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Explaining the Performance of Swedish Mergers & Acquisitions: Follow the Money or the Stock Market?

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Abstract

Title:	Explaining the performance of Swedish mergers & acquisitions - Follow the money or the stock market?
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Authors:	Eleonor Andræ, Leonard Bergström, Ebba Friberg, Gustav Krieger
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Key words	CAR, Pretax operating cash flow, Mergers, Sweden, Regression analysis
Purpose	The purpose of this thesis is to investigate the relationship between the market's reaction to a merger and the development of operating perfromance during the subsequent years.
Methodology	This is a study conducted with a deductive approach and of quantitative nature. The study uses regression analysis and correlation analysis in order to analyze and compare secondary data collected.
Theoretical Framework	The theory of this study is based on previous research in the area of M&A's. The reference studies have been focusing on different measurements of post-merger performance. Former studies concentrate primarily on the market of North America and use a different time frame.
Empirical Foundations	The empirical foundation of this study is information collected from 50 companies during the years of 2001-2007. CAR, pretax operating cash flow, and 4 different key ratios have been tested on these companies.
Conclusion	This thesis finds no statistical evidence that the stock market efficiently predicts and accounts for the development of operating performance following an M&A. However, firm size appears to have an effect on the stock markets reaction to a merger announcement and the revaluation connected.

Definitions

The following are some frequently used abbreviations and terms defined:

"M&A's"	In the thesis the words 'merger' and 'acquisition' as well as the abbreviation M&A will be used equivalently, all meaning the purchase of a company.
"CAR "	Cumulative abnormal return is a method of measurement which studies abnormal returns in connection with an event. In this study the event is the announcement of an upcoming deal.
"Operating performance"	Is a collective term used for the operating measures used in the study. These are pretax operating cash flow and four key ratios.
"The market"	The Swedish stock market is the only market surveyd in this study and is at times reffered to as "the market".
"EBIT"	An abbreviation for earnings before interest and taxes.

Preface

This thesis has been composed during the spring semester of 2015 by the undersigned authors. Writing it has truly been an educational experience; many hours well spent seeking knowledge in the dungeons of Alfa. Lots have been learned, and various questions have been answered, especially regarding research methodology. This experience will doubtless be a useful for the future, and for that we are thankful.

In respect to the statistics, we want to thank Jens Forssbaeck and Pierre Carbonnier for helping us through the jungle of regressions analyses, heteroscedasticity and multicollinearity. Furthermore we will thank Lund University for the time spent here, which for some of us is soon to be over.

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Enjoy!

Eleonor Andrae Leonard Bergström Ebba Friberg Gustav Krieger

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1. Introduction

This chapter aims to present the topic and give the reader a short overview of the M&A business as a whole. Furthermore the purpose and limitations will be described and motivated. The chapter ends with a presentation of the audience, which the thesis aims to target.

1.1. Background

Imagine yourself as the CEO of a large Swedish corporation with a number of successful years characterized by economic growth behind you. The corporation is in great shape but you fear stagnation followed by decline unless preventive actions are carried out in the near future. The last couple of years have been characterized by intense market activity in terms of investments and you fear that your corporation may have been too inactive. In order to utilize the economic gains from the past years and secure further development your advisors pitch the idea of acquiring a smaller, yet not insignificant competitor. You find this idea appealing at first but feel a need for greater understanding of the consequences of mergers and acquisitions (M&A's) before you proceed with any further action.

You soon realize that there is no clear consensus among researchers and experts of how M&A's affect the acquiring company. Nonetheless this type of transaction seems to be as popular as ever and you decide to act on your advisor's recommendation and initiate negotiations regarding the acquisition of the competitor.

What effect will this potential deal have on the company? How should the effects be measured? Is the usage of stock price enough or is an evaluation of the firm's operating cash flow a more accurate measurement when it comes to the state of the company in a merger? This study aims to clarify certain aspects in the revaluation at the announcement of M&A's, as previous work is extensive but incoherent.

1.2. Problem Discussion

M&A's often occur in so called waves that will be described more profoundly later in the theoretical framework. With the drivers of M&A waves being technological, economical and regulatory change and the motives being, for the better part, rational one may think that mergers would occur constantly with positive effects for shareholders. But that is not always the case. Extensive research has been done on the topic of whether M&A's are value

creating or value destroying. There is empirical evidence that points towards that the value-destroying scenario is more likely but this is contradicted by some. Historical observations have shown a decline in stock prices for the acquiring company, as shareholders have been worried about paying too much for the target company (De la Merced, 2014). The research that has been done can prove few positive effects for shareholders when it comes to M&A's. Still, the waves keep coming and the first six months of 2014 had the highest reported amount of M&A's since the record year 2007 (ibid). With this background one might question the market's judgment or knowledge regarding M&A's.

Many of the previous studies have used either the initial reaction, and the abnormal returns attributable, or the long term development of stock prices as the indicator on whether a deal was successful or not. The idea is that stock prices are representative of the economic performance of a company. This is, however, based on the assumption that the stock market is reacting "correctly" to the announcement of a merger or that the market at all times is valuing the stock efficiently. But how well can the market predict future performance regarding merged firms? A fundamental valuation theory in finance states that the value of an enterprise is the net present value of all future cash flows (Berk, DeMarzo, 2014). A question worth asking is why not more research has been done on the development of cash flow for the acquiring company over time? If there is a discrepancy between the market reaction and development of cash flows, where the increase in cash flow develops more moderately than the stock price, there is no "real" economic gain even though shareholders make a profit. As Rappaport said: "Cash is a fact, profit is an opinion" (Rappaport, 1998). This may be bluntly put but it conveys an undeniable truth: the "real" gains from a deal can, and maybe should, be measured as the surplus in cash created instead of reported profits.

Considering the mentioned lack of cash flow studies and the potential importance of it, this study aims to clarify a few aspects as described below. The focus will differ from earlier studies when it comes to valuing a company's post-merger performance. Most earlier studies focuses solely on abnormal returns to measure a value creation or destruction after an M&A (see for example Fama, 1998). This study focuses on the markets prediction in relation to actual operational performance, and not only temporary changes in stock price.

The fact that this study is performed on the Swedish market also makes it differ from previous studies. Most studies that include post merger performance and cash flow are relatively old and performed on the American market. This study brings a new dimension to the field as the comparison between cash flow and CAR is a comparison often disregarded. Further differentiation is also provided due to the fact that the Swedish market does not

necessarily exhibit the same result as the American because of the differences in for examples regularities, size, tax system, macro-economic climate and so on.

1.3. Research question

To what extent does the stock market's reaction to a merger announcement, defined as cumulative abnormal returns, associate with the development of operating performance measures of the acquiring company?

1.4. Purpose

The purpose of this thesis is to investigate the relationship between the stock market's reaction to a merger and the operational outcome in the subsequent years.

1.5. Demarcations

As previously mentioned, research regarding M&A's has been done thoroughly during approximately 100 years. Focus has, more often than not, been on the American market. This study is focusing on Swedish companies as acquirers as it is a market which is fairly un-researched. Although the Swedish market is relatively small an absolute minimum value of the transcation was set to 100 million Swedish Crowns and a relative minimum size of the transaction was set to 5 percent of the market value of the acquiring company. These limits were set in order to guarantee that the events in the study were of a significant size as it is hard to analyze events that are too small in their self or relative to the subject. A transaction that is too small is not guaranteed to have a satisfactionary effect on the acquirer, or the result could be unreliable.

The focus of this study is transactions completed in the time period between the IT-crash in 2000 and the economic crisis of 2007 and 2008. This period was chosen as it makes it possible to account for any and all different types of economic situations on the market and furthermore the period includes the sixth merger wave (2003-2007), which is an advantage as this guarantees high merger activity. It also enables comparison with previous research as it primarily has been done for periods including waves (Faulkner *et al*. 2012) .It has been shown that companies that merge early in a merger wave have reached better results (Carow et al., 2004), which is why the study benefit from including mergers from the years 2001-2002. The reason is that these per definition are previous to the sixth wave and therefore can be used as a point of reference.

Furthermore, the study only includes the transactions where the acquiring company has remained noted on the stock market for at least three years after the merger, this as the

accessibility of data is much higher for these companies. If the acquiring company has made several transactions we only include them if at least three years have passed between the transactions in order for them to not affect the three-year post-merger analysis of the company's cash flow. Of the 50 observed companies none are in the finance- or real estate industry as the performance of these companies, and the used accounting principles, tend to be hard to compare with service and industry companies.

1.6. Target Group

The target groups of this study are professors, students, and people with particular interest in the finance sector.

2. Theory

This chapter will explain the occurrence of mergers and acquisitions and the market's ability to value a merger. Through a description of the major theories within the field and a presentation of our reference studies the aim of the chapter is to highlight the essentials of referential studies and to introduce the choice of variables and their theoretical utility.

2.1. The Occurrence of Mergers and Acquisitions

There are different ways that companies can grow. Either they do it organically or they do it inorganically. The difference is that by growing organically the company signals that the growth is due to its own performance, while growing inorganically means that the growth is achieved through mergers and acquisitions (Tokarski and Volkmann, 2012).

A merger is defined as an offer given to the management of the target firm by the management of the acquiring firm. Before the offer is presented to the shareholders both boards of executives have been able to discuss and approve it separately. If, however, the board of the target company is not approving the merger, the acquiring firm can make a public offer to the shareholders. As soon as that happens, a hostile bid has been presented. If the shareholders accept the bid the company has been bought through an acquisition (Collett, 2015).

Throughout the history there have been six so-called waves of mergers and acquisitions, each with different drivers for its start. Some of these drivers have been changes in technology, economy and regulations. The first wave (1893-1903) was for example characterized by companies acquiring horizontally which led to the creation of monopolies, which was allowed at the time (Faulkner *et al*., 2012). Through time the specific motives behind mergers have, among others, been things such as managerial self-interest, exploiting efficiencies of internal capital allocation markets, international expansion and the elimination of conglomerate structures and inefficiencies. It should also be said that the effects of mergers for shareholders have differed over time with overall worse results in the latter decades (Faulkner *et al.,* 2012).

The dominating opinion that M&A's are to be pursued in strong economic times and avoided in weak economic times should be questioned. The M&A's generating the most value are

made in weak economies. Acquisitions made in times where most companies are avoiding deals often provide the best long term result in form of shareholder return (Bloomberg Business, 2006).

There are two different methods of payment that can be used for the acquiring firm when pursuing an acquisition: Stock shares (equity) and cash. Cash is the preferred choice for managers of the acquiring firms if they believe that their firm's stock is undervalued. On the other hand they prefer to finance it with equity if they believe their stock is overvalued (King *et al.* 2004). Therefore, a manager's expectations of an acquisition may be specifically strong if cash is used as the medium of the acquisition. Loughran and Vijh (1997) have studied the shareholder return after an acquisition based on method of payment and finds that the return after an acquisition is greater when cash is used as financing as opposed to stock shares.

2.2. Why do mergers occur?

There are many explanations to be considered regarding why mergers occur. Trautwein (1990) describes the Efficiency Theory and the Valuation theory. Combined further down with the Market efficiency theory the aim is to provide a theoretical foundation to better understand the reference studies presented in chapter 2.5.

2.2.1. The Efficiency Theory

According to The Efficiency Theory, mergers and acquisitions occur to achieve financial, operational, or managerial synergies. Financial synergies lead to lower cost of capital, either by lowering systematic risk in the joint investment portfolio or to get access to cheaper capital because of the greater size of the firm’s market shares. Another way to reach financial synergies is the possibility of an internal capital market, which makes room for better information and therefore more efficient investments (Trautwein, 1990).

Regarding operational synergies they occur mostly because the companies can combine and use separate units together and share knowledge. These synergies can result in lower costs of business units or the possibility of creating unique products. Managerial synergies deal mostly with the bidder’s influence over the target’s management (ibid.)

Trautwein states that the efficiency theory seems to be consistent with the stock market behavior, but not with the actual performance of the company and should therefore be rejected by someone believing that financial statements is more reliable than stock prices. Trautwein continues that merger makers use these synergies as arguments for a successful outcome even though the result often is unreliable (ibid.)

2.2.2. The Valuation Theory

This theory derives from the view that the acquiring firm's managers have better information about the target company than the stock market has, and that is what explains the merger. This theory is conflicted with Fama's theory of market efficiency, which tells us that there cannot be such information asymmetry, as the market will reveal it (Trautwein, 1990). On the other hand, Wensley (1982) argues that information is never one-dimensioned, or objective, so the value depends on different expectations on the same target and not necessarily the information asymmetry of the market. Therefore it is possible for the price to be lower than the market's estimate since different bidders may have different motives and try to throw each other off with (low) bids that do not match each individually expected future cash flows. These are according to Trautwein (1990) arguments used by managers to justify mergers, which otherwise could have looked unmotivated. However his theory doesn't match the premises of capital market efficiency or efficiency theory.

2.3. Market Efficiency

In his study from 1970 Fama reviewed the theoretical and empirical literature regarding the "efficient market models". An efficient market is a market in which prices fully reflect all available information (Fama, 1970). As Famas theory and findings are a fundamental basis for some assumptions of this study, they will be presented below.

2.3.1. The Efficient Market Hypothesis

The efficient market hypothesis is the idea that investors' compete amongst each other, leading to the elimination of all positive net present value trading opportunities. It implies that, given the available information to investors, securities will be fairly priced based on their future cash flows. The existence and magnitude of competition is the fundamental factor for the efficient market hypotheses and its accuracy. The amount of competition will depend on new information that becomes available that affects the firm value, and how many investors who possess the information (Berk, J., DeMarzo, P., 2014, p 295-296).

In his theory Fama stated that the primary role for the market is to allocate the ownership of the capital represented in the economy. The market will be efficient when the prices of the securities provide signals so relocation of assets will take place. I.e. when companies can make the right investments and the investors can choose among the securities and expect them to reflect all the available information. (Fama, 1998)

Assumed perfect information, homogenous expectations among investors, and no market imperfections like transaction costs, Fama has divided market efficiency into three categories: weak form, semi-strong form, and strong form.

Weak form

According to Fama (1970) a market is in an efficiently weak form when the current price fully reflect only historical values. Stocks are uncorrelated and have a constant mean, which perpetually leads to mispricing and in extension to the possibility of long term abnormal returns, since current and future prices cannot be set only by looking at historical prices and dividends (Poshakwale, 2005). Jensen (1978) contributes to Fama's original theory by expressing a more general rule to efficient markets: A market is efficient if it is impossible to gain economic revenue when all information is available to the public. This view has inspired many studies regarding evaluating weak form (Poshakwale, 2005).

Semi strong form

Semi-strong efficiency is the generally accepted form and characterizes a market affected by asset-pricing models and return predictability, and results in a view of the market as rationally and immediately in response with new information and reacting accordingly. Assuming no delays on the market for public information derives at no consideration to market under- or overreaction and prices will reflect the value of the underlying assets (Poshakwale, S, 2015). This means that excess returns is impossible to gain on publically traded information. A central issue for the semi-strong efficiency theory is that announcements of events can be dated to the day, as well as pricing information (ibid). This enables and encourages event studies for research in capital markets, since they come closest to allow a break between market efficiency and equilibrium pricing issues and to prove efficiency (Fama, 1991).

Strong form

The strong form ignores 'private' information and proves accurate if the market immediately reacts on all information available to anyone. Fama tests in 1991, in his later work Efficient Capital Markets II, this hypothesis of non-existing insider trading and comes to the conclusion that it is equally proven that certain people are possessing insider information not available to the public, as it is proven not to occur (ibid.).

The three assumptions regarding market imperfections are however not necessities as a

market may be effective even if there is disagreement among the investors and only a "sufficient number of investors" have access to the information. Fama finds that for weak and semi-strong form the efficiency theory holds up well and for the strong form it still holds up to some extent. This means that for tests based on historic prices and tests based on price adjustment to publicly revealed information, such as announcements, the efficient market theory holds up (Fama, 1970).

2.4. The Value of Analyzing Cash Flow

The cash flow is often used to estimate the financial performance of a business. Through the examination of a company's operational cash flow one can be able to measure the actual economic benefits following a merger (Healy *et al.* 1992). By investigating certain aspects of the cash flow statement and comparing these numbers before and after the merger, the "real" changes in operational performance appear.

In the study of Healy *et al.* (1992) is using pretax operating cash flow, defined as Sales, minus cost of goods sold and selling and administrative expenses, plus depreciation and goodwill expenses. Operational Cash Flow is important because it reveals whether a company is generating adequate positive cash flow, or if it may require external financing. In order to sustaining and growing operations, generating a positive cash flow is essential. According to Healy *et al.* (1992) the pretax operating cash flow represents the actual economic benefits generated by the assets. Switzer (1996) also suggests that this measurement is the best to examine post-merger operating performance. Switzer also mentions that the strong accuracy of the indicator is due to the fact that this definition of operating performance is unaffected by what type of financing that is used at the merger, as well as depreciation and goodwill.

The price of a company's stocks is the present value of all the future cash flows that are expected from said stock. If the investors have all the available information then the securities will be priced fairly (Berk, DeMarzo, 2014).

Many of the companies who present a profit suggest that part of the profit should go back to the shareholders. In order for a firm to have a profit they eventually need to be successful with their operating business. Even though a company is successful they can sometimes choose to reinvest their profit within the company in order to improve their existing business, however many companies tend to try to pay out dividends to their shareholders (De la Marced, 2014).

The dividends are the interest that shareholders get for lending capital to the firm. Since different investors have different expectations and beliefs regarding the dividends, the price of the stocks shifts. When a firm announces a future acquisition, their stock prices tend to decrease since their shareholders are afraid that they will have to pay a higher price for the target firm than necessary (ibid.)

There are different policies regarding dividend payments leading to inconsistent dividend payments over time. They can either be low or high, fluctuating or stable. Low dividends can show the market that the company is reinvesting their profit while a high dividend can be a sign of a strong future believe within the company. A stable dividend policy is an example of owner control or the fact that the company doesn't want to have to lower the dividends in case of declining profit, whereas a fluctuating can show that the company has a future target they are trying to reach. What all the policies have in common is the fact that it is connected to the liquidity generated by the business (Berk, DeMarzo, 2014).

2.5. Reference Studies

This study is theoretically based primarily on a study done by Healy *et al.* (1992) and their way of analyzing operating performance after a merger, but this study also combine their approach with the one of King *et al.* (2004) who measures CAR after a merger, according to different types of firms. By using operating key ratios to explain what happens after a merger, and spotting patterns in different characteristics regarding CAR, the authors of this study established the foundation on which this study is based. We will also present similar studies that all form the framework of earlier research for our study.

2.5.1. Studies on operating performance and M&A's

The most common way of measuring post merger performance is by analyzing the stock price. However, there are some studies that examine cash flow and its development as the measurement of the success of M&A's.

Gugler *et al.* (2003) performed a global study for the period 1990 to 1998, on the effects mergers have on profits. The study measured whether the profits for the new entity were larger than the combined projected profits for the two separate entities for the five years following the merger. The findings were that the American, the British and the European market all showed relatively large positive effects on profits. Although the significance level was not proven at the 10 percent level for all the observations, it was statistically significant for the majority. This however was not the result of the observations regarding the rest of the world. The effects of mergers on sales were negative in almost all cases with an average of -

14.5 percent. In conclusions, Gugler *et al*. highlights that, using profits as the measures of success leads one to conclude that the average merger was a success. On the other hand, using sales one would reach the opposite conclusion (Gugler *et al.*, 2003).

Switzer's (1996) study examines the change in operating performance of 324 acquiring companies between 1967 and 1987. To measure the post-merger performance of the companies, the author bases the examination of operating performance on cash flow from before and after the merger. The study indicates that by using this definition of operating performance, an accurate indicator of productivity effect can be inferred. This is because the certain definition is unaffected by the type of financing as well as depreciation and goodwill.

The result of the study of Switzer reported substantial improvements in operating performance in a large sample of combinations of merged firms. There were also improvements in operating margin as well as asset utilization. The most interesting revelation of the study was the substantial positive improvement between the change in operating cash flow and abnormal asset return. This result provided evidence that the reaction at announcement reflects the assessment of benefits of combined firms in form of synergistic effects.

Aloke Gosh has in his study from 2001 chosen to analyze the operating performance following a merger as most previous studies has focused on stock returns. He is also somewhat skeptic towards Healy *et al*. (1992) and the use of the industry median as reference point in their analysis as they argue acquiring companies tend to have outperformed the market previous to the merger. Gosh (2001) uses a research method of matching companies, which accounts for superior pre-merger performance. He finds that "...operating cash flow increases significantly following cash acquisitions after accounting for any superior pre-acquisition performance. The improved performance appears to result from higher sales growth and does not seem to arise from cost reductions." (Gosh, 2001).

2.5.2. Studies on cumulative abnormal returns from M&A's

When observing CAR regarding mergers the purpose is to see how the market reacts to the news of the merging of firms. Since this is an integral part of the merger, there are a lot of studies on the subject.

In an attempt to examine the effects and motives behind M&A's Andrade *et al.* (2009) conducted a study including all publicly traded US based corporations traded on AMEX, NYSE and NASDAQ. The findings show that the average CAR for the acquiring company were negative during the entire period 1973 to 1998 as well as during each decade, as can

be seen in table 1 (Andrade *et al.,* 2009). The time spans used were a three-day span, from one day before the announcement of the deal to one day after the announcement, as well as 20 days prior the announcement up to the completion of the deal. Both time spans generate negative abnormal returns, however the longer time span shows substantially worse returns on average as can be seen in table 1 (Andrade *et al.,* 2009).

Table 1: CAR by decade for the American market

Announcement Period Abnormal Returns by Decade, 1973–1998

	1973–79	*1980–89*	*1990–98*	*1973–98*
Combined				
[−1, +1]	1.5%	2.6%[a]	1.4%[a]	1.8%[a]
[−20, Close]	0.1%	3.2%	1.6%	1.9%
Target				
[−1, +1]	16.0%[a]	16.0%[a]	15.9%[a]	16.0%[a]
[−20, Close]	24.8%[a]	23.9%[a]	23.3%[a]	23.8%[a]
Acquirer				
[−1, +1]	−0.3%	−0.4%	−1.0%	−0.7%
[−20, Close]	−4.5%	−3.1%	−3.9%	−3.8%
No. Obs.	598	1,226	1,864	3,688

Note: Statistical significance at the 5 percent level is denoted by [a].

Andrade *et al.* (2009)

Table 2: CAR by country during 1996-2001

Sample	Listed Targets (1)	All Unlisted Targets (2)
Panel A. By Home Country of Acquirer		
All non-U.K.	0.28	1.75**
	0.02	0.79**
	385	1,294
U.K.	−1.12*	1.33**
	−1.03*	0.57**
	350	2,400
France	−1.18	0.66
	−1.59*	0.17
	76	211
Germany	−2.14	1.41*
	−0.55	0.78*
	39	144
Italy	0.88	2.06**
	0.96	0.90*
	33	131
Netherlands	−0.01	2.59**
	−0.49	1.47**
	58	120
Sweden	1.33	2.56**
	0.97	1.70**
	43	142
All other	1.44*	1.78**
	0.72	0.69**
	136	546

Faccio *et al*. (2006)

In 2006, Faccio *et al.* presented a study which showed that the Western European market in general tend to have a more optimistic response to merger announcements than the American market. The European market showed a positive response in terms of abnormal returns to the merger announcements when measured from two days before the announcement to two days after, one exception was the U.K which had a similar CAR as the U.S. in the study by Andrade et al. This is illustrated in table 2 (Faccio *et al.,* 2006). Further the study concludes that the European market exhibits no significant negative return for listed target and a significantly positive CAR of 1.48 percent for unlisted targets.

In 1996 P. Raghavendra Rau and Theo Vermaelen disclosed the results from a study of 2997 mergers completed by companies listed on NYSE or AMEX. The sample was taken from the period 1980-1991 and covers the stock performance from the time of the merger and three years subsequent. The study concludes that the acquiring firms in mergers underperform by 4.04 percent, calculated as bias adjusted CAR, for the 36 following months.

However the study also concludes that companies who acquires through a tender offer outperform the control portfolio by 8.85 percent, calculated as bias adjusted CAR. Further the study's unadjusted CAR is consistent with Agrawal *et al.* (1992) as the reported figures are -15.23 percent and -13.85 respectively.

The studies mentioned above fuction as a theoretical base regarding post-merger performance and different ways of measuring it. However, in 2.5.3 and 2.5.4 two studies have stood out as particularly relevant for the purpose of this thesis, due to their choice of method.

2.5.3. "Meta-analyses of post-acquisition performance: Indications of unidentified moderators"

King *et al.* (2004) made a meta-analytic review of mergers and acquisitions. The aim of the study was to cumulate previous findings of post-performance when it comes to acquisitions by analyzing 93 published studies. The conclusion of the study was that there is no evidence of acquisitions improving the financial performance of a firm after the announcement of the completed acquisition. This applies to both abnormal returns and accounting performance.

Furthermore King *et al.* concludes that what impacts the financial performance of firms engaging in mergers and acquisitions is largely unexplained. The author finds that certain studied "conditions" of mergers and acquisitions like method of payment, prior acquisition experience, conglomerate acquisitions and related acquisitions do not impact the post-performance of acquiring firms.

King *et al.* is of interest to this study mainly because of its comprehensive analysis of studies regarding post-merger performance. The fact that they have observed previously mentioned "conditions" makes the study even more interesting, for the same reason as in the study of Healy *et al.*, since this study will examine different characteristics in a regression analysis.

2.5.4. "Does Corporate Performance Improve After Mergers?"

Healy *et al.* (1992) examines the post-merger performance of the 50 largest public industrial company mergers in U.S. between 1979 and 1984. The study is motivated by previous research's inability to attach stock price performance to real economic gains after a takeover. The authors observed the operating cash flow returns of both acquiring and target firms, and tried to explore the sources of the merger-induced changes. The time frame of the study is five years prior to the merger until five years after and they collected their data from the annual reports of the companies, merger prospectuses, proxy statements, and reports from analysts.

The findings from the study suggest that mergers lead to significant improvement in operating cash flow returns. There were differences in between firms where acquiring firms with overlapping business with the target firms performed better operationally. No R&D synergies could be proven after the merger. The improvements were strong when it comes to improvements for transactions involving businesses that overlap. The study also indicates that the equity revaluation of a merger can be explained by the expectation of economic improvements. This is revealed in a major positive relation between the abnormal stock return and increases in post-merger operating cash flow.

The study of Healy *et al.* is highly relevant for this study. The authors were able to prove a high correlation between the estimated market value around announcement and actual operating performance for the following five years. This observation, along with the efficient market hypothesis gives reason to expect a significant correlation between operational post merger performance and CAR from an announcement. Also there was a discrepancy between different firms characteristics, which makes it interesting to search for further associations between different types of firms.

2.6. Hypotheses discussion

There is no consensus across studies whether there is a correlation between the stock markets revaluation of the stock price at the announcement and future operating performance. For example; while Healy *et al.* finds a strong correlation between the two, King *et al.* finds it largely unexplainable. When considering the efficient market hypothesis and assuming a semi-strong or strong form of efficiency the market should be trusted to be able to correctly price the merger's economic value. This gives reason to believe that CAR should have a significant relationship with the development of pretax operating cash flow. Therefore the primary hypothesis is formulated as below:

1. There is a relationship between the development of pretax operating cash flow and CAR.

Regardless of the results the testing of the primary hypothesis generates, it is important to understand the operational performance further. Whether there can be proved a positive correlation between the two, or not, it is interesting to understand which key ratios have an impact on the pretax operating cash flow as well as if there is a relationship between the key ratios and CAR. Inspired by the study conducted by Healy *et al.* some key ratios have been chosen to explain pretax operating cash flow. Influenced by King *et al.* a few control variables have been selected to clarify the parts not being explained by the key ratios.

Healy *et al.* found in their study that stock price gains at the merger announcement are due to expectations of improvements of cash flow after the merger. They calculated that the market is able to capitalize at least 24 percent of the post merger performance. In combination with the above stated hypotheses it is of interest to investigate if there are relationships to be found between the key ratios and CAR.

Springer Link's Encyclopedia of Finance describes cash flow as the actual transfers of cash into or from the firm and the same cash that will be used to pay creditors and shareholders. It can be classified as cash flow from operations, or from changes in fixed assets or net working capital. (Lee, C.A, Lee C, 2006). By observing the pretax operating cash flow it is possible to see the cash generated by the operational activity, which can be either reinvested in the firm or paid out as dividends. In the pretax operating cash flow tax expenses are deducted since it is preferable to adjust for deferred tax posts and make the performance comparable with before the merger.

As a result of the above presented the following hypotheses will be tested:

Employee growth rate

Shleifer and Summers, (as cited in Conyon et al. 2002) argues that a merger gives the acquirer the option to renegotiate labor contracts towards lower labor costs and therefore reach a more efficient mix of capital and labor. Healy *et al.* (1992) show in their investigation of 50 mergers that the median number of employees decline initially each year after the merger (Healey *et al.,* 1992). This decline can be explained by a redistribution of wealth between employees and stockholders after the merger or by lower labor costs (Conyon *et al.*, 2002). This ratio appears to describe a higher monetary gain with lower employee growth rate, since the capital is not spent on wages.

2. There is a relationship between Annual Employee Growth Rate and Pretax Operating Cash Flow.

3. There is a relationship between Annual Employee Growth Rate and CAR.

Accounts payable turnover ratio

Healy *et al.* (1992) argues that cash flow represent the real economic benefits, compared to stock prices which are unable to measure the real economic gain from a takeover. A high pretax operating cash flow thereby signals that a company has a high liquidity. Accounts payable turnover ratio shows how many times a company, during a year, can pay off its average accounts payable balance. It is common to engage in a merger or perform an acquisition for reasons as to strengthen the value chain, by acquire customers or suppliers.

Therefore it can be interesting to observe if the merger generated a change among suppliers if, for instance, there were no effect on the clients.

4. There is a relationship between accounts payable turnover ratio and pretax operating cash flow.

5. There is a relationship between accounts payable turnover ratio and CAR.

Operating margin

The formula for the operating margin includes both sales and EBIT, which means that a company with a higher margin has a high EBIT. As the income statement (and therefore EBIT) is the foundation of the cash flow statement the operating margin might explain the cash flow and its growth. The operating margin is calculated by dividing operating profit with net sales. The ratio shows how much of each dollar that the company can keep from their sales as profit before interests and taxes are paid. The higher ratio, the better as it shows that the company is profitable enough to cover other expenses than just those which are included in the operating profit (Healy *et al.,* 1992) Since it is a ratio, it is possible to reach a higher operating margin also by lowering net sales.

6. There is a relationship between operating margin and pretax operating cash flow.

7. There is a relationship between operating margin and CAR.

Net sales

As pretax operating cash flow is defined as EBIT + Depreciation – Tax it is mathematically logical that an increase in sales will have a positive effect on pretax operating cash flow, as long as the increase still is with a positive and unaltered operating margin. Therefore the strength of the relationship between net sales and pretax operating cash flow will be tested.

8. There is a relationship between net sales and pretax operating cash flow.

9. There is a relationship between net sales and CAR.

Control variables

As mentioned above, deal characteristics have in other studies been used to explain pretax operating cash flow and CAR. The variables chosen are the ones that the previous studies have concluded to have an impact on the different measures of success in M&A's. Presented below are variables needed when analyzing CAR and its relationship with the operating key

ratios and pretax operating cash flow. The selection process and motives are explained more in detail in chapter 3.11.

1. *Relative size of the transaction*
2. *Absolute size of the transaction*
3. *Absolute size of the acquiring company*
4. *State of the market*
5. *State of the wave*
6. *Serial acquirer*
7. *International acquisitions*

3. Methodology

The aim of this chapter is to describe and motivate the chosen method to accomplish the purpose of the study. Further the sample and variables will be explained. The chapter ends with a discussion of reliability, validity and limitations associated with the study.

The fact that the study is based on existing theories makes a deductive approach the most suitable. A deductive approach is used by deducting hypotheses and theories based on a previously established theoretical framework (Bell, E. & Bryman, 2013). The hypotheses will either be accepted or rejected through an empirical study. Throughout the study the work methodology will be by reviewing existing theories and applying them on the empirical material generated by this study. The aspiration is to provide a contribution to the existing research in the area.

3.1. Methodological Approach

The study uses financial secondary data and multiple variables. This together with a large amount of data makes the quantitative approach the best suited. Further the stock price reaction will be handled with an event study as it has the advantage of isolating a direct reaction on a specific occurrence without having to adjust for other possible variables affecting the variable.

3.2. Gathering of Data

3.2.1. Secondary data

In order to answer the formulated problem in this study, secondary data has been used. Secondary data is defined as data that is available since before but the reason for its collection is different than ours (Greatorex, 2015). In this case the information has been retrieved via the annual report of the companies chosen, databases, and web pages. The aim of the study was to include as large M&A's as possible, therefore the deals were criteria-tested in order of size with the largest first.

3.2.2. Selection of datasources and criticism

As secondary information was required, this study has utilized information from databases such as Zephyr and Retriever Business. In order to find the stock prices of the different

companies around the time of announcement primarily Avanza.se was used but in order to validate the data NasdaqOMXNordic.se was used for cross-references.

In order to find the companies needed for the study the database Zephyr was used. By searching for the basics in assumptions needed for the study, such as absolute and relative size of the M&A's and for Swedish acquirers, the samples needed were found. Since information from 2001-2007 was needed, Retriever Business was used to find the annual reports for the acquiring companies as long as the provided copies were of sufficient quality. If the quality was deemed too poor, the company web site was used to retrieve the data instead. From the data fetched from annual reports the pretax operating cash flow and key ratios were calculated for all of the 50 companies.

Since a second party provides the data there is always a risk of the information being wry, and using the data provided by the companies themselves increases the risk of deficient quality. However, since both the shareholders and the government approve the annual reports, and all the firms used for this study are quite large and therefore well monitored, the risk of unreliable data is assesed as quite small.

To be able to create the regression analysis and other statistical studies SPSS has been used as it is a computer program held in high regards and it is frequently used within the academic sphere.

Retriever Business	*As the Retriever Business database only includes Swedish companies, it was used to find annual reports from the companies that have taken part of the study.*
Home pages of the firms	*In order to find annual reports from the firms when Retrieve Business failed to meet our demands we used the web pages of those companies.*
Zephyr	*This data-base was used in order to find basic information regarding the M&A's such as relative and absolute size, if the target firm stayed in the corporation, and whether the merger was completed within the timeframe.*
Avanza	*To find the stock prices for the time of the merger Avanza.se was used.*

Nasdaq Nordic	*Was used as a reference to make sure the development of the stock price was the same as Avanza's.*
Thomson Reuters Datastream	*Was used to retrieve beta-values for all companies.*

Table 3: Summary of databases and webpages used.

3.2.3. Population Criteria

As mentioned previously the database Zephyr has been used to find the companies needed. In order to do so the following criteria were chosen to create a selection:

1. The acquiring company must remain noted at least three years after the merger.

2. The target company must remain within the new corporation at least three years after the merger.

3. Only deals that were defined as either a "merger" or an "acquisition" have been used.

4. The transaction was completed within the time frame of 2001-01-01 till 2007-12-31.

5. The acquirer is a Swedish company.

6. Those companies whose primary business is within the industry of finance or real estate are not included in the selection.

7. The transaction must amount to at least 100 million Swedish crowns.

8. The value of the transaction must exceed 5 percent of the market value of the acquirer as of December 31st the year before the deal and in addition the acquirer must have increased its ownership to above 51 percent of the voting rights of the target company.

9. If a company has taken part of more than one M&A during three consecutive years within the time frame, only the biggest transaction was included. Furthermore if a company has made an acquisition larger than the largest within our time frame either three years before or three years after our time frame that deal was not included in the sample.

The reason why only noted Swedish companies were included was due to the benefit of their transparency making the gathering of data less difficult (1, 5). Adjustment for acquirers, who have engaged in more than one acquisition during the period of 2001-2007, by choosing the largest deal within a three-year period, was made due to the fact that a change in their operating cash flow is likely to depend more on the largest deal. Likewise, the same adjustment was made for the three-year period prior to and subsequent to the time frame. However, if there have been three or more years inbetween two M&A's, within the time frame, for an acquiring company both deals have been included (9). Adjustment for companies reinvesting in other firms or acquiring insignificant minority ownership has been made by setting a lower deal value limit of 5 percent of the market value of the acquiring company. This so it could be made certain the deal was of substantial value (8). For the same reason it was decided that the minimum transaction value should be 100 million SEK (7). Those companies who are active within the industry of finance and real estate have different principles regarding accounting and may therefore exhibit results, which are easier to misinterpret, which is why they have been excluded from the study (6). The time frame was chosen as it includes the sixth wave (2003-2007), which simplified the proccess of finding a sample of sufficient size (Berk, J., DeMarzo, P., 2014). Previous studies have shown that mergers occurring early in a merger wave generate better results (Carow et al., 2004), which is why the years of 2001 and 2002 were added, as they are not included in the sixth wave. As some of the M&A's were announced in the year previous to completion, the year 2000 was included in the charts under the results chapter. The benefit of the time frame is that it included various macro-economic situations possible as the IT-crash took place in 00' and the start of a major financial crisis in took place in 07' (4).

3.3. Event Study Methodology

Event study methodology is based on the premises of efficient markets, earlier described in the theoretical section. It measures the effect that one unpredicted event has on the expected risk and profitability of a portfolio associated with that event (Agrawal & Kamakura, 1995). Assumed that the market reacts as soon as it knows about the unexpected event, one can measure the value of an effect with an event study, using the difference in price after the occurrence of the event, as opposed to the price on the security before it. In this way, the market can estimate the unbiased economic value of the event (Brown & Warner, 1980). The use of event study methodology in this kind of study is well accepted and has been widely used within studies of finance and accounting before (Agraval & Kamakura, 1995).

3.4. Choice of Estimation Window and Time Frame

Deciding on the estimation window is always a trade-off between having more information and being more precise in analyzing one specific influence among many. A window of five days for CAR calculations was chosen in order to capture the time of the announcement relatively precise. The window included the two days prior and the two days after the announcement in order to include possible insider reactions and the slower bidders. This window was captured through the measurement of closing stock prices from three days before the announcement, and every day until two days after the announcement.

The use of an event study gives the advantage of isolating the direct effects on stock prices without having to adjust for other possible variables affecting the value of the company (Fama, 1998).

In order to be able to find the information of cash flow needed the annual reports of the 50 largest acquisitions with Swedish acquirers were analyzed. As the "real" value of cash flow is presented once a year post-merger bookkeeping data was used. It was possible to derive the pretax operating cash flow for the companies in the sample from their respective annual report. This was done for four years for each company, starting with one year prior to the merger and including each of the three subsequent years. This provided the possibility to compare the development of each year-end. However one has to consider that during the three year period after the merger of course other factors than the merger itself affects the development of cash flow. The reason why the year of the merger, year zero, was not used to calculate cash flow is because during the year of the merger there are a lot of additional costs due to the merger which are not generating a representative result (Helay *et al.,* 1992).

3.5. Usage of Collected Data

The data collected have been used to calculate dependent and independent variables as key ratios, which are described more in depth below. Afterwards both regression and correlation analyses were conducted as well as scatter plots for the 4 years that data were collected for.

CAR has only been treated as a dependent variable throughout the study as the purpose was to measure the stock market's reaction in relation to development of operating performance. There were two intentions with the usage of pretax operating cash flow: Firstly, as an explanatory variable to CAR, to test hypothesis 1. Secondly, as a dependent variable to the key ratio to measure how much impact they have on pretax operating cash flow.

3.6. The Dependent Variable: Cumulative Abnormal Return

To analyze the stock markets prediction of an acquisition one normally uses an event study to capture the difference between the expected return of a stock and the actual return, in order to find the abnormal return. To calculate the abnormal return in the form of cumulative abnormal return (CAR) abnormal return can be triggered by a certain event, like an M&A. Thereby, for example, one examines the stock prices around the announcement day of a merger in order to find any abnormal return. What investors actually end up receiving from an investment is actual return, as opposed to expected return. When calculating the actual return one studies how the stock price changes in comparison to the average market while having the beta of the stock in mind. So if the stock increased by 3 percent at the announcement of the merger with a beta of 1, and the stock market on average increased 2 percent, then the abnormal return was 1 percent (3 percent - 2 percent = 1 percent). The abnormal return will therefore be negative if the markets performance is better than the individual stock after the beta of the stock has been adjusted for.

The abnormal returns summed up are called Cumulative Abnormal Return, abbreviated to CAR and is a common way of measuring long-term results (Fama, 1998 p. 294). Buy and Hold Abnormal Return (BHAR) is often said to be a better measurement for long-term investors who holds the security for a long term post-event period. For a shorter perspective though, the more suitable choice should be CAR since BHAR can bring skewness when calculating for future returns that may not have taken place during the estimation window (ibid.).

Expected return

$$E[R] = \sum_{i=1}^{n} R_i P_i$$

Where:

R_i is the return in scenario i;

P_i is the probability for the return $R_i$in scenario i; and

i count the number of scenarios.

Actual Return

$$r = \frac{V_f - V_i}{V_i}$$

Where:

V_f= final value, including dividends and interest

V_i= initial value

$$\text{Abnormal Return} = \text{Actual Return} - \text{Expected Return}$$

3.6.1. Explanatory variables: Key ratios and pretax operating cash flow

Presented below are the explanatory variables, which were fetched from the companies' annual reports from each year.

Pretax operating cash flow

To calculate pretax operating cash flow returns the follwing formula was used:

Net revenues – Cost of sold goods – Other operating expenses + Depreciation + Depreciation of goodwill = Pretax operating cash flow

Operating margin

The operating margin measure proceeds from this formula:

$$\frac{\text{Operating profit}}{\text{Net Sales}} = \text{Operating Margin}$$

Net Sales

Net sales is simply taken from the consolidated statement of income in the company's annual report.

Employee Growth Rate

After M&A's there tend to be a slight decline in employee growth rate. By using the growth rate we get an indication of synergies from the merger. We calculate employee growth rate with the following formula:

$$\frac{\text{Average number of employees year 1 - Average number of employees year 2}}{\text{Average number of employees last year year 1}} = \text{employee growth rate}$$

Accounts payable turnover ratio

This measure is for describing reactions from suppliers after the merger and so to see the effects on the other end of the value chain and is calculated as below:

$$\frac{\text{Total Supplier Purchases}}{\text{Average Accounts Payable}} = \text{Accounts Payable Turnover Ratio}$$

3.7. Correlation Analysis

The correlation coefficient measures if there is a linear relationship between two variables, in other words if it is suitable to describe the connection between the variables with a straight line (Körner, S., Wahlgren, L., 2012). This study makes extensive use of correlation analysis due to the fact that it examines the strength of the connection for pretax operating cash flow against CAR, but also CAR and pretax operating cash flow against key ratios hence it is a supplement to the regression analyses.

3.8. Scatter Plot

When a correlation analysis is made, it is possible that the correlation might be something else than a linear one. By creating a scatter plot between the variables the layout of the dots can show whether there is another type of correlation other than linear, for example exponential or a parabola correlation. Just because the correlation analyses claims there to be no linear relationship between does not mean that there is no correlation all together.

3.9. Regression Analysis

As the result from the correlation analysis can differ from a straight line to an exponential function a test like the regression analysis can help to decipher the complex nature of the correlation analysis. By testing a dependent and independent variable the regression analysis shows how much of the change in the dependent variable can be explained by the independent variable (Körner, S., Wahlgren, L., 2012). In this thesis, three regression analysis were conducted; one with CAR as the dependent variable and pretax operational cash flow as independent variable, one with CAR as the dependent variable and the key ratios as the independent variables, and the last analysis will include pretax operating cash flow as the dependent variable and the explaining variables will be the key ratios (see *3.6.1 Key Ratios*).

In the regression analysis above both simple and multiple regression analysis were used. Simple regression is used when there is one explaining variable (in this case the analysis containing CAR and pretax operating cash flow) and the multiple regression when there are more than one explaining variable (Körner, S., Wahlgren, L., 2012). It was therefore used when testing the regression of both the CAR and the pretax operating cash flow with the key ratios was done.

3.9.1. R^2

One of the numbers presented in the regression analysis is R^2, which is presented in the model summary. If the R^2, or the determination coefficient, is equal to 0,2 that means that 20 percent of the variation within the dependent variable is explained by the independent variable (Wahlgren, 2008). In order to identify which variables that have the highest explanation degree, they were gradually added to the model. The method of removing variables one after another was ignored due to the fact that this method is mostly used in order to eliminate redundant variables.

3.9.2. Multicollinearity

When using multiple independent variables there is always a risk of multicollinearity (Körner, Wahlgren, 2012). Collinearity is when the correlation between two explaining variables is equal to one. In order to have multicollinearity one independent variable needs to have high correlation with at least two other (independent) variables. By adding the Variance Inflation Factor (VIF) and Tolerance to the regression analysis it indicates the effect on the standard error of a regression coefficient that the independent variable might add. The smaller the tolerance of one independent variable the higher is the prediction by the other independent variables. It is the opposite for the VIF; high VIF indicates high multicollinearity (Hair *et al*., 2010).

3.9.3. Heteroscedasticity

When conducting multivariate analysis (such as a multiple regression analysis), the variance of error terms is supposed to be constant over a range of explaining variables. When that is the case the data is said to be homoscedastic. If the variance of the error terms is increasing or varies in some way there is heteroskedasticity in the data. Why the lack of heteroscedasticity is of importance is because the variance in the dependent variable should be explained by all the independent variables and not just one small range of them (Hair *et al*., 2010).

Heteroscedasticity tends to be a little higher regarding certain variables. When a variable has the possibility to take a value between one and a million, a wider range of answers is possible for the larger values, leading to a higher heteroscedasticity.

When calculating the heteroscedasticity the formula used is $n * R^2$, where n represents the amount of observations. If the result is higher than the critical value of the chi squared test of the degrees of freedom and the number of limitations in the hypothesis, then there is heteroscedasticity in the model (Andersson *et al.* 2007).

3.9.4. Transaction characteristics

The usage of transaction characteristics in the statistical tests was done in order to see if they affect CAR any more than the original variables. It may be that some of them have an additional effect on the dependent variable and that effect was therefore tested in a regression analysis.

3.10. Statistical Significance

When different statistical tests are performed the results show in the form of significance. The significance is a value representing the risk of accepting a hypothesis even though it is not statistically proven. The lower the value the smaller the risk of accepting a false hypothesis is. All of the tests were conducted at the 95 percent level hence there is a 5 percent risk of accepting a hypothesis even though it is not statistically significant (Hair *et al*., 2010 p. 160).

3.10.1. Confidence intervals

One way of making sure that the test conducted shows statistical significance is to include a confidence interval. If the interval includes the number 0, then the coefficient is not deemed statistically significant and the hypothesis should be rejected (Hair *et al*., 2010 p. 193-194).

3.11. Definition of Charateristics

Below follows a description of the key deal characteristics that the study treats as dummy variables. In those cases where there were numbers such as relative size in percent, absolute size of transaction, and absolute size of acquiring company the median was used as a limit to decide whether the value was small or large.

Relative size: Transaction cost in relation to firm size

The size of the target company is according to Healy *et al.* (1992) frequently cited as an important characteristic affecting the success of a merger. Some of the target companies were not listed at the time of the merger, thus the deal size was used as the reference point for the relative size, which is not the exact same as it includes a premium. However, this difference was not considered as significant enough to make comparability with previous studies unreliable.

Small < 25,44 percent = 0

Large > 25,44 percent = 1

Absolute size of the transaction

This is not a characteristic that has been used in as many studies as relative size; however, it may be of importance as there is a chance that large transactions get more attention and are subject to more scrutiny than small transactions.

Small < 1260 million Swedish crowns = 0

Large > 1260 million Swedish crowns = 1

Absolute size of the acquiring company

The findings of Moeller *et al.* (2003) are of interest as they show a difference in CAR between small and large firms, where the smaller firms have a significantly higher CAR. Furthermore it is possible that the same as for absolute size of transaction regarding scrutiny can be applied to absolute size of the acquiring company.

Small < 4799 million Swedish crowns = 0

Large > 4799 million Swedish crowns = 1

Time: Before, early or late in the time frame

In a study by Carow *et al.* (2004), they managed to show a statistical significance with early movers within waves of mergers and high total shareholder return. The M&A's that were announced during 2000-2003 will be representing transactions which were completed early in the time frame. As the wave ended in 2007 the years of 2004 to 2007 will be characterized as late reactors (Gaughan, 2011).

Year 2000-2003, early in the time frame = 0

Year 2004-2007, later in the time frame = 1

Time: State of the market

This variable was used as it is of interest to see the difference in post merger performance for different states of the market. This is also strongly correlated to the reasons for including different wave states.

Weak economy: 01-03 = 0

Strong economy: 04-07 = 1

Serial acquirers

Since one of the population criteria was to try to lessen the impact of serial acquirers it is of interest if there is any difference in CAR if a company is considered a serial acquirer or not. As little research has been made this could give the study another dimension by testing whether the market can predict the future of serial acquirers better than the future of those companies who only engaged in one. The companies were divided into two groups; those which have not taken part in an M&A during the previous five years are in group low, and companies which have already taken part in an M&A during the five years prior to the first one who qualified into this study are in group High.

Low = 0

High = 1

Domestic or International Deal

This characteristic was used as previous studies, such as Epstein (2005), discuss the importance of post-merger integration. The goal for this is to create a shared culture that is profitable for both companies, thus the goal was to try to observe any differences in terms of expected success when the cultural differences are larger.

Domestic = 0

International = 1

Disregarded characteristics

Even though previous studies have used some of the following characteristics they are not useful enough to include for the purpose of this study.

Healy *et al.* (1992) argued that M&A's that had been paid with cash or debt showed lower profit post-merger. As this study has been using pretax operating cash flow the *payment method* of the M&A has no effect on the cash flow. When calculating the cash flow neither interest costs nor taxes have been included which is why the payment method can be disregarded. Besides, the characteristics are used to see the effect on CAR that cannot be explained by development of cash flow.

The motives for M&A's have been explained by several different methods, such as efficiency theory and valuation theory (Trautwein, 1990). During the history of M&A's the rationale of the mergers has differentiated, for example the third wave was driven by growth and diversification (Faulkner *et. al*, 2012). However, the reason of why the companies in this study are engaging in mergers is not a question of importance when it comes to how the market reacts to M&A's.

Only two out of the 50 companies in the study were *listed*, compared to 48 *unlisted*, which is not a sample large enough to prove if they had an impact, which is why the characteristic was disregarded.

As the time frame of the study has been focusing on the time around the announcements and the years including the sixth wave, the time between the announcement and the actual acquisition was put aside as it was considered of too little importance to the study. Companies that are in a growing stage are more likely to have an overall large percentage increase in their cash flow. Especially when compared to a more mature company that is more likely to have a, relatively, more even stream of cash flow from one year to another. With this uneven development between a mature and a growing company, the analysis of this connection and its effect on CAR and pretax operating cash flow is too complex for the nature of this study.

3.12. Reliability

It is important that a study is fully reliable in order to completely pursue its purpose. Reliability means that if given the same data the results will be replicable. When writing a thesis with quantitative character, the reliability becomes especially important (Bryman, Bell, 2013). The study uses Thompson Reuters Datastream, Avanza and Zephyr and therefore the requirement of reliability is considered to be met due to these highly regarded sources.

This study has been consistent when it comes to not mixing data from different databases. When comparing data from different sources differences could be observed, depending on where they are collected from. However, these differences were only nominal. If comparing

the development in percentage the different sources generates the same results. Thereby, this decision further strengthens the reliability of the thesis.

3.13. Validity

Validity can be seen as measure of how well the chosen method is able to fulfill the purpose of the study and answer the formulated problems. As this study is sprung from previous, well-recognized studies, it can be assumed to have a high validity. Of course there are certain differences as this study combines studies of abnormal return and post-merger performance, but as the method is correlating with both categories this was regarded as strength rather than a weakness.

3.14. Limitations

The authors recognize the limitations of this study. The study covers a 7-year period from 2001 to 2007, and is therefore limited to specific events that occurred during this time period, like for example the eruption of the financial crisis. Also, after screening in order to fit the criteria the population ended up including 50 acquisitions, which may be considered a not fully representative sample in order to reflect the overall market. However, this is deemed to be sufficient as the criteria is of essence in making the population useful, and one should keep in mind that the smaller Swedish market does not complete as many mergers as other markets.

As only four key ratios have been used to explain both CAR and pretax operating cash flow, it is important to be aware that these might not be able to fully explain the absolute development of the two. Even with the usage of control variables, there is no conventional method of comparing pretax operating cash flow to CAR, which makes for critique of the chosen methods. It is impossible to determine and include all parameters with an impact on CAR, which aggravates the possibility to measure only the chosen variables impact on CAR. The absence of control variables explaining pretax operating cash flow is due to the fact it was not considered important enough in explaining the relationship between CAR and pretax cash flow.

4. Results

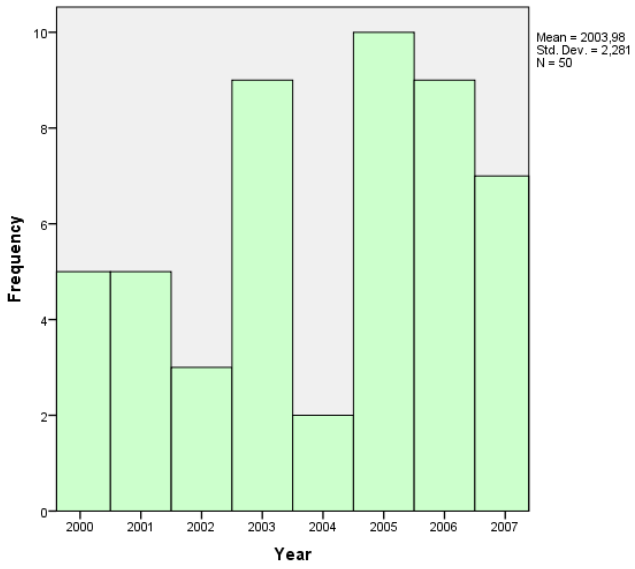
In this chapter the various statistical results will be presented. The beginning of the chapter will focus on the description of the data collected and in the end the focus will be on the different tests made and the results.

4.1. The Population

The data collected in this study consists of 50 M&A's with a Swedish acquirer during the period of 2001-2007. A more explanatory criteria list is presented under *3.2.3 Population Criteria*. All of the data used in this study is collected from secure and trusted sources with little or no risk of tampering.

4.2. Skewness

As many other studies, this study have been presented whilst looking at only one market during the time of the study. The fact that this study is conducted with only Swedish companies and during a specific time increases the risk of making it askew. However, this study is able to contribute as it investigates CAR and cash flow within the population. Also, the fact that this specific study differs from conventional theory in the field increases the possibility of a contribution to the subject.

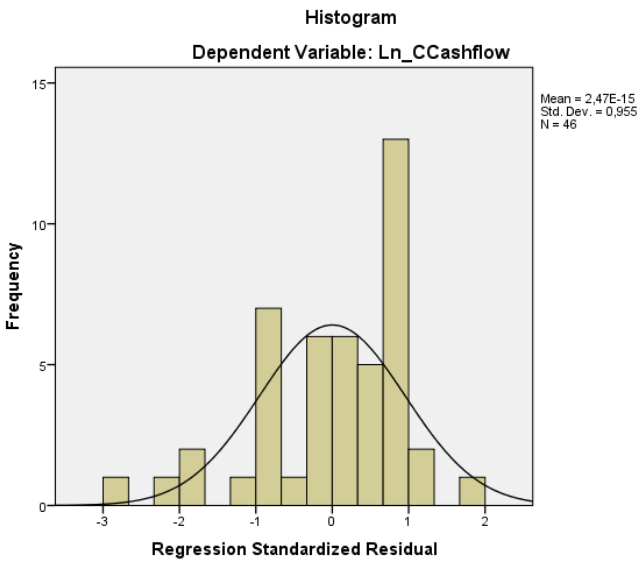


Graph 1: *The graph is showing the distribution of announcements regarding M&A's during 2000-2007.*

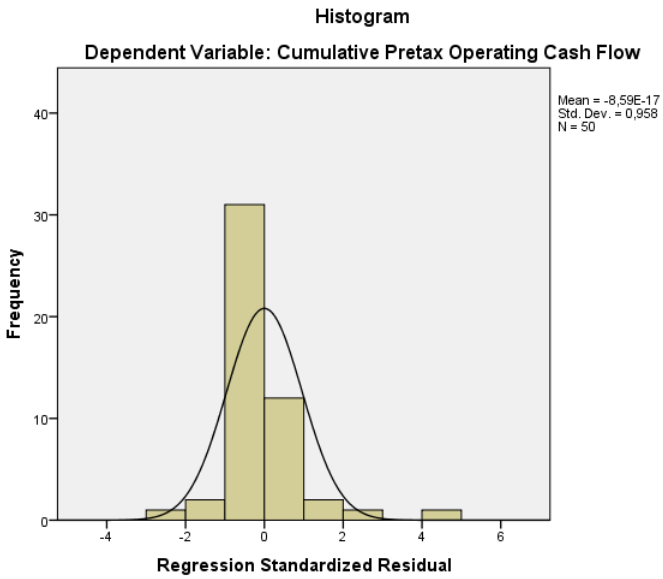
As the graph above shows, the announcements of the M&A's are fairly well distributed over the years. Both 2000-2002 and 2004 had fewer announcements of transactions relative to the other years. The wryness of the data is not considered large enough to make an interpretation of the result inhibited. This could have been an issue when studying how the state of the market and the timing of the wave affect the return. However, no attempt to compensate for this has been made as it was deemed of too little importance to the purpose.

As the control variables, for example absolute size of acquirer, absolute size of the transaction, and relative size of the deal, were all distributed with the median as the limit they were all considered normally distributed. When comparing the value of the natural logarithm of cumulative pretax operating cash flow and the cumulative pretax operating cash flow, it turned out that not only was the difference between the two very small but the normal distribution of the cumulative pretax operating cash flow was normal enough to be considered useful. Some outliers are presented (See graph 3) and not within the distribution compared to graph 2 where the tails of the graph are more inclusive and therefore shows no outliers. However when using the natural logarithm, four of the cumulative cash flow values were excluded as they were negative. In this study, the cumulative pretax operating cash flow was used instead of natural logarithm of the cash flow as their standard deviation was similar and all of the data was included.

The same procedure was performed for the pretax operating cash flow during the years -1 to 3 and the same result was reached.



Graph 2: *The normal distribution of the natural logarithm of cumulative pretax.operating cash flow.*



Graph 3: *The normal distribution of the cumulative pretax operating cash flow.*

4.3. The Regression Analysis

When conducting the multiple regression analysis with both key ratios and control variables and CAR and pretax operating cash flow, the key ratios and the control variables were tested one by one to see whether one of them had more effect on the dependent variable. With all variables presented in the regression analysis and the possibility to sort out insignificant or negative effects, it is possible to observe the strongest affecting variables separately in a regression with CAR.

4.3.1. Tests conducted

Since the primary purpose of the different hypothesis is to find a relationship between CAR and pretax operating cash flow, the statistical tests conducted have been focused on finding the relationship with the help of regression and correlation analyses. The same tests have been used in order to find an eventual relationship when it comes to the key ratios and the control variables.

As mentioned above the study includes tests regarding normal distribution. Tests regarding multicollinearity have also been conducted as this affects the regression analyses. In order to see whether any of the independent variables affect each other, both VIF and tolerance test were conducted. There were two control variables which expressed multicollinearity: Time in the time frame and State of the market. The regression analysis was then conducted once again with Time in the time frame excluded. Why that variable in particular was excluded was due to the fact that State of the market is one of the impulsions to when the waves start, which makes Time in the time frame an excessesive variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12,271	3,651		3,361	,002		
	Relative Size of Transaction	-3,330	2,964	-,181	-1,123	,268	,736	1,359
	Absolute Size of Transaction	3,027	3,908	,165	,775	,443	,418	2,391
	Absolute Size of Acquirer	-11,013	4,193	-,602	-2,627	,012	,363	2,758
	Time in the time frame	-8,920	9,492	-,481	-,940	,353	,073	13,771
	Serial Acquirers	,902	2,817	,049	,320	,751	,803	1,245
	Type of deal	-,693	3,093	-,032	-,224	,824	,914	1,095
	State of the market	8,900	9,505	,483	,936	,354	,072	13,968

a. Dependent Variable: Car

Chart 1: *A regression analysis with CAR as the dependent variable and the characteristics as independent variables. Both Time in the time frame and State of the market presents high VIF values (and low tolerance values), which is explained by their multicollinearity.*

In order to test if there were heteroscedasticity in the regression analyses, a test was made to see if $n*R^2$ was higher than chi square. As can be seen in chart 1, there are heteroscedasticity in the model with pretax operating cash flow and the key ratios since the chi square is lower than $n*R^2$. There are no heteroscedassticity when it comes to the tests conducted with CAR, even though the heteroscedasticity have been tested with the same explaining variables (key ratio) in both cases.

This is the same as chart 14 but with all the control variables, this in order to show the multicollinearity between state of the market and time in the time frame.

4.4. The Relationship Between CAR and Pretax Operating Cash Flow

The first step was to do a regression analysis of the relationship between CAR and pretax operating cash flow. The result from this was that cumulative growth of pretax operating cash flow for the years -1 to 3 can explain the change in CAR (which is represented by R^2) to the extent of 0,7 percent.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,082[a]	,007	-,014	9,3010558

a. Predictors: (Constant), Growth Cumulative Pretax Operating Cash Flow y-1-3

b. Dependent Variable: Car

Chart 2: *Model summary of a regression analysis with CAR as the dependent variable and the cumulative growth of pretax operating cash flow year -1 to +3.*

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27,869	1	27,869	,322	,573[b]
	Residual	4152,463	48	86,510		
	Total	4180,332	49			

a. Dependent Variable: Car

b. Predictors: (Constant), Growth Cumulative Pretax Operating Cash Flow y-1-3

Chart 3: *ANOVA chart of the regression analysis with pretax operating cash flow for the years -1 to 3.*

In the ANOVA chart above the statistical significance (Sig.) is presented and it is larger than 0,05 which means that there are no statistical guarantee for the independent variable pretax operating cash flow for years negative 1 to year 3 to to have an effect on CAR.

Correlations

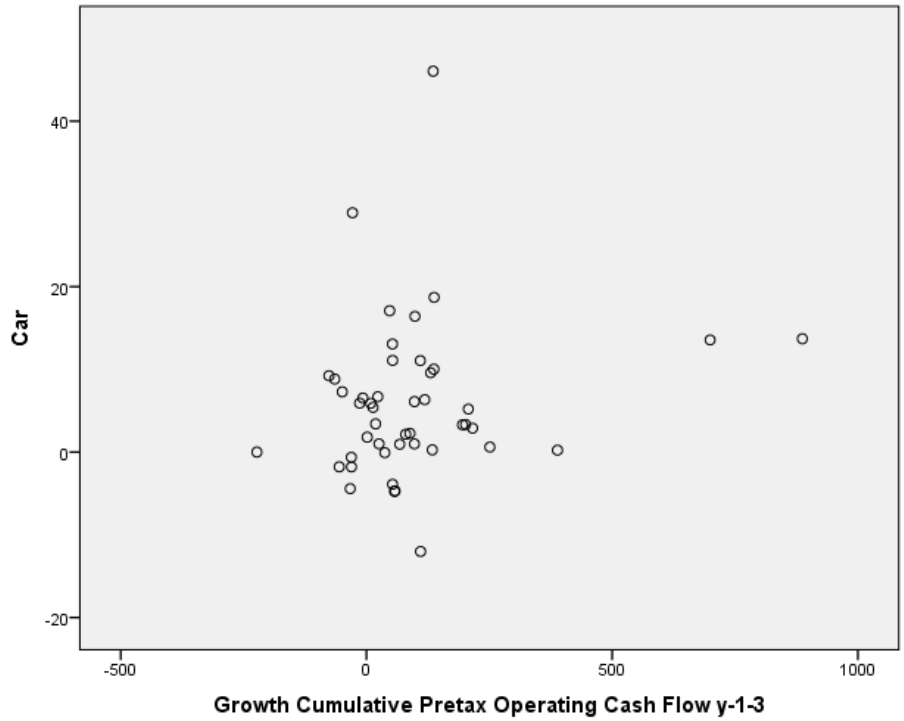
		Growth Cumulative Pretax Operating Cash Flow y-1-3	Growth Cumulative Pretax Operating Cash Flow y1-3	Car
Growth Cumulative Pretax Operating Cash Flow y-1-3	Pearson Correlation	1	,565**	-,082
	Sig. (2-tailed)		,000	,573
	N	50	50	50
Growth Cumulative Pretax Operating Cash Flow y1-3	Pearson Correlation	,565**	1	-,020
	Sig. (2-tailed)	,000		,888
	N	50	50	50
Car	Pearson Correlation	-,082	-,020	1
	Sig. (2-tailed)	,573	,888	
	N	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Chart 4: *A correlation analysis between CAR, growth of cumulative pretax operating cash flow for years -1 to 3 and year 1 to 3.*

The correlation analysis showed, as expected considering the regression analysis, no significant correlation between CAR and the growth of cumulative pretax operating cash flow. It showed a significance value of 0,573, meaning that there neither were linear correlations between CAR and the growth of the cash flow year -1 to 3, nor between CAR and the cash flow for years 1 to 3.

Even though there were no linear correlations there still is a possibility of other kinds of correlation. In order to further investigate the relationship between CAR and pretax operating cash flow a scatter plot was created with CAR on the Y-axis and the growth of pretax operating cash flow on the X-axis. The result was rather undefined with no apparent clusters or trends, which can be seen in the plot below. A goal with the scatter plot was to identify groupings or clusters and try and find common characteristics among the firms within the cluster. As no clear clusters were found no further observations in regards of characteristics were made.



Graph 4. *Cumulative abnormal returns in relation to the growth rate of cumulative pretax operating cash flow.*

4.5. Pretax Operating Cash Flow Explained by Key Ratios

In order to see the effect the key ratios had on the pretax operating cash flow, both a regression analysis and a correlation analysis were conducted. When conducting a regression analysis a chart called model summary is presented for each analysis. As the regression was tested for each year, the model summary presents the measurement R^2 which shows how much of the change in pretax operating cash flow is being described by our chosen variables, as described in chapter 3.7.3.1. The first year after the acquisition have the lowest R^2 of 40,7 percent as opposed to the highest of 57,3 percent in the year before the acquisition. Something of interest regarding these relatively low numbers is how much must be explained by the control variables or others, undefined, variables.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,757[a]	,573	,535	4402,13493

a. Predictors: (Constant), Emp growth rate -1, Operating Margin -1, Accountspayable turnover ratio -1, Net sales -1

b. Dependent Variable: Pretax Operational Cash Flow y-1

Chart 5: *The highest R^2, which illustrates how much the change of pretax operating cash flow is explained by our chosen variables, is 57,3 percent and occured the year before the merger.*

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,638[a]	,407	,354	6115,99449

a. Predictors: (Constant), Emp growth rate +1, Accountspayable turnover ratio +1, Net sales +1, Operating Margin +1

b. Dependent Variable: Pretax Operational Cash Flow y1

Chart 6: *The lowest of 40,7 percent is one year after the acquisition.*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-152,940	1000,069		-,153	,879	-2167,182	1861,302
	Accountspayable turnover ratio +3	-4,537	14,459	-,028	-,314	,755	-33,658	24,584
	Operating Margin +3	13384,113	4908,319	,247	2,727	,009	3498,251	23269,974
	Net Sales +3	,151	,019	,728	8,103	,000	,114	,189
	Emp growth rate +3	-5149,418	5135,373	-,091	-1,003	,321	-15492,589	5193,754

a. Dependent Variable: Pretax Operational Cash Flow y3

Chart 7: *The regression analysis is presenting the statistical significance of sig < 0,05 for operating margin and net sales.*

The regression analysis, with pretax operating cash flow as the dependent variable and key ratios as the independent variables, for year three showed statistical significance for both operating margin and net sales. As the Sig. is below 0,05 in both cases it means that there was a statistical significance between net sales and pretax operating cash flow and between operating margin and pretax operating cash flow. An additional way to see if there is statistical significance is the confidence interval. Both net sales and operating margin have an interval that does not include zero, which also means that the fact that they explained the change in the cash flow is significant.

Accounts payables had a negative relationship with pretax operating cash flow during all four years tested. All association is being tested using a 95 percent confidence interval. Further down the impact that the control variables had on pretax operating cash flow is described.

Correlations

		Pretax Operating Cash Flow y3	Accountspayable turnover ratio +3	Operating Margin +3	Net Sales +3	Emp growth rate +3
Pretax Operating Cash Flow y3	Pearson Correlation	1	-,104	,322*	,767**	-,090
	Sig. (2-tailed)		,472	,022	,000	,536
	N	50	50	50	50	50
Accountspayable turnover ratio +3	Pearson Correlation	-,104	1	,003	-,098	,064
	Sig. (2-tailed)	,472		,983	,499	,660
	N	50	50	50	50	50
Operating Margin +3	Pearson Correlation	,322*	,003	1	,126	,182
	Sig. (2-tailed)	,022	,983		,384	,206
	N	50	50	50	50	50
Net Sales +3	Pearson Correlation	,767**	-,098	,126	1	-,058
	Sig. (2-tailed)	,000	,499	,384		,689
	N	50	50	50	50	50
Emp growth rate +3	Pearson Correlation	-,090	,064	,182	-,058	1
	Sig. (2-tailed)	,536	,660	,206	,689	
	N	50	50	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Chart 8: *A correlation matrix between pretax operating cash flow and the key ratios from year 3.*

In the correlation analysis above, net sales and operating margin both showed statistical significance, which means that they have a linear correlation with the cash flow. Net sales presented significance during all four year whereas the operating margin was correlated during year two and three.

4.6. CAR Explained by Key Ratios

4.6.1. Year -1-3

As pretax operating cash flow could not significantly explain CAR, the other key ratios have been tested against CAR. No significance was found at these levels, and R^2 is low with every key ratio. The VIF measure is low, and the Tolerance level is high which means that the risk of multicollinearity is low.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,186[a]	,035	-,051	9,4702167

a. Predictors: (Constant), Accounts payable turnover ratio y -1-3 (percentage), Operating Margin development y -1-3 (percentage), Employee Growth Rate y -1-3, Net Sales y -1-3

b. Dependent Variable: Car

Chart 9: *Regression analysis with CAR as the dependent variable and key ratios year -1 to 3 as explaining variables.*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	5,724	1,838		3,114	,003	2,022	9,426		
	Net Sales y -1-3	,003	,022	,031	,144	,886	-,041	,047	,462	2,164
	Employee Growth Rate y -1-3	-,001	,025	-,009	-,048	,962	-,051	,049	,631	1,585
	Operating Margin development y -1-3 (percentage)	,050	,061	,152	,822	,416	-,073	,173	,624	1,602
	Accounts payable turnover ratio y -1-3 (percentage)	6,729E-5	,000	,065	,442	,661	,000	,000	,977	1,023

a. Dependent Variable: Car

Chart 10: *Regression analysis with CAR as the dependent variable and key ratios year -1 to 3 as explaining variables. None of the explaining variables show any significance, both VIF and Tolerance show little multicollinearity.*

4.6.2. Year 1-3

As can be seen, the results are not too different year 1-3 from year -1-3, including the year before the merger. R^2 is explained to 6 percent instead of 3,5 percent when we measure the post-event effect. The VIF value and Tolerance value shows no risk of multicollinearity.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,245[a]	,060	-,023	9,3441215

a. Predictors: (Constant), Accounts payable turnover ratio y 1-3 (percentage), Employee Growth Rate y 1-3, Operating Margin development y 1-3 (percentage), Net Sales y 1-3

b. Dependent Variable: Car

Chart 11: *Model summary of regression analysis with CAR as dependent variable and key ratios year 1 to 3 as explaining variables.*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	4,904	1,615		3,037	,004	1,651	8,157		
	Net Sales y 1-3	,102	,064	,260	1,588	,119	-,027	,232	,780	1,283
	Employee Growth Rate y 1-3	-,022	,051	-,066	-,435	,666	-,124	,080	,911	1,098
	Operating Margin development y 1-3 (percentage)	-,083	,082	-,158	-1,009	,319	-,248	,083	,850	1,176
	Accounts payable turnover ratio y 1-3 (percentage)	,000	,000	-,066	-,456	,651	-,001	,000	,992	1,008

a. Dependent Variable: Car

Chart 12: *Regression analysis with CAR as dependent variable. Low multicollinearity is presented and there is no statistical significance.*

The results for the regression analysis years 1 to 3 is similar to the previous test. All of the key ratios present a lower Sig. value even though none of them can show statistical

significance at the 5 percent level. R squared has improved to 6 percent which is better than years -1 to 3 but still no statistical significance.

4.7. CAR Explained by Characteristics

Since there were no significance to be found regarding operational measures and CAR, the characteristics become more important as explaning variables. Below are the results of the testings presented through regression analysis between CAR and characteristics. As mentioned earlier, the multicollinearity was high between state of the market and time frame, which is why only tests with state of the market has been conducted. Significance was proved for absolute size of acquirer.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,427[a]	,183	,069	8,9143632	1,782

a. Predictors: (Constant), Absolute Size of Acquirer, State of the market, Type of deal, Serial Acquirers, Relative Size of Transaction, Absolute Size of Transaction

b. Dependent Variable: Car

Chart 13: *Model summary of regression analysis with CAR as dependent variable and characteristics as explaining variables.*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12,256	3,646		3,362	,002		
	Relative Size of Transaction	-3,536	2,952	-,192	-1,198	,238	,740	1,351
	State of the market	,315	2,618	,017	,120	,905	,941	1,062
	Serial Acquirers	,472	2,776	,026	,170	,866	,825	1,212
	Type of deal	-1,072	3,062	-,050	-,350	,728	,929	1,076
	Absolute Size of Transaction	3,478	3,873	,190	,898	,374	,425	2,355
	Absolute Size of Acquirer	-10,909	4,186	-,597	-2,606	,013	,363	2,756

a. Dependent Variable: Car

Chart 14: *Regression analysis with CAR as dependent variable and characteristics as explaining variables. Absolute size of acquirer shows statistical significance as Sig. < 0,05*

In chart 13, the model summary, the value of R^2 shows that the seven characteristics remaining explain the change in CAR to 18,3 percent. The only characteristic that is showing any significance is absolut size of aquirer as its Sig. value is lower than 0,05. When looking closer at the same explaining variable, the value of B is ´-10,909, which means that when the

absolute size of acquirer goes from the value 0 (small) to 1 (large), then the CAR is decreasing with 10,9 percentage.

Chart 14 is similar to chart 1, the only difference is that in chart 1 there are two variables that both present high multicollinearity. Time of the time frame was removed and a new regression analysis was conducted which is presented in chart 14.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,391[a]	,153	,098	8,7737514	1,730

a. Predictors: (Constant), State of the market, Absolute Size of Transaction, Absolute Size of Acquirer

b. Dependent Variable: Car

Chart 15: *Model summary of regression analysis with CAR as the dependent variable and state of the market, absolute size of transaction, and absolute size of acquirer as explaining variables.*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9,366	2,233		4,194	,000		
	Absolute Size of Acquirer	-8,496	3,588	-,465	-2,368	,022	,478	2,090
	Absolute Size of Transaction	2,075	3,582	,113	,579	,565	,481	2,081
	State of the market	-,048	2,508	-,003	-,019	,985	,993	1,007

a. Dependent Variable: Car

Chart 16: *Regression analysis with CAR as the dependent variable and State of the market, absolute size of transaction, and absolute size of acquirer as explaining variables.*

To further investigate each variable's impact on CAR, an incremental addition of variables was made as described in chapter 3.11. It found that the strongest impact, even though only one statistically significant variable, came from absolute size of transaction, absolute size of acquirer and state of the market. Only absolute size of acquirer had statistical significance. By conducting an additional regression analysis with these three variables explaining CAR, they generated an R^2 of 15,3 percent (see chart 15). Absolute size of acquirer showed, once again, statistical significance in relation to CAR.

When performing a regression analysis with all variables (including time in the time frame), they together explained the change in CAR to 19,9 percent. This means that the three

variables previously mentioned explained the greater part of CAR amongst all of our chosen dummy variables.

4.8. Hypothesis Testing

The first hypothesis to be tested was:

1. *There is a relationship between the development of pretax operating cash flow and CAR.*

Since neither the correlation analysis nor the regression analysis test showed significance, this hypothesis is rejected.

2. *There is a relationship between annual employee growth rate and pretax operating cash flow*
3. *There is a relationship between accounts payable turnover ratio and pretax operating cash flow*

Since neither the correlation test nor regression test showed any significance for annual employee growth rate or accounts payables, these hypotheses are rejected.

4. *There is a relationship between operating margin and pretax operating cash flow*

The correlation, and also the regression analysis, is significant for year 2 and 3, therefore this hypothesis is accepted.

5. *There is a relationship between net sales and pretax operating cash flow*

The correlation, and also the regression analysis, is significant for every year, therefore this hypothesis is accepted.

6. *There is a relationship between annual employee growth rate and CAR*
7. *There is a relationship between accounts payable turnover ratio and CAR*
8. *There is a relationship between operating margin and CAR*
9. *There is a relationship between net sales and CAR*

No significance was found between CAR and any of the key ratios. The regression analysis showed no significance either. Thereby the hypotheses are rejected.

5. Analysis

In this chapter the results will be discussed and compared with the hypotheses. Furthermore connections to the studies presented in the theoretical framework will be brought forward and form answers to the stated purpose.

5.1. The Relationship Between Stock Market Reactions to Merger Announcements and Development of Cash Flow

The primary objective of this study was to investigate the relationship between the stock market's reaction of a merger announcement and the development of operating performance as a consequence of the merger.

Primary hypothesis: There is a relationship between the development of pretax operating cash flow and CAR.

The empirical results from the conducted event study were conclusive in the sense that no significance can be attributed to any relationship between abnormal returns and the operating performance. Both the correlation analysis and the regression analysis between CAR and the development of pretax operating cash flow lacked significance and the scatter plot showed a distribution which was rather haphazard.

This contradicts the findings of Healy *et al. (1992)* as they found that the market is able to capitalize at least 24 percent of the operational gains following a merger, though it is perhaps not surprising that the result of this study would differ from Healy *et al.* considering the differences in time period, market and number of observations.

The previously presented theories, especially the efficient market hypothesis, give reason to believe that there should be a relationship between CAR and operating performance. At the same time as the efficient market hypothesis is contradicted by the empirical results, both the efficiency theory and the valuation theory are to some extent confirmed. Both valuation theory and efficiency theory view financial statements as non-consistent with stock market pricing, and Trautwein (1990) says that efficiency theory should be rejected by someone believing financial statements is more reliable than stock prices. Valuation theory explains inefficient markets as insider knowledge, and managers mispricing on purpose to confuse rivals when bidding on a target company. The theories state, respectively, that synergies will

be achieved through mergers and that mergers occur due to the superior information management possesses compared to the market.

Mispricing could also be explained as a weak form of market efficiency, based only on historical prices because sufficient information isn't presented to the public. All this could explain why the market is not reacting as rational as one could expect, given that future operating performance is what they are bidding on.

The study of Andrade *et al.* (2009) showed negative abnormal returns for acquiring companies, Faccio *et al. (2006)* indicates a more positive market approach in Europe than in the US. Rau & Vermaelen (1998) also proves a negative market reaction throughout the following 36 months after the merger, which indicates that, measured with CAR, the mergers are valued as a bad deal and proved as such regarding future market value. It's interesting that so many studies evaluating merger performance with CAR as measurement prove a negative market reaction, when those investigating operating performance can prove positive future results. King *et al.* (2004) arrives at a different conclusion: no improvement of stock price or operating performance after a merger can be found. And different 'condition's' impact on the following effect is 'largely unexplained'.

The inconsistency of previous research regarding the actual outcome of a merger and the reaction from the stock market could explain misinformed investors, and not only a weak form of efficiency. If the market does not know if mergers are value creating or not, it does not help to use former prices, or even to have all present information, to evaluate a merger. In contrary to what is stated in the efficient market hypothesis, the market can possess all information and still be wrong. That is one interpretation of the non-existing correlation between CAR and the future growth in pretax operating cash flow. However, it is understandable that the cumulative abnormal returns are positive as both the average and median development of pretax operating cash flow from year t-1 to t+3 are positive, 77,5 percent and 53 percent respectively. This is in line with findings from both Gugler *et al.* (2003) and Switzer (1996) who found that there were improvements of profits, operating margin and asset utilization. With this in mind it seems logical that positive cumulative abnormal returns, average 5,31 percent and median 6,98 percent, could be observed within the sample of this study. This indicates that there indeed should exist a relationship between CAR and pretax operating cash flow, although this was contradicted by the correlation analysis and regression analysis of this study. The correlation and regression analyses do however only test for linear relationships, which means that there very well could exist non-linear or indirect relationships, thereby it would be naive to rule out the possibility of a

significant relationship between the two. Tendencies of this should however been possible to observe in the scatter-plot and that was not the case.

Considering the obvious advantages with analyzing cashflow discussed in 2.4 *The value of analyzing cash flow,* the lack of relationship between CAR and development of pretax operating cash flow is ground for confusion. When theory so clearly states that a stock price is the value of all future cash flows this should be the case in practice as well.

5.2. The Effect of Key Ratios

If the primary hypothesis would had been accepted, the importance of key ratios and its effect on pretax operating cash flow would have been great. Any correlation between pretax operating cash flow and different key ratios then would provide another tool for understanding how the market forecasts future performance of the merged entity. Also, if the regression between key ratios and pretax operating performance is strong, one can use them to understand the correlation between this measure and CAR further, and analyze which ratios the market is good at forecasting. To understand pretax operating cash flow one would want to know what pretax operating cash flow consists of.

Even though the linear regression between CAR and pretax operating cash flow did not show any significance, expected future operational performance may still be included in the initial reaction of the merger at announcement. As presented in the theory chapter, there are different operating measures, which can be used as indicators of post-merger performance. As the primary indicator used in this study is pretax operating cash flow it is of interest to know how other chosen operating measures affect pretax operating cash flow, this in order to conclude how useful they are as measures of operational success. Also to see if they may have any uncorrelated effect on abnormal returns, maybe even more than pretax operating cash flow. Gosh (2001) specifically points at higher sales growth is the reason for operating cash flow improvement, and not cost reductions.

The regression analysis found that the key ratios only explained a limited part of the development of pretax operating cash flow. During the two years covering the period one year before the acquisition to one year after the acquisition, the part of pretax operating cash flow that could be explained by our key ratios dropped from 57,7 percent to 40,7 percent.

Net sales and operating margin were the only key ratios in correlation with pretax operating cash flow. This means that those measurements were good for defining pretax operating cash flow. It could also have meant that if the stock market is good at spotting rising pretax operating cash flow growth, it is because they are good at spotting a higher net sales growth.

Maybe that is a relatively easy measure to predict when valuing a merger, and maybe that makes the market efficient in that manner. As can be viewed in both the regression analyses correlation analyses, net sales was the key ratio which showed the highest statistical significance, especially year 2 and 3. However this was not the case, which is why regression and correlation analyses were made between CAR and the key ratios.

When it comes to letting key ratios explain CAR there were yet again statistically insignificant correlation and regression to be found. So even though the key ratios were not fully correlated and explanatory of pretax operating cash flow, they could not explain the different levels of CAR either. This means that the possibility that the market would be better at predicting the development of the key ratios correctly, and thereby this would explain CAR, was not true.

One can, in accordance with King *et al.* (2004), state that the impact on merger performance is largely unexplained, and other factors than actual operating performance constitute the market value. This means that the chosen control variables probably play a greater part in creating cumulative abnormal return than if pretax operating cash flow and the chosen key ratios had had a strong correlation. In the same way, according to Rau and Vermaelen (1998), short-term measurements of abnormal performance do not capture the full effects of the market reaction to an event.

5.3. The Effect of Deal Charateristics

The characteristics used as dummy variables were as follows: relative size of the deal, absolute size of transaction and of acquiring company, state of the market, state of the wave, international acquisition and if the bidder were to be seen as a serial acquirer. Three characteristics distinguished themselves to have an impact on CAR, only one of them significant.

Size had the greatest impact on CAR. Absolute size of the acquirer was statistically significant, and together with size of transaction and state of the market they together explained 15,3 percent of CAR.

Since state of the market is a dummy variable, it is either boom or depression when the merger occurred. Merger theory tells us that there should be more successful acquisitions early in the wave in terms of abnormal returns (Carow *et al.*, 2004). This is a parameter excluded as earlier explained in 4.3.1 *Tests Conducted*; otherwise the result of that characteristic would have been interesting.

Regarding size of acquirer Moeller *et al.* (2003) argues that smaller firms get higher CAR. This doesn't mean that the market is better at predicting operational performance for small firms, but since there was strong association, in form of R^2, between size of acquirer and CAR in this study, there is reason to believe that it has impact on CAR. Deal size is also a measure to keep in mind; one might argue that the transaction cost makes it easier to forecast future development, as with the absolute size of the acquirer.

Epstein (2005) claimed that the post-merger integration is of great importance when merging. Together with five other determinants they create a recipe for a successful merger. According to Epstein the management must analyze the strategic vision to see how the two companies fit into the vision, both when it comes to systems, procedures, and culture. No statistical significance was proven in this study when it came to whether international or domestic mergers were presenting better post-merger operating performance than the other. As this study is quite small and focused on the Swedish market, it might be an explanation to why there was no significance. Epstein (2005) pointed out the differences in culture as a potential threat to a merger. Some of the companies in this study merged with firms who were stationed outside of the Nordic region. However, as they were not too many, their impact on the study was small to none. Naturally it would have been preferable if the distribution between the two categories were equally represented but this was not possible when using the population criteria described in 3.2.3 *Population Criteria,* as the sample then would have become even smaller which was not desireable.

The criteria regarding the companies and their experience of M&A's was quite harsh, with multiple time limitations making time frame narrow. Still, the impact serial acquiring might have on CAR would be interesting to see. As the regression analysis was done to see whether serial acquirers had anything to do with the changes in CAR, it quickly became clear that it was not the case. Since serial acquirers had a very high Sig. value (0,866), it is very clear that even though a company has taken part of many M&A's in previous years, the stock market can still not predict their future and find the right CAR value that represents the actual future of the merger.

6. Concluding Remarks

The purpose of this chapter is to present the conclusions made from the result and analysis chapters. The discussion made in the analysis will be summarized and presented and the purpose of the thesis will be answered. The chapter will end with limitations and suggestions for further research.

6.1. Conclusion

This study had the purpose of investigating the relationship between the reaction of the stock market to a merger announcement, measured as cumulative abnormal returns, and the development of operating performance in the years to follow. The aim of this is to see whether investors are able to predict the operating performance of the new entity created from the merger, and if so, to what extent. The result was in a sense surprising as there was no relationship to be found between abnormal returns and operating measures. Beforehand it seemed reasonable that a relationship would exist, as this is supported by both contemporary theories and studies on other markets. However, one should bear in mind that the pricing on the stock market is a complex process and that, no matter how logical it may seem, there are other factors affecting the pricing than forecasted cash flow.

The fact that the result indicates that there is no relationship between CAR and operating performance raises the question: why? As findings in the study of Healy *et al.*(1992) indicates that there should be relationships between abnormal stock return and development operating cash flow, the question becomes even more intriguing. As the stock price should depend on the future cash flow, the CAR should be more dependent. Since the stock market evidently cannot predict the future the focus should shift when it comes to the assessment of the operating performance. Instead of using only CAR as a success rate, when assessing the outcome of the M&A, this study proposes the usage of cash flow as well. If more studies are done on the operating performance following M&A's, perhaps the increased knowledge will enable the stock market to include cash flow when assessing the outcome of a merger.

At the same time, not all of the former research results are in agreement with each other. Even though no relationship between CAR and pretax operating cash flow was found in this study, relationships between net sales, operating margin and cash flow were statistically significant, which considering the formula for calculating pretax operating cash flow is

reasonable. One thing which was standing out in this study was the fact that the overall CAR was positive during the time frame, which contradicts observations on the north American (Andrade *et al.,* 2009*)* market but is in line with the observations by Faccio *et al.* (2006) on the European market.

Among the characteristics tested against CAR there was only one which showed statistical significance. Out of the eight original characteristics, three of them explained the most of the change in CAR. Two of them (state of the market and absolute size of transaction) are variables that are underrepresented in previous larger studies; absolute size of acquirer has had much more focus. The statistical significance of absolute size of acquirer has been presented before which is why it is deemed a reliable result. Just like Moeller *et al.* (2003) found in his study, the findings of this study agree with the result that smaller companies have higher CAR.

Most of the studies in this field have chosen to look into either CAR or cash flow to interpret the result after a merger. There are few who have decided to see if there is a connection between the two measurements of success. Instead researchers tend to discuss among themselves whether to choose one or the other when deciding if a merger has been successful. With this study, another dimension is added to the discussion in hopes of broaden the views of the measurements used when it comes to decide the turnout of the M&As.

6.2. Limitations

There are limitations in this study. The heteroscedasticity, presented in *4.3.2 Test conducted*, is one example. The fact that heteroscedasticity was higher when calculating for pretax operating cash flow and not CAR, even though the explaining variables were the same, agrees with the information that a variable might have higher heteroscedasticity depending on which range the variable has. Heteroscedasticity can present a deceptive result when it comes to the statistics. As the variance of the error terms is not constant, it presents a skewed picture of which variables explain the dependent variable. Since both CAR and pretax operating cash flow have been tested together with key ratio and only cash flow, together with key ratios, presented heteroscedasticity it supports the fact that variables with a wider range of possible values present higher heteroscedasticity (see *3.9.3. Heteroscedasticity*). Heteroscedasticity is therefore disregarded in the analysis of the results.

As the data has been collected from a small number of companies in a relatively small market, the results may not be representative for a larger population. The same goes for the fact that only Swedish acquirers have been included. There have been no regards taken due

to the fact that the Swedish companies (and the stock market) might behave completely different compared to other countries when it comes to M&A's. However, the choice of just looking at one market at the time is common when looking at previous research; see for example Healy *et al.* (1992).

The years chosen in the study are also contributing to the limitations. As most of the time frame used was part of a time when the market was booming it contributed to the fact that many companies were taking part of mergers. In order to widen the perspective and get a more representative picture this study could have used a longer time frame when it came to the number of years when data was gathered to calculate key ratios and pretax operating cash flow. The same goes for the number of companies who took part in the merger. If the time frame had been longer, the number of firms that took part would have been higher and would therefore been able to present a result which would be more representative. Another solution would have been to have a smaller time frame focusing on years with similar market reactions.

In comparison to older studies, most of them have been looking at one market at a time, for example the North American market or the market in the United Kingdom. Even though the different stock markets behave differently in different situations, there is still a possibility to see how they react to the announcement of a merger. In this study, the importance was the comparison between pretax operating cash flow and CAR. If the focus would had been shifted to compare different markets as well, the study would have lost its edge of trying to find which measurement of the two who presented the best version of the truth. For the same reason, when looking at the time frame, it includes both the consequences of a crash but also from a boom, which improves the comparison between the two measurements as it covers all the different aspects of the market.

6.3. Suggestions on Further Research

As previously mentioned, this study has focused on one market only, the Swedish. Comparing the same parameters as this study does, with another country would be interesting as it can show whether different markets react similarly or not. Another angle is to compare two or more countries in the same time frame, with the same key ratios, and measurements of success to see which country can best profit on M&A's.

Given the results of this study, a suggestion of further research is to expand the different variables explaining CAR and why those in particular can explain the cumulative abnormal return. As three of the characteristics could explain 15 percent of the change in CAR, while the key ratio explained much less of CAR, one might wonder why those

characteristics in particular had an impact on CAR. At the same time, absolute size of the company shows significance when doing a regression analysis and showing results regarding small companies have higher CAR. That adds an extension to the same question and would bring another dimension to this already well explored field.

As stated in the limitations, it might be time to start comparing between international stock markets. While the studies have focused on CAR, the focus should shift so the principal variable to investigate is cash flow. Since the stock price should be based on all future cash flow then there should be more focus on the development of the cash flow after an M&A (Berk, DeMarzo, 2014). By conducting a study comparing cash flow between markets a greater understanding of the market and its reactions reached.

To further understand the development of pretax operating cash flow, and thereby how the stock market predicts it, it is of interest to further examine which variable impacts cash flow the most. In this study the control varaibles were only used in order to explain CAR but in future research there is potential knowledge to gain from testing whether they also explain pretax operating cash flow to any extent.

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Appendices

Appendix 1: Pretax operating cash flow year -1.

Acquirer	Target	Sales	COGS	Operating profit	Depreciation	Goodwill	Pretax operating cash flow	Accounts payable	Accounts payable turnover ratio	Operating margin	Employees at 31 dec	Employees the year before	Employee growth rate
Volvo AB	Mack + Renault Vehicules Industries	130070	104548	6154	6251		12405	11377	9,19	4,73%	54264	53148	2,10%
Svenska Cellulosa AB	Away from home's tissue operation	67157	27167	10534	4652		15186	7207	3,77	15,69%	37700	37679	0,06%
Electrolux AB	Email LTD's Household Appliance Making Unit	124493	93549	7602	3593	206	11401	12975	7,21	6,11%	87128	92916	-6,23%
Hexagon AB	Brown & Sharpe Manufacturing Company's metrology business	5099	3966	267	203		470	409	9,70	5,24%	4078	3656	11,54%
Eniro AB	Panorama Polska	1867	478	465	12		477	254	1,88	24,91%	2381	1897	25,51%
Saab AB	Aerotechtelub AB	17840	13427	1533	1255		2788	1254	10,71	8,59%	15356	8092	89,77%
Telia AB	Sonera OYJ	57196	40435	5460	13975		19435	6232	6,49	9,55%	17277	30307	-42,99%
Assa Abloy AB	Besam AB	22510	13863	2132	1027		3159	1574	8,81	9,47%	24211	16881	43,42%
NCC AB	Rieber & Son's Roads Business	46058	42330	-1536	1281	219	-36	4890	8,66	-3,33%	28170	24583	14,59%
Haldex Group	Holland Anchorlok Spring Brake Business + Holland Neway Air Suspension Control Valve Business	6225	4607	178	278	23	479	409	11,26	2,86%	4051	4210	-3,78%
Enea Data AB	Teksci INC.	885	1035	-250	62		-188	23	45,00	-28,25%	887	748	18,58%
Boliden AB	Outokumpu's Minding and Smelting Operations	7127	-6410	415	582	-1	996	1387	-4,62	5,82%	3865	3895	-0,77%
Trelleborg AB	Polymer Sealing Solutions LTD	17630	13 762	946	854	213	2013	2428	5,67	5,37%	14835	14885	-0,34%
Getinge AB	Siemens Medical Solutions's Life support	8640	-4825	1049,5	386	46,5	1482	1718	-2,81	12,15%	5489	5330	2,98%
PyroSequencing AB	Biotage LLC	97,5	30,4	-172	24,4	0	-147,6	18,4	1,65	-176,41%	151	125	20,80%
Sweco AB	PI-Management OY	2063	1294,5	98,2	41	0	139,2	110,5	11,71	4,76%	2305	2169	6,27%
PartnerTech AB	Vellinge Electronics AB	1339,2	-1289,3	-82,1	111	0	28,9	295,7	-4,36	-6,13%	1076	968	11,16%
Atlas Copco AB	Ingersoll-Rand Drilling Solutions	44619	30640	5310	548		5858	3075	9,96	11,90%	25707	25787	-0,31%
Securitas AB	Bell Group PLC	58850	45491,5	2595	1652,8	1337	5584,8	1254,7	36,26	4,41%	210984	203070	3,90%
Billerud AB	Henry Cooke LTD	6992	2439	1118	365		1483	383	6,37	15,99%	2418	2383	1,47%
HIQ International AB	Softplan OY	403	77,7	12,9	26		38,9	24	3,24	3,20%	361	405	-10,86%
Proact It Group AB	Dimension AB	695	241	-30	31		1	71	3,39	-4,32%	281	310	-9,35%
Hexagon AB	Leica Geosystems Holding AG	8256	6069	588	341	0	929	858	7,07	7,12%	5935	5401	9,89%
Eniro AB	Findexa Ltd	4918	1539	911	91	347	1349	3	513,00	18,52%	4752	4595	3,42%
Tele 2 AB	Comunitel Global SA	43033	26418	2789	1944	1902	6635	5060	5,22	6,48%	2928	3274	-10,57%
Elekta AB	Impac Medical Systems INC:	2900	1783	306	88		394	349	5,11	10,55%	1136	1011	12,36%
Alfa Laval Ab	Tranter PHE INC	14986	9937	1247	746		1993	1236	8,04	8,32%	9400	9194	2,24%
VBG Group AB	Edscha AG's Sliding Roofs for trucks and trailers division	604	389	42	24	4	70	116	3,35	6,95%	308	301	2,33%
Fagerhult AB	Whitecroft Lighting Holdings Ltd	1382	984	54,7	39,3	1,4	95,4	235,6	4,18	3,96%	1130	1183	-4,48%
Wilh Sonesson AB	Vitamex AB	1174	699	53	42		95	109	6,41	4,51%	447	300	49,00%
Aspiro AB	Schibsted Mobile AS	130	130,5	-60	51	8,5	-0,5	18	7,25	-46,15%	30	30	0,00%
Taurus Petroleum AB (Raysearch Labratories)	Raysearch Labratories AB	39	1	14	1	1,5	16,109	2	0,50	35,90%	26	19	36,84%
Addtech AB	Bergman & Beving Meditech AB	2422	1649	162	36,7		198,7	296	5,57	6,69%	958	1072	-10,63%
Lundin Petroleum AB	Valkyries Petroleum Corp.	4190	1310	2013	950		2963	135	9,70	48,04%	197	288	-31,60%
Saab AB	Ericsson Microwave systems AB	19214	15003	1652	520	0	2172	3773	3,98	8,60%	12830	11963	7,25%
RNB Retail and brands AB	JC AB	964	494	47	32		79	110	4,49	4,88%	497	489	1,64%
Assa ABloy	Fargo Electronics INC.	27802	16508	4078	882		4960	1949	8,47	14,67%	29578	29160	1,43%
Nobia	Hygena Cuisines SASU	12448	7579	954	309		1263	857	8,84	7,66%	6573	6052	8,61%
Acandofrontec AB	Resco AB	646	432	48	5		53	43	10,05	7,43%	618	576	7,29%
BTS Group	Real Learning Company + Advantage Performance Group	286	155	49	4		53	7	22,14	17,13%	143	104	37,50%
Teliasonera AB	Turkcell Iletisim Hizmetleri AS	91060	48640	25849	11203		37052	9077	5,36	28,39%	28528	28175	1,25%
Husqvarna AB	Gardena AG	29402	21477	3121	836		3957	6264	3,43	10,61%	11412	11681	-2,30%
Meda AB	3M Pharma's Business in europe	5256	2179	1434	81	298	1813	421	5,18	27,28%	1666	857	94,40%
SCA AB	Procter&Gamble Company's European Tissue Operations	101439	82368	2799	6151		8950	12332	6,68	2,76%	51022	51902	-1,70%
New Wave group AB	Cutter & Buck Inc.	3530	3168	344,8	522,2		867	1466	2,16	9,77%	2207	1714	28,76%
Orexo AB	Biolipox AB	132	11,1	35,6	3,4	0	39	3028	0,00	26,97%	50	43	16,28%
Nolato AB	Cerbo Group AB	2702	2429	78	138		216	183	13,27	2,89%	4144	2790	48,53%
Semcon AB	IVM Automotive Beteiligungs GMBH	1614	-284	75,9	17		92,9	47	-6,04	4,70%	1509	1636	-7,76%
Elanders AB	Sommer Crporate media GMBH & CO KG	1988	1555	-9	95	24	110	178	8,74	-0,45%	1490	1478	0,81%
Getupdated Internet Marketing AB (Oniva)	Just search LTD	69	70	-1	0,7		-0,3	8	8,75	-1,45%	83	37	124,32%

Appendix 2: Pretax operating cash flow year 1

Acquirer	Target	Sales	COGS	Operating profit	Depreciation	Goodwill	Pretax operating cash flow	Accounts payable	Accounts payable turnover ratio	Operating margin	Employees at 31 dec	Employees the year before	Employee growth rate
Volvo AB	Mack + Renault Vehicules Industries	186198	151569	2837	1844		4681	22214	6,82	1,52%	70546	72031	-2,06%
Svenska Cellulosa AB	Away from home's tissue operation	88046	32646	1249	6451		7700	9236	3,53	1,42%	43374	42049	3,15%
Electrolux AB	Email LTD's Household Appliance Making Unit	133150	101705	7731	3854		11585	16223	6,27	5,81%	81971	87139	-5,93%
Hexagon AB	Brown & Sharpe Manufacturing Company's metrology business	6997	5134	400	294		694	739	6,95	5,72%	5428	5061	7,25%
Eniro AB	Panorama Polska	4886	1424	327	98		425	276	5,16	6,69%	4168	3608	15,52%
Saab AB	Aerotechtelub AB	16538	12496	1220	1168		2388	1185	10,55	7,38%	13446	13727	-2,05%
Telia AB	Sonera OYJ	82425	46688	14710	17707		32417	7595	6,15	17,85%	25906	29321	-11,65%
Assa Abloy AB	Besam AB	24080	14613	1073	1856		2929	1489	9,81	4,46%	28708	28754	-0,16%
NCC AB	Rieber & Son's Roads Business	45252	41739	5	1103		1108	3849	10,84	0,01%	24076	25554	-5,78%
Haldex Group	Holland Anchorlok Spring Brake Business + Holland Neway Air Suspension Control Valve Business	6036	4491	176	287		463	473	9,49	2,92%	4018	4022	-0,10%
Enea Data AB	Teksci INC.	549	577	-28	14		-14	25	23,08	-5,10%	599	848	-29,36%
Boliden AB	Outokumpu's Minding and Smelting Operations	17928	15563	1668	1311	340	3319	1606	9,69	9,30%	4479	3895	14,99%
Trelleborg AB	Polymer Sealing Solutions LTD	22912	16963	879	1245	403	2527	2530	6,70	3,84%	21675	15855	36,71%
Getinge AB	Siemens Medical Solutions's Life support...	10888	5997	1505	252	248	2005	766,3	7,83	13,82%	6713	5330	25,95%
PyroSequencing AB	Biotage LLC	366,6	148,4	-60,7	72,9		12,2	47,5	3,12	-16,56%	246	166	48,19%
Sweco AB	PI-Management OY	3141	2950	191	66,5	18,6	276,1	106	27,83	6,08%	3445	2169	58,83%
PartnerTech AB	Vellinge Electronics AB	1737	1587	65	55,5	8,8	129,3	192,8	8,23	3,74%	1266	1143	10,76%
Atlas Copco AB	Ingersoll-Rand Drilling Solutions	42205	26681	6938	1417		8355	5985	4,46	16,44%	21431	23849	-10,14%
Securitas AB	Bell Group PLC	66013,6	51320,1	4136	254		4390	1560,8	32,88	6,27%	216987	206153	5,26%
Billerud AB	Henry Cooke LTD	6823	2982	-200	399		199	555	5,37	-2,93%	2600	2623	-0,88%
HIQ International AB	Softplan OY	720,5	419,1	148,3	5,3		153,6	21,3	19,68	20,58%	568	407	39,56%
Proact It Group AB	Dimension AB	689	229	-10	11		1	97	2,36	-1,45%	265	344	-22,97%
Hexagon AB	Leica Geosystems Holding AG	13469	8350	1743	2165		3908	1212	6,89	12,94%	7862	6111	28,65%
Eniro AB	Findexa Ltd	6771	1889	1872	418		2290	326	5,79	27,65%	4801	4754	0,99%
Tele 2 AB	Comunitel Global SA	50306	30931	-1623	3807	3300	5484	5343	5,79	-3,23%	5285	3909	35,20%
Elekta AB	Impac Medical Systems INC:	4421	2579	453	171		624	483	5,34	10,25%	1750	1249	40,11%
Alfa Laval Ab	Tranter PHE INC	19802	12598	2552	601		3153	1968	6,40	12,89%	9923	9524	4,19%
VBG Group AB	Edscha AG's Sliding Roofs for trucks and trailers division	1163	718	170	30		200	162	4,43	14,62%	411	339	21,24%
Fagerhult AB	Whitecroft Lighting Holdings Ltd	2162	1525	95	56		151	199	7,66	4,39%	1640	1288	27,33%
Wilh Sonesson AB	Vitamex AB	1157	760	-24	12929		12905	141	5,39	-2,07%	347	387	-10,34%
Aspiro AB	Schibsted Mobile AS	448	385	15	48		63	26	14,81	3,35%	133	115	15,65%
Taurus Petroleum AB (Raysearch Labratories)	Raysearch Labratories AB	68	1	34	6		40	2	0,50	50,00%	28	27	3,70%
Addtech AB	Bergman & Beving Meditech AB	3362	2242	271	38,5		309,5	332	6,75	8,06%	1198	958	25,05%
Lundin Petroleum AB	Valkyries Petroleum Corp.	5484	2267	1681	997		2678	300	7,56	30,65%	495	513	-3,51%
Saab AB	Ericsson Microwave systems AB	23021	16849	2607	1078		3685	1229	13,71	11,32%	13337	12858	3,73%
RNB Retail and brands AB	JC AB	3426	1942	2	101		600	551	1,15	5,47%	1662	1356	22,57%
Assa ABloy	Fargo Electronics INC.	33550	19751	5458	910		6368	2503	7,89	16,27%	12493	12283	1,71%
Nobia	Hygena Cuisines SASU	16622	10245	1353	437		1790	1054	9,72	8,14%	8526	7968	7,00%
Acandofrontec AB	Resco AB	1344	826	102	7		109	75	11,01	7,59%	1012	726	39,39%
BTS Group	Real Learning Company + Advantage Performance Group	523	433	78	12		90	23	18,83	14,91%	211	165	27,88%
Teliasonera AB	Turkcell Iletisim Hizmetleri AS	103585	57853	28648	12106		40754	9400	6,15	27,66%	30037	28561	5,17%
Husqvarna AB	Gardena AG	32342	22965	2361	1163		3524	3280	7,00	7,30%	15720	16093	-2,32%
Meda AB	3M Pharma's Business in europe	10675	3572	2302	88	1035	3425	810	4,41	21,56%	2529	2005	26,13%
SCA AB	Procter&Gamble Company's European Tissue Operations	110449	89684	8554	6199		14753	14156	6,34	7,74%	51999	25787	101,65%
New Wave group AB	Cutter & Buck Inc.	4604	2371	369	64		433	247	9,60	8,01%	2562	2350	9,02%
Orexo AB	Biolipox AB	233	17	-112	15		-97	18	0,94	-48,07%	123	80	53,75%
Nolato AB	Cerbo Group AB	2824	2385	232	167		399	404	5,90	8,22%	4531	3760	20,51%
Semcon AB	IVM Automotive Beteiligungs GMBH	3299	3149	150	34		184	94	33,50	4,55%	3631	2672	35,89%
Elanders AB	Sommer Crporate media GMBH & CO KG	2191	1742	16	102		118	231	7,54	0,73%	1809	1563	15,74%
Getupdated Internet Marketing AB (Oniva)	Just search LTD	291	134	-90	65		-25	24	5,58	-30,93%	285	184	54,89%

Appendix 3: Pretax operating cash flow year 2

Acquirer	Target	Sales	COGS	Operating profit	Depreciation	Goodwill	Pretax operating cash flow	Accounts payable	Accounts payable turnover ratio	Operating margin	Employees at 31 dec	Employees the year before	Employee growth rate
Volvo AB	Mack + Renault Vehicules Industries	183291	146879	2504	10169		12673	24528	5,99	1,37%	73156	70546	3,70%
Svenska Cellulosa AB	Away from home's tissue operation	85338	31623	7757	6612		14369	9280	3,41	9,09%	44191	43374	1,88%
Electrolux AB	Email LTD's Household Appliance Making Unit	124077	93742	7175	3353		10528	14857	6,31	5,78%	77140	81971	-5,89%
Hexagon AB	Brown & Sharpe Manufacturing Company's metrology business	7103	5282	406	305		711	612	8,63	5,72%	5401	5428	-0,50%
Eniro AB	Panorama Polska	5012	1488	655	86		741	290	5,13	13,07%	4595	4168	10,24%
Saab AB	Aerotechtelub AB	17250	12997	1293	1210		2503	998	13,02	7,50%	13127	13446	-2,37%
Telia AB	Sonera OYJ	81937	43104	18793	15596		34389	7756	5,56	22,94%	29082	25906	12,26%
Assa Abloy AB	Besam AB	25526	15148	2770	1872		4642	1521	9,96	10,85%	29160	28708	1,57%
NCC AB	Rieber & Son's Roads Business	45437	41809	1117	810		1927	3889	10,75	2,46%	22214	24076	-7,73%
Haldex Group	Holland Anchorlok Spring Brake Business + Holland Neway Air Suspension Control Valve Business	6759	5110	313	286		599	605	8,45	4,63%	4317	4018	7,44%
Enea Data AB	Teksci INC.	656	656	0,4	35		35,4	46	14,26	0,06%	544	599	-9,18%
Boliden AB	Outokumpu's Minding and Smelting Operations	20441	16486	3069	1239		4308	2209	7,46	15,01%	4530	4479	1,14%
Trelleborg AB	Polymer Sealing Solutions LTD	24170	17665	1779	781		2560	3012	5,86	7,36%	21694	21675	0,09%
Getinge AB	Siemens Medical Solutions's Life support...	11880	6607	1803	274		2077	921	7,17	15,18%	7191	6713	7,12%
PyroSequencing AB	Biotage LLC	430	200	-63	36		-27	122	1,64	-14,65%	295	246	19,92%
Sweco AB	PI-Management OY	3372	3100	271	51,3		322,3	143,8	21,56	8,04%	3626	3445	5,25%
PartnerTech AB	Vellinge Electronics AB	2014	1830	88	44		132	223,8	8,18	4,37%	1369	1266	8,14%
Atlas Copco AB	Ingersoll-Rand Drilling Solutions	50512	31516	9203	1637		10840	4108	7,67	18,22%	24378	21431	13,75%
Securitas AB	Bell Group PLC	60523	49029,8	1437,2	1571,2	93,3	3101,7	1153	42,52	2,37%	215379	216987	-0,74%
Billerud AB	Henry Cooke LTD	7369	3384	552	466		1018	578	5,85	7,49%	2476	2600	-4,77%
HIQ International AB	Softplan OY	801,4	483,3	154,9	5,8		160,7	25,1	19,25	19,33%	648	568	14,08%
Proact It Group AB	Dimension AB	756	211	17	17	14	48	125	1,69	2,25%	241	265	-9,06%
Hexagon AB	Leica Geosystems Holding AG	14587	8490	2270		76	2346	1473	5,76	15,56%	8405	7862	6,91%
Eniro AB	Findexa Ltd	6508	1883	1855	411		2266	329	5,72	28,50%	4697	4801	-2,17%
Tele 2 AB	Comunitel Global SA	43420	25816	1485	5343		6828	3868	6,67	3,42%	5859	5285	10,86%
Elekta AB	Impac Medical Systems INC:	4525	2648	509	136		645	379	6,99	11,25%	1951	1750	11,49%
Alfa Laval Ab	Tranter PHE INC	24849	15340	4691	608		5299	2283	6,72	18,88%	10804	9923	8,88%
VBG Group AB	Edscha AG's Sliding Roofs for trucks and trailers division	1323	813	213	29		242	66	12,32	16,10%	422	411	2,68%
Fagerhult AB	Whitecroft Lighting Holdings Ltd	2527	1705	198	62		260	210	8,12	7,84%	1896	1640	15,61%
Wilh Sonesson AB	Vitamex AB	1659	1188	-308	21		-287	163	7,29	-18,57%	434	347	25,07%
Aspiro AB	Schibsted Mobile AS	405	380	8,7	20		28,7	26	14,62	2,15%	156	133	17,29%
Taurus Petroleum AB (Raysearch Labratories)	Raysearch Labratories AB	65	1	25	7		32	5	0,20	38,46%	37	28	32,14%
Addtech AB	Bergman & Beving Meditech AB	3661	2422	360	43,8		403,8	354	6,84	9,83%	1235	1198	3,09%
Lundin Petroleum AB	Valkyries Petroleum Corp.	6394	2379	1461	1032	613	3106	276	8,62	22,85%	524	495	5,86%
Saab AB	Ericsson Microwave systems AB	23796	19162	166	996		1162	1712	11,19	0,70%	13199	13337	-1,03%
RNB Retail and brands AB	JC AB	3207	1827	636	100	500	1236	337	5,42	19,83%	1686	1662	1,44%
Assa ABloy	Fargo Electronics INC.	34918	21532	4269	921		5190	2909	7,40	12,23%	32723	12493	161,93%
Nobia	Hygena Cuisines SASU	15991	10161	915	479		1394	965	10,53	5,72%	8682	8526	1,83%
Acandofrontec AB	Resco AB	1611	999	152	9		161	70	14,27	9,44%	1123	1012	10,97%
BTS Group	Real Learning Company + Advantage Performance Group	548	466	70	12		82	18	25,89	12,77%	249	211	18,01%
Teliasonera AB	Turkcell Iletisim Hizmetleri AS	109161	60965	30324	12932		43256	8153	7,48	27,78%	28815	30037	-4,07%
Husqvarna AB	Gardena AG	34074	25423	1560	1500		3060	2854	8,91	4,58%	15030	15720	-4,39%
Meda AB	3M Pharma's Business in europe	13178	4462	2902	1485		4387	780	5,72	22,02%	2627	2529	3,88%
SCA AB	Procter&Gamble Company's European Tissue Operations	110857	84744	8190	6828		15018	12272	6,91	7,39%	49531	51999	-4,75%
New Wave group AB	Cutter & Buck Inc.	4087	2185	172	71		243	262	8,34	4,21%	2203	2562	-14,01%
Orexo AB	Biolipox AB	236	24	-99	10,7		-88,3	18	1,33	-41,95%	124	123	0,81%
Nolato AB	Cerbo Group AB	2602	2273	158	185		343	464	4,90	6,07%	4308	4531	-4,92%
Semcon AB	IVM Automotive Beteiligungs GMBH	2281	2040	-241	118		-123	77	26,49	-10,57%	2791	3631	-23,13%
Elanders AB	Sommer Crporate media GMBH & CO KG	1757	1429	-60	101		41	187	7,64	-3,41%	1581	1809	-12,60%
Getupdated Internet Marketing AB (Oniva)	Just search LTD	244	128	-28	3		-25	21	6,10	-11,48%	273	285	-4,21%

Appendix 4: Pretax operating cash flow year 3

Acquirer	Target	Sales	COGS	Operating profit	Depreciation	Goodwill	Pretax operating cash flow	Accounts payable	Accounts payable turnover ratio	Operating margin	Employees at 31 dec	Employees the year before	Employee growth rate
Volvo AB	Mack + Renault Vehicules Industries	210401	163947	14200	10305		24505	30813	5,32	6,75%	78196	73156	6,89%
Svenska Cellulosa AB	Away from home's tissue operation	89967	33370	5690	7385		13075	10150	3,29	6,32%	49919	44191	12,96%
Electrolux AB	Email LTD's Household Appliance Making Unit	120651	91006	4714	3178		7892	16550	5,50	3,91%	72382	77140	-6,17%
Hexagon AB	Brown & Sharpe Manufacturing Company's metrology business	8256	6069	588	341		929	858	7,07	7,12%	5935	5401	9,89%
Eniro AB	Panorama Polska	5021	1539	911	91		1002	308	5,00	18,14%	4752	4595	3,42%
Saab AB	Aerotechtelub AB	17848	13776	1657	1172		2829	1175	11,72	9,28%	12115	13127	-7,71%
Telia AB	Sonera OYJ	87661	47287	17549	13188		30737	7676	6,16	20,02%	28175	29082	-3,12%
Assa Abloy AB	Besam AB	27802	16508	4078	882		4960	1949	8,47	14,67%	29578	29160	1,43%
NCC AB	Rieber & Son's Roads Business	49506	45158	1748	563		2311	4520	9,99	3,53%	21000	22214	-5,47%
Haldex Group	Holland Anchorlok Spring Brake Business + Holland Neway Air Suspension Control Valve Business	7486	5653	391	267		658	658	8,59	5,22%	4606	4317	6,69%
Enea Data AB	Teksci INC.	712	656	56	11		67	48	13,67	7,87%	509	544	-6,43%
Boliden AB	Outokumpu's Minding and Smelting Operations	35213	25831	8522	1309		9831	2788	9,27	24,20%	4519	4530	-0,24%
Trelleborg AB	Polymer Sealing Solutions LTD	27041	20382	1478	803		2281	2300	8,86	5,47%	22506	21694	3,74%
Getinge AB	Siemens Medical Solutions's Life support...	13001	7136	1936	334		2270	1011	7,06	14,89%	7441	7191	3,48%
PyroSequencing AB	Biotage LLC	519	200	6	39		45	109	1,83	1,16%	341	295	15,59%
Sweco AB	PI-Management OY	3894	3532	362	58		420	9,3	379,78	9,30%	3996	3626	10,20%
PartnerTech AB	Vellinge Electronics AB	3057	2741	180	51		231	281,6	9,73	5,89%	1747	1369	27,61%
Atlas Copco AB	Ingersoll-Rand Drilling Solutions	63355	39896	12066	1637		13703	5591	7,14	19,05%	29522	24378	21,10%
Securitas AB	Bell Group PLC	62907,6	51135,5	1967,2	1906		3873,2	1247,2	41,00	3,13%	231588	215379	7,53%
Billerud AB	Henry Cooke LTD	7 758	3734	519	473		992	857	4,36	6,69%	2364	2476	-4,52%
HIQ International AB	Softplan OY	973,6	595,8	182,3	7,8		190,1	0,07	7 953,71	18,72%	809	648	24,85%
Proact It Group AB	Dimension AB	864	502	39	11		50	125	4,02	4,51%	262	241	8,71%
Hexagon AB	Leica Geosystems Holding AG	14479	7881	2448	297		2745	1185	6,65	16,91%	9062	8405	7,82%
Eniro AB	Findexa Ltd	6689	1935	410	1654		2064	268	7,22	6,13%	4861	4697	3,49%
Tele 2 AB	Comunitel Global SA	39505	22885	2851	5470		8321	2217	10,32	7,22%	5812	5859	-0,80%
Elekta AB	Impac Medical Systems INC:	5081	2899	650	176		826	517	5,61	12,79%	2113	1951	8,30%
Alfa Laval Ab	Tranter PHE INC	27850	16481	5736	560		6296	2449	6,73	20,60%	11821	10804	9,41%
VBG Group AB	Edscha AG's Sliding Roofs for trucks and trailers division	1377	935	123	30		153	57	16,40	8,93%	432	422	2,37%
Fagerhult AB	Whitecroft Lighting Holdings Ltd	2770	1834	272	63		335	166	11,05	9,82%	1978	1896	4,32%
Wilh Sonesson AB	Vitamex AB	1458	885	42	26		68	176	5,03	2,88%	373	434	-14,06%
Aspiro AB	Schibsted Mobile AS	369	387	-238	224		-14	24	16,13	-64,50%	144	156	-7,69%
Taurus Petroleum AB (Raysearch Labratories)	Raysearch Labratories AB	63	1	21	11		32	4	0,25	33,33%	48	37	29,73%
Addtech AB	Bergman & Beving Meditech AB	4198	2832	415	55,9		470,9	372	7,61	9,89%	1368	1235	10,77%
Lundin Petroleum AB	Valkyries Petroleum Corp.	6191	2300	3224	5883		9107	146	15,75	52,08%	439	524	-16,22%
Saab AB	Ericsson Microwave systems AB	24647	18510	1374	1201		2575	1730	10,70	5,57%	13045	13199	-1,17%
RNB Retail and brands AB	JC AB	3072	1576	48	94		142	316	4,99	1,56%	1423	1686	-15,60%
Assa ABloy	Fargo Electronics INC.	34963	21780	4374	1014		5388	2682	8,12	12,51%	29375	32723	-10,23%
Nobia	Hygena Cuisines SASU	15418	9976	38	602		640	1189	8,39	0,25%	7930	8682	-8,66%
Acandofrontec AB	Resco AB	1436	964	66	12		78	51	18,90	4,60%	1120	1123	-0,27%
BTS Group	Real Learning Company + Advantage Performance Group	595	514	70	11		81	15	34,27	11,76%	252	249	1,20%
Teliasonera AB	Turkcell Iletisim Hizmetleri AS	106582	5764	32083	13479		45562	8573	0,67	30,10%	27697	28815	-3,88%
Husqvarna AB	Gardena AG	32240	23037	2445	1221		3666	2810	8,20	7,58%	14954	15030	-0,51%
Meda AB	3M Pharma's Business in europe	11571	4156	2529	1777		4306	675	6,16	21,86%	2593	2627	-1,29%
SCA AB	Procter&Gamble Company's European Tissue Operations	109142	84524	8677	6324		15001	13574	6,23	7,95%	45341	49531	-8,46%
New Wave group AB	Cutter & Buck Inc.	4243	2243	328	58		386	306	7,33	7,73%	2196	2203	-0,32%
Orexo AB	Biolipox AB	210	26	-81	33		-48	25	1,04	-38,57%	105	124	-15,32%
Nolato AB	Cerbo Group AB	3375	2889	253	154		407	433	6,67	7,50%	7563	4308	75,56%
Semcon AB	IVM Automotive Beteiligungs GMBH	2091	2088	3	30		33	70	29,83	0,14%	2474	2791	-11,36%
Elanders AB	Sommer Crporate media GMBH & CO KG	1705	1450	-76	102		26	163	8,90	-4,46%	1520	1581	-3,86%
Getupdated Internet Marketing AB (Oniva)	Just search LTD	232	98	-1	4		3	23	4,26	-0,43%	203	273	-25,64%

Appendix 5: Development of pretax operating cash flow, expressed as percent.

Acquirer	Growth Y-1 to 1 (%)	Growth Y1 to 2 (%)	Growth Y2 to 3 (%)	Growth Y1 to 3 (%)	Growth Y-1 to 3 (%)
Volvo AB	-0,62	1,71	0,93	423,50	97,54
SVENSKA CELLULOSA AB	-0,49	0,87	-0,09	69,81	-13,90
ELECTROLUX AB	0,02	-0,09	-0,25	-31,88	-30,78
Hexagon AB	0,48	0,02	0,31	33,86	97,66
Eniro AB	-0,11	0,74	0,35	135,76	110,06
SAAB AB	-0,14	0,05	0,13	18,47	1,47
Telia AB	0,67	0,06	-0,11	-5,18	58,15
ASSA ABLOY AB	-0,07	0,58	0,07	69,34	57,01
NCC AB	31,78	0,74	0,20	108,57	6519,44
HALDEX GROUP	-0,03	0,29	0,10	42,12	37,37
ENEA DATA AB	0,93	3,53	0,89	578,57	135,64
Boliden AB	2,33	0,30	1,28	196,20	887,05
Trelleborg AB	0,26	0,01	-0,11	-9,73	13,31
Getinge AB	0,35	0,04	0,09	13,22	53,17
PyroSequencing AB	1,08	-3,21	2,67	268,85	130,49
Sweco AB	0,98	0,17	0,30	52,12	201,72
PartnerTech AB	3,47	0,02	0,75	78,65	699,31
Atlas Copco AB	0,43	0,30	0,26	64,01	133,92
Securitas AB	-0,21	-0,29	0,25	-11,77	-30,65
Billerud AB	-0,87	4,12	-0,03	398,49	-33,11
HIQ International AB	2,95	0,05	0,18	23,76	388,69
PROACT IT GROUP AB	0,00	47,00	0,04	4900,00	4900,00
Hexagon AB	3,21	-0,40	0,17	-29,76	195,48
Eniro AB	0,70	-0,01	-0,09	-9,87	53,00
Tele 2 AB	-0,17	0,25	0,22	51,73	25,41
Elekta AB	0,58	0,03	0,28	32,37	109,64
Alfa Laval Ab	0,58	0,68	0,19	99,68	215,91
VBG Group AB	1,86	0,21	-0,37	-23,50	118,57
Fagerhult AB	0,58	0,72	0,29	121,85	251,15
Wilh Sonesson AB	134,84	-1,02	1,24	-99,47	-28,42
Aspiro AB	127,00	-0,54	-1,49	-122,22	-2700,00
Taurus Petroleum AB	1,48	-0,20	0,00	-20,00	98,65
Addtech AB (07/08)	0,56	0,30	0,17	52,15	136,99
Lundin Petroleum AB	-0,10	0,16	1,93	240,07	207,36
Saab AB	0,70	-0,68	1,22	-30,12	18,55
RNB Retail and brands AB	8,32	0,68	-0,89	-80,71	79,75
Assa ABloy	0,28	-0,18	0,04	-15,39	8,63
Nobia	0,42	-0,22	-0,54	-64,25	-49,33
Acandofrontec AB	1,06	0,48	-0,52	-28,44	47,17
BTS Group	0,70	-0,09	-0,01	-10,00	52,83
Teliasonera AB	0,10	0,06	0,05	11,80	22,97
Husqvarna AB	-0,11	-0,13	0,20	4,03	-7,35
Meda AB	0,89	0,28	-0,02	25,72	137,51
SCA AB	0,65	0,02	0,00	1,68	67,61
New Wave group AB	-0,50	-0,44	0,59	-10,85	-55,48
Orexo AB	-3,49	0,09	0,46	50,52	-223,08
Nolato AB	0,85	-0,14	0,19	2,01	88,43
Semcon AB	0,98	-1,67	1,27	-82,07	-64,48
Elanders AB	0,07	-0,65	-0,37	-77,97	-76,36
Getupdated Internet Marketi	-82,33	0,00	1,12	112,00	1100,00

Appendix 6: Calculation of characteristics

Acquirer	Target	Size	Price in EUR	Price in SEK	International or domestic	Announced	State of market (characteristic)	Time of the wave (characteristic)	Number of acquistions	Serial Acquirers (characteristic)	Stock price 30/12 the year before	Number of shares	Absolute size of acquirer (characteristic)	Relative size of acquirer (characteristic)	Relative size of acquirer (characteristic)
Volvo AB	Mack + Renault Vehicules Industries	100%	1 860	17354	1	25/04/2000	0	0	1	1	156,5	441	69016,5	25,14%	1
Svenska Cellulosa AB	Away from home's tissue operation	100%	904	8434	1	22/01/2001	0	0	0	0	200	230	46000	18,34%	0
Electrolux AB	Email LTD's Household Appliance Making Unit	100%	293	2735	1	20/11/2000	0	0	0	0	122,5	366	44835	6,10%	0
Hexagon AB	Brown & Sharpe Manufacturing Company's metrology business	100%	202	1885	1	17/11/2000	0	0	1	1	120	14,7	1764	106,87%	1
Eniro AB	Panorama Polska	100%	135	1260	1	2001-12-03	0	0	0	0	95	150	14250	8,84%	0
Saab AB	Aerotechtelub AB	57%	115	1073	0	2001-07-09	0	0	1	1	78	106	8268	12,98%	0
Telia AB	Sonera OYJ	100%	7450	69509	1	26/03/2002	0	0	2	1	48	2900	139200	49,93%	1
Assa Abloy AB	Besam AB	100%	335	3126	0	29/04/2002	0	0	1	1	151	361	54511	5,73%	0
NCC AB	Business	100%	217	2025	1	2000-01-09	0	0	3	2	70	105	7350	27,55%	1
Haldex Group	Spring Brake Business + Holland Neway Air Suspension Control Valve Business	100%	24	224	1	2001-11-12	0	0	1	1			1700	13,17%	0
Enea Data AB	Teksci INC.	100%	21	196	1	2000-02-02	0	0	0	0	5,45	181	986,45	19,86%	0
Boliden AB	Outokumpu's Minding and Smelting Operations	100%	849	7921	1	2003-08-09	0	1	1	1	14,4	85	1224	647,15%	1
Trelleborg AB	Polymer Sealing Solutions LTD	100%	706	6587	1	21-07-2003	0	1	3	2	70,5	90	6345	103,81%	1
Getinge AB	Siemens Medical Solutions's Life support	100%	180	1679	1	15/08/2003	0	1	2	1	178	50,4	8971,2	18,72%	0
PyroSequencing AB	Biotage LLC	100%	30	280	1	14-10-2003	0	1	0	0	7,9	35	276,5	10,85%	0
Sweco AB	PI-Management OY	100%	23	215	1	2003-03-12	0	1	0	0	57	14,8	843,6	25,44%	1
PartnerTech AB	Vellinge Electronics AB	100%	17	159	0	2001-09-10	0	0	0	0	23,6	11,4	269,04	58,95%	1
Atlas Copco AB	Ingersoll-Rand Drilling Solutions	100%	184	1717	1	19/02/2004	1	1	0	0	32,15	209,6021	6739	25,48%	1
Securitas AB	Bell Group PLC	100%	147	1372	1	27-07-2004	1	1	2	1	39,95	382	15261	8,99%	0
Billerud AB	Henry Cooke LTD	100%	22	205	1	19-12-2003	0	1	0	0	75	54,369	4078	5,03%	0
HIQ International AB	Softplan OY	100%	13	121	1	2002-10-04	0	0	2	1	11,95	4,68	55,926	216,88%	1
Proact It Group AB	Dimension AB	100%	10	93	0	24/11/2003	0	1	1	1	40	9	360	25,92%	1
Hexagon AB	Leica Geosystems Holding AG	99%	964	8994	1	15/08/2005	1	2	1	1			5 520	162,94%	1
Eniro AB	Findexa Ltd	100%	828	7725	1	26/09/2005	1	2	4	2			15 815	48,85%	1

Target	Size	Price in EUR	Price in SEK	International or domestic	Announced	State of market (characteristic)	Time of the wave (characteristic)	Number of acquistions	Serial Acquirers (characteristic)	Stock price 30/12 the year before	Number of shares	Absolute size of acquirer (characteristic)	Relative size of acquirer (characteristic)	Relative size of acquirer (characteristic)
Comunitel Global SA	100%	257	2398	1	15-07-2005	1	2	5	2	64,44	147	9 473	25,31%	1
Impac Medical Systems INC:	100%	185	1726	1	18-01-2005	1	2	0	0	15,96	31	495	348,87%	1
Tranter PHE INC	100%	123	1148	1	23-09-2005	1	2	0	0			12 005	9,56%	0
Edscha AG's Sliding Roofs for trucks and trailers division	100%	38	355	1	23/09/2005	1	2	0	0			366	96,87%	1
Whitecroft Lighting Holdings Ltd	100%	31	289	1	2005-04-11	1	2	0	0	34,67	12,6	436,842	66,21%	1
Vitamex AB	100%	29	271	0	17-10-2003	0	1	1	1	27	26,5	715,5	37,82%	1
Schibsted Mobile AS	100%	25	233	1	17/02/2005	1	2	3	2			284	82,13%	1
Raysearch Labratories AB	100%	22	205	0	28-04-2003	0	1	0	0	31,5	8,46	266,49	77,02%	1
Bergman & Beving Meditech AB	100%	19	177	0	2005-04-02	1	2	0	0	19,33	51	985,83	17,98%	0
Valkyries Petroleum Corp.	90%	542	5057	1	29/05/2006	1	2	2	1			21 571	23,44%	0
Ericsson Microwave systems AB	100%	409	3816	0	2006-12-06	1	2	1	1			17 458	21,86%	0
JC AB	100%	240	2239	0	2006-09-05	1	2	0	0	790,23	37	29183,98413	7,67%	0
Fargo Electronics INC.	100%	234	2183	1	23-05-2006	1	2	1	1			43 343	5,04%	0
Hygena Cuisines SASU	100%	135	1260	1	14/02/2006	1	2	2	1			9 285	13,57%	0
Resco AB	100%	20	187	0	2006-09-01	1	2	0	0			604	30,89%	1
Real Learning Company + Advantage Performance Group	100%	18	168	1	2006-04-08	1	2	0	0	48	18	864	19,44%	0
Turkcell Iletisim Hizmetleri AS	37,3-64,3%	2334	21776	1	26-03-2005	1	2	0	0			252588	8,62%	0
Gardena AG	100%	730	6811	1	21/12/2006	1	2	0	0	69,46	296	20578,15014	33,10%	1
3M Pharma's Business in europe	100%	650	6065	1	2006-09-11	1	2	1	1	127,58	238	30364,04	19,97%	0
Procter&Gamble Company's European Tissue Operations	100%	512	4777	1	2007-12-03	1	2	0	0			70300	6,80%	0
Cutter & Buck Inc.	100%	117	1092	1	2007-12-04	1	2	1	1			3200	34,11%	1
Biolipox AB	100%	92	858	0	15/10/2007	1	2	0	0			1652	51,96%	1
Cerbo Group AB	100%	47	439	0	2007-05-03	1	2	0	0			1194	36,73%	1
IVM Automotive Beteiligungs GMBH	100%	36	336	1	2007-12-03	1	2	0	0			1187	28,30%	1
Sommer Crporate media GMBH & CO KG	100%	35	327	1	31/01/2007	1	2	0	0			1131	28,87%	1
Just search LTD	100%	25	233	1	2007-11-10	1	2	1	1	11	11	121	192,77%	1

Appendix 7

Calculations of Beta and CAR

Acquirer	Announcement date	Beta	CAR
Volvo AB	25/04/2000	0,83	0,99%
Svenska Cellulosa AB	22/01/2001	0,48	5,91%
Electrolux AB	20/11/2000	0,57	-0,63%
Hexagon AB	17/11/2000	0,45	6,11%
Eniro AB	2001-12-03	-1,21	-12,01%
Saab AB	2001-07-09	0,12	1,81%
Telia AB	26/03/2002	0,51	-4,69%
Assa Abloy AB	29/04/2002	0,75	-4,74%
NCC AB	2000-01-09	0,27	2,86%
Haldex Group	2001-11-12	0,48	-0,07%
Enea Data AB	2000-02-02	2,22	46,05%
Boliden AB	8-9-2003	0,92	13,17%
Trelleborg AB	21/07/2003	0,51	5,40%
Getinge AB	15/08/2003	0,26	11,08%
PyroSequencing AB	14-10-2003	1,62	9,59%
Sweco AB	3-12-2003	0,3	3,33%
PartnerTech AB	9-10-2001	0,11	13,56%
Atlas Copco AB	19/02/2004	0,81	0,27%
Securitas AB	27-07-2004	0,86	-1,79%
Billerud AB	19-12-2003	0,56	-4,42%
HIQ International AB	2002-10-04	2,41	0,23%
Proact It Group AB	24/11/2003	1,3	2,45%
Hexagon AB	15/08/2005	0,59	3,3%
Eniro AB	26/09/2005	0,59	-3,88%
Tele 2 AB	15-07-2005	1,21	1,0%
Elekta AB	18-01-2005	0,19	11,06%
Alfa Laval Ab	23-09-2005	0,65	2,89%
VBG Group AB	23/09/2005	0,17	6,34%
Fagerhult AB	2005-04-11	0,38	0,61
Wilh Sonesson AB (Midsona AB)	17-10-2003	0,82	28,93%
Aspiro AB	17/02/2005	1,76	15,28%
Taurus Petroleum AB	28-04-2003	0,57	16,41%
Addtech AB	2005-04-02	0,62	10,03%
Lundin Petroleum AB	29/05/2006	0,16	5,21%
Saab AB	2006-12-06	0,43	3,41%
RNB Retail and brands AB	2006-09-05	0,79	2,15%
Assa ABloy	23-05-2006	1,04	5,9%
Nobia	14/02/2006	0,8	7,29%
Acandofrontec AB	2006-09-01	1,75	17,09%
BTS Group	2006-04-08	0,86	13,07%
Teliasonera AB	26-03-2005	0,69	6,69%
Husqvarna AB	21/12/2006	0,69	6,54%
Meda AB	2006-09-11	0,63	18,71%
SCA AB	2007-12-03	0,47	0,95%
New Wave group AB	2007-12-04	0,58	-1,78%
Orexo AB	15/10/2007	1,53	-15,02%
Nolato AB	2007-05-03	1,18	2,26%
Semcon AB	2007-12-03	2,24	8,83%
Elanders AB	31/01/2007	1,3	9,23%
Oniva	2007-11-10	0,2	11,86%