELLEN, W. G. 1971. A pure financial rationale for the conglomerate merger. *Journal of Finance.* 26 (2), 521-537.

LITZENBERGER, R. H. & RAO, C. U. 1971. Estimates of marginal rate of time preference and average risk aversion of investors in electric utility shares: 1960-66. *Bell Journal of Economics and Management Science.* 2 (1), 265-277.

LJUNGQVIST, A., NANDA, V. & SINGH, R. 2006. Hot markets, investor sentiment, and IPO pricing. *Journal of Business.* 79 (4), 1667-1702.

LOMMERUD, K. E., STRAUME, O. R. & SØRGARD, L. 2006. National versus international mergers in unionized oligopoly. *RAND Journal of Economics.* 37 (1), 212-233.

LOUGHRAN, T. & VIJH, A. M. 1997. Do long-term shareholders benefit from corporate acquisitions? *Journal of Finance.* 52 (5), 1765-1790.

LUBATKIN, M. & CHATTERJEE, S. 1994. Extending modern portfolio theory into the domain of corporate diversification: Does it apply? *Academy of Management Journal.* 37 (1), 109-136.

MARKIDES, C. C. & ITTNER, C. D. 1994. Shareholder benefits from corporate international diversification: Evidence from U.S. international acquisitions. *Journal of International Business Studies.* 25 (2), 343-366.

MASULIS, R. W., WANG, C. & XIE, F. 2007. Corporate governance and acquirer returns. *Journal of Finance.* 62 (4), 1851-1889.

MATSUSAKA, J. G. 1993. Takeover motives during the conglomerate merger wave. *Rand Journal of Economics.* 24 (3), 357-379.

MIAN, G. M. & SANKARAGURUSWAMY, S. 2012. Investor sentiment and stock market response to earnings news. *Accounting Review.* 87 (4), 1357-1384.

MITCHELL, M. L. & LEHN, K. 1990. Do bad bidders become good targets? *Journal of Political Economy.* 98 (2), 372-398.

MODIGLIANI, F. & MILLER, M. H. 1958. The cost of capital, corporation finance and the theory of investment. *American Economic Review.* 48 (3), 261-297.

MOELLER, S. B. & SCHLINGEMANN, F. P. 2005. Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions. *Journal of Banking & Finance.* 29 (3), 533-564.

MOELLER, S. B., SCHLINGEMANN, F. P. & STULZ, R. M. 2004. Firm size and the gains from acquisitions. *Journal of Financial Economics.* 73 (2), 201-228.

MORCK, R., SHLEIFER, A. & VISHNY, R. W. 1989. Alternative mechanisms for corporate control. *American Economic Review.* 79 (4), 842-852.

MORCK, R., SHLEIFER, A. & VISHNY, R. W. 1990. Do managerial objectives drive bad acquisitions? *Journal of Finance.* 45 (1), 31-48.

MORCK, R. & YEUNG, B. 1992. Internalization - An event study test. *Journal of International Economics.* 33 (1-2), 41-56.

MYERS, J. A. & BAKAY, A. 1948. Influence of stock split-ups on market price. *Harvard Business Review.* 26, 251-255.

MYERS, S. C. & MAJLUF, N. S. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics.* 13 (2), 187-221.

NEAL, R. & WHEATLEY, S. M. 1998. Do measures of investor sentiment predict returns? *Journal of Financial and Quantitative Analysis.* 33 (04), 523-547.

NICHOLSON, S. F. 1960. Price-earnings ratios. *Financial Analysts Journal.* 16 (4), 43-45.

OFFICER, M. S. 2007. The price of corporate liquidity: Acquisition discounts for unlisted targets. *Journal of Financial Economics.* 83 (3), 571-598.

OFFICER, M. S., POULSEN, A. B. & STEGEMOLLER, M. 2009. Target-firm information asymmetry and acquirer returns. *Review of Finance.* 13 (3), 467-493.

OWEN, S. 2006. The history and mystery of merger waves: A UK and US perspective. *Working Paper.*

PENMAN, S. H. 1996. The articulation of price-earnings ratios and market-to-book ratios and the evaluation of growth. *Journal of Accounting Research.* 34 (2), 235-259.

POWELL, R. & YAWSON, A. 2005. Industry aspects of takeovers and divestitures: Evidence from the UK. *Journal of Banking & Finance.* 29 (12), 3015-3040.

QIU, L. & WELCH, I. 2006. Investor sentiment measures. *Working Paper.*

RHODES-KROPF, M., ROBINSON, D. T. & VISWANATHAN, S. 2005. Valuation waves and merger activity: The empirical evidence. *Journal of Financial Economics.* 77 (3), 561-603.

RHODES-KROPF, M. & VISWANATHAN, S. 2004. Market valuation and merger waves. *Journal of Finance.* 59 (6), 2685-2718.

RITTER, J. R. 1991. The long-run performance of initial public offerings. *Journal of Finance.* 46 (1), 3-27.

ROLL, R. 1986. The hubris hypothesis of corporate takeovers. *Journal of Business.* 59 (2), 197-216.

ROSEN, R. J. 2006. Merger momentum and investor sentiment: The stock market reaction to merger announcements. *Journal of Business.* 79 (2), 987-1017.

ROTHSCHILD, M. & STIGLITZ, J. 1976. Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. *Quarterly Journal of Economics.* 90 (4), 629-649.

SCHOLES, M. S. & WOLFSON, M. A. 1990. The effects of changes in tax laws on corporate reorganization activity. *Journal of Business.* 63 (1), S141-S164.

SERVAES, H. 1991. Tobin's Q and the gains from takeovers. *Journal of Finance.* 46 (1), 409-419.

SERVAES, H. & ZENNER, M. 1994. Taxes and the returns to foreign acquisitions in the United States. *Financial Management.* 23 (4), 42-56.

SHLEIFER, A. 2000a. Are markets efficient? - No, arbitrage is inherently risky? *Wall Street Journal*, 28.12.2000.

SHLEIFER, A. 2000b. *Inefficient markets: An introduction to behavioral finance,* New York, NY, Oxford University Press Inc.

SHLEIFER, A. & SUMMERS, L. H. 1990. The noise trader approach to finance. *Journal of Economic Perspectives.* 4 (2), 19-33.

SHLEIFER, A. & VISHNY, R. W. 1989. Management entrenchment - The case of manager-specific investments. *Journal of Financial Economics.* 25 (1), 123-139.

SHLEIFER, A. & VISHNY, R. W. 1997. The limits of arbitrage. *Journal of Finance.* 52 (1), 35-55.

SHLEIFER, A. & VISHNY, R. W. 2003. Stock market driven acquisitions. *Journal of Financial Economics.* 70 (3), 295-311.

SIAS, R. W., STARKS, L. T. & TINIC, S. M. 2001. Is noise trader risk priced? *Journal of Financial Research.* 24 (3), 311.

SPENCE, M. 1973. Job market signaling. *Quarterly Journal of Economics.* 87 (3), 355-374.

STEIN, J. C. 1997. Internal capital markets and the competition for corporate resources. *Journal of Finance.* 52 (1), 111-133.

STRAUME, O. R. 2003. International mergers and trade liberalisation: implications for unionised labour. *International Journal of Industrial Organization.* 21 (5), 717-735.

SWAMINATHAN, B. 1996. Time-varying expected small firm returns and closed-end fund discounts. *Review of Financial Studies.* 9 (3), 845.

TRAVLOS, N. G. 1987. Corporate takeover bids, methods of payment, and bidding firms' stock returns. *Journal of Finance.* 42 (4), 943-963.

VERMA, R. & SOYDEMIR, G. 2006. The impact of U.S. individual and institutional investor sentiment on foreign stock markets. *Journal of Behavioral Finance.* 7 (3), 128-144.

WANSLEY, J. W., LANE, W. R. & YANG, H. C. 1983. Abnormal returns to acquired firms by type of acquisition and method of payment. *Financial Management.* 12 (3), 16-22.

WANSLEY, J. W., LANE, W. R. & YANG, H. C. 1987. Gains to bidder firms in cash and securities transactions. *Financial Review.* 22 (4), 403-414.

WHITE, H. 1980. A heteroskedasticity-consistent covariance-matrix estimator and a direct test for heteroskedasticity. *Econometrica.* 48 (4), 817-838.

WHITTINGTON, G. 2005. The adoption of International Accounting Standards in the European Union. *European Accounting Review.* 14 (1), 127-153.

WILLIAMSON, O. E. 1970. *Corporate control and business behavior: An inquiry into the effects of organization form on enterprise behavior,* Englewood Cliffs, N.J., Prentice Hall.

ZAROWIN, P. 1990. Size, seasonality, and stock market overreaction. *Journal of Financial and Quantitative Analysis.* 25 (1), 113-125.

Appendix A:

Robustness Tests for Chapter 4 (IFRS)

Appendix 1 to Appendix 6 provide robustness tests for the 4. Chapter '*Information Asymmetries and the Impact of IFRS on Bidders' Gains'*. The event study is recalculated using a 3-days (-1, +1) and 11-days (-5, +5) event window.

Appendix 1: Multivariate Framework: IFRS (-1, +1)

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 3-days cumulative abnormal return (−1, +1) to European bidders and is regressed against a set of explanatory variables in a multivariate framework. The variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country. A post-IFRS dummy includes all deals announced after the 01.01.2006. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (1) includes the full sample and regression (2) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Non UK Domestic Sample*
	(1)	*(2)*
Intercept	-0.02447 (-0.06)	-0.08710 (-0.13)
Relative Target Size	0.09298 (0.24)	0.55495* (1.71)
Focused Deal	-0.6177 (-1.31)	-0.53513 (-0.88)
Eurozone	0.33842 (0.69)	0.01835 (0.03)
Post-IFRS	-0.02344 (-0.05)	0.67575 (1.06)
N	465	208
F-Statistics	0.49	0.67
R^2 *(%)*	0.43	1.31
Adjusted R^2 *(%)*	-0.44	-0.64

.

Appendix 2: Multivariate Framework: IFRS and Cross border (-1, +1)

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 3-days cumulative abnormal return (−1, +1) to European bidders and is regressed are regressed against a set of explanatory variables in a multivariate framework. The pre-IFRS regressions contain all M&A deals from 01.01.1989 to 31.12.2005 and the post-IFRS regressions all deals from 01.01.2006 to 31.12.2011. The pooled regressions contain interactive post-IFRS dummies of the respective variable. These IFRS-change dummies are denoted as '*D_*'. The set of explanatory variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country, as well as, a dummy if the deal is a cross-border M&A. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (3) includes the full sample and regression (4) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample			*Non UK-Domestic Sample*		
	(3)			*(4)*		
	Pre-IFRS	*Post-IFRS*	*Pooled*	*Pre-IFRS*	*Post-IFRS*	*Pooled*
Intercept	-0.08476 (-0.17)	-0.29854 (-0.47)	-0.08476 (-0.17)	0.61569 (0.59)	-0.16990 (-0.17)	0.61569 (0.59)
D_Post-IFRS			-0.21379 (-0.27)			-0.78559 (-0.54)
Relative Target Size	0.32377 (0.74)	-0.89581 (-1.26)	0.32377 (0.74)	0.75046** (2.25)	-0.64028 (-0.62)	0.75046** (2.25)
D_Relative Target Size			-1.21958 (-1.46)			-1.39074 (-1.27)
Focused Deal	-0.82080 (-1.42)	-0.14965 (-0.20)	-0.82080 (-1.42)	-1.20135 (-1.53)	0.52475 (0.67)	-1.20135 (-1.53)
D_Focused Deal			0.67115 (0.72)			1.72609 (1.55)
Eurozone	0.00406 (0.01)	0.85378 (0.97)	0.00406 (0.01)	-0.58702 (-0.64)	0.37486 (0.40)	-0.58702 (-0.64)
D_Eurozone			0.84972 (0.80)			0.96188 (0.74)
Cross-Border	0.78213 (1.06)	1.08037 (1.21)	0.78213 (1.06)	0.38383 (0.43)	0.90955 (1.00)	0.38383 (0.43)
D_Cross-Border			0.29825 (0.26)			0.52572 (0.41)
N	333	130	463	149	59	208
F-Statistics	0.74	0.91	0.67	0.90	0.38	0.62
R^2 *(%)*	0.90	2.84	1.31	2.44	2.76	2.74
Adjusted R^2 *(%)*	-0.31	-0.27	-0.65	-0.27	-4.45	-1.68

Appendix 3: Multivariate Framework: IFRS, Cross-border and Mode of Payment (-1, +1)

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 3-days cumulative abnormal return (−1, +1) to European bidders and is regressed a set of explanatory variables in a multivariate framework. The pre-IFRS regressions contain all M&A deals from 01.01.1989 to 31.12.2005 and the post-IFRS regressions all deals from 01.01.2006 to 31.12.2011. The pooled regressions contain interactive post-IFRS dummies of the respective variable. These IFRS-change dummies are denoted as '*D_*'. The set of explanatory variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country, as well as, a dummy if the deal is a cross-border M&A. Two dummies represent the mode of payment proxies, cash and stock offers. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (5) includes the full sample and regression (6) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full sample			*Non UK-Domestic Sample*		
	(5)			*(6)*		
	Pre-IFRS	*Post-IFRS*	*Pooled*	*Pre-IFRS*	*Post-IFRS*	*Pooled*
Intercept	-0.46943 (-0.72)	-1.38882 (-1.44)	-0.46943 (-0.72)	1.08107 (0.86)	0.19870 (0.16)	1.08107 (0.86)
D_Post-IFRS			-0.91939 (-0.79)			-0.88236 (-0.50)
Relative Target Size	0.47647 (1.14)	-0.72968 (-0.95)	0.47647 (1.14)	0.78925** (2.29)	-0.97126 (-0.97)	0.78925 ** (2.29)
D_Relative Target Size			-1.20615 (-1.38)			-1.76050 * (-1.67)
Focused Deal	-1.31975** (-2.24)	0.27471 (0.38)	-1.31975** (-2.24)	-1.32096* (-1.72)	0.16141 (0.20)	-1.32096 * (-1.72)
D_Focused Deal			1.59446* (1.71)			1.48236 (1.32)
Eurozone	0.33732 (0.54)	1.14168 (1.26)	0.33732 (0.54)	-0.43802 (-0.49)	0.48778 (0.52)	-0.43802 (-0.49)
D_Eurozone			0.80437 (0.73)			0.92579 (0.71)
Cross-Border	0.78720 (1.01)	0.90866 (1.00)	0.78720 (1.01)	0.10706 (0.12)	0.90210 (0.97)	0.10706 (0.12)
D_Cross-Border			0.12146 (0.10)			0.79505 (0.61)
Cash Offer	1.49450** (2.16)	1.48173 (1.54)	1.49450** (2.16)	-0.39602 (-0.42)	-0.11180 (-0.11)	-0.39602 (-0.42)
D_Cash Offer			-0.01276 (-0.01)			0.28421 (0.20)
Stock Offer	-0.14468 (-0.19)	0.23517 (0.20)	-0.14468 (-0.19)	-0.99693 (-0.89)	0.42401 (0.34)	-0.99693 (-0.89)
D_Stock Offer			0.37986 (0.27)			1.42093 (0.85)
N	334	130	464	146	58	204
F-Statistics	2.11*	1.07	1.44	0.89	0.27	0.64
R^2 (%)	3.74	4.95	4.00	3.71	3.03	4.18
Adjusted R^2 (%)	1.97	0.32	1.22	-0.45	-8.37	-2.37

Appendix 4: Multivariate Framework: IFRS (-5, +5)

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 11-days cumulative abnormal return (−5, +5) to European bidders and is regressed against a set of explanatory variables in a multivariate framework. The variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country. A post-IFRS dummy includes all deals announced after the 01.01.2006. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (1) includes the full sample and regression (2) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Non UK-Domestic Sample*
	(1)	*(2)*
Intercept	0.11560 (0.17)	1.51967 (1.35)
Relative Target Size	0.97106 (1.42)	0.32662 (0.47)
Focused Deal	-1.58752** (-2.27)	-2.06462** (-2.10)
Eurozone	0.37093 (0.51)	-0.49733 (-0.5)
Post-IFRS	1.05133 (1.35)	1.14768 (1.11)
N	469	213
F-Statistics	2.07*	1.48
R2 (%)	1.75	2.76
Adjusted R2 (%)	0.90	0.89

Appendix 5: Multivariate Framework: IFRS and Cross border (-5, +5)

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 11-days cumulative abnormal return (−5, +5) to European bidders and is regressed are regressed against a set of explanatory variables in a multivariate framework. The pre-IFRS regressions contain all M&A deals from 01.01.1989 to 31.12.2005 and the post-IFRS regressions all deals from 01.01.2006 to 31.12.2011. The pooled regressions contain interactive post-IFRS dummies of the respective variable. These IFRS-change dummies are denoted as '*D_*'. The set of explanatory variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country, as well as, a dummy if the deal is a cross-border M&A. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (3) includes the full sample and regression (4) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample			*Non UK-Domestic Sample*		
	(3)			*(4)*		
	Pre-IFRS	*Post-IFRS*	*Pooled*	*Pre-IFRS*	*Post-IFRS*	*Pooled*
Intercept	0.52516 (0.69)	0.34207 (0.27)	0.52516 (0.69)	0.68978 (0.48)	2.95692 (1.97)	0.68978 (0.48)
D_Post-IFRS			-0.18308 (-0.12)			2.26714 (1.09)
Relative Target Size	0.74448 (1.1)	1.02646 (0.52)	0.74448 (1.1)	0.99711 (1.42)	-4.01860** (-2.34)	0.99711 (1.42)
D_Relative Target Size			0.28199 (0.13)			-5.01571*** (-2.70)
Focused Deal	-2.40203*** (-2.82)	-1.41502 (-1.14)	-2.40203*** (-2.82)	-2.36765* (-1.95)	-2.89877* (-1.99)	-2.36765* (-1.95)
D_Focused Deal			0.98701 (0.66)			-0.53112 (-0.28)
Eurozone	-0.3896 (-0.42)	1.43207 (1.05)	-0.3896 (-0.42)	-0.89800 (-0.71)	0.53596 (0.36)	-0.89800 (-0.71)
D_Eurozone			1.82166 (1.10)			1.43396 (0.73)
Cross-Border	1.93777* (1.78)	1.26582 (0.80)	1.93777* (1.78)	1.82564 (1.46)	2.45891 (1.54)	1.82564 (1.46)
D_Cross-Border			-0.67195 (-0.35)			0.63327 (0.31)
N	342	129	471	153	60	213
F-Statistics	2.69**	0.81	1.67*	1.77	2.00	1.62
R^2 (%)	3.10	2.55	3.16	4.58	12.68	6.71
Adjusted R^2 (%)	1.95	-0.60	1.27	2.00	6.33	2.57

Appendix 6: Multivariate Framework: IFRS, Cross-border and Mode of Payment (-5, +5)

The table presents the regression results of acquirers based and listed within the European Union during the period from 01.01.1989 to 31.12.2011. The dependent variable is the 11-days cumulative abnormal return (−5, +5) to European bidders and is regressed a set of explanatory variables in a multivariate framework. The pre-IFRS regressions contain all M&A deals from 01.01.1989 to 31.12.2005 and the post-IFRS regressions all deals from 01.01.2006 to 31.12.2011. The pooled regressions contain interactive post-IFRS dummies of the respective variable. These IFRS-change dummies are denoted as '*D_*'. The set of explanatory variables includes the relative target size, a dummy variable representing the business relation between bidder and target (focus versus diversifying deals). Further, the models include a dummy if the acquirer and target are from a €-currency country, as well as, a dummy if the deal is a cross-border M&A. Two dummies represent the mode of payment proxies, cash and stock offers. The intercept represents the average abnormal return to bidders after controlling for the effects of the explanatory variables. Regression (5) includes the full sample and regression (6) excludes UK-domestic M&A announcements. In parentheses are the corresponding t-stats. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample			*Non UK-Domestic Sample*		
	(5)			*(6)*		
	Pre-IFRS	*Post-IFRS*	*Pooled*	*Pre-IFRS*	*Post-IFRS*	*Pooled*
Intercept	0.17123 (0.17)	-2.22114 (-1.14)	0.17123 (0.17)	2.04049 (1.11)	4.55885 (2.36)	2.04049 (1.11)
D_Post-IFRS			-2.39237 (-1.10)			2.51836 (0.94)
Relative Target Size	1.01773 (1.52)	1.78989 (0.95)	1.01773 (1.52)	0.84899 (1.15)	-3.61342** (-2.02)	0.84899 (1.15)
D_Relative Target Size			0.77216 (0.39)			-4.46241** (-2.31)
Focused Deal	-2.50668*** (-2.93)	-0.24991 (-0.19)	-2.50668*** (-2.93)	-2.84765** (-2.30)	-3.35229** (-2.04)	-2.84765** (-2.30)
D_Focused Deal			2.25676 (1.43)			-0.50464 (-0.25)
Eurozone	0.10039 (0.11)	1.55676 (1.12)	0.10039 (0.11)	-0.50566 (-0.41)	0.11551 (0.08)	-0.50566 (-0.41)
D_Eurozone			1.45637 (0.87)			0.62117 (0.32)
Cross-Border	1.39940 (1.30)	2.22883 (1.48)	1.39940 (1.30)	0.99895 (0.80)	2.29615 (1.40)	0.99895 (0.80)
D_Cross-Border			0.82944 (0.45)			1.29721 (0.63)
Cash Offer	1.14324 (0.48)	2.03224 (1.30)	1.14324 (0.48)	-0.55613 (-0.38)	-1.97605 (-1.10)	-0.55613 (-0.38)
D_Cash Offer			0.88900 (1.14)			-1.41992 (-0.61)
Stock Offer	-1.17875 (-1.06)	0.48817 (0.26)	-1.17875 (-1.06)	-1.97497 (-1.23)	-1.47601 (-0.64)	-1.97497 (-1.23)
D_Stock Offer			1.66691 (0.77)			0.49896 (0.18)
N	343	127	470	153	60	213
F-Statistics	2.56**	1.12	1.73*	1.43	1.51	1.30
R^2 (%)	4.36	5.29	4.71	5.56	14.60	7.85
Adjusted R^2 (%)	2.66	0.56	1.99	1.68	4.94	1.83

Appendix B:

Robustness Tests for Chapter 5

(Industry Prospects)

Appendix 7 to Appendix 21 presents robustness tests for the 5. Chapter *'Industry Prospects and the Impact on Acquirers' Gains'.* The event study is recalculated using a 3-days (-1, +1) and an 11-days (-5, +5) event window.

Appendix 7: Multivariate Framework: Industry Prospects (Full Sample, Growing Industry Prospects Variable) (-2, +2)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 5-days abnormal returns (-2, +2) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 if it is announced in a declining industry. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.50119*** (<.0001)	3.49521*** (<.0001)	3.44706*** (<.0001)	4.69509*** (<.0001)	6.93692*** (<.0001)	2.27060*** (<.0001)	3.64613*** (0.0002)	3.20443*** (<.0001)	4.84993*** (0.0010)
Growing	0.42175*** (0.0026)	0.52074*** (0.0021)	0.28579 (0.2514)	0.89970*** (0.0063)	0.57106 (0.3001)	0.29672 (0.2883)	0.57277* (0.0514)	0.32834 (0.3503)	0.62956 (0.3364)
Focused	-0.03241 (0.8047)								
Large Target	0.56034*** (0.0002)	0.40109** (0.0276)	0.84196*** (0.0025)			1.37473*** (<.0001)	-0.58983* (0.0946)	1.63227*** (0.0006)	-0.38037 (0.6232)
Cash	0.05831 (0.6801)	-0.26288 (0.1384)	0.62041*** (0.0083)	0.35710 (0.3106)	1.19448** (0.0203)				
Stock	-0.30738* (0.0731)	-0.66164*** (0.0009)	0.46793 (0.1623)	-1.05649*** (0.0035)	-0.03020 (0.9670)				
Public Target	-2.68408*** (<.0001)	-2.87016*** (<.0001)	-2.31149*** (<.0001)	-4.31908*** (<.0001)	-4.11093*** (<.0001)	-0.93708*** (0.0023)	-3.56206*** (<.0001)	-1.66550*** (<.0001)	-2.39107** (0.0250)
Private Target	-0.44289*** (0.0044)	-0.63944*** (0.0013)	-0.13529 (0.5894)	-0.83866** (0.0425)	-0.73120 (0.2048)	-0.43136* (0.0998)	-0.63868 (0.3958)	-0.33699 (0.3284)	0.22794 (0.8175)

Appendix 7 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.26008***	-0.20902***	-0.34342***	-0.26620***	-0.70980***	-0.15006**	-0.23020**	-0.26182***	-0.44429***
	(<.0001)	(<.0001)	(<.0001)	(0.0025)	(<.0001)	(0.0402)	(0.0147)	(0.0060)	(0.0124)
Cross-Border	0.03531	0.35714	-0.56142*	0.97458*	-1.39450**	-0.08915	-0.26942	-0.04704	-3.20380***
	(0.8582)	(0.1633)	(0.0699)	(0.0797)	(0.0478)	(0.7792)	(0.7244)	(0.9000)	(0.0004)
Hostile	0.69480	1.43665	-0.14148	1.75335	1.24394	2.05955	-3.90111*	-1.70336**	2.00423
	(0.2583)	(0.1643)	(0.8363)	(0.1883)	(0.1935)	(0.1075)	(0.0756)	(0.0470)	(0.5973)
N	16,202	10,513	5,689	3,627	1,774	3,507	2,949	2,140	1,109
F-Statistics	47.33***	37.95***	17.96***	35.54***	15.55***	7.75***	22.38***	9.72***	6.54***
R^2 *(%)*	2.84	3.15	2.77	7.29	6.59	1.53	5.06	3.09	3.99
Adjusted R^2 *(%)*	2.78	3.07	2.61	7.08	6.16	1.33	4.83	2.77	3.38

Appendix 8: Industry Prospects: Cumulative Abnormal Returns (-1, +1)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 3-days surrounding the announcement (-1, +1) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry prospects, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcement is above the moving median over the specific period quarters and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcement is below the moving median over the specific period quarters less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Prospects	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Growing	3,502	1.2831***	<.0001	4,041	1.1867***	<.0001	4,192	1.2618***	<.0001
Neutral	10,571	0.9727***	<.0001	10,025	1.0003***	<.0001	10,073	0.8989***	<.0001
Declining	2,129	0.6011***	<.0001	2,136	0.5767***	0.0001	1,937	0.8834***	<.0001
Growing vs. Declining		0.6820***	0.0010		0.6099*	0.0564		0.3784***	0.0003

Appendix 9: Industry Prospects and Corporate Diversification: Cumulative Abnormal Returns (-1, +1)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 3-days surrounding the announcement (-1, +1) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by Industry Prospects and Industry Relation

		5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Growing	2,351	1.1340***	<.0001	2,677	1.1717***	<.0001	2,724	1.2702***	<.0001
	Declining	1,409	0.4485**	0.0143	1,411	0.3268*	0.0707	1,285	0.6106***	0.0026
	Growing vs. Declining		0.6855***	0.0025		0.8449***	0.0001		0.6596***	0.0061
Diversifying	Growing	1,151	1.5874***	<.0001	1,364	1.2160***	<.0001	1,468	1.2461***	<.0001
	Declining	720	0.8996***	0.0010	725	1.0631***	0.0001	652	1.4210***	<.0001
	Growing vs. Declining		0.6879**	0.0422		0.1529	0.6451		-0.1749	0.6171

Panel B: Cumulative Abnormal Returns by Industry Relation and Industry Prospects

		5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Prospects	*Industry Relation*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Growing	Focused	2,351	1.1340***	<.0001	2,677	1.1717***	<.0001	2,724	1.2702***	<.0001
	Diversifying	1,151	1.5874***	<.0001	1,364	1.2160***	<.0001	1,468	1.2461***	<.0001
	Focused vs. Diversifying		0.4534*	0.0673		0.0443	0.8421		0.0241	0.9119
Declining	Focused	1,409	0.4485**	0.0143	1,411	0.3268*	0.0707	1,285	0.6106***	0.0026
	Diversifying	720	0.8996***	0.0010	725	1.0631***	0.0001	652	1.4210***	<.0001
	Focused vs. Diversifying		0.4511	0.1688		0.7363**	0.0256		0.8104**	0.0262

Appendix 10: Industry Prospects, Corporate Diversification and Relative Target Size: Cumulative Abnormal Returns (-1, +1)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 3-days surrounding the announcement (-1, +1) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. The relative target is calculated as the ratio of the deals size to the acquirer's market capitalisation. The ratios within the specific deal type are split by the size into three equally-weighted groups. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Relative Target Size*	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Large	Growing	784	1.3113***	<.0001	892	1.4835***	<.0001	908	1.6146***	<.0001
		Declining	470	0.6823*	0.0768	470	0.3142	0.4158	428	0.6612	0.1177
		Growing vs. Declining		0.6290	0.1808		1.1693**	0.0107		0.9534*	0.0556
	Medium	Growing	784	1.3463***	<.0001	893	1.2116***	<.0001	908	1.3129***	<.0001
		Declining	470	0.1889	0.5287	471	0.3221	0.2585	429	0.4632	0.1602
		Growing vs. Declining		1.1574***	0.0018		0.8895***	0.0091		0.8498**	0.0284
	Small	Growing	783	0.7440***	0.0003	892	0.8200***	<.0001	908	0.8831***	<.0001
		Declining	469	0.4744*	0.0597	470	0.3441	0.1757	428	0.7077**	0.0151
		Growing vs. Declining		0.2696	0.4110		0.4759	0.1471		0.1754	0.6145
Diversifying	Large	Growing	384	2.3380***	<.0001	455	1.8564***	<.0001	489	1.6415***	<.0001
		Declining	240	2.0695***	0.0009	242	2.0652***	0.0007	217	2.4880***	0.0002
		Growing vs. Declining		0.2685	0.7219		0.2088	0.7716		0.8465	0.2666
	Medium	Growing	384	1.5841***	<.0001	455	1.1716***	0.0002	490	1.2441***	<.0001
		Declining	240	0.2098	0.5948	242	0.4793	0.2531	218	0.8129*	0.0829
		Growing vs. Declining		1.3743***	0.0093		0.6923	0.1897		0.4312	0.4209
	Small	Growing	383	0.8383***	0.0009	454	0.6186***	0.0092	489	0.8527***	0.0003
		Declining	240	0.4193	0.2324	241	0.6430*	0.0856	217	0.9650**	0.0163
		Growing vs. Declining		0.4189	0.3303		0.0244	0.9560		0.1123	0.8087

Appendix 11: Industry Prospects, Corporate Diversification and Mode of Payment: Cumulative Abnormal Returns (-1, +1)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 3-days surrounding the announcement (-1, +1) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. Cash are deals with cash only offers and are deals with stock only offers are stock. A combination of both is considered as mixed. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by Industry Relation, Mode of Payment and Industry Prospects

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Payment Method*	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Cash	Growing	691	1.6836***	<.0001	774	1.6815***	<.0001	755	1.9449***	<.0001
		Declining	473	1.1336***	<.0001	518	0.9882***	0.0002	481	1.3246***	<.0001
		Growing vs. Declining		0.5500	0.1261		0.6933**	0.0431		0.6204*	0.0919
	Mixed	Growing	835	1.8140***	<.0001	946	1.6269***	<.0001	1,063	1.5702***	<.0001
		Declining	582	0.8464***	0.0062	540	0.6080*	0.0561	486	0.6815*	0.0535
		Growing vs. Declining		0.9677	0.3307		1.0190	0.8391		0.8887	0.5461
	Stock	Growing	825	-0.0145	0.9497	957	0.3095	0.1463	906	0.3560	0.1257
		Declining	354	-1.1210***	0.0023	353	-1.0737***	0.0033	318	-0.5777	0.1680
		Growing vs. Declining		1.1065**	0.0131		1.3832***	0.0090		0.9337**	0.0301
Diversifying	Cash	Growing	376	1.4557***	<.0001	442	1.1730***	<.0001	450	1.1804***	<.0001
		Declining	265	0.9801**	0.0131	300	1.0798***	0.0045	270	1.4612***	0.0002
		Growing vs. Declining		0.4756*	0.0736		0.0931	0.5278		0.2808	0.8894
	Mixed	Growing	508	1.5499***	<.0001	623	1.1733***	<.0001	687	1.2585***	<.0001
		Declining	322	0.6171	0.1409	299	0.8286*	0.0778	265	1.1752**	0.0296
		Growing vs. Declining		0.9328***	0.0094		0.3446***	0.0009		0.0833**	0.0443
	Stock	Growing	267	1.8444***	0.0003	299	1.3686***	0.0042	331	1.3097***	0.0030
		Declining	133	1.4231*	0.0533	126	1.5796**	0.0237	117	1.8851**	0.0122
		Growing vs. Declining		0.4214	0.6344		0.2110	0.8055		0.5754	0.5032

Appendix 11 Continued

Panel B: Cumulative Abnormal Returns by Industry Relation, Industry Prospects and Mode of Payment

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Industry Prospects*	*Payment Method*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Growing	Cash	691	1.6836***	<.0001	774	1.6815***	<.0001	755	1.9449***	<.0001
		Stock	825	-0.0145	0.9497	957	0.3095	0.1463	906	0.3560	0.1257
		Cash vs. Stock		1.6981***	<.0001		1.3720***	<.0001		1.5889***	<.0001
	Declining	Cash	473	1.1336***	<.0001	518	0.9882***	0.0002	481	1.3246***	<.0001
		Stock	354	-1.1210***	0.0023	353	-1.0737***	0.0033	318	-0.5777	0.1680
		Cash vs. Stock		2.2546***	<.0001		2.0619***	<.0001		1.9023***	0.0002
Diversifying	Growing	Cash	376	1.4557***	<.0001	442	1.1730***	<.0001	450	1.1804***	<.0001
		Stock	267	1.8444***	0.0003	299	1.3686***	0.0042	331	1.3097***	0.0030
		Cash vs. Stock		0.3887	0.5073		0.1956	0.7178		0.1293	0.7981
	Declining	Cash	265	0.9801**	0.0131	300	1.0798***	0.0045	270	1.4612***	0.0002
		Stock	133	1.4231*	0.0533	126	1.5796**	0.0237	117	1.8851**	0.0122
		Cash vs. Stock		0.4430	0.5934		0.4998	0.5258		0.4239	0.6134

Appendix 12: Multivariate Framework: Industry Prospects (Growing and Declining Industry Prospects) (-1, +1)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 3-days abnormal returns (-1, +1) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 if it is announced in a declining industry. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.09975***	3.10451***	3.03101***	3.91784***	6.91968***	2.04269**	2.19357*	2.37851**	3.80223*
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0180)	(0.0901)	(0.0278)	(0.0571)
Growing	0.61466***	0.89896***	0.11303	1.48303***	-0.40313	0.63149*	0.99638**	0.10889	-0.23232
	(0.0008)	(<.0001)	(0.7285)	(0.0007)	(0.5802)	(0.0652)	(0.0147)	(0.8091)	(0.7808)
Focused	-0.09492								
	(0.6113)								
Large Target	0.70524***	0.42488*	1.24228***			1.37244***	-0.01703	1.40212*	1.77168
	(0.0014)	(0.0955)	(0.0033)			(0.0047)	(0.9699)	(0.0577)	(0.1522)
Cash	0.38592*	0.16359	0.75596**	0.64133	0.73840				
	(0.0583)	(0.5196)	(0.0276)	(0.2298)	(0.3552)				
Stock	-0.21206	-0.70204***	0.93379**	-0.54833	1.84874*				
	(0.3535)	(0.0075)	(0.0416)	(0.2699)	(0.0781)				
Public Target	-2.51930***	-2.71692***	-2.09778***	-4.56591***	-5.13850***	-1.36467***	-2.48081***	-1.44442***	-3.19893**
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0015)	(0.0098)	(0.0082)	(0.0372)
Private Target	-0.37882*	-0.69802**	0.10755	-0.82718	-0.42244	-0.11625	0.01146	0.31278	-0.41030
	(0.0911)	(0.0139)	(0.7687)	(0.1691)	(0.6289)	(0.7600)	(0.9904)	(0.5419)	(0.7571)

Appendix 12 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.30126***	-0.25962***	-0.37632***	-0.28052**	-0.61072***	-0.16839	-0.26777**	-0.19886	-0.23853
	(<.0001)	(<.0001)	(0.0001)	(0.0194)	(0.0047)	(0.1240)	(0.0234)	(0.1126)	(0.3654)
Cross-Border	-0.26207	-0.40893	-0.13467	0.04990	-0.99776	0.03091	-2.31225***	-0.45472	0.53309
	(0.3349)	(0.2241)	(0.7699)	(0.9471)	(0.3387)	(0.9427)	(0.0061)	(0.3625)	(0.7408)
Hostile	0.21870	0.91138	-0.68574	1.09736	1.30874	2.21417*	-2.09167	1.94348	-3.60407
	(0.8086)	(0.5096)	(0.4560)	(0.5596)	(0.3497)	(0.0672)	(0.4871)	(0.2342)	(0.1506)
N	6,177	4,088	2,089	1,405	614	1,292	1,310	742	425
F-Statistics	26.52***	22.15***	10.17***	18.87***	9.36***	4.72***	11.72***	3.65***	2.70***
R^2 (%)	4.12	4.66	4.22	9.76	11.02	2.51	5.93	3.36	4.33
Adjusted R^2 (%)	3.97	4.45	3.80	9.24	9.84	1.98	5.42	2.44	2.73

Appendix 13: Multivariate Framework: Industry Prospects (Full Sample, Growing Industry Prospects Variable) (-1, +1)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 3-days abnormal returns (-1, +1) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Growing is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 if it is announced in a declining industry. A Relatively Large Target is the group of the largest relative target size ratios, which was split into three equally-weighted groups. Cash is if the payment offer is cash-only. Stock is if the payment offer is stock-only. Public Target is if a target publicly listed on a stock exchange. Private Target is held by private investors. Market Value is the natural logarithm of acquirers' market values. Cross-Border is if the target's nation is non-US. Hostile is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.19138***	2.89937***	3.45870***	4.40837***	6.65241***	2.19378***	2.21648***	3.32898***	4.69356***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0039)	(<.0001)	(<.0001)
Growing	0.35374***	0.51561***	0.09442	0.98714***	0.20725	0.42976*	0.58425**	0.05069	0.31039
	(0.0030)	(0.0004)	(0.6501)	(0.0008)	(0.6584)	(0.0736)	(0.0226)	(0.8623)	(0.5652)
Focused	-0.11327								
	(0.3042)								
Large Target	0.56879***	0.39931**	0.86908***			1.19797***	-0.49740	1.33001***	0.72471
	(<.0001)	(0.0104)	(0.0003)			(<.0001)	(0.1075)	(0.0014)	(0.2911)
Cash	0.25999**	0.09265	0.55485***	0.53191*	1.02412**				
	(0.0292)	(0.5329)	(0.0054)	(0.0828)	(0.0254)				
Stock	-0.38105***	-0.76554***	0.47829*	-1.11583***	0.81772				
	(0.0086)	(<.0001)	(0.0849)	(0.0005)	(0.1833)				
Public Target	-2.36148***	-2.52514***	-1.95443***	-3.88906***	-3.81886***	-1.06742***	-2.63176***	-0.89613**	-2.74149***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0114)	(0.0015)
Private Target	-0.40588***	-0.51609***	-0.25556	-0.61799*	-1.12467**	-0.34402	-0.12738	-0.10041	-0.40055
	(0.0017)	(0.0017)	(0.2259)	(0.0791)	(0.0256)	(0.1231)	(0.8269)	(0.7264)	(0.6100)

Appendix 13 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.25679***	-0.18702***	-0.36686***	-0.31062***	-0.66466***	-0.14271**	-0.17050**	-0.32249***	-0.42470***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0194)	(0.0404)	(<.0001)	(0.0047)
Cross-Border	-0.15224	0.05019	-0.56164**	0.68204	-1.42127***	-0.11905	-0.64307	-0.42950	-1.56062*
	(0.3636)	(0.8167)	(0.0336)	(0.1814)	(0.0243)	(0.6517)	(0.3509)	(0.1398)	(0.0825)
Hostile	0.31539	1.04360	-0.54597	1.67829	0.48441	2.29140**	-3.73625	-1.36966**	0.76458
	(0.5641)	(0.2667)	(0.3335)	(0.1593)	(0.5488)	(0.0379)	(0.1532)	(0.0450)	(0.7849)
N	16,202	10,512	5,690	3,625	1,776	3,507	2,954	2,138	1,105
F-Statistics	57.25***	45.98***	22.30***	42.74***	16.49***	9.92***	20.67***	10.83***	7.09***
R^2 *(%)*	3.42	3.79	3.41	8.64	6.95	1.95	4.68	3.44	4.33
Adjusted R^2 *(%)*	3.36	3.71	3.26	8.44	6.52	1.75	4.45	3.12	3.72

Appendix 14: Multivariate Framework: Industry Prospects (Full Sample, Growing and Declining Industry Prospects Variable) (-1, +1)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 3-days abnormal returns (-1, +1) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. Growing is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 otherwise. Declining is a binary variable, which takes on the value of 1 if the deal is announced in a declining industry and 0 otherwise. A Relatively Large Target is the group of the largest relative target size ratios, which was split into three equally-weighted groups. Cash is if the payment offer is cash-only. Stock is if the payment offer is stock-only. Public target is if a target publicly listed on a stock exchange. Private target is held by private investors. Market value is the natural logarithm of acquirers' market values. Cross-border is if the target's nation is non-US. Hostile is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.23714***	2.9698***	3.45975***	4.55575***	6.56749***	2.24916***	2.27335***	3.33433***	4.56805***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0029)	(<.0001)	(0.0002)
Growing	0.29566**	0.42733***	0.09321	0.85456***	0.30963	0.37586	0.48464*	0.04304	0.43229
	(0.0154)	(0.0042)	(0.6602)	(0.0045)	(0.5161)	(0.1246)	(0.0695)	(0.8851)	(0.4322)
Declining	-0.33307**	-0.49411**	-0.00726	-0.70941*	0.62879	-0.28764	-0.56967	-0.0431	0.78121
	(0.0405)	(0.0112)	(0.9801)	(0.0629)	(0.3294)	(0.3179)	(0.1501)	(0.9151)	(0.2881)
Focused	-0.11017								
	(0.3178)								
Large Target	0.57105***	0.40486***	0.86907***			1.19414***	-0.49517	1.33055***	0.72864
	(<.0001)	(0.0094)	(0.0003)			(<.0001)	(0.1093)	(0.0014)	(0.2876)
Cash	0.26311**	0.09882	0.55488***	0.52616*	1.01633**				
	(0.0273)	(0.5061)	(0.0054)	(0.0861)	(0.0265)				
Stock	-0.38212***	-0.76556***	0.47823*	-1.11851***	0.82658				
	(0.0084)	(<.0001)	(0.0849)	(0.0005)	(0.1783)				
Public Target	-2.35502***	-2.51428***	-1.95432***	-3.88249***	-3.83716***	-1.06207***	-2.59249***	-0.89622**	-2.71984***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0114)	(0.0016)
Private Target	-0.40417***	-0.51132***	-0.25558	-0.61715*	-1.13104**	-0.34583	-0.10333	-0.10064	-0.36069
	(0.0018)	(0.0019)	(0.2259)	(0.0797)	(0.0244)	(0.1212)	(0.8595)	(0.7259)	(0.6462)

Appendix 14 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.25595***	-0.18591***	-0.36684***	-0.31353***	-0.66629***	-0.14301**	-0.16878**	-0.32216***	-0.42916***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0191)	(0.0425)	(<.0001)	(0.0041)
Cross-Border	-0.14077	0.06814	-0.56141**	0.68662	-1.43160**	-0.11194	-0.60683	-0.42897	-1.56947*
	(0.4011)	(0.7530)	(0.0340)	(0.1780)	(0.0236)	(0.6713)	(0.3799)	(0.1406)	(0.0806)
Hostile	0.33227	1.11229	-0.54623	1.78782	0.50726	2.35197**	-3.54092	-1.3726**	0.83191
	(0.5441)	(0.2374)	(0.3334)	(0.1362)	(0.5300)	(0.0334)	(0.1852)	(0.0451)	(0.7685)
N	16,202	10,512	5,690	3,625	1,776	3,507	2,954	2,138	1,105
F-Statistics	52.47***	42.08***	20.07***	38.43***	14.78***	8.82***	18.35***	9.47***	6.34***
R^2 (%)	3.44	3.85	3.41	8.73	7.00	1.98	4.75	3.44	4.42
Adjusted R^2 (%)	3.38	3.76	3.24	8.51	6.53	1.75	4.49	3.07	3.72

Appendix 15: Industry Prospects: Cumulative Abnormal Returns (-5, +5)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 11-days surrounding the announcement (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry prospects, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcement is above the moving median over the specific period quarters and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcement is below the moving median over the specific period quarters less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Prospects	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Growing	3,503	2.0287***	<.0001	4,041	1.9201***	<.0001	4,186	1.9217***	<.0001
Neutral	10,583	1.6004***	<.0001	10,029	1.6354***	<.0001	10,087	1.5219***	<.0001
Declining	2,116	0.6167***	<.0001	2,132	0.5567**	0.0163	1,929	1.0119***	<.0001
Growing vs. Declining		1.4120***	0.0023		1.3634***	<.0001		0.9098***	<.0001

Appendix 16: Industry Prospects and Corporate Diversification: Cumulative Abnormal Returns (-5, +5)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 11-days surrounding the announcement (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by Industry Prospects and Industry Relation

		5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Growing	2,360	1.8328***	<.0001	2,683	1.7999***	<.0001	2,726	1.8669***	<.0001
	Declining	1,405	0.5655**	0.0435	1,410	0.5207*	0.0668	1,278	0.9196***	0.0030
	Growing vs. Declining		1.2674***	0.0002		1.2792***	0.0002		0.9474***	0.0093
Diversifying	Growing	1,143	2.4330***	<.0001	1,358	2.1577***	<.0001	1,460	2.0240***	<.0001
	Declining	711	0.7178*	0.0748	722	0.6270	0.1183	651	1.1933***	0.0067
	Growing vs. Declining		1.7152***	0.0008		1.5307***	0.0018		0.8307	0.1081

Panel B: Cumulative Abnormal Returns by Industry Relation and Industry Prospects

		5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Prospects	*Industry Relation*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Growing	Focused	2,360	1.8328***	<.0001	2,683	1.7999***	<.0001	2,726	1.8669***	<.0001
	Diversifying	1,143	2.4330***	<.0001	1,358	2.1577***	<.0001	1,460	2.0240***	<.0001
	Focused vs. Diversifying		0.6002	0.1076		0.3578	0.2999		0.1571	0.6379
Declining	Focused	1,405	0.5655**	0.0435	1,410	0.5207*	0.0668	1,278	0.9196***	0.0030
	Diversifying	711	0.7178*	0.0748	722	0.6270	0.1183	651	1.1933***	0.0067
	Focused vs. Diversifying		0.1524	0.7541		0.1063	0.8281		0.2737	0.6090

Appendix 17: Industry Prospects, Corporate Diversification and Relative Target Size: Cumulative Abnormal Returns (-5, +5)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 11-days surrounding the announcement (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. The relative target is calculated as the ratio of the deals size to the acquirer's market capitalisation. The ratios within the specific deal type are split by the size into three equally-weighted groups. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Relative Target Size*	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Large	Growing	787	2.7316***	<.0001	894	2.6460***	<.0001	909	2.7442***	<.0001
		Declining	468	0.3807	0.4690	470	0.0937	0.8665	426	0.2377	0.6899
		Growing vs. Declining		2.3510***	0.0003		2.5523***	0.0001		2.5064***	0.0003
	Medium	Growing	787	1.4617***	<.0001	895	1.2553***	0.0001	909	1.3088***	0.0001
		Declining	469	1.0908**	0.0300	470	1.0604**	0.0264	426	1.7511***	0.0009
		Growing vs. Declining		0.3708	0.5431		0.1949	0.7337		0.4423	0.4713
	Small	Growing	786	1.3045***	0.0001	894	1.4989***	<.0001	908	1.5475***	<.0001
		Declining	468	0.2237	0.5961	470	0.4079	0.3475	426	0.7698	0.1135
		Growing vs. Declining		1.0808**	0.0438		1.0910**	0.0415		0.7776	0.1691
Diversifying	Large	Growing	381	3.0796***	<.0001	453	2.8949***	<.0001	487	2.1569***	<.0001
		Declining	237	1.5253*	0.0854	241	1.7126*	0.0504	217	1.4783	0.1143
		Growing vs. Declining		1.5543	0.1490		1.1824	0.2518		0.6786	0.5259
	Medium	Growing	381	2.9662***	<.0001	453	2.0240***	0.0001	487	2.2227***	<.0001
		Declining	237	-0.2412	0.6815	241	0.0240	0.9699	217	0.4536	0.5247
		Growing vs. Declining		3.2074***	<.0001		2.0001**	0.0153		1.7691**	0.0400
	Small	Growing	381	1.2532***	0.0058	452	1.5527***	0.0005	486	1.6919***	0.0001
		Declining	237	0.8695	0.1314	240	0.1425	0.7884	217	1.6480***	0.0062
		Growing vs. Declining		0.3837	0.5994		1.4102**	0.0412		0.0438	0.9525

Appendix 18: Industry Prospects, Corporate Diversification and Mode of Payment: Cumulative Abnormal Returns (-5, +5)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2011. The bidders' returns are calculated 11-days surrounding the announcement (-5, +5 using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. For the industry classification, moving medians over 5, 9 and 13 quarters are used. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. A deal is considered as focused if the first 2-digit SIC of the acquirer and target match, otherwise diversifying. Cash are deals with cash only offers and are deals with stock only offers are stock. A combination of both is considered as mixed. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

Panel A: Cumulative Abnormal Returns by Industry Relation, Mode of Payment and Industry Prospects

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Payment Method*	*Industry Prospects*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Cash	Growing	690	2.1456***	<.0001	772	2.0379***	<.0001	751	2.3535***	<.0001
		Declining	469	1.1592***	0.0070	516	1.1109***	0.0073	477	1.7146***	0.0002
		Growing vs. Declining		0.9864*	0.0667		0.9269*	0.0760		0.6389	0.2488
	Mixed	Growing	840	2.5484***	<.0001	949	2.5591***	<.0001	1065	2.2916***	<.0001
		Declining	580	1.3949***	0.0036	538	1.0549**	0.0391	485	1.2315**	0.0285
		Growing vs. Declining		1.1535*	0.0553		1.5042**	0.0147		1.0601	0.1001
	Stock	Growing	830	0.8486**	0.0123	962	0.8599***	0.0060	910	0.9683***	0.0041
		Declining	356	-1.5681***	0.0033	356	-1.1422**	0.0391	316	-0.7593	0.2073
		Growing vs. Declining		2.4168***	0.0001		2.0021***	0.0011		1.7276**	0.0102
Diversifying	Cash	Growing	377	1.8131***	0.0001	442	1.8143***	<.0001	448	1.8000***	<.0001
		Declining	263	1.1634**	0.0477	301	0.3595	0.5094	272	0.8849	0.1200
		Growing vs. Declining		0.6496	0.3733		1.4548**	0.0348		0.9151	0.1825
	Mixed	Growing	501	2.6267***	<.0001	615	1.9617***	<.0001	682	1.7577***	<.0001
		Declining	314	0.1688	0.7748	293	0.4860	0.4587	261	0.7102	0.3378
		Growing vs. Declining		2.4579***	0.0015		1.4757*	0.0585		1.0475	0.2158
	Stock	Growing	265	2.9488***	0.0001	301	3.0624***	<.0001	330	2.8786***	<.0001
		Declining	134	1.1299	0.3302	128	1.5788	0.1578	118	2.9726**	0.0150
		Growing vs. Declining		1.8189	0.1773		1.4835	0.2504		0.0940	0.9434

Appendix 18 Continued

Panel B: Cumulative Abnormal Returns by Industry Relation, Industry Prospects and Mode of Payment

			5 Quarters			*9 Quarters*			*13 Quarters*		
Industry Relation	*Industry Prospects*	*Payment Method*	*N*	*Mean*	*p*	*N*	*Mean*	*p*	*N*	*Mean*	*p*
Focused	Growing	Cash	690	2.1456***	<.0001	772	2.0379***	<.0001	751	2.3535***	<.0001
		Stock	830	0.8486**	0.0123	962	0.8599***	0.0060	910	0.9683***	0.0041
		Cash vs. Stock		1.2970***	0.0064		1.1780***	0.0092		1.3852***	0.0037
	Declining	Cash	469	1.1592***	0.0070	516	1.1109***	0.0073	477	1.7146***	0.0002
		Stock	356	-1.5681***	0.0033	356	-1.1422**	0.0391	316	-0.7593	0.2073
		Cash vs. Stock		2.7273***	<.0001		2.2532***	0.0011		2.4739***	0.0010
Diversifying	Growing	Cash	377	1.8131***	0.0001	442	1.8143***	<.0001	448	1.8000***	<.0001
		Stock	265	2.9488***	0.0001	301	3.0624***	<.0001	330	2.8786***	<.0001
		Cash vs. Stock		1.1357	0.1988		1.2481	0.1274		1.0786	0.1668
	Declining	Cash	263	1.1634**	0.0477	301	0.3595	0.5094	272	0.8849	0.1200
		Stock	134	1.1299	0.3302	128	1.5788	0.1578	118	2.9726**	0.0150
		Cash vs. Stock		0.0335	0.9794		1.2193	0.3257		2.0876	0.1187

Appendix 19: Multivariate Framework: Industry Prospects (Growing and Declining Industry Prospects Only) (-5, +5)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 11-days abnormal returns (-5, +5) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 if it is announced in a declining industry. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	4.03311***	3.47225***	4.79032***	4.03242***	10.13224***	0.72135	0.75283	3.19791*	7.21464**
	(<.0001)	(<.0001)	(<.0001)	(0.0023)	(<.0001)	(0.5909)	(0.6925)	(0.0773)	(0.0201)
Growing	1.33405***	1.35876***	1.35631***	3.01297***	0.73039	0.95876*	1.53095**	1.38713**	1.38078
	(<.0001)	(<.0001)	(0.0054)	(<.0001)	(0.4849)	(0.0693)	(0.0136)	(0.0436)	(0.2825)
Focused	-0.08174								
	(0.7749)								
Large Target	0.83922***	0.72798*	1.03881*			2.44707***	0.58966	0.18038	1.84803
	(0.0096)	(0.0593)	(0.0777)			(0.0005)	(0.3824)	(0.8572)	(0.2753)
Cash	-0.01375	-0.32370	0.65096	0.88243	-0.60482				
	(0.9651)	(0.4132)	(0.2137)	(0.2484)	(0.5801)				
Stock	-0.18612	-1.04517**	1.86297***	-0.77396	2.34409				
	(0.5959)	(0.0101)	(0.0074)	(0.2715)	(0.1276)				
Public Target	-2.97097***	-2.96583***	-2.78795***	-5.00331***	-5.13279***	-0.85539	-2.11210	-2.45052***	-5.37639**
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0004)	(0.2253)	(0.1438)	(0.0041)	(0.0376)
Private Target	-0.84878**	-0.95815**	-0.67896	-1.14299	-0.65285	-0.54367	1.09141	-0.60952	-2.80776
	(0.0149)	(0.0278)	(0.2416)	(0.1951)	(0.6145)	(0.3582)	(0.4448)	(0.4486)	(0.2200)

Appendix 19 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.38334***	-0.23688**	-0.63607***	-0.28722*	-1.19202***	0.01527	-0.18362	-0.31147	-0.41020
	(<.0001)	(0.0188)	(<.0001)	(0.0994)	(0.0002)	(0.9262)	(0.3302)	(0.1327)	(0.2503)
Cross-Border	-0.20147	-0.12152	-0.5235	-0.26486	-0.13362	0.41891	-2.26672	-0.02271	-2.32298
	(0.6390)	(0.8171)	(0.4803)	(0.8010)	(0.9356)	(0.5238)	(0.1035)	(0.9780)	(0.3396)
Hostile	-0.14450	0.32644	-1.04791	0.71101	0.76386	-0.05454	-7.68991***	2.49949	-1.04280
	(0.8843)	(0.8172)	(0.3933)	(0.7009)	(0.5931)	(0.9762)	(0.0044)	(0.2853)	(0.7301)
N	6,173	4,093	2,080	1,401	611	1,288	1,318	743	429
F-Statistics	16.19***	11.41***	9.04***	13.18***	7.63***	3.13***	7.46***	2.56**	2.17**
R^2 (%)	2.56	2.45	3.78	7.04	9.20	1.68	3.83	2.38	3.48
Adjusted R^2 (%)	2.40	2.24	3.36	6.51	8.00	1.15	3.32	1.45	1.88

Appendix 20: Multivariate Framework: Industry Prospects (Full Sample, Growing Industry Prospects Variable) (-5, +5)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 11-days abnormal returns (-5, +5) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 if it is announced in a declining industry. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	4.14665***	3.43657***	4.91667***	4.91640***	9.79839***	3.19830***	2.34027**	4.54192***	7.15496***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0490)	(<.0001)	(<.0001)
Growing	0.54258***	0.61166***	0.46418	1.60770***	0.82552	0.36638	0.34561	0.22024	0.96943
	(0.0030)	(0.0056)	(0.1520)	(<.0001)	(0.2250)	(0.3169)	(0.3633)	(0.6435)	(0.2344)
Focused	-0.20689								
	(0.2238)								
Large Target	0.71454***	0.71816***	0.65315**			1.47372***	0.07935	0.71939	-0.32641
	(0.0002)	(0.0019)	(0.0610)			(0.0003)	(0.8600)	(0.2218)	(0.7418)
Cash	0.21356	-0.02084	0.69454**	0.59567	0.40021				
	(0.2457)	(0.9284)	(0.0217)	(0.1805)	(0.5282)				
Stock	-0.02001	-0.56195**	1.17970***	-0.80975*	0.47824				
	(0.9279)	(0.0290)	(0.0060)	(0.0760)	(0.5864)				
Public Target	-2.74517***	-2.78234***	-2.64257***	-4.45809***	-4.32752***	-0.70077*	-2.67591***	-1.98331***	-3.26817**
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0836)	(0.0047)	(0.0002)	(0.0207)
Private Target	-0.50684**	-0.68309***	-0.21538	-0.72640	-1.00067	-0.81453**	0.51108	-0.26022	-0.04471
	(0.0127)	(0.0079)	(0.5164)	(0.1680)	(0.1713)	(0.0208)	(0.5855)	(0.5677)	(0.9729)

Appendix 20 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.31124*** (<.0001)	-0.18811*** (0.0021)	-0.50878*** (<.0001)	-0.25765** (0.0191)	-1.11360*** (<.0001)	-0.22355** (0.0211)	-0.14585 (0.2390)	-0.37960*** (0.0019)	-0.61376*** (0.0038)
Cross-Border	-0.17430 (0.5043)	0.24270 (0.4629)	-0.95160** (0.0247)	0.41559 (0.5455)	-1.87270* (0.0605)	0.06108 (0.8798)	-0.51205 (0.6086)	-0.20526 (0.6707)	-2.81650** (0.0394)
Hostile	0.18031 (0.8155)	0.13727) (0.9210)	0.34002 (0.6344)	0.48052 (0.7862)	1.74400* (0.0795)	-0.50969 (0.8073)	-9.75369*** (<.0001)	-0.15087 (0.8780)	4.04025 (0.1364)
N	16,202	10,509	5,673	3,627	1,774	3,505	2,951	2,134	1,104
F-Statistics	31.12***	21.10***	16.87***	24.28***	15.26***	5.58***	12.53***	5.97***	5.88***
R^2 *(%)*	1.89	1.77	2.61	5.09	6.47	1.10	2.89	1.93	3.62
Adjusted R^2 *(%)*	1.83	1.69	2.46	4.88	6.04	0.91	2.66	1.60	3.01

Appendix 21: Multivariate Framework: Industry Prospects (Full Sample, Growing and Declining Industry Prospects Variable) (-5, +5)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2011. The dependent variable is the 5-days abnormal returns (-2, +2) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. For the prospect classification, moving medians over 9 quarters are calculated. If the quarter of the corresponding M&A announcements is above the moving median and the standard deviation then the industry is classified as a growing industry. If the quarter of the corresponding M&A announcements is below the moving median less the standard deviation then the industry is classified as a declining industry. Otherwise, the industry is classified as neutral. *Growing* is a binary variable, which takes on the value of 1 if the deal is announced in a growing industry and 0 otherwise. *Declining* is a binary variable, which takes on the value of 1 if the deal is announced in a declining industry and 0 otherwise. A *Relatively Large Target* is the group of the largest relative target size ratios, which was split into three equally-weighted groups. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Market Value* is the natural logarithm of acquirers' market values. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	4.27622***	3.56257***	5.06729***	5.26790***	9.80668***	3.32619***	2.51065**	4.71340***	7.17642***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0342)	(<.0001)	(<.0001)
Growing	0.37522**	0.45309**	0.28415	1.28832***	0.81492	0.24135	0.07755	-0.03520	0.94789
	(0.0447)	(0.0448)	(0.3902)	(0.0021)	(0.2390)	(0.5188)	(0.8441)	(0.9422)	(0.2561)
Declining	-0.96137***	-0.88856***	-1.08495**	-1.70765***	-0.06544	-0.66923	-1.51567**	-1.43293**	-0.13614
	(0.0001)	(0.0039)	(0.0115)	(0.0022)	(0.9435)	(0.1413)	(0.0114)	(0.0157)	(0.9081)
Focused	-0.19823								
	(0.2436)								
Large Target	0.72158***	0.72847***	0.65231*			1.46567***	0.08340	0.74151	-0.32720
	(0.0002)	(0.0017)	(0.0613)			(0.0003)	(0.8527)	(0.2069)	(0.7415)
Cash	0.22400	-0.00942	0.70281**	0.58206	0.40139				
	(0.2233)	(0.9676)	(0.0199)	(0.1904)	(0.5267)				
Stock	-0.01992	-0.55921**	1.17429***	-0.81048*	0.47749				
	(0.9282)	(0.0297)	(0.0062)	(0.0752)	(0.5873)				
Public Target	-2.72660***	-2.76477***	-2.62152***	-4.44969***	-4.32476***	-0.69045*	-2.58331***	-1.98037***	-3.26955**
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0884)	(0.0062)	(0.0002)	(0.0206)
Private Target	-0.50238**	-0.67669***	-0.21458	-0.73489	-0.99963	-0.81873**	-0.81873	-0.26295	-0.04955
	(0.0135)	(0.0086)	(0.5178)	(0.1630)	(0.1723)	(0.0201)	(0.5483)	(0.5634)	(0.9699)

Appendix 21 Continued

				Large Targets		*Focused*		*Diversifying*	
	Full Sample	*Focused*	*Diversifying*	*Focused*	*Diversifying*	*Cash*	*Stock*	*Cash*	*Stock*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Market Value	-0.30865***	-0.18598***	-0.50554***	-0.26342**	-1.11344***	-0.22413**	-0.14172	-0.36799***	-0.61318***
	(<.0001)	(0.0023)	(<.0001)	(0.0165)	(<.0001)	(0.0208)	(0.2521)	(0.0026)	(0.0039)
Cross-Border	-0.14075	0.27521	-0.91656**	0.43787	-1.87119*	0.07710	-0.41665	-0.18975	-2.81427**
	(0.5898)	(0.4053)	(0.0306)	(0.5232)	(0.0611)	(0.8487)	(0.6768)	(0.6936)	(0.0397)
Hostile	0.22904	0.26156	0.29949	0.74369	1.74115*	-0.36702	-9.23474***	-0.25418	4.02857
	(0.7667)	(0.8502)	(0.6733)	(0.6764)	(0.0800)	(0.8611)	(0.0003)	(0.8002)	(0.1371)
N	16,202	10,529	5,673	3,627	1,774	3,505	2,951	2,134	1,104
F-Statistics	29.86***	19.94***	15.86***	22.81***	13.55***	5.18***	11.83***	6.03***	5.14***
R^2 (%)	1.99	1.86	2.73	5.37	6.47	1.17	3.12	2.22	3.62
Adjusted R^2 (%)	1.92	1.77	2.55	5.14	5.99	0.94	2.85	1.85	2.92

Appendix C:

Robustness Tests for Chapter 6

(Investor Sentiment)

Appendix 22 to Appendix 35 show robustness tests for 6. Chapter *'Investor Sentiment and the Impact on Acquirers' Gains'.* The calculations include a 3-days (-1, +1) and an 11-days (-5, +5) event window, as well as, the full Sentiment Change index as the underlying benchmark. Further, the Investor Sentiment Level index is used to check the robustness of the test.

Appendix 22: Investor Sentiment: Multivariate Framework (Increasing and Declining Sentiment Deals Only) (-1, +1)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2010. The dependent variable is the 3-days abnormal returns (-1, +1) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutra*l*'* investor sentiment changes. The examined sentiment index period matches the sample period. *Increasing Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in an increasing sentiment environment and 0 if the deal is announced in a declining sentiment. A *Relative Target Size* is the natural logarithm of the deal value to acquirer's market value. *Focused* is a binary variable which takes on 1 if the acquirers and target's 2-digit SIC code match, otherwise 0. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Acquirer Size* is the natural logarithm of acquirers' market values. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market ratio. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.17748***	5.46153	2.66406***	1.34432*	4.13215***	0.27606	1.80680***	2.68201***	2.93199
	(<.0001)	(<.0001)	(0.0034)	(0.0952)	(0.0005)	(0.6525)	(0.0002)	(<.0001)	(0.1111)
Increasing Sentiment	0.72999***	0.99111***	0.04644	0.93888***	0.76798***	0.85473***	0.58007**	0.78806***	0.00080
	(<.0001)	(0.0043)	(0.8527)	(0.0001)	(0.0075)	(0.0059)	(0.0158)	(<.0001)	(0.9989)
Cash	0.42732**			0.29727	0.90924**	1.03214***	0.23844	0.33945*	0.70492
	(0.0230)			(0.2966)	(0.0142)	(0.0052)	(0.4042)	(0.0865)	(0.2567)
Stock	-0.64795***			-0.28023	-1.11435***	0.22858	-0.76218**	-0.55899**	-1.76593*
	(0.0044)			(0.3816)	(0.0018)	(0.5807)	(0.0377)	(0.0162)	(0.0883)
Public Target	-2.59624***	-3.36583***	-1.41516***			-3.69938***	-2.22264***	-2.65870***	-2.33549***
	(<.0001)	(<.0001)	(<.0001)			(<.0001)	(<.0001)	(<.0001)	(0.0043)
Private Target	-0.66539***	-1.21627	-0.57237*			-1.00498***	-0.87887***	-0.61731***	-1.02237
	(0.0014)	(0.1273)	(0.0553)			(0.0082)	(0.0078)	(0.0047)	(0.1417)
Acquirer Size	-0.26900***	-0.35914***	-0.24438***	-0.15087	-0.43279***			-0.21556***	-0.42454**
	(<.0001)	(0.0047)	(0.0056)	(0.1086)	(<.0001)			(0.0001)	(0.0408)
Acquirer's B/M	-0.55128**	-0.42053	-0.53281	-1.03461***	0.54647	0.07065	-0.89978*		
	(0.04640	(0.5587)	(0.2902)	(0.0079)	(0.3507)	(0.8727)	(0.0665)		

Appendix 22 Continued

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Relative Target Size	0.19429**	-0.23833	0.49203***	0.52920***	-0.84400***	0.76843***	-0.40643***	0.12133	0.63412**
	(0.0169)	(0.1842)	(0.0004)	(0.0002)	(<.0001)	(<.0001)	(0.0006)	(0.1498)	(0.0274)
Focused	-0.09842	-1.27343***	0.14269	-0.27180	-0.23460	-0.65448*	0.55700**	-0.10478	0.01742
	(0.5730)	(0.0030)	(0.5861)	(0.2955)	(0.4938)	(0.0530)	(0.0287)	(0.5651)	(0.9774)
Cross-Border	-0.64940**	-1.99143***	-0.20500	-0.80171**	-0.64250	-0.74524	-0.40998	-0.59553**	-0.88798
	(0.0110)	(0.0061)	(0.5185)	(0.0454)	(0.1806)	(0.1872)	(0.2362)	(0.0239)	(0.3924)
Hostile	0.22425	-3.68068	1.48336	-11.39990	1.49642	0.64774	-0.39172	-0.39631	2.95083
	(0.8124)	(0.2457)	(0.2368)	(0.1422)	(0.1157)	(0.7989)	(0.5982)	(0.6516)	(0.3915)
N	6,601	1,681	2,212	3,099	1,780	2,200	2,200	6,061	540
F-Statistics	27.65***	12.57***	7.17***	6.87***	12.08***	9.57***	13.03***	27.01***	3.85***
R^2 (%)	4.41	6.34	2.85	1.96	5.79	4.19	5.62	4.27	6.79
Adjusted R^2 (%)	4.25	5.84	2.45	1.68	5.31	3.75	5.19	4.12	5.03

Appendix 23: Investor Sentiment: Multivariate Framework (Full Sample, Increasing and Decreasing Sentiment Variable) (-1, +1)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2010. The dependent variable is the 3-days abnormal returns (-1, +1) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. The examined sentiment index period matches the sample period. *Increasing Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in an increasing sentiment environment and 0 otherwise. *Declining Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in a declining sentiment environment and 0 otherwise. A *Relative Target Size* is the natural logarithm of the deal value to acquirer's market value. *Focused* is a binary variable which takes on 1 if the acquirers and target's 2-digit SIC code match, otherwise 0. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Acquirer Size* is the natural logarithm of acquirers' market values. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market ratio. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.16966***	4.61334***	2.30168***	1.45418***	3.72248***	0.73544*	1.84240***	2.58838***	2.81094**
	(<.0001)	(<.0001)	(<.0001)	(0.0068)	(<.0001)	(0.0760)	(<.0001)	(<.0001)	(0.0323)
Increasing Sentiment	0.34954***	0.23042	0.19722	0.36835*	0.17476	0.40091	-0.02622	0.32736**	0.57341
	(0.0087)	(0.3975)	(0.3408)	(0.0659)	(0.4628)	(0.1237)	(0.8907)	(0.0180)	(0.2495)
Decreasing Sentiment	-0.37347***	-0.77960***	0.15209	-0.57533**	-0.59377**	-0.42781*	-0.58943***	-0.45403***	0.55443
	(0.0054)	(0.0093)	(0.4469)	(0.0044)	(0.0145)	(0.0951)	(0.0039)	(0.0011)	(0.2639)
Cash	0.36536***			0.27834	1.11139***	0.70158***	0.12567	0.27254**	0.77942*
	(0.0033)			(0.1340)	(<.0001)	(0.0039)	(0.5082)	(0.0366)	(0.0726)
Stock	-0.54139***			-0.04653	-0.90627***	0.07938	-0.55361**	-0.47104***	-1.12407
	(0.0003)			(0.8269)	(0.0002)	(0.7755)	(0.0235)	(0.0023)	(0.1421)
Public Target	-2.31931***	-2.70234***	-0.96979***			-3.16079***	-1.86158***	-2.38804***	-2.05791***
	(<.0001)	(<.0001)	(<.0001)			(<.0001)	(<.0001)	(<.0001)	(0.0002)
Private Target	-0.41553***	-0.36721	-0.24625			-0.57168**	-0.31484	-0.36913***	-0.70057
	(0.0023)	(0.4659)	(0.1856)			(0.0228)	(0.1370)	(0.0089)	(0.1654)
Acquirer Size	-0.24498***	-0.29767***	-0.22754***	-0.12002*	-0.37321***			-0.18766***	-0.47106***
	(<.0001)	(0.0003)	(<.0001)	(0.0525)	(<.0001)			(<.0001)	(0.0008)
Acquirer's B/M	-0.74895***	-0.08421	-0.83699***	-1.06192***	0.29512	-0.28810	-1.14224***		
	(<.0001)	(0.8598)	(0.0089)	(0.0001)	(0.4357)	(0.3565)	(0.0003)		

Appendix 23 Continued

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Relative Target Size	0.24501***	-0.18469	0.56348***	0.59437***	-0.6578***	0.73850***	0.02040***	0.19405***	0.48695**
	(<.0001)	(0.1341)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0007)	(0.0198)
Focused	-0.13504	-1.00547***	0.00586	-0.17510	-0.21417	-0.54357**	0.30485*	-0.15330	-0.02242
	(0.2380)	(0.0003)	(0.9720)	(0.3025)	(0.3465)	(0.0146)	(0.0654)	(0.1956)	(0.9598)
Cross-Border	-0.28351*	-1.32415**	-0.16282	-0.39134	-0.05527	-0.66965*	0.18204	-0.18872	-1.40100**
	(0.0976)	(0.0152)	(0.4339)	(0.1356)	(0.8788)	(0.0649)	(0.4438)	(0.2850)	(0.0429)
Hostile	0.30868	-1.47739	0.26136	-8.62382	1.17969*	-0.04570	-0.04064	0.05943	1.25005
	(0.6104)	(0.4524)	(0.7371)	(0.1281)	(0.0568)	(0.9776)	(0.9443)	(0.9192)	(0.5645)
N	13,896	3,464	4,986	6,577	3,642	4,631	4,632	12,874	1,022
F-Statistics	46.79***	21.80***	14.14***	11.25***	18.22***	14.35***	18.91***	44.90***	6.03***
R^2 (%)	3.89	5.94	2.76	1.69	4.78	3.31	4.31	3.70	6.17
Adjusted R^2 (%)	3.80	5.66	2.57	1.54	4.52	3.08	4.08	3.62	5.14

Appendix 24: Investor Sentiment: Multivariate Framework (Increasing and Declining Sentiment Deals Only) (-5, +5)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2010. The dependent variable is the 11-days abnormal returns (-5, +5) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutra*l*'* investor sentiment changes. The examined sentiment index period matches the sample period. *Increasing Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in an increasing sentiment environment and 0 if the deal is announced in a declining sentiment. A *Relative Target Size* is the natural logarithm of the deal value to acquirer's market value. *Focused* is a binary variable which takes on 1 if the acquirers and target's 2-digit SIC code match, otherwise 0. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Acquirer Size* is the natural logarithm of acquirers' market values. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market ratio. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.32304***	4.82133**	3.23182**	0.31863	7.45726***	0.41337	1.90515***	2.63129***	2.87417
	(0.0001)	(0.0187)	(0.0181)	(0.8054)	(<.0001)	(0.6785)	(0.0092)	(0.0016)	(0.3132)
Increasing Sentiment	1.37005***	1.90522***	0.08334	2.03866***	0.11328	2.13512***	0.36282	1.40766***	0.94253
	(<.0001)	(0.0003)	(0.8310)	(<.0001)	(0.7938)	(<.0001)	(0.3326)	(<.0001)	(0.3119)
Cash	0.13179			-0.22633	0.91897	0.45877	0.15567	-0.00127	0.82651
	(0.6571)			(0.6209)	(0.1077)	(0.4264)	(0.7275)	(0.9968)	(0.3958)
Stock	-0.31603			0.61785	-1.46351***	-0.23643	-0.37085	-0.11297	-2.94228*
	(0.3670)			(0.2250)	(0.0055)	(0.7106)	(0.5073)	(0.7521)	(0.0913)
Public Target	-2.74199***	-3.54363***	-1.00458*			-2.72565***	-2.26461***	-3.07507***	0.19099
	(<.0001)	(0.0044)	(0.0542)			(0.0007)	(<.0001)	(<.0001)	(0.8822)
Private Target	-0.48715	-0.04367	-0.70954			-0.40528	0.00854	-0.53913	0.06361
	(0.1397)	(0.9710)	(0.1336)			(0.4947)	(0.9868)	(0.1186)	(0.9537)
Acquirer Size	-0.24552***	-0.23171	-0.27878**	0.06436	-0.69925***			-0.17822**	-0.42542
	(0.0038)	(0.2152)	(0.0389)	(0.6681)	(<.0001)			(0.0390)	(0.1873)
Acquirer's B/M	-0.81230*	-1.72082	-0.82110	-1.22068*	0.06159	-0.05159	-2.23777***		
	(0.0642)	(0.1121)	(0.2653)	(0.0583)	(0.9474)	(0.9405)	(0.0023)		

Appendix 24 Continued

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Relative Target Size	0.22058*	-0.06858	0.52025**	0.64938***	-1.05246***	0.70403***	-0.10375	0.15778	0.57181
	(0.0723)	(0.7917)	(0.0156)	(0.0028)	(<.0001)	(0.0033)	(0.5487)	(0.2158)	(0.1915)
Focused	0.01623	-1.20687*	0.10842	-0.58568	0.50751	-0.76853	0.87702**	0.10250	-0.88111
	(0.9528)	(0.0630)	(0.7880)	(0.1642)	(0.3143)	(0.1419)	(0.0283)	(0.7194)	(0.3611)
Cross-Border	-0.56398	-2.37276**	0.30639	-1.15061*	-1.06351	-1.73909*	0.11076	-0.29085	-4.73101**
	(0.1771)	(0.0371)	(0.5505)	(0.0967)	(0.1693)	(0.0699)	(0.8365)	(0.4943)	(0.0125)
Hostile	1.20826	-7.64323	2.17912	-2.84213	2.19447*	1.96245	-0.15941	0.92164	0.61544
	(0.2854)	(0.1405)	(0.1396)	(0.4418)	(0.0811)	(0.4355)	(0.9038)	(0.4615)	(0.8150)
N	6,603	1,676	2,203	3,091	1,796	2,201	2,201	6,065	538
F-Statistics	12.51***	9.27***	2.95***	5.55***	7.79***	4.70***	5.88***	13.27***	2.02**
R^2 (%)	2.04	4.77	1.20	1.60	3.78	2.10	2.61	2.14	3.69
Adjusted R^2 (%)	1.88	4.25	0.79	1.31	3.29	1.66	2.17	1.98	1.86

Appendix 25: Investor Sentiment: Multivariate Framework (Full Sample, Increasing and Decreasing Sentiment Variable) (-5, +5)

The table presents the regression results of M&A announcements to US firms during the period from 01.01.1980 to 31.12.2010. The dependent variable is the 11-days abnormal returns (-5, +5) to US acquirers and is regressed against a set of explanatory variables in a multivariate framework. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. The examined sentiment index period matches the sample period. *Increasing Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in an increasing sentiment environment and 0 otherwise. *Declining Sentiment* is a dummy which takes on the value of 1 if the deal is taking place in a declining sentiment environment and 0 otherwise. A *Relative Target Size* is the natural logarithm of the deal value to acquirer's market value. *Focused* is a binary variable which takes on 1 if the acquirers and target's 2-digit SIC code match, otherwise 0. *Cash* is if the payment offer is cash-only. *Stock* is if the payment offer is stock-only. *Public Target* is if a target publicly listed on a stock exchange. *Private Target* is held by private investors. *Acquirer Size* is the natural logarithm of acquirers' market values. *Acquirer's B/M* is the natural logarithm of acquirer's book-to-market ratio. *Cross-Border* is if the target's nation is non-US. *Hostile* is if the deal is indicated as a hostile takeover. In parentheses are the corresponding p-values. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Intercept	3.97589***	5.38702***	2.88423***	2.09210**	4.95060***	1.49423**	2.01170***	3.23597***	5.21246***
	(<.0001)	(<.0001)	(0.0010)	(0.0144)	(<.0001)	(0.0226)	(<.0001)	(<.0001)	(0.0065)
Increasing Sentiment	0.82258***	1.17393***	0.12797	1.19808***	0.24021	0.82736**	0.21633	0.85358***	0.36132
	(<.0001)	(0.0057)	(0.6864)	(0.0002)	(0.4956)	(0.0420)	(0.4789)	(<.0001)	(0.6517)
Decreasing Sentiment	-0.54314***	-0.70661	0.03831	-0.82517**	0.14464	-1.30487***	-0.11105	-0.54920**	-0.57154
	(0.0092)	(0.1092)	(0.9046)	(0.0109)	(0.6913)	(0.0011)	(0.7153)	(0.0114)	(0.4449)
Cash	0.19743			-0.02212	1.14279***	0.31082	0.07773	0.06961	0.93911
	(0.3088)			(0.9401)	(0.0025)	(0.4041)	(0.7931)	(0.7330)	(0.1453)
Stock	-0.32672			0.36711	-0.95957***	0.04220	-0.44018	-0.23761	-1.23009
	(0.1588)			(0.2708)	(0.0069)	(0.9212)	(0.2276)	(0.3154)	(0.2940)
Public Target	-2.64837***	-2.94598***	-1.08681***			-3.11103***	-2.04501***	-2.81921***	-1.40294*
	(<.0001)	(0.0004)	(0.0011)			(<.0001)	(<.0001)	(<.0001)	(0.0921)
Private Target	-0.51845**	0.00795	-0.53932*			-0.62034	-0.19057	-0.50129**	-0.55644
	(0.0160)	(0.9922)	(0.0655)			(0.1163)	(0.5682)	(0.0255)	(0.4617)
Acquirer Size	-0.29468***	-0.34406***	-0.25074**	-0.12067	-0.52409***			-0.22115***	-0.66330***
	(<.0001)	(0.0048)	(0.0039)	(0.2126)	(<.0001)			(<.0001)	(0.0016)
Acquirer's B/M	-0.77881***	-1.39768*	-0.63492	-1.28371***	0.18081	-0.02365	-1.44478***		
	(0.0082)	(0.0527)	(0.1830)	(0.0038)	(0.7549)	(0.9607)	(0.0024)		

Appendix 25 Continued

	Full Sample	*Stock*	*Cash*	*Private Targets*	*Listed Targets*	*Small Acquirer*	*Large Acquirer*	*Overvalued Acquirer*	*Undervalued Acquirer*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Relative Target Size	0.29566***	0.00951	0.56738***	0.67170***	-0.75146***	0.78217***	-0.10862	0.25664***	0.38897
	(0.0003)	(0.9565)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.3569)	(0.0026)	(0.1810)
Focused	-0.06215	-0.88834**	0.01080	-0.45109*	0.40088	-0.65156*	0.43946*	-0.04551	-0.46708
	(0.7271)	(0.0349)	(0.9664)	(0.0952)	(0.2303)	(0.0581)	(0.0855)	(0.8056)	(0.4837)
Cross-Border	-0.17239	-1.72392**	0.19230	-0.67802	-0.21148	-0.74559	0.28032	-0.02784	-2.28349*
	(0.5290)	(0.0376)	(0.5635)	(0.1122)	(0.7013)	(0.2203)	(0.4326)	(0.9210)	(0.0546)
Hostile	-0.05477	-3.83937	-0.97581	-2.34307	0.91495	0.87658	-0.47567	-0.44371	1.38672
	(0.9492)	(0.1951)	(0.4689)	(0.3547)	(0.2996)	(0.5860)	(0.6501)	(0.6402)	(0.4481)
N	13,896	3,454	4,974	6,555	3,669	4,632	4,632	12,875	1,021
F-Statistics	25.05***	14.06***	6.45***	8.44***	9.70***	7.65***	8.81***	24.68***	3.08***
R^2 (%)	2.12	3.92	1.28	1.27	2.58	1.79	2.05	2.07	3.25
Adjusted R^2 (%)	2.03	3.65	1.08	1.12	2.32	1.56	1.82	1.98	2.19

Appendix 26: Investor Sentiment: Cumulative Abnormal Returns (Entire Sentiment Change Index)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Investor Sentiment	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Increasing	3,622	1.3450***	<.0001	3,613	1.6666***	<.0001	3,618	2.3528***	<.0001
Neutral	8,564	1.0035***	<.0001	8,583	1.2284***	<.0001	8,560	1.5525***	<.0001
Decreasing	3,641	0.6397***	<.0001	3,631	0.7933***	<.0001	3,649	0.9052***	<.0001
Increasing vs. Decreasing		0.7053***	<.0001		0.8733***	<.0001		1.4476***	<.0001

Appendix 27: Investor Sentiment and Mode of Payment: Cumulative Abnormal Returns (Entire Sentiment Change Index)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Cash are deals with cash only offers and are deals with stock only offers are stock. A combination of both is considered as mixed. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Mode of Payment	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Cash	Increasing	1,140	1.3926***	<.0001	1,137	1.5475***	<.0001	1,137	1.9159***	<.0001
	Neutral	3,104	1.2218***	<.0001	3,109	1.3222***	<.0001	3,103	1.6897***	<.0001
	Decreasing	1,197	1.3626***	<.0001	1,197	1.4735***	0.0006	1,195	1.7531***	<.0001
	Increasing vs. Decreasing		0.0300	0.9055		0.0740	0.8047		0.1628	0.6808
Mixed	Increasing	1,529	1.7710***	<.0001	1,526	2.0496***	<.0001	1,525	2.8464***	<.0001
	Neutral	3,270	1.2756***	<.0001	3,275	1.6616***	<.0001	3,274	1.8725***	<.0001
	Decreasing	1,547	0.6366***	0.0004	1,544	0.7169***	0.0006	1,557	0.6484**	0.0183
	Increasing vs. Decreasing		1.1344***	<.0001		1.3327***	<.0001		2.1980***	<.0001
Stock	Increasing	953	0.6046**	0.0151	950	1.1940***	0.0001	956	2.0852***	<.0001
	Neutral	2,190	0.2879**	0.0434	2,199	0.4508***	0.0071	2,183	0.8774***	<.0001
	Decreasing	897	-0.3198	0.2243	890	0.0112	0.9700	897	0.2215	0.5531
	Increasing vs. Decreasing		0.9244**	0.0106		1.1828***	0.0050		1.8637***	0.0006

Appendix 28: Investor Sentiment and Target Listing Status: Cumulative Abnormal Returns (Entire Sentiment Change Index)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Public target is if a target publicly listed on a stock exchange. Private target is held by private investors. Subsidiary is if the target is labelled as a subsidiary by SDC Platinum. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Target Listing Status	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Public	Increasing	963	-0.5366**	0.0105	965	-0.5712**	0.0182	970	-0.3008	0.3317
	Neutral	2,187	-0.6897***	<.0001	2,191	-0.6976***	<.0001	2,199	-0.4495**	0.0110
	Decreasing	933	-1.1957***	<.0001	934	-0.9848***	0.0001	942	-0.3107	0.3249
	Increasing vs. Decreasing		0.6591**	0.0274		0.4136	0.2316		0.0099	0.9821
Private	Increasing	1,733	1.8708***	<.0001	1,728	2.2478***	<.0001	1,728	3.2250***	<.0001
	Neutral	4,099	1.4719***	<.0001	4,108	1.7486***	<.0001	4,088	2.0460***	<.0001
	Decreasing	1,732	0.9815***	<.0001	1,720	1.2742***	<.0001	1,724	1.1377***	<.0001
	Increasing vs. Decreasing		0.8893***	0.0003		0.9736***	0.0008		2.0873***	<.0001
Subsidiary	Increasing	926	2.3178***	<.0001	920	2.9223***	<.0001	920	3.5126***	<.0001
	Neutral	2,278	1.7864***	<.0001	2,284	2.1405***	<.0001	2,273	2.6016***	<.0001
	Decreasing	976	1.7876***	<.0001	977	1.6465	<.0001	983	1.6629***	<.0001
	Increasing vs. Decreasing		0.5302*	0.0862		1.2758***	0.0005		1.8497***	0.0001

Appendix 29: Investor Sentiment and Acquirer's Size: Cumulative Abnormal Returns (Entire Sentiment Change Index)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Acquirer's size is the natural logarithm of acquirers' market values, sorted by size and split into three equally-sized groups. The upper group is categorised as large, the middle group as medium and the lowest group as small. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Acquirer's Size	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Large	Increasing	1,207	0.3152*	0.0671	1,204	0.5456***	0.0070	1,206	1.0030***	0.0003
	Neutral	2,855	0.3164***	0.0014	2,861	0.3925***	0.0006	2,853	0.6051***	<.0001
	Decreasing	1,214	-0.1689	0.3414	1,210	0.0494	0.8063	1,216	0.4742*	0.0666
	Increasing vs. Decreasing		0.4841*	0.0502		0.4962*	0.0818		0.5288	0.1633
Small	Increasing	1,207	2.1371***	<.0001	1,204	2.3265***	<.0001	1,206	3.3250***	<.0001
	Neutral	2,854	1.7622***	<.0001	2,861	2.1672***	<.0001	2,853	2.6139***	<.0001
	Decreasing	1,213	1.4081***	<.0001	1,210	1.3995***	<.0001	1,216	1.5003***	<.0001
	Increasing vs. Decreasing		0.7290**	0.0222		0.9270**	0.0128		1.8247***	0.0002

Appendix 30: Investor Sentiment and Acquirer's Valuation: Cumulative Abnormal Returns (Entire Sentiment Change Index)

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. The acquirer's valuation is book-to-market ratio of the previous reported quarter. If the book-to-market is smaller than 1 then the acquirer is categorised as overvalued, if smaller than 1 then the acquirer is categorised as undervalued. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Acquirer's Valuation	*Investor Sentiment*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Overvalued	Increasing	2,903	1.1134***	<.0001	2,898	1.4736***	<.0001	2,906	2.0881***	<.0001
	Neutral	7,039	0.9208***	<.0001	7,047	1.1313***	<.0001	7,034	1.4173***	<.0001
	Decreasing	2,932	0.4056***	<.0001	2,926	0.5971***	<.0001	2,935	0.7672***	<.0001
	Increasing vs. Decreasing		0.7078***	<.0001		0.8765***	<.0001		1.3209***	<.0001
Undervalued	Increasing	258	1.6631***	<.0001	259	1.6302***	<.0001	252	2.1568***	0.0021
	Neutral	496	1.0211***	<.0001	497	1.4366***	<.0001	499	2.2179***	<.0001
	Decreasing	268	1.5815***	<.0001	269	1.5214***	<.0001	270	1.5282**	0.0187
	Increasing vs. Decreasing		0.0816	0.8919		0.1088	0.8822		0.6286	0.5074

Appendix 31: Investor Sentiment Level: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

	(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Sentiment Level	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
High	3,596	0.68914***	<.0001	3,585	1.02322***	<.0001	3,591	1.47547***	<.0001
Neutral	9,463	1.10369***	<.0001	9,467	1.26580***	<.0001	9,464	1.61643***	<.0001
Low	2,768	1.03773***	<.0001	2,775	1.36728***	<.0001	2,772	1.62647***	<.0001
High vs. Low		0.34859**	0.0376		0.34406*	0.0833		0.15100	0.5566

Appendix 32: Investor Sentiment Level and Mode of Payment: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Cash are deals with cash only offers and are deals with stock only offers are stock. A combination of both is considered as mixed. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Mode of Payment	*Sentiment Level*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Cash	High	815	1.31369***	<.0001	812	1.70365***	<.0001	810	2.49899***	<.0001
	Neutral	3,566	1.30072***	<.0001	3,571	1.33326***	<.0001	3,562	1.64790***	<.0001
	Low	1,060	1.22834***	<.0001	1,060	1.40511***	<.0001	1,063	1.52644***	<.0001
	High vs. Low		0.08535	0.7638		0.29854	0.3801		0.97255**	0.0321
Mixed	High	1,958	0.86569***	<.0001	1,955	1.05726***	<.0001	1,962	1.18529***	<.0001
	Neutral	3,386	1.41313***	<.0001	3,385	1.67959***	<.0001	3,394	2.10365***	<.0001
	Low	1,002	1.38131***	<.0001	1,005	1.91457***	<.0001	1,000	2.01542***	<.0001
	High vs. Low		0.51562**	0.0479		0.85731***	0.0063		0.83013**	0.0391
Stock	High	823	-0.34939	0.2264	818	0.26643	0.4294	819	1.15838***	<.0001
	Neutral	2,511	0.40662***	0.0033	2,511	0.61203***	0.0002	2,508	0.91239***	<.0001
	Low	706	0.26391	0.2996	710	0.53611*	0.0616	709	1.22784***	<.0001
	High vs. Low		0.61330	0.1110		0.26968	0.5420		0.06946	0.9028

Appendix 33: Investor Sentiment Level and Target Listing Status: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Public target is if a target publicly listed on a stock exchange. Private target is held by private investors. Subsidiary is if the target is labelled as a subsidiary by SDC Platinum. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Target Listing Status	*Sentiment Level*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Public	High	968	-0.88605***	<.0001	970	-0.63834***	0.0074	977	0.15279	0.6171
	Neutral	2,379	-0.69623***	<.0001	2,384	-0.73592***	<.0001	2,395	-0.54649***	0.0027
	Low	736	-0.85142***	0.0003	736	-0.85016***	0.0008	739	-0.55950*	0.0663
	High vs. Low		0.03463	0.9122		0.21182**	0.0417		0.71229**	0.0462
Private	High	1,664	1.10107***	<.0001	1,654	1.40451***	<.0001	1,654	1.69389***	0.0000
	Neutral	4,675	1.55413***	<.0001	4,673	1.80561***	<.0001	4,658	2.14872***	0.0000
	Low	1,225	1.53259***	<.0001	1,229	2.03287***	<.0001	1,228	2.51450***	0.0000
	High vs. Low		0.43152*	0.0902		-0.62836	0.5419		-0.82061*	0.0987
Subsidiary	High	964	1.55980***	<.0001	961	2.04408***	<.0001	960	2.44527***	0.0000
	Neutral	2,409	2.00707***	<.0001	2,410	2.19921***	<.0001	2,411	2.73662***	0.0000
	Low	807	2.00949***	<.0001	810	2.37225***	<.0001	805	2.27854***	0.0000
	High vs. Low		0.44969	0.1315		-0.32817	0.3649		0.16673	0.7225

Appendix 34: Investor Sentiment Level and Acquirer's Size: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. Acquirer's size is the natural logarithm of acquirers' market values, sorted by size and split into three equally-sized groups. The upper group is categorised as large, the middle group as medium and the lowest group as small. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Acquirer's Size	*Sentiment Level*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Large	High	1,199	-0.29786	0.1174	1,195	0.13596	0.5453	1,197	0.66837**	0.0243
	Neutral	3,154	0.35795***	0.0002	3,156	0.41437***	0.0002	3,155	0.74831***	<.0001
	Low	923	0.30849*	0.0705	925	0.41088**	0.0312	924	0.48874*	0.0503
	High vs. Low		0.60635**	0.0176		0.27492	0.3508		0.17963	0.6429
Small	High	1,198	1.52895***	<.0001	1,195	2.05452***	<.0001	1,197	2.73472***	<.0001
	Neutral	3,154	1.93331***	<.0001	3,155	2.07344***	<.0001	3,154	2.46078***	<.0001
	Low	922	1.65544***	<.0001	925	2.19528***	<.0001	924	2.72536***	<.0001
	High vs. Low		0.12649	0.6950		0.14076	0.7142		0.00936	0.9850

Appendix 35: Investor Sentiment Level and Acquirer's Valuation: Cumulative Abnormal Returns

The table presents the cumulative abnormal returns (in %) of M&A announcements to US firms in growing, neutral and declining industries during the period from 01.01.1980 to 31.12.2010. The acquirers' returns are calculated 3-, 5- and 11-days surrounding the announcement (-1, +1), (-2, +2) and (-5, +5) using an adjusted market model: $A_{i,t} = R_{i,t} - R_{m,t}$ as of equation (3.3), where $R_{i,t}$ is the rate of return of stock i at day t and $R_{m,t}$ is the rate of return for the value-weighted CRSP index for day t. The upper 50 per cent of positive changes and lower 50 per cent of negative changes of the Baker and Wurgler (2007) monthly composite investor sentiment change index are categorised as *'growing'* and *'decreasing'* investor sentiment. The remainder are pooled as *'neutr*al*'* investor sentiment changes. To determine in which sentiment environment a deal is announced, the month of the deal announcement was matched with the investor sentiment group of the previous month. The acquirer's valuation is book-to-market ratio of the previous reported quarter. If the book-to-market is smaller than 1 then the acquirer is categorised as overvalued, if smaller than 1 then the acquirer is categorised as undervalued. p-values of mean equal to zero versus not equal to zero is applied to examine the significance of the abnormal returns. For the test statistics of the differences in means, the equality of variances has been taken into account. '***', '**' and '*' represent significance at 1, 5 and 10 per cent, respectively.

		(-1, +1)			*(-2, +2)*			*(-5, +5)*		
Acquirer's Valuation	*Sentiment Level*	*N*	*CAR*	*p*	*N*	*CAR*	*p*	*N*	*CAR*	*p*
Overvalued	High	2,592	0.53032***	0.0001	2,585	0.93406***	<.0001	2,583	1.41872***	<.0001
	Neutral	8,026	0.92876***	<.0001	8,022	1.06891***	<.0001	8,031	1.38022***	<.0001
	Low	2,256	0.91933***	<.0001	2,264	1.32535***	<.0001	2,261	1.56555***	<.0001
	High vs. Low		0.38901**	0.0360		0.39129*	0.0792		0.14683	0.6098
Undervalued	High	401	0.83651***	0.0055	401	1.01157***	0.0057	399	1.65959***	0.0003
	Neutral	426	1.99152***	<.0001	427	1.99617***	<.0001	426	2.32922***	<.0001
	Low	195	0.90024*	0.0605	197	1.45905**	0.0135	196	2.08403***	0.0057
	High vs. Low		0.06373	0.9100		0.44748	0.5164		0.42444	0.6261