

Bidder Returns & Operating Performance

- A Study on Relatively Large Acquisitions by Nordic Public Firms

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Abstract

We analyze the bidder announcement returns and operating performance on relatively large acquisitions undertaken by Nordic public firms during the years 1998-2003. We find bidder announcement returns to have increased by a median 1.46%. Operating performance, on the other hand, has decreased by a median 2.13% compared to peers. We do not find any positive relation between the performance measures. Additionally we look at six determinants to test their relation and explanatory power on the performance measures. Although we find qualitative support for most of our hypotheses, we only find two determinants with statistical significance. Transactions undertaken by firms with relatively large cash holdings achieve higher bidder returns upon announcement. Transactions taking place in bull markets have seen operating improvements increase more than those pursued in bearish. In the absence of statistical significance on most variables, we conclude that general determinants are limited in explaining the outcome of acquisitions and suggest that the performance is rather affected by deal-specific characteristics.

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1 Introduction

In February 2000, Finnish pulp and paper company, Stora Enso, announced they would acquire American firm Consolidated Papers. Although Stora Enso's CEO promoted the acquisition, shareholders saw their shares plummet and experienced a 14% drop in value on the day of announcement. The purchase price of \$5.4 billion meant a premium of 69% above market value and a valuation reflecting a price-to-earnings ratio of 60. Seven years later, Stora Enso sold Consolidated Papers for the price of \$2.5 billion and estimated a loss from the acquisition of about \$1.3-\$1.5 billion. (Affärsvärlden, 2007)

One can question whether pursuing a growth strategy by acquiring other companies is value creating. In this case, stock market reaction at announcement was significantly negative and it later showed that the market interpreted the news rather well as future operating performance and results diminished leading to a subsequent divestment at a large loss. Many previous studies show that Mergers and Acquisitions (M&A) in general provide gains through synergies. This is reflected in the overall increase of acquiring and target firms' stock price around announcement. However most of this gain is realized directly by target shareholders being compensated with a premium to give up ownership and control of the firm. Since this premium often is very large, it is not always true that acquiring firm shareholders will see their ownership stake increase in value.

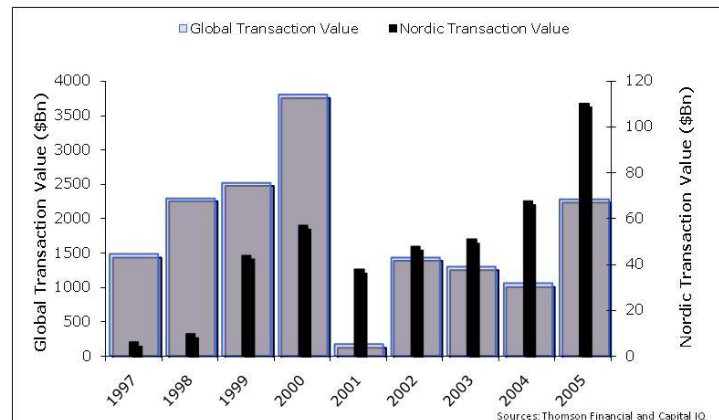


Figure 1.1 Global and Nordic M&A trend 1997-2005

During the years 1997-2005 global M&A went through a period with a great deal of activity peaking in 2000 with total transaction value of \$3.7 trillion. Following the burst of the dot-com bubble in 2000, activity drastically slowed down in 2001. M&A by Nordic firms followed a somewhat similar pattern. It is questionable if transaction volumes of this scale brought wealth to acquiring firm shareholders. Especially considering the high prices, competitive environment, and large premiums involved in the booming market of 2000.

In this thesis we analyze a sample of Nordic public firms acquiring relatively large targets. By relatively large we mean targets with a transaction price of at least 20% of acquirers' market capitalization. We look at two different performance measures; return for bidding firm shareholders at announcement of acquisition; and changes in operating performance. From these two performance measures we test if certain characteristics can explain the outcome. The following determinants are considered: method of payment, industrial focus, domestic versus cross-border acquisitions, market timing, private versus public acquisitions, and acquirer cash holdings. Additionally we test for the relation between bidder return upon announcement and changes in operating performance

Compared to previous research we contribute by looking at a sample of Nordic firms taking on relatively large acquisitions, we analyze both the bidder return upon announcement and changes in operating performance and test for determinants on both performance measures. Furthermore, we compare the relation between the two performance measures.

We find that acquiring firm shareholders have found their stock price value to increase by a median 1.46% upon announcement. On the other hand, operating performance has decreased by a median 2.13% compared to peers. We find many of our hypotheses to have the theorized effect on performance measures, however not many to be statistically significant. In the lack of statistical significance, we conclude that performance measures are driven by deal-specific rather than generalized determinants. Furthermore, contrary to what expected we find a negative relation between our performance measures.

The paper is structured the following way: After the introduction we present a theoretical and empirical discussion in chapter 2. This includes previous research and hypotheses. Thereafter, we explain our methodology in chapter 3, in where we describe the performance measures and explanatory variables. Chapter 4 discusses the data and sample. The result from our analysis is presented in chapter 5 which is followed by concluding remarks and suggestions for further research in chapter 6.

2 Theoretical and Empirical Discussion

In this chapter we present a discussion on value creation from acquisitions (2.1). This is followed by a section with previous research and methods used (2.2). Thereafter we present our hypotheses (2.3) which are then summarized in the last section of this chapter (2.4).

2.1 Realizing Value through Acquisitions

The semi-strong form of efficient market hypothesis states: “...in an efficient market, prices ‘fully reflect’ all available information.” (Fama, 1970) In theory, if all information is available, the market capitalization of a public firm should reflect its fundamental value of equity. As news about the firm is released the stock market re-evaluates expectations changing the market capitalization accordingly. Therefore, as firms make strategic decisions such as divesting or acquiring new assets, this should be directly valued in its share price. If one could filter out exactly what information made the share price move, one could also make estimations about the net present value of that event.

If investors are not fully informed, for example if some information that can potentially change estimations and diagnosis for the firm is not publicly available, the price set by investors might not reflect fundamental value. Daniel et al. (2001) find evidence that during shorter periods of time history has shown deviations and overreactions from fundamentals. Such mis-valuations by the market can happen due to for example irrational investor behaviour and limits to arbitrage. Consequently, it is wise to look at fundamental value analysis and how cash flow drives valuation. Many analysts and investors use fundamental analysis through cash flow modelling with an example being the Enterprise Discounted Cash Flow Model (DCF) described by Koller et al. (2003). As can be seen in their Key Value Driver Formula¹, value relies heavily on return on invested capital (ROIC), growth (g), and weighted average cost of capital (wacc). Koller et al. (2003) find empirical evidence on ROIC and growth to explain market value to a large extent. According to this reasoning it is wise to look at both announcement reactions and fundamental value drivers in order to evaluate acquisitions and test for determinants.

Acquisitions can create value for shareholders by realizing synergies from increased revenues, decreased costs or more efficient financial structure. Increasing revenue can potentially arise from new market reach, higher prices, or cross-selling of products. Cost reductions can be exploited through eliminating overlapping resources adding to higher margins. Financial structure may get better through lower cost of capital or more efficient use of capital. Additionally, firms can find opportunities in buying undervalued

¹
$$V_t = \frac{Noplat * (1 - \frac{g}{ROIC})}{wacc - g}$$

targets to see positive net present value. Value through an acquisition is created if the combined value is larger than the stand-alone value of the acquiring firm and the price of the target. More specifically, if the premium paid is less than the present value of synergies. Since an acquisition is a transaction involving change of ownership and owners are not always willing to give up their shares, a premium is normally a must. Koller et al. (2003) find a historical premium on public targets to have been around 30% above the market value of assets. Understandably, unless the value of synergies is much larger than this, most potential value creation is transferred directly to target shareholders.

From a societal perspective, M&A can be harmful if monopolistic power is created leading to higher prices. On the other hand, competition can also drive prices down and increase the quality of the products which would benefit consumers. The economy will be more efficient if resources are changed to best uses. In order to gain from investments, companies need to deliver returns on invested capital higher than the cost of funding. As long as return on invested capital is larger than the cost of funding, incremental growth will increase value of the firm and thereby the economy as a whole. Previous chairman of United States Federal Reserve Alan Greenspan states: “Mergers, Acquisitions, and Spin-Offs are a vital part of competition and creative destruction...” (Greenspan, 2007) advocating for creative destruction to be an essential part of capitalism.

2.2 Previous Research

There is a haven of research on M&A using several different kinds of methods in order to measure performance. Following is a brief discussion on those encountered:

- *Cumulative Abnormal Announcement Return – (CAR)*. The cumulative abnormal announcement return of the acquisition measure the value created or destroyed in a very short time frame. Most research uses a time window of 2 to 30 days around the announcement to see how shareholder’s and investors react to the news. One of the most commonly cited paper using this method is Andrade et al. (2001). They find that, on average, shareholders of acquiring firms listed on NYSE have seen their shares decline slightly when their firms have announced the acquisition of other publicly owned firms. Paper’s written on Nordic data by Ericsson & Spens (1997), and Simensen & Åkesson (2005), report an average positive CAR for Swedish public firms making acquisitions.
- *Long-Term Abnormal Shareholder Return*. This method looks at the impact on stock market return compared to some benchmark over a longer period of time ranging up to several years after acquisition. An example is Conn et al. (2005) that find U.K. acquiring firms to lose 20% of market value over a 36-month period following acquisition compared to peers.
- *Cumulative Abnormal Operating Performance*. These studies measure operating performance versus a peer, peer group or industry. They look at actual accounting data around the years of acquisition and

range from 5-1 year before acquisition to 1-5 year after acquisition in order to determine whether operating performance has improved. Most commonly used ratios are return on assets, return on equity, or some kind of cash flow measure to total assets. Commonly cited papers are the ones by Healy et al. (1992) and Healy et al. (1997). They find that in a sample of 50 large acquisitions, operating performance for merging firms have increased compared to the pro-forma of the merging firms operating performance prior to acquisition.

- *Success of Acquisitions later Divested.* This method analyzes the success following a subsequent divestiture of target previously acquired. The measure compares the price at purchase with price at sale and takes time value of money into account to determine if the investment has been good or bad. Kaplan & Weisbach (1992) use this method and find that 32% of later divested acquisitions were unsuccessful.
- *Fundamental Value Changes.* Look at cash flow models before versus after acquisition to determine if value has been created. Cash flows are projected using analyst estimates or historical data. An example of this kind of study is Bild et al. (2005). They find that fundamental value measured by a Residual Income Valuation approach, increases due to acquisition.
- *Surveys on Existing Literature.* These studies compile a number of different papers. Bruner (2004b) has gathered previous studies and sorted after announcement returns and operating performance measures. Of the different papers he found that 40% have negative bidder announcement returns, and 60% positive. Similar results are found when analyzing operating performance.
- *Case Studies.* Researchers have applied smaller sample case studies in order to test for more local factors relevant for individual transactions. As Andrade et al. states: “More recently there have been several studies that try to improve on the evidence arising from accounting based data by examining more detailed information. This area is wide open, spanning the fields of finance, industrial organization, organizations and strategy.” (Andrade et al. 2001)

All methods face different obstacles. The cleanest measure for value creation is probably one that uses CAR and look at a time window around announcement. This filters out most other information and gives a better picture of how valuations change due to news on acquisition only. As these studies are least affected by noise and performance of benchmark and they are preferable by many researchers. Kaplan (2006) states: “Given the empirical evidence, I have a preference for acquisition announcement returns as the most informative and cleanest about expected values. I would prefer measures of actual cash flow changes from acquisitions as an ex post measure of success, but they have proved very hard to calculate in a large sample setting.”

In this thesis we try to capture both an ex ante announcement return measure, as well as an ex post operating performance measure, and the relation between them. A more thorough investigation of our previous research review, the measures used and the main findings is summarized in the Appendix.

2.3 Hypotheses

In this section we first describe and state hypotheses on performance measures Cumulative Abnormal Announcement Return (CAR) and Cumulative Abnormal Return on Invested Capital (CAROIC). Thereafter we present the hypotheses on determinants along with theory and previous findings on which we base them. The last section discusses hypotheses on the relation between our performance measures CAR and CAROIC.

2.3.1 Performance Measures

Cumulative Abnormal Announcement Return - CAR

As discussed in previous section, if markets are efficient, any news of an acquisition should be reflected immediately in shareholder wealth. If the market expects it to be a positive net present value investment, this should result in an abnormal increased share price. Previous research on CAR for acquiring firm's shareholders has shown that value increases range around zero. Bruner (2004b) argue that firms have on average retained value and therefore have delivered the required rate of return to investors, rather than increased or decreased value. Cosh et al. (2005), and Moeller et al. (2003), find positive CAR on private targets but negative on public targets. Studies by Ericsson & Spens (1997), Simensen & Åkesson (2005), and Jaskow & Grill (2007) on Swedish data have shown that shareholders, on average, experience a positive CAR. In order to create value one needs to see an increase in CAR and therefore we present the following hypothesis:

Hypothesis 1: Cumulative Abnormal Announcement Return – CAR has on average been positive.

Cumulative Abnormal Return on Invested Capital - CAROIC

Since firms are assumed to engage in acquisitions to generate more value to shareholders, we believe that in most observations, abnormal operating performance for the combined firm should increase. Previous research on operating performance has shown mixed results. Andrade et al. (2001), Healy et al. (1992), Parrino & Harris (1999), and Lu (2004) report an increase in operating performance deflated by peer or industry. On the contrary, Sharma & Ho (2002), Moeller & Schlingemann (2004), Kruse et al. (2002), Brailsford & Nights (1998), and Clark & Ofek (1994) find operating performance to have decreased. The following hypothesis on CAROIC is tested:

Hypothesis 2: Cumulative Abnormal Return on Invested Capital - CAROIC has on average been positive.

2.3.2 Determinants

Method of Payment

The payment choice for acquisitions is well documented in previous research. Myers & Majluf (1984) argue for the signalling effect in a world of asymmetric information and adverse selection. For this purpose, when managers have information that the stock market does not have this will affect their decision on whether to issue stock or pay cash for the acquisition. If a bidder's stock is overvalued, managers might prefer to time the higher market valuation and pay with stock. With the same reasoning, when paying with cash, the firm sends a strong signal to the market in their confidence in its share. When choosing to pay with cash the bidder assumes all the potential reward, but also takes on the full risk of the new merged firm. Previous literature on CAR and method of payment by Moeller & Schlingemann (2004) is supportive of a positive correlation between cash payment and returns. On Swedish data Ericsson & Spens (1997) find positive relation but Jubel (2001) find the opposite. Chang (1998) and Conn et al. (2005) find that for private targets, stock offers generate significantly higher returns than cash offers. And vice versa, for public targets cash generate superior results compared to stock offers. Considering operating performance, previous literature by Linn & Switzer (2001), Ghosh (2001), Carline et al. (2003), and Moeller & Schlingemann (2004) show a positive relation between cash financed acquisitions and post merger operating improvement. Contradictory, Healy et al. (1997) document that operating performance improvements for mergers paid with stock are higher than those paid for with cash. Backed by theory and previous research, we expect higher CAR and CAROIC for cash financed rather than stock financed acquisitions.

Hypothesis 3: Acquirers paying with cash rather than stock are likely to experience higher CAR.

Hypothesis 4: Acquirers paying with cash rather than stock are likely to experience higher CAROIC.

Industrial Focus

One could argue that synergies are more easily realized when a target operates within the same industry as acquirer. Berger & Ofek (1995) estimate that the average diversified firm destroys about 15% of value compared to if it operates as a stand alone business. Comment & Jarrell (1995) support this argument and find evidence that focused acquisitions, and divestments due to more focus, increase market value. Ericsson & Spens (1997) find diversified acquisitions to be negatively correlated with CAR. On the contrary, Jaskow & Grill (2007) find a more positive relation to diversified acquisitions. Assessing operating performance and focus, Gugler et al. (2002), and Heron & Lie (2002), find that operating performance increase due to merger. Healy et al. (1997) find that mergers with highly overlapping business perform better than other. Contradictory, Kruse et al. (2002) find that operating profit is greater for diversifying firms. Bruner (2004a) review a number of previous studies and supports the theory that

focused acquisitions achieve better results. We believe that in general acquisitions within the same industry have greater potential to create more synergies and value for shareholders, and therefore favour a more focused strategy.

Hypothesis 5: Acquisitions in the same industry results in higher CAR than diversifying.

Hypothesis 6: Acquisitions in the same industry results in higher CAROIC than diversifying.

Domestic vs. Cross-Border

When acquiring cross-border companies, managers can face challenges such as different cultures, regulatory systems, and organizational structures. These challenges could potentially lead to worse results compared to if the firm would operate in its own country. Conn et al. (2005), and Moeller & Schlingemann (2004) find that domestic acquisitions achieve higher abnormal announcement and long-run returns than cross-border. Furthermore, Moeller & Schlingemann (2004), and Martynova et al. (2007) find that abnormal operating performance increase more for domestic than cross-border targets. Conn et al. (2003) survey 15 studies investigating this effect and conclude that most cross-border acquisitions by U.S. and U.K. acquirers have led to zero or negative abnormal returns to bidders. On the other hand, cross-border investments may achieve diversification gains and also allow for greater customer reach, market power, and economies of scale. Gugler et al. (2003) find that cross-border acquisitions have a more positive effect on abnormal profits versus domestic mergers. According to most empirical findings we believe that domestic acquisitions have been more successful than cross-border.

Hypothesis 7: Domestic acquisitions lead to higher CAR than cross-border.

Hypothesis 8: Domestic acquisitions lead to higher CAROIC than cross-border.

Market Timing Effects

Andrade et al. (2001) find that mergers occur in waves and more frequently in bull markets. Management's confidence is often high in these periods. If owner's and potential new investors experience the same assurance this could consequently drive up share price at announcement. Moreover, Ericsson & Spens (1997) state: "Regulatory changes such as deregulation and changes in taxation, which in their nature are discretionary, may also introduce a time-dependency for stock market reactions." This could as a result have an effect on firms' cash flows, profits and the total economy. Previous studies by Eriksson & Spens (1997), and Jubel (2001) find evidence on bidder returns and the performance of the stock market to be positively correlated. We support the idea that firms will achieve higher CAR and CAROIC if transactions take place in bullish rather than bearish or more neutral market.

Hypothesis 9: Acquisitions in a bullish market experience higher CAR than those pursued in bearish.

Hypothesis 10: Acquisitions in a bullish market generate higher CAROIC than those pursued in bearish.

Private vs. Public Target

Private firms in general have more concentrated ownership than public firms. Therefore, one can argue that there should be less agency problems between managers and shareholders when deciding on an offered bid. This would result in a better bargaining position for the target owners. Nonetheless, private targets are usually less liquid and as Conn et al. (2005) argue, competing bids are less likely leading to worse bargaining power if owners would feel tempted to exit. Public firms are more liquid and news about bids are more likely to attract other bidders with the potential to result in winner's curse. Varaiya (1988) writes: "The winner's curse hypothesis states that the winner of a sealed-bid auction in which the value of the object being competed for is uncertain tends to be the one who most overestimates the value of the auctioned object. As a result, auction winners, unless they are very careful, are likely to be 'cursed' by having paid more for the target than it is ultimately worth." Moeller et al. (2003), and Fuller et al. (2002) find announcement returns of private targets to be significantly positive, and vice versa, significantly negative for public companies. Conn et al. (2003), and Simensen & Åkesson (2005) find similar relations. Koeplin et al. (2000) find that when using EBIT and EBITDA multiples, domestic private companies are acquired at a 20-30% discount relative to similar public companies. We present the following two hypotheses for private versus public targets:

Hypothesis 11: Acquisitions of private targets generate higher CAR than those of public targets.

Hypothesis 12: Acquisitions of private targets generate higher CAROIC than those of public targets.

Excessive Cash Holdings

Jensen (1986) discusses the agency theory, and the conflicting interest between owners and managers. In the aspect of excess cash, it is in the best interest of shareholders that it is invested to deliver positive net present value, alternatively paid out in the form of dividends or share buybacks. Managers with incentive to grow their business through acquisitions and gain more power through control of a larger firm can end up investing in returns below cost of capital, thus decreasing the fundamental value of the firm. Moreover, excess cash can put pressure on management to find investments quick in order to justify not paying out cash to owners. If this is the case, the quick opportunities might not be the most value accretive. Bruner (1987) find that acquiring companies are relatively slack-rich, i.e. hold a relatively large portion of cash compared to peers. The hubris hypothesis of Roll (1986) might explain why some acquisitions valued at unreasonable prices are still being undertaken. Previous research shows some evidence that cash rich acquirers have decreased value by pursuing negative net present value investments. Harford (1999), Moeller & Schlingemann (2004), and Martynova et al. (2007) show evidence that cash rich acquirers achieve negative abnormal operating performance. Supported by

previous research and theory, we believe that relatively cash rich companies are more likely to take on less profitable investment projects. Hence the following hypotheses:

Hypothesis 13: Cash holdings and CAR are negatively related, more cash result in less CAR

Hypothesis 14: Cash holdings and CAROIC are negatively related, more cash result in less CAROIC

2.3.3 Relation between Performance Measures

Since higher expectations on future cash flows are eventually expected to show up in the firms accounting numbers and profitability ratios, we test if different operating performance measures show explanatory power on CAR. Previous studies regressing CAR and operating performance support this hypothesis. Healy et al. (1992), and Moeller & Schlingemann (2004) find a strong positive relation between acquirers CAR and post-merger profitability. Furthermore, applying a different approach comparing ex ante with ex post results, Kaplan & Weisbach (1992) find strong relation between CAR and the success of acquisition measured at divestitures. First we test if our two performance measures CAR and CAROIC are positively related, and thereafter we include other cumulative abnormal operating performance measures (OCAOP). The additional cumulative abnormal operating performance measures are: Free Cash Flow to Invested Capital, Sales Growth, EBITDA-Margin, and Gross-Margin.

Hypothesis 15: CAR and CAROIC are positively related

Hypothesis 16: CAR and OCAOP are positively related

2.4 Summary of Hypotheses

Number	Hypothesis	Variable	Expected Relation
Performance Measures			
1	Cumulative Abnormal Announcement Return - CAR has on average been positive .	CAR	+
2	Cumulative Abnormal Return on Invested Capital - CAROIC has on average been positive	CAROIC	+
Determinants			
3	Acquirers paying with cash rather than stocks are likely to experience higher CAR	CashPmt	+
4	Acquirers paying with cash rather than stock, are likely to experience higher CAROIC.	CashPmt	+
5	Acquisitions in the same industry results in higher CAR than diversifying	IndFocus	+
6	Acquisitions in the same industry results in higher CAROIC than diversifying .	IndFocus	+
7	Domestic acquisitions lead to higher CAR than cross-border	Domestic	+
8	Domestic acquisitions lead to higher CAROIC than cross-border .	Domestic	+
9	Acquisitions in a bullish market experience higher CAR than those pursued in bearish	BullMkt	+
10	Acquisitions in a bullish market generate higher CAROIC than those pursued in bearish.	BullMkt	+
11	Acquisitions of private targets generate higher CAR than those of public targets	Private	+
12	Acquisitions of private targets generate higher CAROIC than those of public targets.	Private	+
13	Cash holdings and CAR are negatively related, more cash result in less CAR	CashHoldings	-
14	Cash holdings and CAROIC are negatively related, more cash result in less CAROIC	CashHoldings	-
Relation between Performance Measures			
15	CAR and CAROIC are positively related	CAROIC	+
16	CAR and OCAOP are positively related	OCAOP	+

Table 2.4 Summary of Hypotheses

3 Methodology

The methodology used in our thesis is from an acquiring firm's shareholder perspective. We focus on the announcement return and improvements in operating performance for the bidder. We test for determinants on these measures and also the relation between them. In this section we describe the performance measures (3.1), determinants (3.2), and regression models (3.3).

3.1 Description of Performance Measures

Cumulative Abnormal Announcement Return - CAR

We measure bidder return upon announcement by looking at Cumulative Abnormal Announcement Return (CAR) which is calculated over three different windows around the announcement day (t) of the acquisition. We apply a 2-day ($t-1$ to $t+1$), 10-day ($t-5$ to $t+5$), and a 20-day ($t-10$ to $t+10$) window to measure the value creation upon news. The return is compared to a market index for respective country. Acquiring companies are listed on either of the Nordic exchanges and returns are deflated by their respective exchange all-share index return. We apply three different windows to test for any leakage of information and for news to be fully reflected in the market. Following model (1) has been used where R_A is the acquirer share return and R_M the market return:

$$(1) \text{ CAR}(-t, t) = \sum_{-t}^t R_A - R_M$$

The advantage of CAR is the small amount of noise involved. However, it relies on the efficient market hypothesis that all information is reflected immediately by the market, and that companies are fairly priced at their fundamental value. Therefore, changes in value should be directly related to the announcement. In practise, markets might however not react efficiently, for example due to restrictions to arbitrage, insider information, and irrational behaviour. Nevertheless, the method is the most straightforward and widely used in previous research.

Cumulative Abnormal Return on Invested Capital - CAROIC

We measure improvements in operating performance by looking at Cumulative Abnormal Return on Invested Capital (CAROIC). We choose to look at ROIC ($\text{NOPLAT}^2 / \text{Invested Capital}^3$) rather than traditional operating ratios such as Return on Assets or Return on Equity since it focuses on the operating income arising from operating assets, and is not biased by the firm's capital structure. We include goodwill in ROIC because we feel this is a better measure of historical performance from an owner's

² NOPLAT = Earnings before interest, taxes and amortization (EBITA) * (1 - Tax Rate).

³ Invested Capital = Fixed Assets + Goodwill + Current Assets – Current Liabilities – Cash. Average beginning and year-end invested capital has been used.

perspective as it includes the price paid for the acquisition. The measure has potential drawbacks in that market value of acquired assets is added to historical book value of assets. Unless peer group companies also record big posts of recent goodwill it will cause a downward bias on ROIC. This is especially vulnerable for our sample since they have engaged in relatively large acquisitions. Since we want to control for industry and economic conditions, we assign every acquiring firm with a peer group of companies and deflate our measure before and after the transaction by the peer group median. Peer group companies were selected by the database Capital IQ on the basis of industry, size and region⁴. This method is in line with Barber & Lyon (1996). We deflate our accounting measures by the median of the comparable companies for every year and then compute CAROIC according to model (2):

$$(2) \text{ CAROIC} = (\text{AcqROIC}_{\text{POST}} - \text{PeerROIC}_{\text{POST}}) - (\text{AcqROIC}_{\text{PRE}} - \text{PeerROIC}_{\text{PRE}})$$

This way, we find the improvement in ROIC adjusted for industry effects. For the pre-acquisition period (PRE) we average the two years before transaction (t-1, and t-2). For the post-acquisition period (POST) we average the second and third year following transaction (t+2, and t+3). This in order to control for acquisition related affects on accounting figures during the year of, and year after consolidation. The main reason for not including t+1 is that we believe one year is too short time for the change in operating performance to be visible. Additionally, companies with different year-end data can create stub periods having an effect on consolidated accounting figures.

The advantage of using accounting figures is that they are not directly dependent upon the current market price and therefore reduces the error of market misinterpretation. Also, they are taken directly from audited public accounting statements. Since we are looking at relatively large acquisitions, we assume that the acquisitions are big enough to drive changes. Of course, the main concern is the large potential noise arising from non-acquisition events, which could seriously distort our research. Other factors that can disfigure our result by increasing noise are such as: companies changing their reporting principles, target companies having different year-end statements that could lead to over/underreporting in year of consolidation, and cross-border comparison between companies with different regulations and accounting principles.

Other Cumulative Abnormal Operating Performance Measures:

Other Cumulative Abnormal Operating Performance (OCAOP) is measured in the same way as for CAROIC for the purpose of later testing the relation to bidder return upon announcement. The variables

⁴ Ten peer companies were selected for every acquiring firm. Due to limited accounting data for some peers, this number is smaller in some transactions.

are defined as follows: $FCFIC = \text{Free Cash Flow}^5 / \text{Invested Capital}$, $\text{Growth}^6 = \text{Sales growth for the period}$, $\text{EBITDA-Margin} = \text{EBITDA}^7 / \text{Sales}$, $\text{Gross-Margin} = \text{Gross Profit}^8 / \text{Sales}$.

3.2 Description of Determinants

For the purpose of testing our different hypotheses we apply partial and multivariate regression analysis. Using this, we investigate each variables relation to, and explanatory power on the dependent variables CAR and CAROIC. We describe our determinants below:

- *Method of Payment* – We assign all transactions paid with cash a dummy of 1, all transactions paid with stock or a mix of stock and cash are assigned a 0.
- *Industrial Focus* – To determine whether the target firm is in the same industry as acquiring, we look at the industry classification in the Capital IQ database. If acquirer and target are in the same industry group, we assign an industrial focus dummy of 1. Targets outside industry group are assigned a 0.
- *Cross-Border* – If target is in the same country as acquirer we assign a dummy of 1, if not a 0.
- *Market Timing* – We define a bull market at announcement by looking at the previous 180-day market index development. If this is greater than 4%, we assign a bull market dummy of 1. If it is lower, transactions are assigned a dummy of 0. A bullish return of 4% translates into a yearly return of above 8%. Looking at historical equity indices performance, from the period 1990-2008, MSCI world index rose by a yearly average of 6%.
- *Private Target* – If the target is a private firm or a division of another firm, we assign a private target dummy of 1. If target is a listed public firm we assign a 0.
- *Cash Holdings* – We look at cash and marketable securities relative to invested capital in the two years before acquisition. This measure is taken as the average cash and marketable securities divided by invested capital excluding goodwill. Furthermore, this is compared to peer companies in order to determine if cash holdings are relatively large.

3.3 Description of Regression Models

In this section we present the regression models later used in testing our hypotheses. We start with partial regressions on each determinant on performance measures CAR and CAROIC. Thereafter we present multivariate regression model 1 and 2 including all determinants in order to control for interaction and see how much they can explain the outcome on CAR and CAROIC. Following, we present related

⁵ Free Cash Flow = NOPLAT + Depreciation – Increase in Net Working Capital – Capital Expenditures. Net Working Capital = Current Assets – Current Liabilities.

⁶ Due to limited historical data abnormal growth is measured from year from t-2 to t-1 as PRE and average yearly growth year from t+1 to t+3 as POST.

⁷ EBITDA=Earnings before Interest, Taxes, Depreciation, and Amortization.

⁸ Gross Profit = Revenue – Cost of Goods Sold.

performance models used to test for relations between CAR and CAROIC, and between CAR and OCAOP. Multivariate regression 3 includes all of the performance measures.

3.3.1 Determinants

To test for how each determinants effect CAR and CAROIC we use partial regressions described below:

Partial Regressions

$$CAR_i = \beta_1 + \beta_2 ExplanatoryVariable_i + \varepsilon_i$$

$$CAROIC_i = \beta_1 + \beta_2 ExplanatoryVariable_i + \varepsilon_i$$

In order to control for interaction effects and see how much of the effect on CAR and CAROIC can be explained by our determinants we apply two multivariate regression models:

Multivariate Regression 1

$$CAR_i = \beta_1 + \beta_2 CashPmt_i + \beta_3 IndFocus_i + \beta_4 Domestic_i + \beta_5 BullMkt_i + \beta_6 Private_i + \beta_7 CashHoldings_i + \varepsilon_i$$

Multivariate Regression 2

$$CAROIC_i = \beta_1 + \beta_2 CashPmt_i + \beta_3 IndFocus_i + \beta_4 Domestic_i + \beta_5 BullMkt_i + \beta_6 Private_i + \beta_7 CashHoldings_i + \varepsilon_i$$

3.3.2 Relation between Performance Measures

To test the relation between CAR and changes in operating performance we look at CAROIC, and thereafter each of the other cumulative abnormal operating performance measures (OCAOP). Like in previous section we use partial and multivariate regressions. Models used are presented below:

Partial Regressions

$$CAR_i = \beta_1 + \beta_2 CAROIC_i + \varepsilon_i$$

$$CAR_i = \beta_1 + \beta_2 OCAOP_i + \varepsilon_i$$

Multivariate Regression 3

$$CAR_i = \beta_1 + \beta_2 CAROIC_i + \beta_3 CAGrowth_i + \beta_4 CAFCFIC_i + \beta_5 CAEBITDA_i + \beta_6 CAGROSS_i + \varepsilon_i$$

4 Sample and Data

In this chapter we present our sources (4.1), sample construction (4.2), and thereafter a section where we describe our data (4.3).

4.1 Sources

Our primary source of data is Standard and Poor's database Capital IQ. From here we gathered all transaction related data, financial statements, and stock return of the acquiring firm and its peers. Capital IQ is a known database used by many advisory firms, financial institutions, and investment firms. It is a relatively new database and does not include a lot of information on transactions previous to 1997. As we rely profoundly on this database we randomly checked some statements to make sure that the data we had

was accurate and did not find any mistakes. Information on market indices was gathered from Thomson Datastream. Additionally, we got data on total global transaction value from Thomson One Banker to get an overview of global M&A trend compared to Nordic. In few cases where the information was not fully available we were able to supplement with public filings available on firm websites.

4.2 Sample Construction

From the beginning we included transactions announced and subsequently completed by public companies listed in one of the Nordic countries; Sweden, Norway, Finland, Denmark, or Iceland between Dec 31, 1997 and Dec 31, 2003. We decided to take this time period since it gave us the possibility to collect accounting figures two years prior to the first transaction and follow the latest transaction and acquiring firm three years after the purchase. We put a second constraint to only look at transactions with a minimum transaction price of \$10 million. This allowed for 307 acquisitions. Third we wanted to make sure that the impact on financial statements would be significant and therefore limited our transaction sample to transactions with a purchase price of at least 20% of acquirer market capitalization resulting in 68 transactions. As another restriction we only included acquirers with six years of financial statements around the transaction (2 years before year of completion through 3 years after). Down to 59 transactions we decided to exclude banks and biotechnology firms due to their nature of business and difference in financial statements⁹. When sorting out all transactions that did not have required information we reached a final sample of 51 transactions.

We did not find any firms in our sample going from public to private. Mitchell and Lehn (1990) argue that bidders taking on bad acquisitions are later in the risk of being bought up by another corporation or private equity firm. Furthermore, we only found one case where acquired target was later divested – The case of Stora Enso and Consolidated Papers. Consequently, there could be some survivorship bias in the sample where data from bad transactions might be suffering from discretionary decisions and not being published. On the contrary, if we are comparing to public peer companies that have been performing well, this could bias the deflated operating performance measures negatively.

4.3 Descriptive Statistics

In this section we describe our data by first looking at trends analyzing our transaction period (4.3.1) and the performance of the market (4.3.2). This is followed by a description of number of transactions per year and divided over determinants (4.3.3). Thereafter we discuss the performance of CAR and CAROIC, split by years (4.3.4), and in addition to CAROIC we look at each year performance in raw and abnormal

⁹ In line with Healy et al. (1997) we exclude banks because they are subject to special regulatory requirements. We exclude biotechnology firms due to their special capital structure.

ROIC (4.3.5). Thereafter we focus on our dependent variables used in regressions to see how they performed classified by determinants (4.3.6).

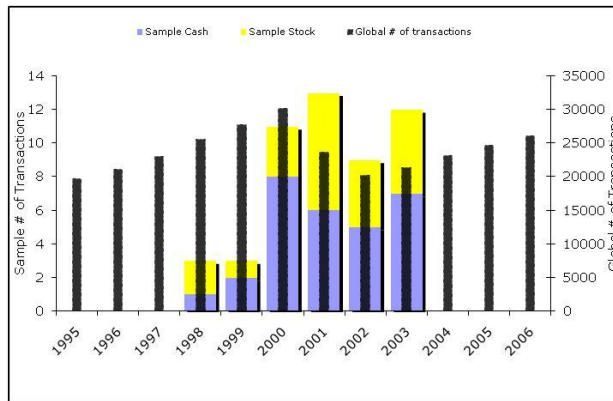


Figure 4.3.1 Number of Global M&A Transaction vs. Sample Transactions split by Method of Payment

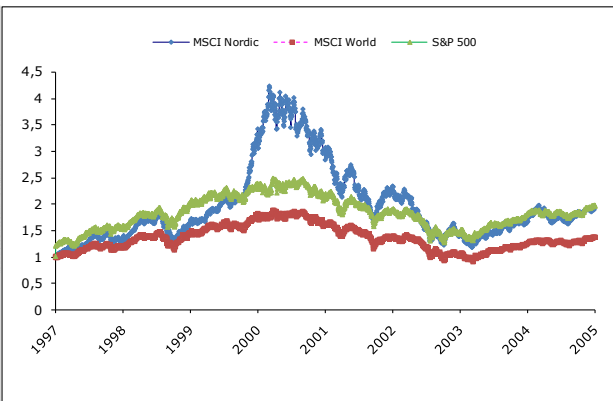


Figure 4.3.2 MSCI Nordic, S&P500, and MSCI World Indices Jan 1, 1997 to Jan 1, 2005 (indexed to 1)

From figures 4.3.1 and 4.3.2 presented above, we can observe that our sample period of 1998-2003 runs through one complete M&A and market cycle including a peak and a drop. Figure 4.3.1 show how the number of transactions is spread out over the years and follows the trend of Global M&A. Method of payment is surprisingly not very different in booming years as one would suspect in theory with asymmetric information. There seems to be no extreme behaviour in any of the years. Figure 4.3.2 show that the MSCI Nordic market index peaked in 2000 but suffered thereafter through 2002. Moreover, MSCI Nordic has been more volatile during the years of transactions included in the sample with a much bigger increase in prices than for S&P 500 or MSCI World. Therefore, one could expect our hypotheses on market timing and method of payment to show interesting results. Market timing because there seem to have been a lot of confidence investing in Nordic firms. Method of payment because if managers suspect their share to be overvalued, they might prefer paying for an acquisition with stock.

Year	Number of Transactions	Target Region		Industrial		Target		Method of Payment		Market Timing	
		Cross-Border	Domestic	Focus	Diversified	Private	Public	Cash	Stock	Bull	Bear
1998	3	3	0	2	1	3	0	1	2	2	1
1999	3	1	2	1	2	3	0	2	1	3	0
2000	11	9	2	9	2	7	4	8	3	7	4
2001	13	9	4	7	6	12	1	6	7	0	13
2002	9	6	3	8	1	8	1	5	4	1	8
2003	12	10	2	10	2	11	1	7	5	8	4
Total	51	38	13	37	14	44	7	29	22	21	30

Table 4.3.3 Number of Transactions per year by Determinants

Our sample has a well split number of transactions on most characteristics. Table 4.3.3 shows that most of our transactions take place in the years 2000-2003. More transactions have been cross-border, in a related industry and of private targets. Moreover, the payment method is well split into cash and stock.

Interestingly, we do not have the same booming M&A trend as overall Global and Nordic M&A volume that figure 1.1 would suggest. This might be due to a larger number of relatively smaller transactions taking place during this period. In the later years, industrial focus has showed to be more common. Moreover, one can see that most acquisitions on public companies took place in the year of 2000.

Year	Number of Transactions	2 day CAR	10 day CAR	20 day CAR	CAROIC
1998	3	3.17%	-1.20%	-1.10%	-7.54%
1999	3	5.48%	-2.86%	-7.99%	4.45%
2000	11	-1.01%	-2.38%	-2.70%	-0.97%
2001	13	-1.94%	3.12%	2.91%	-3.73%
2002	9	3.99%	1.24%	-3.12%	-7.51%
2003	12	1.76%	9.99%	7.31%	1.09%
1998-2003	51	1.46%	2.10%	-1.10%	-2.13%

Table 4.3.4 Median CAR and CAROIC per year

For an overall glance on performance measures comparing different windows for CAR and CAROIC we split these up over the different years. Table 4.3.4 show that median 2-day CAR is positive at 1.46% suggesting that shareholders have gained from acquisitions. However, when looking at CAROIC, firms have experienced a median decrease of -2.13%. Interestingly, 2-day CAR has been negative during the booming year of 2000 and the year following. Although this might be expected during a year of conservativeness following a bubble as 2001, this is not what we expected for 2000. One can see that CAR varies largely depending on what time window around announcement is being used. As more days are added, the risk of more noise is larger. As we do not see same behaviour over the three time frames, we are conservative in using longer periods because other, non-acquisition related events might effect the valuations.

Performance Measure	Statistic	t-2	t-1	t	t+1	t+2	t+3
ROIC	Median	9.6%	10.9%	8.5%	8.8%	10.2%	11.7%
	Mean	12.8%	14.7%	10.6%	9.7%	13.0%	13.8%
	St Dev	10.8%	15.3%	10.8%	9.2%	20.7%	15.8%
Abnormal ROIC	Median	0.9%	2.0%	-0.4%	-2.1%	-3.1%	-1.8%
	Mean	2.0%	5.2%	0.5%	-0.7%	-0.3%	-0.4%
	St Dev	11.3%	16.1%	12.2%	13.5%	24.2%	19.0%

Table 4.3.5 ROIC and Abnormal ROIC during years around transactions

To get a better feeling of how ROIC has developed over the years of transactions we look at table 4.3.5. One can see that raw performance is suffering from a minor decrease. However, adjusting for industry performance by comparing to a peer group of similar firms, abnormal ROIC decreased quite significantly during the years around the transaction.

Measure	Statistic	Target Region		Industrial		Target		Method of Payment		Market Timing	
		Cross-Border	Domestic	Focus	Diversified	Private	Public	Cash	Stock	Bullish	Bearish
2 day CAR	Median	1,1%	2,3%	2,1%	0,5%	2,7%	-0,9%	1,5%	1,7%	2,3%	0,5%
	Average	1,8%	1,2%	1,6%	1,8%	2,1%	-1,2%	2,6%	0,5%	0,5%	2,5%
CAROIC	Median	-2,1%	-1,2%	-2,1%	-4,3%	-1,6%	-3,9%	-1,2%	-5,0%	-0,8%	-5,5%
	Average	-5,7%	-2,0%	-4,3%	-5,9%	-4,1%	-8,6%	-4,9%	-4,6%	-0,6%	-7,6%

Table 4.3.6 2-day CAR and CAROIC by Target Region, Industry, Private vs. Public, Method of Payment, and Market Timing

As we focus on 2-day CAR and CAROIC as our dependent variables in regressions, it is interesting to see how they have performed compared to different determinants. Table 4.3.6 show that median 2-day CAR and CAROIC have been higher for domestic vs. cross border, focus vs. diversified, private vs. public, bullish vs. bearish, however not for stock vs. cash. It seems like we have support for the relations we expect according to our hypotheses. Moreover, determinants show similar results on both performance measures.

5 Results and Analysis

In this chapter we present the results from our study. We start with the performance measures (5.1) and then move on the regression analysis (5.2). We test our determinants in section 5.2.1 and the relation between our performance measures in section 5.2.2. We conclude the chapter with a summary of the results (5.3).

5.1 Performance Measures

To test our performance measures we use event statistics to look at the mean, median and statistical dispersion.

Cumulative Abnormal Announcement Return - CAR

Statistic	2 day CAR		10 day CAR		20 day CAR	
	Median	Average	Median	Average	Median	Average
Performance	1,46%	1,68%	2,10%	2,19%	-1,10%	1,60%
Standard Deviation	7,73%		13,29%		15,61%	
T-statistic	1,55		1,17		0,73	

*** ** * indicate Significance at the 0.05 / 0.1 Level

Table 5.1.1 Cumulative Abnormal Announcement Returns over different time windows

Table 5.1.1 depicts CAR over the three different time windows. One can see that the 2-day CAR average is 1.68% and median 1.46%. As we expand the time window to 10 days we get slightly higher returns at a higher standard deviation. At our largest period of 20 days abnormal returns decrease and standard deviation increase. The difference in returns could be a result of market reaction to other news but also to shareholder's later reaction and interpretation of the announcement. As we believe expectations about the acquisition is reflected immediately in the market and that we further want to keep noise minimal, we apply the 2-day return as our main dependent variable in multivariate analysis. It is statistically preferable

and will filter out most noise on news non-related to acquisition. One can conclude that based on this measure bidder returns have increased by a median 1.46% and an average 1.68%. Expectations of Nordic firms making acquisitions has been high and news welcomed by investors. Therefore, although not statistically significant we find support for hypothesis 1 that CAR has on average been positive.

Cumulative Abnormal Return on Invested Capital - CAROIC

Statistic	CAROIC		CAROIC excl goodwill	
	Median	Average	Median	Average
Performance	-2,13%	-4,73%**	-0,70%	-4,48%
Standard Deviation	11,71%		24,76%	
T-statistic	-2,88		-1,29	

**/* Indicate Significance at the 0.05 / 0.1 level

Table 5.1.2 Cumulative Abnormal Return on Invested Capital

Table 5.1.2 show how CAROIC for the entire sample has on average decreased. Median is less negative suggesting that the average decrease might be due to large outliers. Comparing CAROIC including goodwill to CAROIC excluding goodwill there is a slight difference. When not taking the purchase premium in to account, operating performance based on real assets excluding goodwill decrease less but still with some heavy outliers on the downside. Moreover, standard deviation for return on invested capital excluding goodwill is much greater with a smaller t-statistic. A lower ratio might just come from adding target assets with worse cash flow creation. When including goodwill, the rise in ROIC incorporate price paid for target assets and therefore, when looking at it from an acquirer shareholder perspective, is a better measure. Since our sample firms have acquired relatively large assets they sit on large goodwill accounts. If the peer group compared with has not experienced the same large posts of goodwill this would bias the result of this measure downwards. To test for this we looked at raw Cumulative Return on Invested Capital. As suspected, we found less decrease, a median of -0.1%, and average of -1.2%. However, this number does not control for industry trends and is therefore hard to interpret. Moreover, dispersion around the mean was much larger. Previous research by Morck et al. (1990) suggest that good operators are often more successful in acquiring. If this is true, one will have to be careful interpreting the result if the consolidated firm has not fully realized all potential synergies by increasing the targets operating performance to a level of their own. That is, if it takes more than three years to improve the targets operating performance, full improvement has not been reached in our measurement method.

Concluding, one can see that on average, our sample firms have suffered from a median 2.13% and average 4.7% declining Cumulative Abnormal Return on Invested Capital and consequently our hypothesis 2 which states that CAROIC have on average increased is not supported. This negative performance is also statistically significant.

5.2 Regression Analysis

5.2.1 Determinants

Partial Regression Analysis

We start our regression analysis by looking at each variables relation and explanatory power on performance measures CAR and CAROIC. Presented below are the partial regression models and results.

$$CAR_i = \beta_1 + \beta_2 \text{ExplanatoryVariable}_i + \varepsilon_i$$

$$CAROIC_i = \beta_1 + \beta_2 \text{ExplanatoryVariable}_i + \varepsilon_i$$

Partial regressions	Dependent Variable: 2-day CAR			Dependent Variable: CA ROIC			Expected
Explanatory Variables	β	p-value	R ²	β	p-value	R ²	β
CashPmt	0,0413	0,1836	0,0360	-0,0030	0,9297	0,0002	+
IndFocus	0,0293	0,3986	0,0150	0,0167	0,6548	0,0040	+
Domestic	0,0053	0,8814	0,0005	0,0363	0,3393	0,0190	+
BullMkt	-0,0050	0,8740	0,0010	0,0698**	0,0348	0,0880	+
Private	0,0118	0,7831	0,0020	0,0291	0,5244	0,0080	+
CashHoldings	0,0424*	0,0935	0,0560	0,0061	0,8248	0,0010	-

** / * Indicate Significance at the 0.05 / 0.1 level

Table 5.2.1.1: Summary of Partial Regressions

At a first glance, we see that determinants do not have the same effect on the two measures. We notice that most of our determinants are statistically insignificant. Nevertheless, it is interesting to analyze their relation to performance measures and the qualitative support for our hypotheses. We can see that some variables have higher statistical significance relative to others.

For CAR we find the expected relation on four variables but not for cash holdings and market timing. Most interesting is cash holdings that is statistically significant contradictory to our hypothesis. Looking at CAROIC we find all relations except for cash holdings to be as projected. This again suggests that excessive cash has been invested profitably. The most significant and explanatory variable is the market timing dummy which gives statistical support for CAROIC to increase more in a bull market than in a bearish.

Multivariate Regression Analysis

In order to test our hypotheses, the significance of the variables, and their total explanatory power on performance measures CAR and CAROIC we built multivariate regressions 1 and 2.

Multivariate Regression 1

$$CAR_i = \beta_1 + \beta_2 \text{CashPmt}_i + \beta_3 \text{IndFocus}_i + \beta_4 \text{Domestic}_i + \beta_5 \text{BullMkt}_i + \beta_6 \text{Private}_i + \beta_7 \text{CashHoldings}_i + \varepsilon_i$$

Multivariate Regression 2

$$CAROIC_i = \beta_1 + \beta_2 CashPmt_i + \beta_3 IndFocus_i + \beta_4 Domestic_i + \beta_5 BullMkt_i + \beta_6 Private_i + \beta_7 CashHoldings_i + \varepsilon_i$$

Full Regressions	Regression 1: 2-day CAR		Regression 2: CA ROIC		Expected
Explanatory Variables	β	p-value	β	p-value	β
(Constant)	-0,0570	0,3173	-0,1291**	0,0376	
CashPmt	0,0505	0,1172	0,0086	0,7993	+
IndFocus	0,0403	0,2697	0,0048	0,9019	+
Domestic	-0,0099	0,7907	0,0554	0,1709	+
BullMkt	-0,0128	0,6964	0,0766**	0,0334	+
Private	0,0105	0,8081	0,0346	0,4548	+
CashHoldings	0,0474*	0,0818	-0,0112	0,6946	-
R ²	0,1286		0,1335		
F Statistic	1,0820		1,1300		

** / * Indicate Significance at the 0.05 / 0.1 level

Table 5.2.1.2 Summary of Multivariate Regression Analysis

Our small sample is reflected in the significance tests and not many variables can be confidently accepted. With such low degrees of freedom one would preferably like to increase the number of observations to achieve better statistical evidence. Nevertheless, it is interesting to see that our sample shows the expected sign on beta on most explanatory variables and that some variables are relatively more statistically significant. Some signs on beta changed compared to partial regressions which suggest that there are interaction effects being controlled for in our multivariate regressions. In our model of CAROIC we achieve the expected relation to our beta on all explanatory variables. Although at low statistical significance, it qualitatively supports our hypotheses and financial theory. The fact that performance measures CAR does not show the same relation to determinants raises the question to whether investors, during announcements, behave in line with financial theory. The two models both obtain an R² proposing an explanatory power of around 13%. However, as could be expected by such low degrees of freedom, the F-statistics of 1.08 and 1.13 are not very compelling. This proposes that looking at general determinants, the outcome can only be explained to a very small extent.

For CAR we find qualitative support that cash payment, industry focus, and private acquisitions have the expected relation on beta, while returns in bull markets, and domestic show the opposite. Acquisitions by relatively cash rich firms tend to have been looked upon very favourably, quite the contrary of what we expected. This variable is also statistically significant at the 10% level. Furthermore, the cash payment variable shows a rather large effect on CAR and when compared to other variables, at a relatively good explanatory significance. As both of the cash variables have a similar positive and also relatively significant effect on announcement, one might suspect that they are correlated. It could be that firms with relatively large cash holdings have also used cash as means of payment for an acquisition. However, as

we tested for this we were proven wrong.¹⁰ In this sense, we argue that investors react as expected according to signalling theory for the choice of payment. However, contradictory to our hypothesis, investors also react favourable to firms with relatively large cash holdings.

Analyzing the model on CAROIC, we see that market timing is statistically significant. Transactions taken place in bull markets have on average, seen a 7.7% higher increase than those pursued in bear markets. Moreover, in relation to other variables, we find transactions of domestic and private targets to be relatively significant.

Because of our small sample and low statistical significance, we will focus on analyzing the determinants relation to performance measure and the qualitative support on hypotheses. Therefore, we compare the sign on beta to our hypothesized relation as well as looking at the statistical significance.

Method of Payment

In line with signalling theory of asymmetric information by Myers & Majluf (1984), our sample experiences a positive relation between cash rather than stock payment and performance measures. Therefore, we argue that Nordic firms using cash as a means for payment have been more successful in acquiring other companies than those using stock. Using cash has on average sent a stronger signal to the market than using stock. The positive result shows that acquirers have been better off not sharing the risk and consequently reaping all the reward from the transaction. The variable suggest that transactions financed with cash has on average resulted in a 5% higher CAR and 0.8% larger CAROIC than those paid for with stocks. Compared to other variables in regression 1, it is relatively significant. Consequently, one can interpret the choice of payment to have a big signalling effect. Expectation on future performance is reflected in the share around the announcement and a choice of cash as means of payment is favoured. Additionally, regression 2 shows that on an ex post analysis the payment of cash resulted in a better CAROIC than those paid for with stock.

Our result is supported by previous empirical evidence by Ericsson & Spens (1997), Linn & Switzer (2001), Ghosh, (2001), Carline et al (2003), and Moeller & Schlingemann (2004). Even though our sample is dominated by private transactions, we do not reach similar results as Chang (1998), and Conn et al. (2005). They find that for private targets, stock payments result in better outcome. As a result from our analysis, although not statistically significant, we find qualitative support for hypotheses 3 and 4 that cash payments are likely to result in higher CAR and CAROIC than stock payments.

¹⁰ To test for correlation we regressed the two variables against each other and found negative relation.

Industrial Focus

We find that transactions in the same industry have been more successful. As two firms in a similar industry consolidate, the result from announcement and operating performance are better compared to a diversifying acquisition. Acquisitions of targets in the same industry have on average a 4% higher CAR and 0.5% higher CAROIC than acquisitions of targets in a different industry.

This finding is in line with Berger & Ofek (1995), and Comment & Jarrell (1995) arguing that diversifying firms are worse off and thereof also valued lower than those more focused. Bruner (2004) also supports this idea. Researching a number of previous empirical findings, he concludes that on average industrial focus strategy is better than diversifying. Concluding, although not statistically significant, we find the expected relation and qualitative support for Hypotheses 5 and 6, that acquisitions in the same industry result in higher CAR and CAROIC than for diversifying.

Domestic vs. Cross-Border

Our variable of domestic versus cross-border acquisitions is different in the two regressions. It is however, more statistically supported on the performance measure CAROIC. The variable suggests that acquisitions of domestic targets, on average, results in 0.1% lower CAR and 5.5% higher CAROIC than acquisitions of targets outside acquirer country.

Conn et al. (2005), and Moeller & Schlingemann (2004) find that domestic acquisitions are more welcomed by the market upon announcement. This is contradictory to our result. Furthermore, Conn et al. (2003) concludes the same from the empirical evidence of a survey looking at a number of studies. However, looking at operating performance we find support of our result on CAROIC. Martynova et al. (2007) support this finding that domestic acquisitions result in better increases in operating performance. We do not find support for hypothesis 7, as CAR seem to favour cross-border targets over domestic. On the other hand, although not statistically significant, we find qualitative support for hypothesis 8 on CAROIC.

Market Timing

For transactions taking place in good economic cycles, we expect higher CAR and CAROIC. Our models suggest that transactions taking place in a bullish period, on average, results in 0.1% lower CAR and 7.7% higher CAROIC than those taking place in bearish periods. The later variable is statistically significant at 5% level. The result might suggest that negative operating performance might be amplified in a bearish economic cycle.

Our result on bidder returns is the opposite on previous findings of Eriksson & Spens (1997), and Jubel (2001). To conclude, we do not find support for hypothesis 9 that CAR is higher in bullish than bearish markets. However, we find support and statistical significance for hypothesis 10 that CAROIC from transactions taken place in a bullish period is higher than those in bearish.

Private vs. Public Target

Public firms could be compensated more when news about a bid hits the market. As public firms are exposed to institutional investors with a lot of knowledge and influence on markets, as news on the bid is released it can subsequently draw their attention with the potential to increase the price. Varaiya (1988) argue that this could lead to winner's curse where all potential value from the deal might be realized by target shareholders as acquirer pay the full net present value of target and synergies, or even worse, overpaying. Another aspect is if private firm's shareholders are willing to sell their firm there might be an illiquidity discount. As competing bids are not as likely to happen, this could result in a lower price compared to a public firm. The result from our regressions show that, on average, acquisitions of private targets result in a 1% higher CAR and 3.5% higher CAROIC than those of public.

Our research is supported by previous studies by Moeller et al. (2003), Fuller et al. (2002), Conn et al. (2003), and Simensen & Åkesson (2003). They all find that announcement returns are higher for acquisitions of private targets than for public. In addition, looking at multiple valuations, Koeplin et al. (2000) find that private firms are sold at a large discount compared to public. Consequently, although not statistically significant, we qualitatively support both hypothesis 11 and 12, that acquisitions of private targets results in higher CAR and CAROIC than acquisitions of public.

Excessive Cash Holdings

It is in the best interest of shareholder's to make sure that excessive cash is invested to deliver value, otherwise paid out to shareholders. As large fractions of cash are added up on the balance sheet, managers might see an opportunity to invest. Roll (1986) argues for the "hubris hypothesis" and its effect on transactions when targets are valued very high. Accordingly, it should be very hard for a firm to increase value. As large cash holdings are available and an opportunity to buy something arises, the firm might suffer from hubris. Our result indicates that upon announcement, a larger cash holding is positively related to a higher CAR. This is contradictory to our hypotheses and suggests that the market believes that firms with large cash holdings are making good investment decisions when cash is available. This is also one of the few variables we find to be statistically significant. Furthering the analysis on cash holdings we can see that CAROIC is negatively related to cash holdings. This is in line with previous research by Harford (1999), Moeller & Schlingemann (2004), and Martynova et al. (2007). They find that cash rich

acquirers achieve negative abnormal operating performance. Therefore, we find statistically significant contradictory result for the theorized hypothesis 13 where CAR was expected to have a negative correlation to cash holdings. Although not statistically significant, we find qualitative support for hypothesis 14 in that CAROIC decrease with more cash.

5.2.2 Relation between Performance Measures

In this section we analyze the results from other cumulative abnormal operating performance measures (OCAOP). Starting with a short descriptive table on the different measures, we move on to see how our variables are related to CAR. As one could expect higher announcement returns to be reflected in later years improvements in operating ratios, we look to see if there are any positive relations.

Statistic	CA Growth		CA FCF/IC		CA EBITDA Margin		CA Gross Margin	
	Median	Average	Median	Average	Median	Average	Median	Average
Performance	-0,56%	1,13%	-2,79%	8,55%	-0,16%	-0,36%	0,03%	-0,46%
Standard Deviation	44,13%		55,02%		8,83%		15,41%	
T-statistic	0,18		1,11		-0,29		-0,21	

Table 5.2.2.1 Cumulative Abnormal Growth, Free Cash Flow, EBITDA- and Gross Margin

Table 5.2.2.1 show the cumulative abnormal operating performance measures. Interpreting the result it seems like the firms show similar negative results. Median measures of growth, free cash flow, and EBITDA-margin show inferior performance compared to peers. Interestingly, all measures except for free cash flow show better performance than CAROIC. Although this might not be surprising since these are the only two measures including goodwill. Noticeable is the high variation and difference between median and average for free cash flow. As this measure varies heavily, probably due to high volatility in capital expenditure, we interpret it very conservatively.

Partial Regressions Analysis

To start we want to see the relation between our performance measures; CAR and CAROIC. Additionally, we look at CAR and each of the other operating performance measures by itself in the partial regressions according to the following model:

$$CAR_i = \beta_1 + \beta_2 \text{ExplanatoryVariable}_i + \varepsilon_i$$

Partial regressions Explanatory Variables	Dependent Variable: 2-day CAR			Expected β
	β	p-value	R ²	
CA ROIC	-0,0720	0,5910	0,0060	+
CA Growth	-0,0030	0,9410	0,0000	+
CA FCF / IC	0,0410	0,1400	0,0440	+
CA EBITDA Margin	0,0550	0,7210	0,0030	+
CA Gross Margin	0,0130	0,8890	0,0000	+

Table 5.2.2.2 Partial Regressions CAR and CA Operating Performance Measures

We expected to see a positive relation between CAR and CAROIC. Instead it implies that investors' reactions upon announcement are negatively related to the following changes in operating performance measured as CAROIC. Free Cash Flow, EBITDA-Margin, and Gross-Margin, show expected positive relation, Growth on the other hand the opposite. Most explanatory power comes from Free Cash Flow with an R^2 of 4.4%.

Multivariate Regression Analysis

Going on further we use multivariate regression 3 with all performance included in the model:

Multivariate regression 3

$$CAR_i = \beta_1 + \beta_2 CAROIC_i + \beta_3 CAGrowth_i + \beta_4 CAFCFIC_i + \beta_5 CAEBITDA_i + \beta_6 CAGROSS_i + \varepsilon_i$$

Full Regression	Regression 3: 2-day CA		Expected
Explanatory Variable	β	p-value	β
(Constant)	0,0000	0,9850	
CA ROIC	-0,0720	0,6080	+
CA Growth	0,0170	0,6580	+
CA FCF / IC	0,0460	0,1410	+
CA EBITDA Margin	0,0650	0,6970	+
CA Gross Margin	0,0190	0,8480	+
R^2	0,0590		
F Statistic	0,5600		

** / * Indicate Significance at the 0.05 / 0.1 Level

Table 5.2.2.3 Summary of multivariate regression 3 Relation between CAR and Operating Performance measures

Our findings from partial regressions are confirmed and, except for CAROIC, relations are like expected. Comparing this to partial regressions, there are signs on interaction effects on especially Growth. The most significant variable is Cumulative Abnormal Free Cash Flow to Invested Capital. Although, the theoretical relations are obtained with some relative significance compared to other variables, we find very small explanatory power with an R^2 of 6% and low statistical significance. One can conclude that the most relevant and significant measure is the Free Cash Flow measure and therefore, if this is a good measure, one might wonder if investors' reactions upon announcements are based on changes in cash flow expectations. To conclude this section we do not find support on hypothesis 15, that CAR and CAROIC are positively related. We do however find statistically insignificant qualitative support for hypothesis 16, a positive relation between CAR and Other Cumulative Abnormal Operating Performance measures.

5.3 Summary of Results

Number	Hypothesis	Variable	Expected Relation	Achieved Relation	Supported Relation
Performance Measures					
1	<i>Positive CAR</i>	CAR	+	+	Yes
2	<i>Increase in CAROIC</i>	CAROIC	+	-	No**
Determinants					
3	<i>Cash Payment (CAR)</i>	CashPmt	+	+	Yes
4	<i>Cash Payment (CAROIC)</i>	CashPmt	+	+	Yes
5	<i>Industrial Focus (CAR)</i>	IndFocus	+	+	Yes
6	<i>Industrial Focus (CAROIC)</i>	IndFocus	+	+	Yes
7	<i>Domestic Acquisitions (CAR)</i>	Domestic	+	-	No
8	<i>Domestic Acquisitions (CAROIC)</i>	Domestic	+	+	Yes
9	<i>Bullish Market (CAR)</i>	BullMkt	+	-	No
10	<i>Bullish Market (CAROIC)</i>	BullMkt	+	+	Yes**
11	<i>Private Target (CAR)</i>	Private	+	+	Yes
12	<i>Private Target (CAROIC)</i>	Private	+	+	Yes
13	<i>Cash Holdings (CAR)</i>	CashHoldings	-	+	No*
14	<i>Cash Holdings (CAROIC)</i>	CashHoldings	-	-	Yes
Relation between Performance Measures					
15	<i>CAR and CAROIC</i>	CAROIC	+	-	No
16	<i>CAR and OCAOP</i>	OCAOP	+	+	Yes

** / * Indicate Significance at the 0.05 / 0.1 level

Table 5.3 Summary of Hypotheses and Relations

As we lack statistical significance in most data, we can not confidently accept many hypotheses, but rather argue for the qualitative support and relation to performance measures. Despite our low degrees of freedom, the results from our regressions look very compelling with 11 out of 16 hypotheses finding the predicted relation on performance measures.

Performance measure CAR suggests that a median 1.46% value has been created for acquiring firm's shareholders. On the other hand, operating performance measure CAROIC suffer a median of negative 2.13%.

We find similar results in both of our multivariate regression models on the determinants; method of payment, industrial focus, and private targets. The results for hypotheses on domestic acquisitions, bullish markets, and cash holdings differ depending on what model is used. For our regression model on CAROIC we find the expected relation for all determinants. If this is a good measure, we can argue that results are in line with financial theory and previous research. We do not find the same from the model on

CAR. As investors react differently one can wonder if behaviour around announcement is based on financial fundamentals, or rather psychological reactions.

In regression 1 on CAR, we find three relatively more significant variables. Interestingly, we find cash payment and cash holdings to be relatively significant, both with a positive sign. The signalling effect of markets interpreting a cash payment better than a stock payment was expected. However, contradicting to our hypothesis 13, firms with relatively large cash holdings have experienced higher CAR. One can wonder if firms with a lot of cash have used it wisely. Indeed, their acquisitions seem to be positively interpreted by investors at announcement. The other relatively significant variable is industrial focus, a target in the same industry indicates a 3.8% higher CAR than diversifying.

In regression 2 on CAROIC, we also find three relatively more significant variables. Acquisitions in bull markets have had higher CAROIC than those in bearish, private targets have been better than public, and domestic have been superior to cross-border.

Contradictory to what we expected, we find a negative relation between our two performances measures CAR and CAROIC. If CAROIC is a good measure of performance, investors tend to evaluate news on acquisitions very bullish. On the other hand, if CAR is a good measure, this further proves the difficulties in evaluating acquisition success by looking at financial statements to measure operating performance. One interesting finding is the positive relation between CAR and our measure of Free Cash Flow suggesting that reactions upon announcement could be related to changes in expectations on Free Cash Flow.

The most noteworthy finding is the lack of explanatory power and statistical significance. This supports a theory that bidder returns and changes in operating performance due to acquisitions are not explained by general similar factors, rather by deal-specific local characteristics.

6 Conclusion

We analyze the performance and determinants on relatively large acquisitions undertaken by Nordic Public firms 1998-2003. We look at one ex ante measure – Cumulative Abnormal Announcement Return, and one ex post measure – Cumulative Abnormal Return on Invested Capital. Equipped with the performance measures we test the explanatory power from six different determinants based on previous research and financial theory. Moreover, we test if our performance measures are related to get an indication if an ex ante measure have ability to project ex post results. This chapter presents a brief summary of our findings on the most relevant aspects (6.1). Following this we provide the reader with a critical discussion (6.2) and end with a section of suggestions for further research (6.3).

6.1 Summary of Findings

We present the following findings on performance measures, determinants, and the relation between performance measures:

Performance Measures

Cumulative Abnormal Return upon announcement – CAR, show evidence that acquiring firm shareholder's have seen their shares rise in value by a median 1.46% during a two day window around the announcement of acquisition. Contradictory to CAR, acquiring firms experience a median decrease of 2.13% in Cumulative Abnormal Return on Invested Capital – CAROIC.

Determinants

Equipped with the two performance measures CAR and CAROIC, we tested our determinants in multivariate models to see their relation to, and how much they explain the outcome on performance measures.

For the multivariate model on CAR we find better performance to be associated with; cash as means of payment rather than stock, acquisitions in the same industry rather than diversifying, and private acquisitions rather than public. On the contrary we do not find the relation expected to; domestic acquisitions rather than cross-border, transactions in bull markets rather than bear, and cash holdings before transaction.

In the multivariate model on CAROIC, we find qualitative support for all determinants in that better performance is associated with; cash as means of payment rather than stock, acquisitions in the same industry rather than diversifying, domestic acquisitions rather than cross-border, transactions in bull markets rather than bear, private acquisitions rather than public, and less cash holdings before transaction.

We only achieve statistically significant evidence on two determinants. Firms with relatively large cash holdings increase the value created in CAR. Transactions in bull markets are followed by better improvements in operating performance CAROIC than those pursued in bearish markets.

Relation between Performance Measures

When testing if our performance measures CAR and CAROIC are positively related we find the opposite. Therefore, one can argue that the changes in CAROIC are not being reflected in investors' reaction upon announcement. On the other hand, if CAR is a good measure, this could be evidence that changes in operating performance due to acquisitions are very hard to measure. Nonetheless, we find a positive relation to other operating performance measures and most significant Free Cash Flow. This suggests that

investors might be more reluctant to change their expectations upon announcement due to changes in expected future Free Cash Flow.

We conclude that reflected in CAR, acquisitions in our sample have on average been welcomed by the market but looking at financial statements acquiring firms have shown inferior operating performance compared to peers. In the absence of statistical significance, one can argue that performance from Nordic firms' relatively large acquisitions cannot be significantly explained by some general determinants. One would rather believe that the outcome depends heavily on deal-specific factors.

6.2 Critical Discussion

The main critical point of our research is the small sample. We find many of the hypothesized relations, thus, it would be interesting to see if statistical significance would be achieved on more determinants in a sample with a larger number of transactions. Moreover, measuring improvements in operating performance, we look at a limited time period of 2 years before acquisitions and 3 years after. One can argue that this is too short of a period for all synergies to fully realize after acquisition, and that special events could amplify the accounting numbers years around transaction. However, looking at a window of additional years would imply more potential for noise of activities not related to the event considered. Additionally, as we deflate our accounting figures by the median of a peer group, our results are sensitive to how peers perform. If peer companies do not engage in such large acquisitions, this would cause a downward bias on CAROIC as their goodwill post would not increase as much in years after acquisition. Furthermore, if peer companies have different accounting principles or regulatory systems, this might give rise to potential bias.

6.3 Suggestions for further research

Related to M&A, we came across a few topics to suggest for further research in the Nordic region. To start, it would be interesting to expand this kind of research to a larger sample of more years and transactions. Additionally, it would be interesting to see if private firms have experienced different operating performance than public firms when acquired other firms. This could also be lengthened into how Private Equity firms perform add-on acquisitions and different determinants of success like incentive programs, ownership structure etc. Another interesting topic would be to use a methodology like Kaplan & Weisbach (1992). They look at a sample of firms making acquisitions that are later divested. An example of a transaction in our sample for this methodology is the one by Stora Enso and Consolidated papers. Moreover, a methodology using available analyst forecasts through databases like I/B/E/S Consensus to perform fundamental value analysis before and after the takeover could be very insightful since most analysts today use these kinds of models. Another topic found to be lacking would be to dig

deeper in weighted average cost of capital and how changes in capital structure explain the outcome. As last suggestions, it would be appealing to see studies from the Nordic region on successfulness of acquisitions and its relation to subsequent management turnover, evidence on bad bidding firms later facing an offer themselves, and incentive schemes.

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Appendix: Previous Empirical Studies

Previous Research		
Authors Year	Sample Period Size Region	Description and Findings
Operating Performance Studies		
Martynova, Oosting, Rennebog 2007	1997-2001 155 Acquisitions Europé	Find that operating performance ranging between - 0.62 to 0.16 after takeover compared to peer group. Find significant decrease in long-term performance in hostile vs friendly takeover and that acquirors with more excess cash are less succesful.
Cosh, Guest, Hughes 2006	1985-1996 363 Acquisitions United Kingdom	Depending on what deflator is being used, the impact of profitability is positive and ranging from 0.69 to 1.31. Cash flow increase in the range of -0.1 to 0.41. Board ownership has a weak positive impact on operating performance and CEO ownership and operating performance show strong positive relation.
Bild, Guest, Runsten 2005	1985-1996 303 Acquisitions United Kingdom	Look at three different apporaches, profitability, short-and long run share returns, and fundamental value. Find an increase in fundamental value and profitability but a decrease in shareholder returns.
Powel, Stark 2005	1985-1993 191 Acquisitions United Kingdom	Using different measures of operating performance they report a statistically significant increase ranging from 0.13% above industry average to 1.78% depending on measure and deflator. They find some evidence of industry relatedness and target CEO removal leading to better performance.
Lu 2004	1978-1996 907 completed, 335 uncompleted Acquisitions United States	Find that the effect from merger on completed bids is positive on the three performance measures, profit margin, return on assets, and return on equity.
Moeller, Schlingemann 2004	1985-1995 4430 United States Acquirers	Find negative improvement in cashflow to market value of assets relative to industry of -0.087% following the merger for domestic targets. Cross-border target result in 1% less than domestic. They find a significant positive relation between acquirer announcement returns and operating performance. Moreover they find a significant poitive relation between cash payments and the ex post operating success.
Rahman, Limmack 2004	1988-1992 94 Public Acquirors 113 Private Targets Malaysia	Look at both public and private targets and find that operating cash-flow performance, EBITDA plus changes in Networking Capital scaled by Assets and Sales increase significantly relative to non-acquiring peer. They find that the increase is driven by asset productivity and higher levels of cash flow per unit of sales.
Carline, Linn, Yadav 2003	1985-1994 81 Mergers United Kingdom	Find a 6.4% improvement in operating performance relative to peers after merger. Moreover, cash and non-hostile offers as well as ownership by directors and officers have a positive correlation with operating performance after the merger.
Gugler, Mueller, Yurtoglu, Zulehner 2003	1981-1998 1250 Mergers World	Look at increase in profits and sales after a merger compared to those predicted by acquiror and target industry and find that profits increased relative to industry predictions during 5 consecutive years after merger. On the other hand the reverse was true for sales. Results are driven by U.S, U.K, Continental Europe, and "Rest of the World," while results differ for Japan, Australia, New Zealand and Canada.
Heron, Lie 2002	1985-1997 859 acquisitions United States	Find superior operating performance relative to peer, before and after the acquisition. Find that performance is greater for acquirors with higher market to book value than their targets and if the target is in the same industry. Also find that firms do not manage earnings before acquisitions. They analyze the financing of the deal but find no evidence in method of payment used.
Kruse, Park, Suzuki 2002	1969-1992 46 Acquisitions Japan	Find mean operating performance adjusted for industry fall from 0.9% to 0.26%. However, diversifying mergers have significant increase in operating performance in years after merger.
Sharma, Ho 2002	1986-1991 36 Acquisitions Australia	Find a decrease in ROA, ROE and Profit Margin for the merged company compared to its peer. Same yields when using a cash flow measure scaled by assets, equity and sales.
Yeh, Hoshino 2002	1970-1994 86 Acquisitions Japan	Find that merged firms profitability compared to industry decrease after acquisition. Keiretsu related mergers experience an even worse post-operating performance. Moreover, sales growth decline after takeover.

Previous Research		
Authors Year	Sample Period Size Region	Description and Findings
Andrade, Mitchell, Stafford 2001	1973-1998 2000 Mergers United States	From looking at post-merger operating margin cash-flow to sales, the authors report a 1% increase in abnormal operating performance relative to industry peers. They also provide evidence that mergers occur in waves and clusters by industry.
Ghosh 2001	1981-1988 188 Acquisitions United States	Do not find any evidence that acquiring firms following large acquisitions are able to increase their operating cash flow more than their peers. However, the findings suggest a significant improvement following cash acquisitions resulting from increase in asset turnover. Furthermore, post merger cash flow for firms paying with stock declines on average resulting from lower asset productivity.
Linn, Switzer 2001	1967-1987 413 Acquisitions United States	Find that post- merger operating performance relative to peer is significantly larger when deal is financed with cash rather than stock.
Harford 1999	1977-1994 United States	Cash-rich acquirers firms achieve significantly negative abnormal operating performance due to merger.
Parrino, Harris 1999	1982-1987 197 Mergers United States	Find that operating performance for the acquiring firm increase relative to industry by 2.1%. Also find that where management of the target firm is replaced the increase in operating performance is as high as 3.1%. Both measures are statistically significant at the 1% level.
Brailsford, Knights 1998	1981-1992 368 Acquisitions Australia	Find decrease in profitability for acquirers after takeover when compared to industry. The result is not statistically significant. Find non-significant relation between profitability and several explanatory factors
Dickerson, Gibson Tsakalotos 1997	1948-1977 613 Mergers United Kingdom	Measure return on assets for acquiring companies vs. non-acquiring companies. They report a 2% lower ROA during the 5 years following acquisitions for Acquirers versus Non-Acquirers.
Healy, Palepu, Ruback 1997	1979-1984 50 Mergers United States	Based on 50 largest U.S. public mergers, from an acquirers point of view, including premium in profitability measure they find that on average acquisitions are zero net present value investments. They also find significant positive relation between profitability and industry related acquisitions, stock payment, and that friendly mergers outperformed hostile. Moreover, they find that profitability is related to stock market reaction at announcement.
Clark, Ofek 1994	1981-1988 38 Acquisitions United States (distressed targets)	Find a decrease in operating performance relative to industry peers for firms acquiring distressed targets.
Healy, Palepu, Ruback 1992	1979-1984 50 Mergers United States	Find results on significant improvements in asset productivity relative to industry peers, leading to higher cash flow returns. They find a strong positive relation between post-merger increases in cash flows and abnormal stock returns at merger announcement
Kaplan, Weisbach 1992	1971-1982 271 acquisitions United States	Define unsuccessful acquisitions based on accounting from divestitures. Find that only 34% of later divested acquisitions were unsuccessful. They also find evidence that stockmarket evaluate managerial decisions reasonably upon announcement and that divestitures are four times more likely to happen if target is not in same industry.
Ravenscraft, Scherer 1987	1950-1988 62 Targets United States	Operating income to assets decreased from -0.97% to -1.57 % for the targets compared to industry for the 3 year following takeover
Other methods		
Bild, Guest Runsten 2005	1985-1996 303 Acquisitions United Kingdom	Look at three different approaches, profitability, short-and long run share returns, and fundamental value. Find an increase in fundamental value and profitability but a decrease in shareholder returns.
Koeplin, Sarin, Shapiro 2000	1984-1998 84 Private Acquisitions United States	Use a multiples valuation method and look at EBIT and EBITDA multiples to compare private and public targets. Find a discount for domestic private targets relative to public companies of 20-30%

Previous Research		
Authors Year	Sample Period Size Region	Description and Findings
Studies on Bidder Returns		
Jaskow, Grill 2007	2000-2006 113 Acquisitions Sweden	Find an average 1.87% positive announcement return to bidding firms shareholders. Find positive relation between bidder return and acquisition experience, relative size of target, ownership control, conglomerate, and cross border acquisitions. Furthermore, they find negative relation to vertical acquisitions.
Cosh, Conn, Guest, Hughes 2005	1984-1998 4000 Public and Private Acquisitions	Find positive bidder announcement returns of private targets, and negative for public targets. Additionally they find that 36 month returns are 20% less compared to peers.
Simensen, Åkesson 2005	1986-2003 199 Public and Private Acquisitions Sweden	Find that share price reactions and premium for private and public acquisitions. Share price was on average positive. Stock rather than cash payment was favoured in private targets. International rather than domestic, and transactions in bul markets lead to higher returns.
Moeller, Schlingemann 2004	1985-1995 4430 Acquisitions United States	Find that returns are higher for domestic compared to cross border acquisitions. Furthermore, they find evidence that cash offers are associated with higher announcement returns.
Moeller, Schlingemann, Stultz 2003	1980-2001 9712 Public and Private Acquisitions United States	Find significant positive announcement returns on private targets, and vice versa, significant negative returns on public targets.
Fuller, Netter, Stegemuller 2002	1990-2000 3135 Acquisitions United States	Acquirers have positive returns when buying private targets, and vice versa, negative returns when buying public. Moreover, they find that cash payments are associated with higher returns for public deals but private deals experience higher returns when financed with stock.
Andrade, Mitchell, Stafford 2001	1973-1998 2000 Public Mergers United States	For the same sample as operating performance they find on average negative announcement return.
Jubel 2001	1993-1997 77 Private Acquisitions Sweden	Find positive announcement returns and higher returns for firms using stock rather than cash as payment
Chang 1998	1981-1992 255 Mergers United States	Find that bidder returns for private targets are higher as stock is used for payment
Ericsson, Spens 1997	1985-1996 112 Acquisitions Sweden	Find a slightly positive abnormal announcement return to bidder firms shareholders. Find positive relation to cash rather than stock payment, negative relation to diversifying acquisitions, and that acquisitions in bullish periods experience higher abnormal returns upon announcement.
Comment, Jarrel 1995	1978-1989 17135 Acquisitions United States	Find that focused acquisitions are positively related to stock returns.
Surveys on Acquisition Studies		
Tuch, O'Sullivan 2007	Survey of numerous studies 1960-2007 World	Find that announcement return studies is at best insignificant, long-run performance studies show overwhelmingly negative results, and accounting based measures provide mixed results. They find evidence for positive correlation between performance and cash payments, as well as hostile takeovers. Further. conglomerate acquisitions show more negative results than industry related.
Kaplan 2006	Selected empirical studies	A review of empirical evidence on stock return, accounting based and clinical studies to evaluate merger success. The paper is prepared from a financial economist point of view and argues for a less aggressive merger policy. Relying on announcement returns studies, Kaplan argues that acquisitions create economic value.
Bruner 2004 (2)	1971-2001 130 Studies World	Find that the mass of research suggest that target shareholders earn high positive market returns, bidders earn zero adjusted returns, and combined bidders and targets earn positive adjusted returns. Concludes that on average M&A pays. Looking at announcement return studies he finds that of 4 studies, 20 deliver negative returns to shareholders of acquiring company, 24 studies report positive returns, 14 studies report value conservation, i.e. returns are zero and investment is of zero net present value and acquirers only receive their required return on investment. Looking at accounting based performance measures in 13 studies, 2 studies report significantly negative performance, 3 report significantly positive performance and 8 are in the non-significant middle ground. Investigating the drivers of profitability, he finds that diversification destroys value and focus conserves it, paying with stock is costly while cash is not, use of excess cash generally destroys value.