Implications of Merger Control on Swedish M&A

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Abstract

A merger or an acquisition in Sweden, with a turnover exceeding a certain threshold, shall be notified to the Swedish Competition Authority (the "**SCA**") for approval. The purpose of this thesis is to investigate what effect merger control decisions of the SCA have on the value of the target and the bidder firm involved in a merger or an acquisition. Therefore, in this thesis we document stock price reactions of bidder and target firms on various event dates from the initial deal announcement to the final merger control decision. We have manually collected a unique dataset of 212 observations by revising SCA decisions from the period of July 1996 to July 2010. By using event study methodology we have computed abnormal returns showing, in line with previous research, evidence of a takeover premium among the target and bidder firm abnormal returns. However, in contrast with the results of previous research we do not find any further abnormal stock returns in the merger control process, suggesting a nonexistent market reaction to announcements of SCA merger control decisions. We discuss several reasons for why the market does not react to SCA merger control decisions and conclude, in light of research and interviews, that the two main reasons are that our sample is free from complex mergers cases and that stock price adjustments are already capitalized in the stock prices of subject firms.

Key words: M&A, Swedish Competition Authority, merger control, stock price, event study

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Contents

Definitions 4
2 Legal Framework and Intervention 8
2.1 Swedish Merger Control 8
2.2 Juridical Competence and Intervention 9
2.3 Procedures 9
3 An Initial Case Study 11
3.1 The Merger Case 11
3.2 Company Descriptions 11
3.3 The SCA Process 11
3.4 The Market Response 12
4 Previous Research 14
4.1 Evidence of Takeover Premia 14
4.2 Merger Control Decisions and the Stock Market 15
4.3 Evaluations of Merger Authorities 16
5 Theoretical Framework 17
5.1 Theories of Takeover Premia 17
5.2 Theories of Merger Authorities 17
5.3 The Role of Media 18
5.4 Efficient Market Hypothesis 18
6 Hypotheses 19
6.1 Initial Announcement Hypothesis 19
6.2 Phase I Hypothesis 19
6.3 Phase II Hypothesis 20
7 Methodology 21
7.1 Event Studies 21
7.1.1 Measuring Event Returns 21
7.1.2 Estimation of Normal Returns 22
7.1.3 Calculating Abnormal Returns 23
7.1.4 Calculating Cumulative Abnormal Returns 23
7.1.5 Testing for Significance 24
8 Data 25
8.1 Data Collection 25
8.2 Data Selection 25
8.3 Event Date Selection 26
8.4 Mergers Notified to the SCA, July 1996- July 2010 26
8.5 Mergers Included in Study, July 1996 - July 2010 27
8.6 Shortfall Analysis 27
9 Results 29
9.1 Results of Event Study 29

9.1.1 Return Effects around Initial Announcement 29
9.1.2 Return Effects around Announcement of Phase I 31
9.1.3 Return Effects around Announcement of Phase II 33
9.2 Results of Interview Study 35
9.2.1 Interview Subjects 35
9.2.2 Summary of Interviews 35
i) Difference in Results 35
ii) Effect of Possibility to Negotiate 36
iii) Why so Few Phase II Procedures 36
iv) Why so Few Blocked Mergers 37
v) The Role of the SCA 37
10 Discussion 39
11 Conclusion 44
12 Further Research 45
References 46
Academic Sources 46
Working Papers 48
Electronic Sources 49
Interviews 49
Appendix 50
Tables 50

Definitions

AZT	AstraZeneca Tika SNC
CAAR	Cumulative average abnormal return
EC	European Commission
EEC	European Economic Community
EMH	Efficient market hypothesis
GSK	GlaxoSmithKline Plc
M&A	Merger and acquisition
OFT	UK Office of Fair Trading
SCA	Swedish Competition Authority
UK	United Kingdom

1 Introduction

In recent years, mergers and acquisitions (below jointly referred to as a merger) have become victims of an increasing regulatory scrutiny. Several high-profile deals have rendered during the merger control process. Recent examples include the merger case of General Electric and Honeywell, a merger of two American firms, which obtained approval from American regulatory agencies to merge, whereas the European regulators blocked the merger. On a Swedish level, a recent example is GlaxoSmithKline Plc's SEK 1.7 billion acquisition of AstraZeneca Tika SNC. In this case the Swedish Competition Authority (the "**SCA**") investigation had a duration of more than three months and a careful analysis of the effects of the merger was undertaken before approval was given. Both these cases indicate that merger control is an important issue for investors since it may affect the timing of the deal. But how then, does merger control affect the outcome of the deal in terms of value? Do merger control decisions affect stock prices of subject firms? Studies on the European market indicate that merger decisions do in fact impact stock prices of firms involved in a merger. These studies suggest that merger control has an impact on stock prices that reaches all the way back to the initial deal announcement. The question is then if similar results can be seen on the Swedish market? If so, do merger control decisions affect prices of target firm, prices of bidder firm, or both?

We set out to investigate Swedish merger control, practiced by the SCA, and how SCA announcements affect share prices of firms involved in a deal, on various dates throughout the merger control process. Swedish merger control is regulated by the Swedish Competition Act (SFS 2008:579) and the purpose of this legislation is to eliminate and counteract obstacles to effective competition. Therefore, all mergers on the Swedish market with a turnover exceeding a certain threshold shall be notified to the SCA. If the SCA, on the basis of an initial investigation (henceforth referred to as "**Phase I**"), cannot decide whether the merger will impede effective competition or not, a special investigation will be pursued (henceforth referred to as "**Phase II**"). After carrying out a special investigation the SCA can either choose to approve the merger or try to block the merger by taking the case to the Stockholm District Court. A detailed overview of the legal framework and a merger control timeline is provided in Section 2.

Our interest for this thesis subject developed when we attended Professor Per Strömberg's course "Merger and Acquisitions" ("**M&A**") at the Stockholm School of Economics. We have chosen to study this particular topic as, to our knowledge, a recent study has not been performed on the Swedish market, and as merger control may affect the value of an investment, investors are likely to be interested in how Swedish merger control decisions may impact share prices. Furthermore, as activity in mergers and acquisitions has continued to grow, and hence the number of SCA merger inquiries has risen, knowledge about the share price effects of a merger decision could be valuable when considering a potential merger.
The purpose of this thesis is to investigate what effect merger control decisions from the SCA have on the value of the target firm and bidder firm in a merger. Therefore, by using the event study methodology, we

intend to determine stock market reactions of subject firms to merger announcements on three event dates; the initial deal announcement, the SCA decision announcement at the end of Phase I, and the SCA decision announcement at the end of Phase II.

Similar studies have been performed documenting stock price reactions of subject firms to regulatory procedures of merger control in the markets within the European Union, yet no studies have focused solely on Sweden. One reason for the lack of studies on the Swedish market with respect to this topic is the difficulty in collecting and compiling the data. Data is to be collected from numerous sources, although primarily from SCA's web site, where each merger case is individually accessed and downloaded. Also, a major part of all the SCA merger cases involve non-listed firms, which cannot be used for this type of investigation. Until recently, therefore, the sample of study has been too small for carrying out an event study. At the time of performing this study, 1,092 merger cases were collected from the SCA (during the period July 1996 - July 2010) that were subject to SCA's merger control, of which 391 merger cases involved cases where either the target firm and/ or the bidder firm were listed firms, whereof 212 cases had usable share price data. Out of the 1,092 cases that were notified to the SCA, only 44 cases were subjected to a Phase II investigation, whereof only 15 cases involved firms with usable share price data. With this information in hand, we expect to see reactions in stock prices that are relatively small.

As a complement to our event study, we perform an initial case study to gain better understanding of our data. Further, in order to interpret our results we perform an interview study with Sten Nyberg (professor in economics and Chief Economist of the SCA), Lars Henriksson (professor in competition law) and Advokat Carl Wetter (Head of the Competition Department at the Advokatfirman Vinge KB).

This thesis contributes to current research by explaining how Swedish merger control may impact stock prices of firms involved in a merger. The sample is categorized into bidder and target firms to better explain the differences in share price reactions met by the acquiring company and the acquired company. In line with previous research on this subject, an event study has been performed to analyze stock price reactions. To be able to include the initial merger announcement in our event study, our definition of an event is two-fold, namely:

- *A public announcement of an M&A deal* and,
- *A public announcement of an SCA merger control decision*

One limitation of our study is the limited sample size relating to cases subjected to an SCA Phase II investigation. As a consequence, the statistical significance of these regressions is inadequate.
The thesis begins with an overview of legal framework, the scoop of intervention and procedures of the SCA (Section 2). Further, a case study of the merger between GlaxoSmithKline and AstraZeneca is provided in Section 3 and prior research on the topic and our theoretical framework are discussed in

Section 4 and Section 5 respectively. In Section 6, hypotheses are formulated and discussed. This Section is followed by a description of the methodology (Section 7) and characteristics of the data (Section 8). Results obtained from our event study and from our interview study are presented in Section 9 and further discussed in Section 10. The thesis ends with some concluding remarks (Section 11) and a brief discussion of the areas for future research (Section 12).

2 Legal Framework and Intervention

The following Section provides a description of Swedish merger control; the legal framework and practices of the SCA.

2.1 Swedish Merger Control

The Swedish Competition Act is the main legal framework for Swedish merger control. The purpose of the Swedish Competition Act is to eliminate and counteract obstacles to effective competition in the field of production and trade in goods, services, and other products.[1] The prime reason why competition authorities are concerned about mergers is that a merger may reduce competition, by an increase in market power or a facilitation of collision, which may have unwanted impacts in affected markets.

According to the Swedish Competition Act, a merger shall be deemed to arise where a) two or more previously independent undertakings merge, or b) either one or more persons, already controlling at least one undertaking, or one or more undertakings acquire whether by purchase of securities or assets, by contract or by any other means director indirect control of the whole or parts of one or more other undertakings.[2] In the terms of the Swedish Competition Act an undertaking is defined as a natural or legal person engaged in activities of an economic or commercial nature.[3]

A merger shall be notified to the SCA if:

1. the combined aggregate turnover in Sweden of all the undertakings concerned in the preceding financial year exceeds SEK 1 billion, and
2. at least two of the undertakings concerned had a turnover in Sweden the preceding financial year which exceeds SEK 200 million for each of the undertakings. [4]

If the turnover requirement according to item 1 above is fulfilled but the turnover does not exceed what is laid down in item 2 above the SCA may require a party of a merger to notify the merger, where particular grounds exist for doing so. A party and other participants in a merger may always voluntarily notify a merger to the SCA.[5]

1 Chapter 1 Section 1 the Swedish Competition Act.
2 Chapter 1 Section 9 Paragraph 1 items 1-2 the Swedish Competition Act.
3 Chapter 1 Section 5 Paragraph 1 the Swedish Competition Act.
4 Chapter 4 Section 6, the Swedish Competition Act.
5 Chapter 4 Section 7paragraph 1 item 2 the Swedish Competition Act.

2.2 Juridical Competence and Intervention

The SCA may prohibit a merger if it is liable to significantly impede the existence or development of effective competition in a substantial part of Sweden.[6] If it is sufficient to eliminate the adverse effects of a merger one party of the merger, may instead be required to:

a) divest an undertaking, or a part of an undertaking, or
b) take some other measure having a favorable effect on competition.[7]

As discussed in the previous Section, certain turnover thresholds decide whether the merger shall be notified to the SCA or not. Since the European Economic Community (the "**EEC**") embarks on a similar merger control regulation, mergers are largely allocated on a turnover basis with the general principle that the largest transactions with a so-called "community dimension" are to be reviewed by the European Commission (the "**EC**"), while smaller transactions will generally be viewed exclusively by the national authorities.[8] For any merger affecting the European community through a "community dimension", then in principle, only the EEC rules and practices will be of importance, if not, national laws will be relevant.

2.3 Procedures

Upon receiving a complete notification of a merger the SCA has 25 working days to carry out a preliminary investigation of the merger. If the SCA has received a commitment from one party of the merger, aiming at a decision where the SCA shall leave the merger without any further actions, the period will be prolonged to 35 working days.[9] In this thesis the initial investigation period of 25 or 35 days is referred to as "Phase I" and culminates in a single decision where four outcomes are possible:

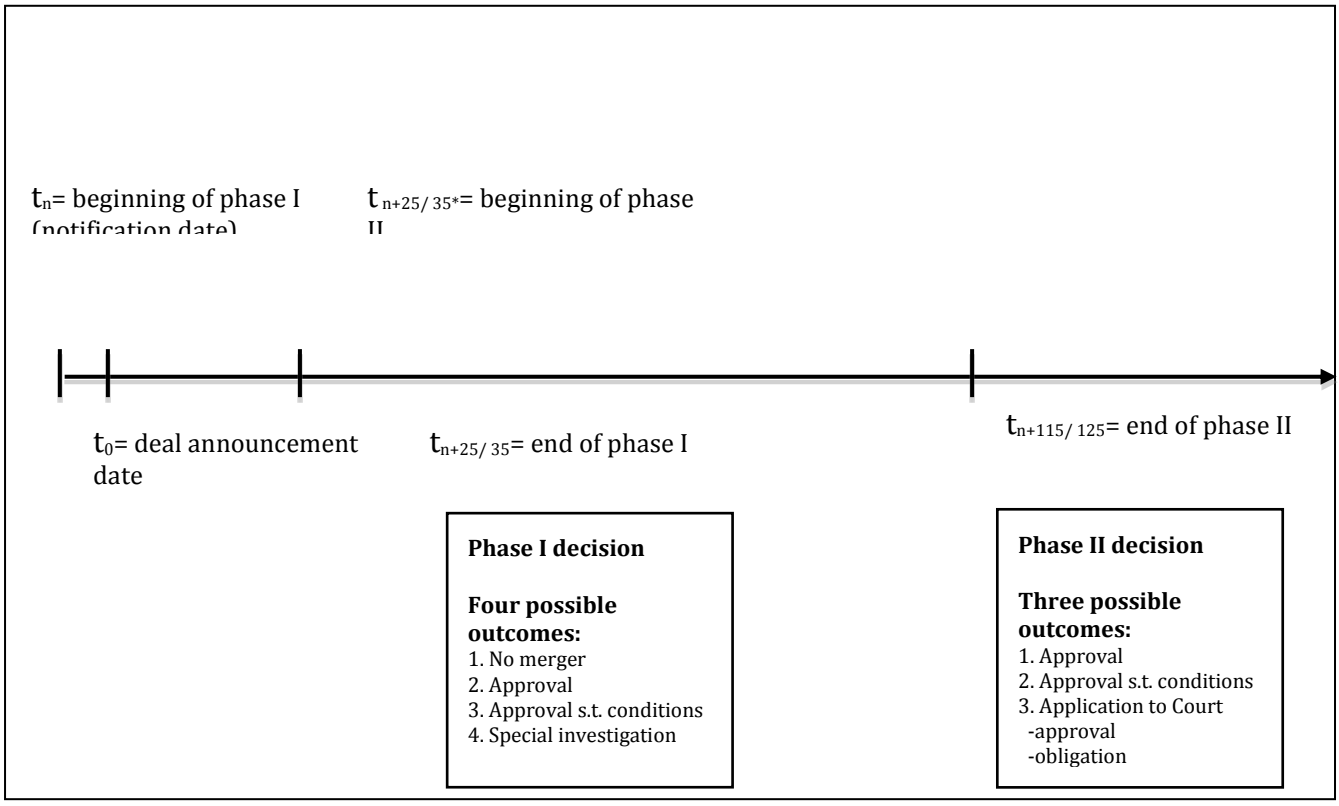
a) the application does not constitute a merger and hence is not subject to review;
b) the merger is compatible with the rules of the Common Market and is therefore approved;
c) the merger will be permitted only if certain conditions are met; or
d) the merger reflects doubts concerning compatibility with the rules of the Swedish Competition Act and may impede competition. An extended investigation will be undertaken; referred to as "Phase II".

Once Phase II is underway, the SCA has three additional months to complete its investigation. The SCA will then make a Phase II decision with three possible outcomes; approval, approval subject to certain conditions, or unacceptable. If the merger is ruled out as unacceptable, the SCA will file a petition in

6 Chapter 4 Section 1, Paragraph 1 the Swedish Competition Act.
7 Chapter 4 Section 1, Paragraph 2 the Swedish Competition Act.
8 Article 1.2 Regulation (EEC) No. 4064/89.
9 Chapter 4 Section 11 the Swedish Competition Act.

Stockholm District Court to prohibit the merger.[10] **Figure 1** below gives an overview over the SCA's merger control process.

Before notification, the SCA may give informal opinions on the applicability of particular merger cases to the merger rules. Parties then informally approach the SCA for guidance and advice. Similar procedures are seen under the merger control process practiced by the EEC. Under the competition rules, the EC is allowed to give advisory opinions and negotiated solutions, nevertheless, it is still obligatory for merger parties to notify the EC about the merger.



10 Chapter 4 Section 13 Paragraph 1-2 the Swedish Competition Act.

3 An Initial Case Study

Our study of market response to Swedish merger control is mainly build upon a quantitative study using the event study methodology. However, in order to give our readers a better understanding of our data we have also chosen to perform a short introductory case study.

3.1 The Merger Case

In our case study, we have chosen to study GlaxoSmithKline Plc's acquisition of AstraZeneca Tika SNC from AstraZeneca Plc and its subsidiaries (SCA case no. 706/2008). This case was chosen for two main reasons. Firstly, it is the only case in our sample with complete share price data for both bidder and target firms for announcements around both Phase I and Phase II merger control decisions. Secondly, the case takes place during 2008 – 2009, why it is one of the most recent examples on how the SCA makes decisions in Phase I and Phase II merger investigations.

3.2 Company Descriptions

Bidder company: The GlaxoSmithKline Group is a group of firms within the pharmaceutical industry. In 2007, the GlaxoSmithKline Group had a global revenue amounting to SEK 307 billion, whereof SEK 1.5 billion in Sweden. GlaxoSmithKline Plc (the "**GSK**") is the mother company of GSK and registered in the United Kingdom (the "**UK**"). Among other things, GSK provides products within the consumer healthcare segment. Within this segment, GSK's product portfolio contains well-known products such as the painkiller "Panodil".

Target company: AstraZeneca Tika SNC (the "**AZT**") is a general partnership registered in Luxembourg and owned by AstraZeneca Plc through its Swedish subsidiary AstraZeneca AB. AstraZeneca Plc is registered in the UK. In 2007, AZT's global revenue amounted to SEK 336 million, whereof SEK 313 million in Sweden. AZT owns and licenses intellectual property connected to its portfolio products and administers and develops such intellectual property. Furthermore, AZT's business involves producing, marketing, distributing and selling the product portfolio within the Nordic countries and Iceland. AZT's product portfolio includes well-known brands such as "Alvedon" and "Reliv".

3.3 The SCA Process

On 20 November 2008, GSK announced that it had entered a share purchase agreement with AstraZeneca AB to acquire AZT for SEK 1.8 billion in cash. GlaxoSmithKline Plc's notification to the SCA was complete on 22 December 2008. The Swedish market for pharmaceutical products can be divided into three different segments; homecare products, prescription products, and order products. GSK and AZT are both active in all of these three segments. The market for prescription products and order products are publicly regulated and the merger between GSK and AZT would not impede competition significantly at any of these markets if the merger was to be approved. On the contrary, GSK and AZT are the only players active on the market for homecare products selling painkillers containing

the substance called "paracetamol", e.g. "Alvedon", "Panodil", and "Reliv". Therefore, in the opinion of the SCA, it was important to investigate the effect of the merger on this market segment. After an initial review of the application, the SCA found that a special investigation was required in order to fully understand the possible effects of the acquisition. On 30 January 2009, the SCA decided to initiate a special investigation. During the special investigation, the SCA contacted several existing and potential competitors to GSK in order to find out how the merger would affect them. None of these effects was found to be severe enough for the SCA to prohibit the merger. Furthermore, the upcoming restructuring of the market for drugstores in Sweden was assumed to create new opportunities to sell over-the-counter drugs (*Sw. "receptfria läkemedel"*). Therefore, on 3 April 2009, the SCA decided to approve the merger. The below timeline (**Figure 2**) exhibits some important dates throughout the SCA's merger control process of the GSK/ AZT merger. The timeline shows that the SCA intervention lasted from 22 December 2008 to 3 April 2009, i.e. approximately three and a half months.

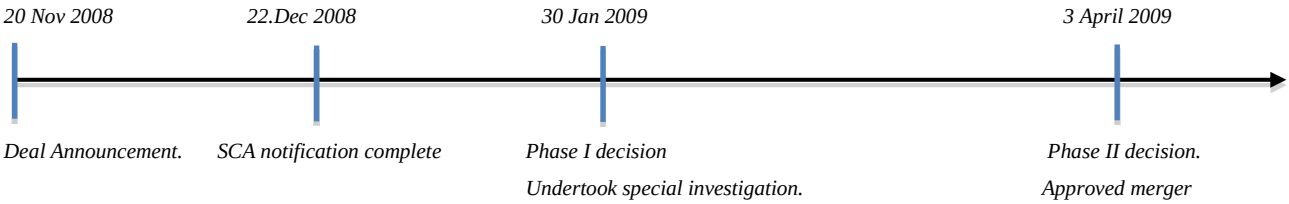
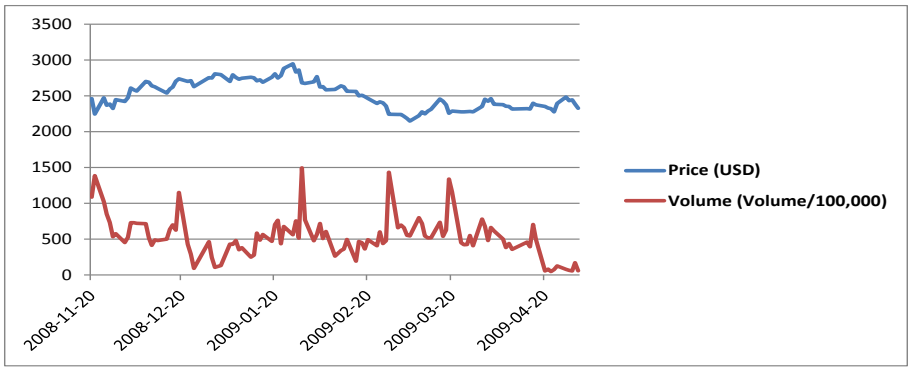


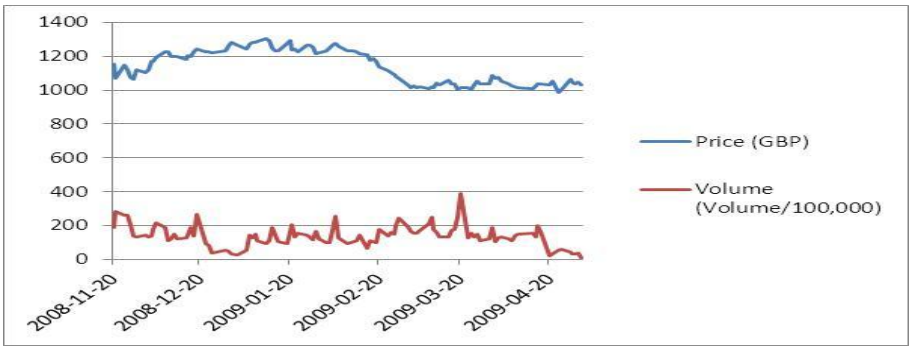
Figure 2: Merger Control Timeline for the GlaxoSmithKline Plc/ AstraZeneca Tika Merger Case

3.4 The Market Response

In order to illustrate the market response to the SCA merger control process **Graph 1** and **Graph 2** provide price and volume time series for GSK and AZT. The time series covers the period 20 November 2008 to 1 May 2009 to give an indication of how the stock prices and volumes of GSK and AZT have developed during and after the SCA intervention. During the SCA intervention period both GSK and AZT underwent price declines. In the case of AZT, an especially strong price decline is seen during the SCA intervention period. It can also be noted that during the SCA intervention period there are strong shifts in the volume traded for the AZT share (see Graph 1 below). Note however, that these indications can be somewhat misguiding as the stock market suffered from a downturn during that period.



Graph 1: Share Price and Volumes, AstraZeneca Plc



Graph 2: Share Price and Volumes, GlaxoSmithKline Plc

4 Previous Research

Previous research covers market reactions to merger announcements, market reactions to merger control practiced in different countries, and evaluations of the qualitative aspects of merger authorities. The following Section introduces some of the most important studies performed on the topic.

4.1 Evidence of Takeover Premia

The review of Aktas et al (2002) provides evidence for M&A in Europe during the 1990s, suggesting that both target and bidder firms experienced positive abnormal returns following a merger announcement. The impact was found to be almost seven times larger for the target firms than for bidder firms. The study shows 8.2% cumulative abnormal returns for target firms and 1.2% for bidder firms on initial deal announcement.

Georgen and Renneboog (2003) specify how shareholders of target firms earn up to 20.0% - 40.0% from a merger, relative to pre-announcement share prices. Combined bidder and target returns are slightly positive, though this finding is disputed. The study shows cumulative abnormal returns for bidder firms and target firms over several event windows. From one day before deal announcement to the day of the announcement ($-1 \leq t \geq 0$), target firms show 9.0% and bidder firms 0.7% cumulative abnormal returns. If the interval is extended up to ($-40 \leq t \geq 0$), target firms show 23.1% and bidder firms show 0.4% cumulative abnormal returns.

Jensen and Ruback (1983), comparing 18 studies find near-zero average excess returns to bidder firms in completed mergers. The study implies that corporate takeovers generate positive gains as the target firms gain and the bidder firms do not lose. The study further suggests that the gains from corporate takeovers do not appear to come from the creation of market power. Jensen and Ruback (1983) study different takeover techniques. For tenders offers target firms show 30.0% cumulative abnormal returns and bidder firms show 4.0% cumulative abnormal returns. Further, for mergers target firms show 20.0% and bidder firms 0.0% cumulative abnormal returns. Finally, for proxy bids target firms show 8.0% cumulative abnormal returns while no result was presented for bidder firms.

The weight of evidence suggests that zero returns are earned by bidder firms. As target firms gain and bidder firms do not seem to lose, evidence appear to suggest that takeovers create value. Yet, since bidder firms are larger that target firms, the sum of the returns to the target and the bidder firms do not measure the gains to the merging firms. The per dollar value of the large percentage gains of target firms could probably be lower than the small percentage losses of the bidder firms. Malatesta (1983) and Bradley et al (1982) compute the changes in dollar values stemming from takeovers.

Malatesta (1983) examines a sample of target and bidder firms of 30 mergers, finding a dollar value increase of USD 32.4 million in combined equity values in the month before announcement and month of announcement. The target firms earned USD 18.6 million of the combined equity value increase, whereas bidder firms earned USD 13.8 million.

Bradley et al (1982) provide evidence of positive, but statistically insignificant, dollar gains of USD 17.2 million, to bidder and target firms in a study of 162 tender offers. However, the average percentage change in combined value is significant at 10.5%. Their study provides evidence that changes in corporate control increase the combined market value of assets of the target firm and the bidder firm.

4.2 Merger Control Decisions and the Stock Market

Posner (1979) published one of the earliest research papers on the subject of antitrust research. The author studied the antitrust enforcement of the US Department of Justice by analyzing competition cases filed by various enforcement institutions. Posner came to conclude that antitrust enforcement is inefficient and that greater interest was needed in the subject.

Econometric studies have been implemented to estimate the relation between competition authorities' decisions and the movements of the share prices on the stock market. Brady and Feinberg (2000) use an event study approach to judge the impact of the adoption of EU merger controls and consequent enforcement on European share prices of likely affected companies. The authors find that the enforcement of the merger regulation have substantially affected individual company stock values and that investors expect many mergers to have positive effects on the company's earnings, while serious doubts decisions and prohibition decisions adversely impact company's stock values.

Aktas et al (2002) provide information on 602 combinations notified to the Directorate General for Competition of the European Commission. Their results were in line with several previous studies on M&A; the firm's role was found to have a large impact on the cumulative average abnormal return (the "**CAAR**"). Following the initial deal announcement, both target and bidder firms experienced a price increase and the impact for the target firms was almost seven times larger than for the bidder firms. CAAR for firms subject to a Phase II investigation were negative for both target and bidder firms following the announcement of a Phase II investigation, slightly worse for the target firms than for the bidder firms. The abnormal returns following a decision at the end of Phase II is favorable to both target and bidder firms, as most cases are being approved or approved subject to conditions. Further, the authors suggest that the positive market reaction could reflect a sign of relief from the fact that the merger control process has reached its end. Moreover, the study showed a somewhat amazing result in that the market could actually predict the outcome of the merger investigations. Firms that were ultimately to be prohibited from merging had no positive abnormal return on the initial announcement day, indicating that the market predicted that the proposed combination would eventually be forbidden. In contrast, firms

that would eventually be cleared showed significant price increases. The fact that the market is able to predict merger investigation outcomes highlights the importance of including the initial deal announcement in an event study.

Aktas et al (2007) supplement their stock market impact analysis with a 'probability of intervention' equation using a sample of EU mergers during 1990 – 2000. The authors find that foreign acquirers have a higher probability of being subjects of regulatory intervention than domestic acquirers, but only when the CARs around the event window decline for local EU competitors.

In an article published by Oxera (2006), 250 merger announcements from June 2000 to February 2006 were studied concerning the merger control practiced by the UK Office of Fair Trading (the "**OFT**"). For target firms, Oxera's research proved that OFT referral decisions had a strong and negative impact on share prices, whereas for bidder firms the market reaction was less dramatic. Average excess returns to clearance decisions were positive and slightly stronger for target firms (+0.5% to +0.8%) than bidder firms (+0.5%). For mergers that were involved in a second-phase merger investigation reactions were much stronger than for firms involved in a first-phase merger investigation. Target firms subjected to a Phase II investigation had strong and consistently negative price reactions ranging from -3.0% to -37.0%, with an average of -8.0% to -12.0%, whereas bidder firms experienced share price reactions that were consistently negative with an average share price reaction of -2.5%.

Duso et al (2007) and Röller and Neven (2002) use the same methodology as Eckbo (1983) to analyze the effectiveness of competition policy. The authors performed studies on EC merger decisions and evaluated competitive consequences by the reaction of the stock market price of competitor firms. The studies expected competitors' share prices to fall if a merger was evaluated as pro-competitive and rise if a merger was evaluated as anti-competitive. Both studies found that three quarters of the prohibitions in the sample corresponded to a anti-competitive merger and that half of the mergers that were given unconditional clearance were evaluated as anti-competitive by the stock market.

4.3 Evaluations of Merger Authorities

Studies have tried to qualitatively evaluate court processes of merger authorities. Simonsson (2005) studied the SCA court processes during 1993 - 2004 from a legal perspective, and found that the main reason for why the SCA had lost all merger court processes during this period was that the Market Court and the Stockholm District Court had reached other judicial examinations than the SCA. Before the EU harmonization in 2000, Swedish court assessment did not follow the model applied by the EC, rather, a significant discretionary element was included in the assessment. The author concluded that the SCA would have to improve its court process success from 54.0%-59.0% to 75.0%-80.0% in order to achieve the same court success rate as the EC.

5 Theoretical Framework

As mentioned in the previous Section, extensive research on the area of M&A establishes the existence of a takeover premium. Below, several theories on the subject of takeover premia are laid out. Further, qualities of merger authorities and the role of media in event studies is discussed. This Section ends with a description of the theory of the efficient market hypothesis (the "**EMH**").

5.1 Theories of Takeover Premia

One of the reasons for the differing abnormal returns following a deal announcement, explained by Roll (1986), is that managers of bidder firms overpay for target firms as they overestimate their ability to profitably run the target firms, so called "managerial hubris".

Other studies challenge this view by arguing that returns to bidder firms may not be accurately measured and that measurement problems occur as a consequence of the relative sizes of the firms. Asquith et al (1983) states that the relative sizes of the firms may hide the gains to the bidder, so the absolute value to a large bidder firm acquiring a small target firm would only result in small abnormal returns to the bidder firm. Regression analysis proved their expectations; a positive relationship was found between abnormal returns of the bidder firm and the relative size of the target firm to the bidder firm.

Shipper and Thompson (1983) report further evidence supporting the measurement problem. Their study found positive abnormal returns at the announcement of an acquisition program that was unrelated to a specific bid. The returns to the bidder firm would therefore be measured incorrectly as the net present value of future mergers would, at the time of a merger announcement, already be capitalized into the stock price of the bidder firm.

Finally, multiple theories suggest that announcement returns in mergers vary with the financing of the deal. However, these theories will not be the focus of our thesis.

5.2 Theories of Merger Authorities

Neven et al (1993) performed one of the first independent assessments of the EC merger regulation and found that the Competition Directorate of the European Commission tends to exercise its discretion in a direction that is favorable to the approval of a transaction, whenever it is possible. The authors also stipulated that the merger control process is greatly facilitated by the pre-notification discussions; giving each side the opportunity to adapt its negotiation positions that one another. However, according to the authors, the pre-notification discussions would only influence the form of the transaction and not the actual outcome of the merger control process. Neven et al (1993) also highlighted the fact that it may be tempting, yet misleading, to draw any direct conclusions about the nature of an underlying merger control policy from the frequency of merger approvals and merger refusals.

Bhagat et al (1998) suggest that government entities, with greater resources for legal disputes, raise the effect of stock market reactions.

5.3 The Role of Media

Visibility research examines how different corporate communication activities, such as analyst presentations, analyst coverage, press coverage, advertising, and multiple exchange listing, affect firm visibility and investment behavior in underlying stock. These studies report that stock prices are affected by corporate communication activities (Demos and Marston (2005)). Among these researchers, Miller (2006) investigates the monitoring role of the press for accounting fraud and identifies that a lack of a consistent media source, acting as a "watchgod", is a factor that complicates the identification of the date when rumors reach the market. The study found that the press fulfills an important role by rebroadcasting information from other intermediaries and by performing original investigations and analyses.

5.4 Efficient Market Hypothesis

One of the main underlying theories in event studies is the EMH. According to Fama (1970), the EMH positions that financial markets are informationally efficient, i.e. given the information at the time of investment it is impossible to consistently outperform the market. Fama (1970) presents three forms of efficiency; weak, semi-strong, and strong. The weak form claims that prices on traded assets reflect all past publicly available information and hence, that it is impossible to earn abnormal returns through trading strategies. The semi-strong form claims that prices reflect not only information from historical data but also all publicly available information, and prices change instantly to reflect new information. The strong form of market efficiency claims that prices instantly reflect, not only all publicly available information, but also information that is available only to some investors, sometimes referred to as "insider" information. Jensen (1978) argues that few scholars treat the strong form of market efficiency as anything else than a logical completion of the set of forms of efficiency.

6 Hypotheses

The following Section presents the hypotheses tested in our study and discusses the expected outcomes of each hypothesis in light of prior research, theories, as well as in relation to Swedish merger control practiced by the SCA.

6.1 Initial Announcement Hypothesis

In Sections 4.1 and 5.1, the existence of a takeover premium was discussed. As set out in Section 4.1, there are several studies regarding what effect the initial deal announcement have on the share price of target and bidder firms. In short, studies show different levels of cumulative abnormal returns on initial deal announcements. It is clear that according to multiple researchers target firms earn strongly positive abnormal returns in a merger whereas bidder firms earn positive, yet close to zero, abnormal returns.

Our first hypothesis aims at testing our sample for stock price reactions to an initial deal announcement, along with the theory of a takeover premium, to investigate the effect of the initial deal announcement on returns of the firms involved in Swedish merger control. The market should instantly incorporate the news according to the EMH. Therefore, we formulate our first hypothesis as follows:

Hypothesis 1: Following a merger announcement, both bidder and target firms will earn positive abnormal returns, with a stronger reaction to the abnormal returns of the target firms.

6.2 Phase I Hypothesis

As described in Section 2, all mergers involving firms with a certain turnover shall be notified to the SCA. The SCA process is an important issue for investors since it may affect the outcome of the deal. If the SCA, on the basis of a Phase I investigation, cannot decide whether the merger will impede effective competition or not, a Phase II investigation will be undertaken. If, at the end of Phase II, the merger is ruled out as unacceptable, the SCA will file a petition in Stockholm District Court to prevent the merger. Hence, entering a Phase II investigation delays the deal, incurs higher legal costs and could potentially prohibit the deal.

As discussed in Section 2.3 above, there are four possible outcomes of a Phase I decision. The SCA may: rule out the case as it is not considered a merger (non-merger), approve the case, approve the case subject to conditions, or undertake a special investigation in Phase II. We expect the market to react positively to approval decisions (subject to conditions or not) and non-merger decisions. Further, we expect the market to react negatively to special investigation decisions. Therefore, an SCA Phase I decision to proceed to a Phase II investigation would negatively impact the returns of both target and bidder firms whereas an SCA Phase I decision resulting in an approval would positively impact the returns of both target and bidder firms. These results are also seen in the studies of Brady and Feinberg (2000), Aktas et al (2002),

and Oxera (2006). However, as a vast majority of the cases filed to the SCA are being approved at a Phase I level, we expect the abnormal returns of both target and bidder firms to react as according to the theories of Aktas et al (2002) where the market can predict the outcome of the SCA merger control process. In other words, the market predicts that a case filed to the SCA is likely to be approved and therefore reacts positively to a Phase I decision.

The research on takeover premia, performed by Aktas et al (2002), Georgen and Renneboog (2003), and Jensen and Ruback (1983), stipulate that shareholders of target firms absorb most of the value from a merger and hence we expect the reaction to the returns of target firms to be stronger than the reaction to the returns of bidder firms. Again, the market should instantly incorporate the news according to the EMH, the formulation of *Hypothesis 2* reads as follows:

Hypothesis 2: An SCA Phase I decision will positively impact the abnormal returns of both bidder and target firms, with a stronger reaction to the abnormal returns of the target firms.

6.3 Phase II Hypothesis

At the end of Phase II, the SCA may rule in three ways; approval, approval subject to conditions, or unacceptable. If the merger is considered unacceptable, the deal could potentially be prohibited through a petition to the Stockholm District Court. Theoretically, as suggested by Brady and Feinberg (2000) and Oxera (2006), the market should react according to the above three rulings, i.e. positively to approval decisions and approval subject to condition decisions and negatively to referral decisions. However, since a majority of the SCA merger cases are being approved – over the period July 1996 to July 2010 only seven cases have been ruled as unacceptable and none have been ultimately prohibited – we expect the market to react as if it could predict the outcome of the SCA merger control process and react positively to the SCA announcement decision at the end of Phase II. The study of Aktas et al (2002) shows accordingly that abnormal returns following a decision at the end of Phase II is favorable to both target and bidder firms, since most cases are being approved or approved subject to conditions. The authors suggest that the positive market reaction could reflect a sign of relief from the fact that the merger control process has reached its end. As previously mentioned, the theories of a takeover premium, presented by Aktas et al (2002) and Georgen and Renneboog (2003), suggest that the target firm reaction will be stronger than the bidder firm reaction. Also, the EMH predicts the market to instantly react to the news. We formulate our third hypothesis as follows:

Hypothesis 3: An SCA Phase II decision will positively impact the abnormal returns of both bidder and target firms, with a stronger reaction to the abnormal returns of the target firms.

7 Methodology

In this chapter we will describe the event study methodology. An understanding of the methodology is important, since our research is mainly build upon a quantitative analysis using this methodology.

7.1 Event Studies

The method that is widely used to measure stock price reactions attributable to firm-specific events is called event study methodology (MacKinley (1997)). Since event studies were introduced by Fama, et al (1969), several refined approaches have been published, e.g. Scholes and William (1977).

Once the event date is recognized, actual performances are measured for the event period and "normal" returns are estimated. "Normal" returns refer to the firm-specific returns that would have occurred in absence of the event and are based on information about a company's historical performances. The last step in performing the event study is to isolate the effect of the event by calculating the abnormal returns that arise from the actual event.

This paper aims to evaluate the impact of three events: the initial deal announcement and two different events in the merger control process, namely, the SCA ruling at the end of Phase I and the SCA ruling at the end of Phase II respectively:

Event 1: initial deal announcement
Event 2: announcement of an SCA decision at end of Phase I ($t_{n+25/35}$)
Event 3: announcement of an SCA decision at end of Phase II ($t_{n+115/125}$)

7.1.1 Measuring Event Returns

The length of the *event window* is often set to a few days around the specific event date. Normally, an announcement is made during the day but it could also be the case that the announcement is made after closing of the market on that day. Also, there is a possibility of leakages to the market that could be inflicted into the stock market price prior to the event. For these reasons, the event window should be large enough to capture the market's acknowledgment of the event.

The length of the event window in our analysis is set to 11 days with t=0 and $-5 \leq t \geq 5$, 5 days ($-2 \leq t \geq 2$), and 3 days ($-1 \leq t \geq 1$). The 3-day and the 7-day event-windows are the most commonly used event- windows in studies on M&A activity (Andrade et al., 2001), used to capture the announcement effect properly. Daily closing prices, imported from Thomson Reuters Datastream, are used to render the stock price effects prevailing from the event.

7.1.2 Estimation of Normal Returns

In isolating the effect of an event on stock returns, the expected "normal" return, in absence of the event, must be estimated. The estimation requires the choice of an estimation window of desired length and a suitable model for estimating normal returns.

The length of the estimation window varies between different researchers: MacKinlay (1997) propose a window of 120 days, whereas Bhagat and Romano (2002a) propose a window of 110-200 days. With these recommendations in background, the estimates of normal returns in our analysis were calculated using an estimation window of 200 daily observations prior to the event window. The reason for choosing an estimation window that ends preceding the event window is to exclude any contamination by information leakage. Hence, the regression estimation period covers the days -205 to -6 relative to the event date (t=0) for the 11-day event window.

Both statistical models and economic models can be used to calculate expected performances, yet according to Brown and Warner (1985), economic models add little explanatory power and hence a statistical model, such as the *single index model*, is preferred in event studies. The single index model assumes only one source of systematic risk, affecting the market as a whole. Stock prices vary with a market index, such as S&P 500, which reduces overall market related fluctuations in stock prices. The market index that we chose as a market portfolio in our regressions; the Morgan Stanley Capital International world index; was chosen as it is broad enough to include all the national stock exchanges represented in our final sample. The model can be expressed mathematically in the following way:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

$$E(\varepsilon_{i,t}) = 0$$

$$Var(\varepsilon_{i,t}) = \sigma^2_{\varepsilon i,t}$$

Where;

$R_{i,t}$	is the return on the *i*th security at time t
$R_{m,t}$	is the return on the market portfolio at time t
α_I	is the intercept
β_I	is the slope, or the market volatility coefficient of the *i*th security
$\varepsilon_{i,t}$	is the residual (difference between actual and estimated value)
$E(\varepsilon_{i,t})$	is the expected value of the residual
$Var(\varepsilon_{i,t})$	is the variance of the residual

Both α_I and β_I are firm-specific parameters, estimated by running an ordinary least squares regression (OLS regression) over the time period of the estimation window. Our estimation then ends up in N regressions and, hence, N estimates of α_I and β_I.

7.1.3 Calculating Abnormal Returns

The abnormal return captures the impact of the firm-specific event on the firm's performances. Abnormal returns can simply be computed by subtracting the expected normal return (in absence of the event) from the actual return (including the event), using the following formula:

$$AR_{i,t} = R_{i,t} - (\hat{\alpha}_I + \hat{\beta}_I R_{m,t})$$

Where;

$AR_{i,t}$	is the abnormal return of security i at time t
$R_{i,t}$	is the actual return of security i at time t
$\hat{\alpha}_I$	is the estimated intercept
$\hat{\beta}_I$	is the estimated slope
$R_{m,t}$	is the actual return on the market portfolio in the event window at time t

7.1.4 Calculating Cumulative Abnormal Returns

As a result of our event window including several days, abnormal returns need to be aggregated over the time period of the event window to fully describe the effect of the event. Cumulative abnormal return (CAR) captures the aggregate effect by simply summing up the abnormal returns:

$$CAR_i = \Sigma AR_{i,t}$$

The cumulative abnormal return illustrates the change in return facing an investor holding a given security during the time of the event. To enable a comparison across different securities, an average cumulative abnormal return (CAAR) is captured by the following equation:

$$CAAR_T = 1/N \ \Sigma CAR_i$$

Where;

N	is the number of securities in the sample

The $CAAR_T$ illustrates the overall or mean change in the stock return following the event. In our study CAAR therefore indicates the impact that an announcement by the SCA has on the stock price of a given firm. The average cumulative abnormal return is calculated by running an OLS regression on the different

firm-specific cumulative abnormal returns. To eliminate heteroscedasticity and autocorrelation, which could disturb our results, robust standard errors are used in the regression.

The hypotheses, presented in Section 6, are tested using the following null hypothesis and alternative hypothesis:

$$H_0 = CAAR = 0$$

$$H_1 = CAAR \neq 0$$

7.1.5 Testing for Significance

To test for the significance of the cumulative abnormal return across all firms we examine the probability values (p-values) on the constants of the OLS regression. **Table 5** in the Appendix summarizes the results from the OLS regressions on cumulative abnormal returns, using robust standard errors.

8 Data

This Section provides a description of how our data was collected, the criteria used in assembling our data set, and a data shortfall analysis (see references for an overview of the electronic sources).

8.1 Data Collection

Multiple sources were used to compile the data needed for this study. Data was primarily collected from SCA's official web site (www.kkv.se), including information about:

(i) the legal framework;
(ii) intervention and procedures of the SCA;
(iii) decision reports with information about subject firms and decision dates; and
(iv) statistics on interventions by the SCA.

Each merger case was downloaded as a separate pdf-file, where information about dates, subject firms, and SCA rulings were extracted and compiled into an initial data set. For cases where information was poor, two additional databases were consulted; Affärsdata and Infotorg. Thereafter, we used the database Euroland to gain information about whether or not the bidder and target firms where listed at a national stock exchange. Finally, stock prices for the firms that had been identified as listed were downloaded from Thomson Reuters Datastream. All cases that involved a listed firm and where we could find complete stock data for the relevant period where included in our final sample.

8.2 Data Selection

As mentioned above, using the database Euroland, the data set was analyzed to identify all firms that were listed on a national stock exchange during the time of the merger and the time of the merger investigation carried out by the SCA. Our criterion for including a merger case in our final sample can therefore be summarized as follows:

(i) the case is notified to the SCA as a merger;
(ii) at least one of the subject firms is listed on a national stock exchange; and
(iii) stock price data (for both estimation-window and event-window) of subject firms is available in Thomson Reuters Datastream.

Numerous merger cases involved firms with non-available stock price information and were hence excluded from our data set. Of the 1,092 merger notifications to the SCA, 391 cases satisfied the first two requirements above. Additionally, 179 cases involved firms with insufficient market data, leaving a final sample of 212 cases to study (see **Table 1**, **Table 2,** and **Table 3** in the Appendix for complete lists of all

observations included in our final data set). Certain circumstances prevented us from using a specific merger case, the two most important circumstances included:

(i) The company was delisted before or during the estimation- or event-window; and

(ii) Trading in the target stock is ceased around the event date, as the bidder firm absorbs the target firm.

The database of the SCA includes information about merger cases dating back to 1998 and, hence we had to restrict our analysis accordingly. To extend our study period, observations from the years 1996 and 1997 were provided to us separately from a contact person at the SCA helping us to gather additional information.

8.3 Event Date Selection

One primary task in performing an event study is to define an event date (see Section 1 for definition of our event date and Section 7 for information about the event study methodology). Researchers typically need to use multiple news sources to collect information about the event dates, especially in a multiple-country setting (Park (2004)). Aktas et al (2002) use three different financial news sources for collection of announcement dates, namely: Reuters, Bloomberg, and other country specific financial press. In our study, two sources were primarily used in collecting our event dates; Orbis and SCA. Orbis was used to collect initial deal announcement dates and the SCA database was used to gather event dates in the merger control process.

8.4 Mergers Notified to the SCA, July 1996- July 2010

Table 1 below provides statistics for the mergers notified to the SCA from July 1996 to July 2010. The table shows that, during our study period, 44 proposed mergers and acquisitions were subjected to a second phase investigation. Among them, four were withdrawn before proceeding to a Phase II investigation, 22 were approved without any conditions, eleven were approved subject to certain conditions, and seven were taken to the Stockholm District Court.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
No of cases notified to SCA	n/a	n/a	61	166	122	83	70	63	68	85	94	103	88	38	51	1092
Phase II investigation initiated	11	11	1	3	4	2	0	0	4	1	1	0	4	1	1	44
(% of cases notified to the SCA)	*n/a*	*n/a*	*2%*	*2%*	*3%*	*2%*	*0%*	*0%*	*6%*	*1%*	*1%*	*0%*	*5%*	*3%*	*2%*	*4.0%*
Phase II - withdrawn	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	4
(% of cases notified to the SCA)	*n/a*	*n/a*	*2%*	*1%*	*0%*	*1%*	*0%*	*0%*	*1%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0.4%*
Decision at end of Phase II																
- Approved	8	6	0	1	0	1	0	0	1	1	1	0	2	0	1	22
(% of cases notified to the SCA)	*n/a*	*n/a*	*0%*	*1%*	*0%*	*1%*	*0%*	*0%*	*1%*	*1%*	*1%*	*0%*	*2%*	*0%*	*2%*	*2.0%*
- Approved s.t. conditions	1	4	0	1	3	0	0	0	1	0	0	0	1	0	0	11
(% of cases notified to the SCA)	*n/a*	*n/a*	*0%*	*1%*	*2%*	*0%*	*0%*	*0%*	*1%*	*0%*	*0%*	*0%*	*1%*	*0%*	*0%*	*1.0%*
- Prohibited	2	1	0	0	1	0	0	0	1	0	0	0	1	1	0	7
(% of cases notified to the SCA)	*n/a*	*n/a*	*0%*	*0%*	*1%*	*0%*	*0%*	*0%*	*1%*	*0%*	*0%*	*0%*	*1%*	*3%*	*0%*	*0.6%*

Table 1: Mergers notified to the SCA, July 1996 - July 2010

8.5 Mergers Included in Study, July 1996 - July 2010

Out of the 1,090 cases that were notified to the SCA, 212 cases were ultimately included in our sample. 15 of these 212 cases were subjected to a Phase II investigation (see **Table 4** in the Appendix for a complete list of Phase II merger cases included in our study). One of these 15 cases was withdrawn, eight were approved, three were approved subject to conditions, and three were claimed prohibited and hence taken to the Stockholm District Court. As shown in **Table 2** below only 7.1% of all the cases that were included in our sample were taken to a Phase II investigation. **Table 2** further shows that most of the Phase II cases that were included in our study were approved directly without conditions.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
No of cases notified to SCA- included in study	0	2	9	17	18	15	16	14	21	18	22	26	21	7	6	212
Phase II investigation initiated	0	2	0	1	1	1	0	0	2	1	1	0	4	1	1	15
(% of cases included in study)	*0%*	*100%*	*0%*	*6%*	*6%*	*7%*	*0%*	*0%*	*10%*	*6%*	*5%*	*0%*	*19%*	*14%*	*17%*	*7.1%*
Phase II - withdrawn	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
(% of cases included in study)	*0%*	*0%*	*0%*	*0%*	*0%*	*7%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0.5%*
Decision at end of Phase II																
- Approved	0	2	0	0	0	0	0	0	1	1	1	0	2	0	1	8
(% of cases included in study)	*0%*	*100%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*5%*	*6%*	*5%*	*0%*	*10%*	*0%*	*17%*	*3.8%*
- Approved s.t. conditions	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	3
(% of cases included in study)	*0%*	*0%*	*0%*	*6%*	*6%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*5%*	*0%*	*0%*	*1.4%*
- Prohibited	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	3
(% of cases included in study)	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*5%*	*0%*	*0%*	*0%*	*5%*	*14%*	*0%*	*1.4%*

Table 2: Mergers included in study, i.e. sample, July 1996 - July 2010

8.6 Shortfall Analysis

In this Section we perform a shortfall analysis in order to investigate whether or not the cases excluded from our sample, due to insufficient stock price information, may seriously impact the result of our study. The cases that were excluded from our dataset are shown in **Table 3** below. According to the table, 179 cases, i.e. 46.0% of the cases that involved listed firms, were excluded from our sample, leaving a dataset of 212 cases. These 179 cases have not been reviewed in detail and therefore not been categorized. However, a large shortfall in a specific year could indicate that a certain event, e.g. a change in legislation or in case law, could affect the SCA decision making and hence the results of our study. **Table 3** specifies the shortfalls sorted by year, revealing no such indications as the shortfalls are more or less evenly spread throughout our study period.

Out of the 44 cases that were subjected to a Phase II investigation, only 20 cases involved cases were at least one of the subject firms were listed on a national stock exchange, and 15 cases with usable share price data. A dissection of this shortfall reveals that the five cases that were ultimately excluded from our dataset all dated back to 1996/ 1997 and that the share price data of these merger cases were completely or partially absent due to the fact that the firms involved were not listed during the estimation- or event-

window. The three cases that are excluded in 1996 were all approved directly whereas the two cases from 1997 where approved subject to conditions.

To sum up, our interpretation is that the shortfall does not seriously impact or invalidate our results.

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Phase I																
- listed cases	2	5	22	38	41	27	33	30	30	36	32	38	32	12	13	391
- shortfall	2	3	13	21	23	12	17	16	9	18	10	12	11	5	7	179
(% of listed cases)	*100%*	*60%*	*59%*	*55%*	*56%*	*44%*	*52%*	*53%*	*30%*	*50%*	*31%*	*32%*	*34%*	*42%*	*54%*	*46%*
- cases included in dataset	0	2	9	17	18	15	16	14	21	18	22	26	21	7	6	212
(% of listed cases)	*0%*	*40%*	*41%*	*45%*	*44%*	*56%*	*48%*	*47%*	*70%*	*50%*	*69%*	*68%*	*66%*	*58%*	*46%*	*54%*
Phase II																
- listed cases	2	5	0	1	1	1	0	0	2	1	1	0	4	1	1	20
- shortfall	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	5
(% of listed cases)	*100%*	*60%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*25%*
- cases included in dataset	0	2	0	1	1	1	0	0	2	1	1	0	4	1	1	15
(% of listed cases)	*0%*	*40%*	*0%*	*100%*	*100%*	*100%*	*0%*	*0%*	*100%*	*100%*	*100%*	*0%*	*100%*	*100%*	*100%*	*75%*

Table 3: Shortfall sorted by year and Phase, July 1996 - July 2010

9 Results

In this Section, results of our event study and our interview study are presented. These empirical results are further discussed in Section 10.

9.1 Results of Event Study

9.1.1 Return Effects around Initial Announcement

Our first hypothesis aims at testing the existence of stock price reactions, and the existence of a takeover premium, to the initial deal announcement in our sample of firms involved in Swedish merger control. The target sample includes 81 observations whereas the sample of bidder firms contains 174 observations. *Hypothesis 1* was formulated as follows:

Hypothesis 1: Following a merger announcement, both bidder and target firms will earn positive abnormal returns, with a stronger reaction to the abnormal returns of the target firms.

Merger Announcement						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Bidder firms	0.0145	0.0110	0.0156	0.0430	0.0249	0.0070
No. of Obs.	174		174		174	

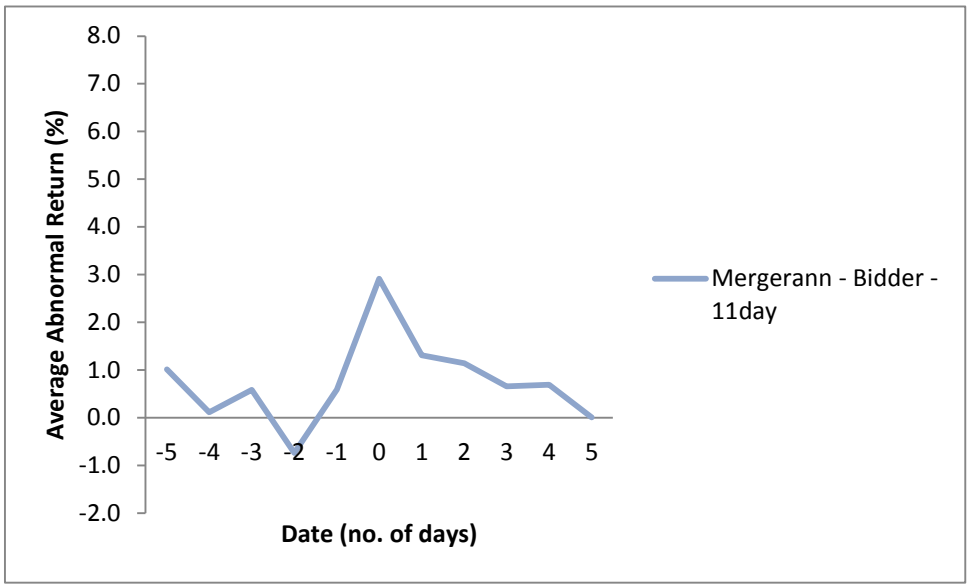
Table 4: Average Cumulative Abnormal Returns of Bidder Firms - Initial Deal Announcement

Merger Announcement						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Target firms	0.0545	0.0060	0.0564	0.0060	0.0732	0.0010
No. of Obs.	81		81		81	

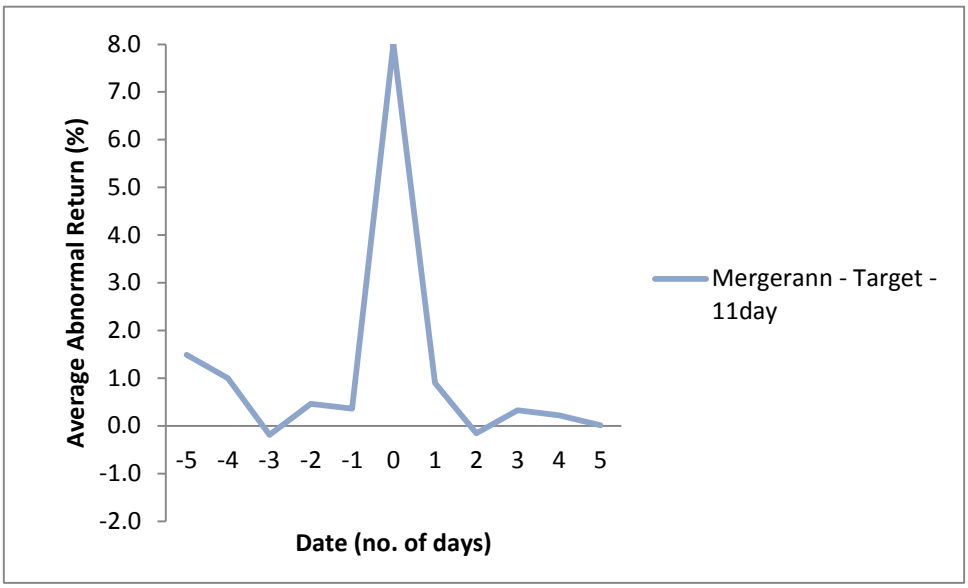
Table 5: Average Cumulative Abnormal Returns of Target Firms - Initial Deal Announcement

Table 4 and **Table 5** summarize the regression results from *Hypothesis 1* over the event-windows of 11 days, 5 days, and 3 days. The results indicate that the average cumulative abnormal returns of both target firms and bidder firms are positive with significant coefficients. The abnormal returns of target firms range from 7.3% to 5.5% whereas bidder firms show abnormal returns ranging from 2.5% to 1.4%, when the event-window is reduced from 11 days to 3 days. Hence, in line with our stated *Hypothesis 1*, evidence is found of positive abnormal returns for both target and bidder firms and a stronger reaction is seen in the abnormal returns of target firms. The abnormal returns of both target and bidder firms decrease as our event-windows are being compressed. All coefficients are significant at a 5.0% level so our null

hypothesis, stating that average cumulative abnormal returns are statically different from zero, may be rejected.



Graph 3: Average Abnormal Returns for Bidder Firms - Merger Announcement



Graph 4: Average Abnormal Returns for Target Firms - Merger Announcement

Graph 3 and **Graph 4** show average abnormal returns for bidder firms and target firms over the 11-day event-window. The graphs indicate an increase in the average abnormal returns as we approach the event date (t=0), with a clear peak at the event date and positive abnormal returns directly following the event date. The results are consistent with our expectations of positive abnormal returns for target and bidder firms following a merger announcement.

9.1.2 Return Effects around Announcement of Phase I

Hypothesis 2 tests how stock returns of target and bidder firms are affected by announcements of an SCA first phase investigation. Again, the target firm sample includes 81 observations whereas the bidder firm sample includes 174 observations. The following hypothesis was formulated in Section 6:

Hypothesis 2: An SCA Phase I decision will positively impact the abnormal returns of both bidder and target firms, with a stronger reaction to the abnormal returns of the target firms.

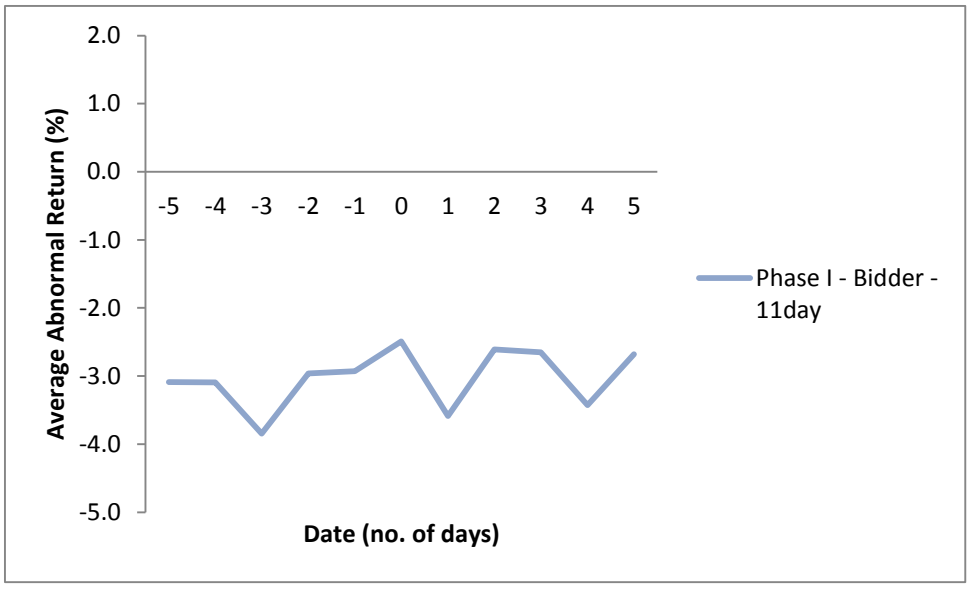
Phase I						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Bidder firms	-0.9006	0.3160	-1.4577	0.3190	-3.3361	0.3190
No. of Obs.	174		174		174	

Table 6: Average Cumulative Abnormal Returns of Bidder Firms - Phase I

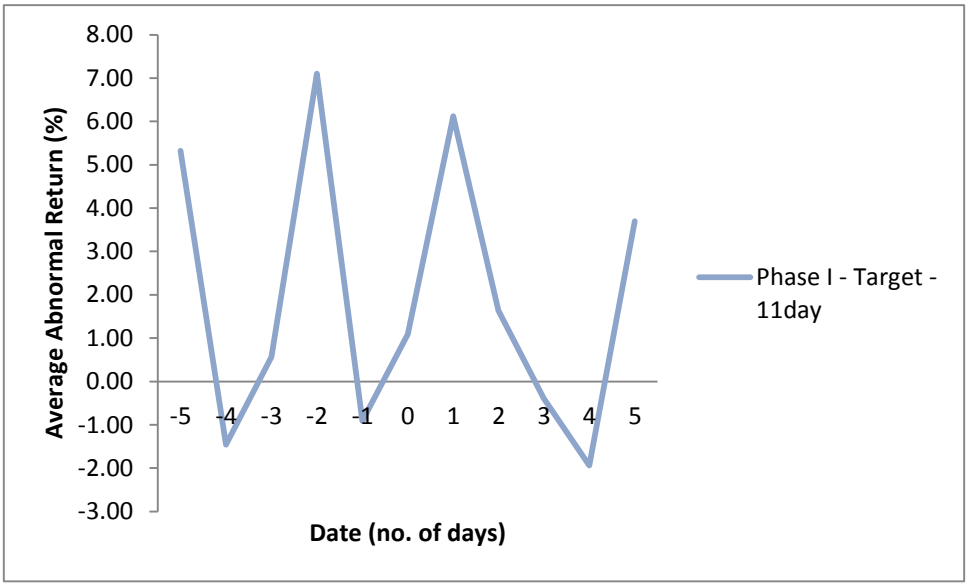
Phase I						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Target firms	0.0063	0.2260	0.0118	0.0520	0.0176	0.0790
No. of Obs.	81		81		81	

Table 7: Average Cumulative Abnormal Returns of Target Firms - Phase I

Table 6 and **Table 7** present the results of *Hypothesis 2* over the 11-day, 5-day, and 3-day event-window with average cumulative abnormal returns and corresponding p-values. As can be seen in **Table 7**, the abnormal returns of the target firms are all positive, ranging from 1.8% to 0.6%, when the event-window is reduced from 11 days to 3 days. Yet, none of the coefficients are statistically significant at a 5.0% level, even though the 5-day event-window is close to significant with a p-value of 5.2%. Similar to the regression results of the initial merger announcement, the largest price reaction is observed in the 11-day event-window and the smallest reaction is seen in the 3-day event-window. **Table 6** exhibits that bidder firms experience negative abnormal returns ranging from -3.3% to -0.9% as the event-window is reduced from 11 days to 3 days. However, since none of the coefficients are significant at a 5.0% level, we cannot reject the null hypothesis that the average cumulative abnormal returns are statically different from zero.



Graph 5: Average Abnormal Returns for Bidder Firms - Phase I



Graph 6: Average Abnormal Returns for Target Firms - Phase I

Graph 5 and **Graph 6** illustrate average abnormal returns for target and bidder firms involved in a first phase investigation, over each day in the 11-day event-window. From the graphs, it is hard to discern any patterns of a stock price reaction around the event date. Over the 11-day event-windows of both bidder and target firms, average abnormal returns seem to fluctuate randomly. In line with the descriptive statistics of **Table 6** and **Table 7**, no clear stock price reaction seems to stem from the announcements of an SCA first phase investigation. Interesting, though, is that average abnormal returns for target firms all show negative signs whereas the average abnormal returns of target firms are both positive and negative. Also, the abnormal returns of target firms show greater fluctuations than the abnormal returns of bidder firms.

9.1.3 Return Effects around Announcement of Phase II

In the sample used to test *Hypothesis 3*, multiple observations are excluded because of insufficient data information, giving a bidder sample of eleven observations and a target sample of seven observations. The hypothesis tests for the market reaction in stock prices of target and bidder firms by announcements of an SCA second phase investigation with the following formulation:

Hypothesis 3: An SCA Phase II decision will positively impact the abnormal returns of both bidder and target firms, with a stronger reaction to the abnormal returns of the target firms.

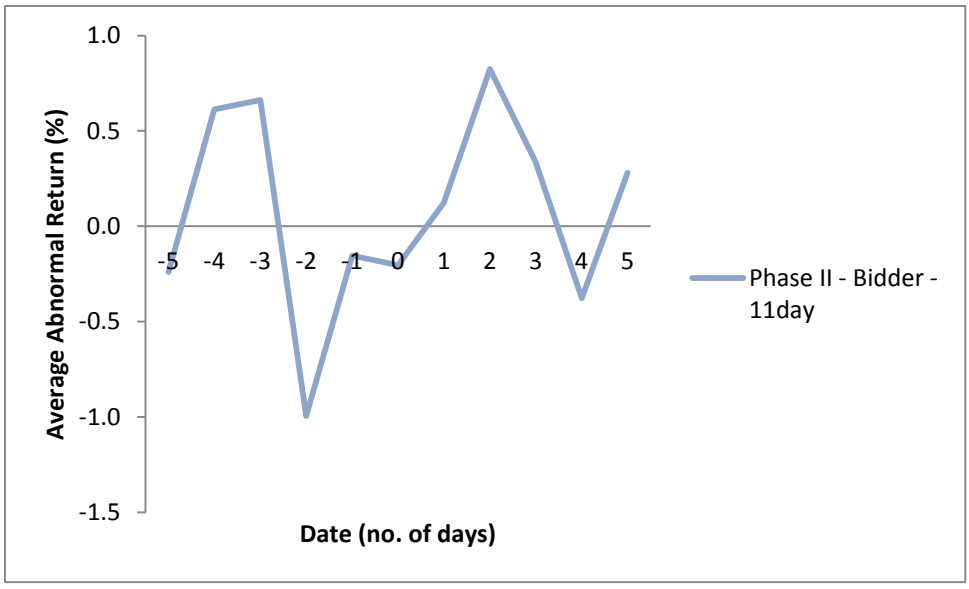
Phase II						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Bidder firms	-0.0024	0.8110	-0.0041	0.7440	0.0059	0.7340
No. of Obs.	11		11		11	

Table 8: Average Cumulative Abnormal Returns of Bidder Firms - Phase II

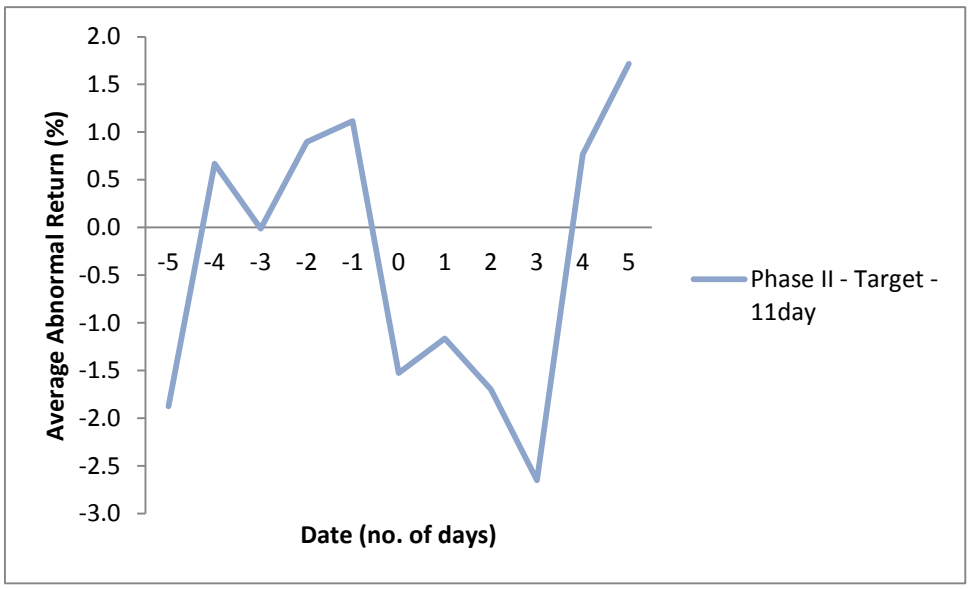
Phase II						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Target firms	-0.0158	0.4750	-0.0238	0.1900	-0.0377	0.2150
No. of Obs.	7		7		7	

Table 9: Average Cumulative Abnormal Returns of Target Firms - Phase II

As can be seen in **Table 9**, the results of *Hypothesis 3* show negative abnormal returns across all event windows for the target sample, yet none of the coefficients are statistically significant at a 5.0% level. The 11-day event-window illustrates the largest negative reaction at a 3.8% level; the 5-day and 3-day event-windows show negative abnormal returns of 2.4% and 1.6% respectively. For bidder firms, the event-windows show both positive and negative average cumulative abnormal returns, though again, none of the coefficients are statistically significant. **Table 8** demonstrates positive abnormal returns to bidder firms of 0.6% in the 11-day event-window and negative abnormal returns of 0.4% and 0.2% in the 5-day and the 3-day event-window respectively. The descriptive statistics indicate, in line with the results of previous hypotheses, that the reaction in average cumulative abnormal returns is larger for target firms than for bidder firms.



Graph 7: Average Abnormal Returns for Bidder Firms - Phase II



Graph 8: Average Abnormal Returns for Target Firms - Phase II

The above graphs (**Graph 7** and **Graph 8**) demonstrate average abnormal returns to bidder and target firms subjected to a second phase investigation. Over the 11-day event-windows, it is hard to distinguish any abnormal patterns from the look of the graphs; average abnormal returns seem to fluctuate randomly. In similarity with the results of *Hypothesis 2*, no stock price reaction can be discerned stemming from the announcements of an SCA Phase II decision.

The results of *Hypothesis 2* and *Hypothesis 3* confirm little evidence to reject our null hypothesis. For the initial deal announcement, however, all coefficients are significant at a 5.0% level, indicating enough evidence to reject the null hypothesis that average cumulative abnormal returns are different from zero over all event-windows at the deal announcement date.

9.2 Results of Interview Study

9.2.1 Interview Subjects

In this Section, we present our interview subjects and briefly summarize their answers. We have interviewed the Chief Economist of the SCA, a professor in competition law, and a practicing competition lawyer. The interviews have been performed as we think it is interesting to get their input on the results of our study. The interview answers will further be discussed in Section 10.

Sten Nyberg is the Chief Economist at the SCA and professor at the Department of Economics at the Stockholm University. As the Chief Economist of the SCA and with his expertise in economics, Professor Nyberg may provide us with in depth knowledge on the data, SCA procedures, and the results of our study.

Lars Henriksson is professor at the Center for Business Law at the Stockholm School of Economics. Professor Henriksson's primary field of research is competition and antitrust law. With his broad expertise in competition law, Professor Henriksson may provide us with helpful comments on the subject and the results of our study.

Carl Wetter is partner at Advokatfirman Vinge AB. Vinge is one of the leading business law firms in Sweden. Advokat Wetter is head of Vinge's Competition Department and is, by several ranking institutes, considered to be the leading competition lawyer in Sweden.[11] For many years, Advokat Wetter has assisted firms in their merger notifications to the SCA and been responsible for negotiating on firms' behalf with the SCA. With his expertise and experience as a competition lawyer, Advokat Wetter may provide us with his view on our results.

9.2.2 Summary of Interviews

The persons we interviewed were given five different questions and were instructed to answer them briefly. A summary of the questions and the interview subject's answers are given in the text below.

i) Difference in Results

Q: Our study shows that the SCA's decisions, regarding a merger notification, have no impact on the stock prices of the bidder and target firms. However, there are studies showing that reactions can be seen on the European and the UK markets. What do you think the difference in results depend on?

Sten Nyberg: Small price reactions may depend on several reasons, for example, it might depend on the fact that the markets expectations are fulfilled to a higher extent in Sweden. Another reason might be that the mergers notified to the SCA differ from the mergers notified to the EC. Further, it is reasonable that

11 Please see http://www.chambersandpartners.com/Europe/Editorial/41202 and http://www.legal500.com/c/sweden/eu-and-competition#table_2039.

matters of more complicated nature (e.g. that include several national markets) are handled by the EC. For example, larger mergers within Sweden often have a community dimension and will therefore be handled by the EC. Greater uncertainty should result in more blocked mergers. The opposite is a situation with absolute certainty about whether or not a merger will be blocked, which should result in no mergers being blocked, since there would be no reason for a party to carry out a merger that they know would be blocked.

Lars Henriksson: There is not that many cases in which the SCA has to make Phase II decisions, which may be one explanation. Another explanation might be that the market has already discounted for the actual outcome of the merger control process. Furthermore, the information does not always reach the public in a good way, which may also be part of a possible explanation.

Carl Wetter: Mergers that are notified to the EC often concern much higher market values. Therefore, the outcome could be a larger impact on share prices of the bidder and target firms. Further, the risk of getting a merger blocked may be slightly lower in a notification to the SCA, because the SCA is itself unable to block a merger and instead have to take the case to court.

ii) Effect of Possibility to Negotiate

To what extent do you think the possibility for the applicant to negotiate with the SCA during, and even before a notification has been sent to the SCA, may contribute to the approval of a merger?

Sten Nyberg: It will probably not affect the outcome of a specific case. However, it may increase the understanding of what may constitute a problem with a specific merger and therefore affect the structure of the merger that is later notified to the SCA.

Lars Henriksson: It might facilitate the process; however I do not think it affects the actual outcome. Today, there are many skilled lawyers with a high experience of notification matters which advise the firms with this part of the merger process to make it quite smooth.

Carl Wetter: The actual outcome is probably not affected. However, a preliminary contact may contribute to a quicker process, since the parties at an earlier stage may understand what the SCA require and may also identify potential problems that may need to be investigated.

iii) Why so Few Phase II Procedures

In your opinion, why are there so few cases that enter a Phase-II decision process?

Sten Nyberg: The answer is probably that very few anti-competitive mergers are being notified to the SCA.

Lars Henriksson: I believe it depends on the fact that the SCA has lowered the requirements to approve a merger.

Carl Wetter: Partly because most acquisitions are uncomplicated and partly because the parties often try to avoid a special investigation by making commitments already in Phase I.

iv) Why so Few Blocked Mergers

In your opinion, why do not any mergers (during 1996 - 2010 in Sweden) become blocked by a court decision (possible outcome after a Phase II decision)? Do you think this is positive or negative?

Sten Nyberg: In principle, this should be positive. Ideally, firms will not do any anti-competitive mergers and the mergers notified to the SCA will therefore not be blocked. However, the assessment would be different if the SCA had assessed several mergers as anti-competitive, and then failed to block them in court.

Lars Henriksson: The SCA has lowered their requirements to approve a merger. Further, few firms are willing to take the process to a court procedure and therefore decide either to withdraw from the merger or try to agree with the SCA.

I think it is positive. However, it is a difficult question, since it is of political nature and the key issue is whether or not it is right or wrong to be able to prohibit a merger. It is a difficult question since there is very little research on the matter. If you for example look at the General Electric vs. Honeywell case, I have large difficulties to understand how the EC reasons; it does not make sense from an economical point of view. Further, it should also be highlighted that the evidence question is difficult. How can the potential outcome of a merger, i.e. the effects on competition, be proved?

Carl Wetter: I think it is positive. There should be a high threshold before society intervenes. Over time the market is capable of handling much on its own.

v) The Role of the SCA

Considering the results of our study, do you think the SCA plays an important role in M&A?

Lars Henriksson: Yes, I think so. However, we need to look over the legislations and how we implement it. Further, it is important that enough economic resources are being set aside for the SCA and its practices.

Carl Wetter: I certainly think so anyway. One option could possibly be to instead allow the SCA to intervene afterwards or upon complaints. One must, under all circumstances, not only consider the decisions of the SCA, but also consider how the parties view the legislation. Many mergers are not carried

out because the parties consider it to be too uncertain whether or not it will be approved. Other mergers are cancelled when the SCA intervene or try to block the merger in court.

10 Discussion

In this Section, our results and the statistical validity of our results will be discussed and interpreted in light of relevant research and interviews that we have conducted. The results of our case study as well as the results of our three hypotheses will be discussed individually and thereafter a more general discussion of our findings will be provided. One important aspect to consider in discussing our results is that a majority of our results turned out to be insignificant, suggesting that the merger control announcements of the SCA has little or no impact on stock prices of firms involved in Swedish merger investigations. But why, then, is the impact on stock prices of Swedish merger decisions so small when significant abnormal returns are found in the European and the UK market? In the discussion below, we lay out several reasons for why such a stock price reaction to subject firms involved in Swedish merger control might not be observed.

Our case study of the merger between GSK and AZT laid out several interesting findings. To start with, both the bidder and the target firms are, relative to the group revenue, small Swedish subsidiaries to foreign-based firms. The relatively small sizes of the merger parties gives a hint about the size of the impact that a merger and its related SCA merger control decisions could have on the market. Secondly, the SCA process included both a Phase I and a Phase II decision and had a duration of a about three and a half months (22 December 2008 – 3 April 2009), i.e. a rather long period. During the SCA intervention, both the bidder and the target company underwent price declines, and the target company underwent an especially strong price decline. These findings in part reflect the findings of Oxera (2006) where negative abnormal returns are detected for merger parties subjected to a Phase II investigation.

In line with previous studies within the field and our own expectations, *Hypothesis 1* shows how both target and bidder firms earn positive abnormal returns following the initial announcement of a deal. Similarly, Malatesta (1983) and Bradley et al (1982) found evidence of increasing market values for both target and bidder firms when changes in dollar values were calculated. Our study further reveals that, in line with the researches of Aktas et al (2002), Georgen and Renneboog (2003), and Jensen and Ruback (1983), the reaction in abnormal returns is much stronger for target firms than for bidder firms. The reason behind this reaction is widely disputed, often referred to as a takeover premium. Roll (1986) stipulates that the difference in abnormal returns appears because of managerial hubris, i.e. the management overestimates their ability of profitably run the target firm. Asquith et al (1983) state that the relative sizes of the firms may hide bidder gains as a large bidder would earn small abnormal returns when acquiring a small target. Shipper and Thompson (1983) mean that the difference in abnormal returns following a deal announcement exists as the bidder's abnormal return is already capitalized in its share price. All of these theories may be plausible explanations to the observed results of our *Hypothesis 1*. However, for our study we believe that the suggestions of Asquith et al (1983) and Shipper and

Thompson (1983) are the most credible. Our sample includes a large number of target firms being small subsidiaries of larger firms, whereas bidder firms are large in relation to the target firms. Therefore, a measurement problem of relative firm sizes is likely to exist. Also, large bidder firms usually have well developed strategies for M&A and an investor, with knowledge about these strategies, is likely to have incorporated the net present value of future mergers when valuing the company. At the date of announcement of a merger, therefore, bidder firms would earn close to zero abnormal returns in line with suggested theories of Jensen and Ruback (1983).

The results of *Hypothesis 2* show positive abnormal returns for target firms but negative results for bidder firms across all event-windows. However, with the target 5-day event-window being an exception (having a p-value close to 5.0%), all the coefficients turned out not to be significant at a 5.0% level. This result implies that the market does not react consistently to SCA Phase I merger control decisions and therefore we cannot reject our null hypothesis of cumulative abnormal returns different from zero. As a consequence, we cannot say that target and bidder firms show positive abnormal returns as a result of an SCA Phase I decision and, hence, we must reject our *Hypothesis 2*. As significant results were found in *Hypothesis 1*, which are in line with previous research on the topic, the insignificant results of Hypothesis 2 should be interpreted as a non-existing impact on stock prices of firms subjected to an SCA Phase I investigation. Described in other words, the market views the value to the merger parties to be neutral. Professor Sten Nyberg, as well as Professor Lars Henriksson, provide the most plausible reason for this finding: the sample is free from complex merger cases as these are being transferred to the EC for a resolution and hence, a majority of the cases left for the SCA to rule upon are cases that are going to be ultimately accepted. As we discussed in Section 2.2, mergers with a so-called "community dimension" shall be reviewed by the EC, whereas smaller transactions will be viewed exclusively by national authorities. The informed investor knows that smaller, non-complex merger cases are being reviewed by the SCA, and makes no effort to further adjust stock prices. Another explanation could be that the market reacts in a way that resembles the theories of Shipper and Thompson (1983) where merger news are supposed to be already capitalized in the stock price. Stock prices would therefore not be adjusted following announcements of merger control decisions, as these adjustments would be capitalized in the stock price already at the initial deal announcement. Applying that theory on our findings of *Hypothesis 1* and *Hypothesis 2* could infer that neither target nor bidder firms would experience abnormal returns following an SCA Phase I merger decision as this information is already incorporated in the share prices of the merging parties. Professor Lars Henriksson explains the situation in the following way; the market has already discounted for the actual outcome of the merger control process.

The results of *Hypothesis 3* indicate that both bidder and target firms experience a negative reaction in stock returns, following an SCA merger decision at the end of Phase II, across all event-windows. These results are in line with the study of Oxera (2006), finding that both target and bidder firms experience consistently negative average price reactions to Phase II merger control decisions. The negative abnormal

returns of the target firms, ranging from -3.8% (11 days event-window) to -1.6% (3 days event-window), are considerably larger than the negative abnormal returns of the bidder firms, ranging from -0.6% (11 days event-window) to -0.2% (3 days event-window). The larger reaction to the target firm's abnormal returns may be explained by the theories of a takeover premium, as discussed above in the initial deal announcement analysis. Again, the coefficients are not statistically significant and hence, our null hypothesis cannot be rejected. The results are interpreted in the same way as the results of *Hypothesis 2*, namely as a lack of consistent abnormal returns in merger parties' stock prices, in this case following an SCA Phase II decision. Plausible explanations for these results follow as a consequence of the reasoning that the dataset is free from complex cases, provided by Professor Sten Nyberg and Professor Lars Henriksson, as these large and complex cases are being transferred to EC, which leaves SCA with the cases that have a high probability of being accepted. Combining these explanations with the fact that over the period of July 1996 – July 2010 only three cases have been ruled as unacceptable and none of them being ultimately prohibited, the investor is safe not to adjust stock prices following an SCA Phase II decision. As suggested in interpreting the results of *Hypothesis 2*, it could also be that the investor has incorporated this information in the stock price reaction of the initial deal announcement.

The results of our study indicate that the market reacts positively to a merger deal announcement, with a stronger reaction to the target firms than the bidder firms, called a takeover premium. Also, our results indicate that target firms react positively and bidder firms react negatively to SCA Phase I decisions, whereas both target and bidder firms react negatively to SCA Phase II decisions. However, since the coefficients turned out to be insignificant our results should better be explained as a nonexistent market reaction to SCA merger control decisions. The results of both *Hypothesis 2* and *Hypothesis 3* clearly contradict those of us expected, as well as the findings of Brady and Feinberg (2000), Aktas et al (2002), and Oxera (2006) and hence, a discussion of probable factors that may explain the differing results is appropriate. In addition to the explanations of a sample free from complex merger cases and already incorporated share price effects, as discussed in the previous paragraph, there are several possible causes for why we do not observe the market reactions of past research.

When comparing the results of our quantitative study to the results of previous studies on the UK and European markets, two reasons that could contribute to the differing results are the *size of the firms* in our sample and the *measures imposed* by the Swedish legislators. When comparing our study to the ones performed on the European market two distinct differences may be observed. Firstly, the studies on the European market are based on larger samples, with a substantially larger amount of cases proceeding to a Phase II investigation. Furthermore, merger parties in the European studies are firms with substantially higher market values compared to the firms in our study, which increases the complexity and the importance of the investigations. Advokat Carl Wetter similarly point at the size of the merger as a reason for why we do not see the same results as the studies performed on the European market.

The measures imposed by Swedish legislators could also contribute to the small stock market reactions, as they may be insignificant in relation to market values of subject firms and the possible benefits that a merger would bring. Simonsson (2005) conclude that the SCA should improve its court process success in order to achieve the same court success rate as the EC. Bhagat et al (1998) suggest that government entities, with greater resources for legal disputes, raise the effect of stock market reactions. Investors, being aware of the scarce governmental resources, realize that a legal dispute would not affect firms' cash flows significantly and, hence, impose no adjustments to the value of the firms. Professor Lars Henriksson, in his interview, also points at the fact that more economic resources are necessary for the SCA to perform its activities. Advokat Carl Wetter believes that another explanation to the difference between our results and the results of the studies performed on the European and UK markets is that the risk of getting a merger blocked may be slightly lower in a notification to the SCA, because the SCA is itself unable to block a merger and instead have to go to court.

Another reason relates to how effectively the information about SCA merger decisions *reaches the market*. All SCA merger decisions are being published on their website, yet, since firms involved in the process often do not publish information about the SCA resolutions on their websites (or other easily accessed news sites) investors may forfeit this information. This, in turn, could potentially create a measurement problem if the event date used in our study does not correspond to the actual date when the information has reached the market. Miller (2006) identifies this lack of a consistent Swedish media source, acting as a "watchgod" as a factor that complicates the identification of the date when rumors reaches the market. Professor Lars Henriksson likewise believes that, as part of a possible explanation, the differing results may stem from the fact that the information does not reach the public in a proper way.

To the discussion should also be added that Swedish merger control allows for *negotiations* during and even before a notification has been sent to the SCA, which could increase the possibility of a merger being approved. Neven et al (1993) states that the Competition Directorate of the EC tends to exercise its discretion in a direction that is favorable to the approval of a transaction, whenever it is possible, and that the merger control process is greatly facilitated by the pre-notification discussions, giving each side the opportunity to adapt its negotiation positions that one another. According to these authors, the negotiation process plays an important role in the merger control process as it incurs costs for both the firm and the authority. The authors note, however, that it may only influence the form of the transaction, not whether the transaction ultimately takes place or not. In similarity, all of our interview subjects emphasized that the pre-notification discussions would not affect the actual outcome of the merger control process, yet, that it could probably affect the speed and the structure of the merger.

With these results at hand, it is intriguing to question the role and existence of the SCA. If the market is sure about the final outcome of the SCA merger investigations and a vast majority of the merger cases are being ultimately accepted, then, do we really need a merger control authority? Has the SCA had its day in

merger control? Professor Sten Nyberg notes that, ideally, firms will not even consider implementing anti-competitive mergers and as a consequence, all mergers notified to the SCA would be approved. However, Neven et al (1993) stipulate that it may be tempting, yet misleading, to draw any direct conclusions about the nature of an underlying merger control policy from the frequency of merger approvals and merger refusals. Both Professor Lars Henriksson and Advokat Carl Wetter believe that the SCA plays an important role, yet, highlight that Swedish merger control is not without flaws. Advokat Carl Wetter suggests that an option could be to allow the SCA to intervene after a merger or upon complaint, and further points out that not only the cases assessed by the SCA should be considered in this discussion, but also potential bidder firm's view on the legislation. Advokat Carl Wetter notes that many mergers are not carried through because the parties consider it uncertain whether or not the merger will be approved, other mergers are cancelled when the SCA intervene or try to block the merger in court. We may therefore conclude that, despite a strive for small imperfections in the merger control process and insignificant stock price reactions to merger control decisions, the SCA still plays an important role in the Swedish merger control process, as its mere presence discourages anti-competitive behavior.

11 Conclusion

The purpose of this thesis is to investigate what effect merger control decisions from the SCA have on the value of the target and the bidder firm in a merger notified to the SCA. Therefore, we have investigated the implications of Swedish merger control decisions, announced by the SCA, on the stock prices of subject firms involved in a merger control process. Stock market reactions have been analyzed to various announcements, namely; the initial deal announcement, the SCA Phase I merger control decision, and the SCA Phase II merger control decision. Previous research on the topic find that target firms experience strong positive abnormal returns following an M&A deal announcement whereas bidder firms earn abnormal returns positive, yet close to zero, referred to as a takeover premium. In our sample we observe evidence supporting previous findings of abnormal returns around merger announcements and attribute the existence of a takeover premium in our sample to the relative firm sizes and the fact that net present values of future merger announcements are already incorporated in the share prices of the bidding firms. In the discussion of our result we also consider the role of the SCA in Swedish merger control process.

Previous studies suggest positive abnormal returns to both target and bidder firms following a first phase approval and negative abnormal returns following a first phase referral to a second phase investigation. In terms of second phase market reactions, these studies suggest that both target and bidder firms experience positive abnormal returns, since most merger cases are being approved or approved subject to conditions. Contrary to previous research, in examining the stock price reactions to announcements of SCA merger control decisions, we find a general trend of a non-existing market reaction for firms involved in Swedish merger control. Based on interviews and research we conclude that a lack of abnormal returns in merger parties' stock prices prevails mainly as the sample is free from complex cases and that stock price reactions to SCA merger control decisions are already capitalized in the stock prices of subject firms. Other reasons for the non-existent market reaction include the relatively small market values of the firms being subjects of SCA's merger control, the small relative measures imposed by Swedish legislators, the lag in information transmission about the merger control decisions to the investors, and the impact of the pre-notification discussions in the merger control process.

To finish, we acknowledge the fact that the SCA plays an important role in the Swedish merger control process even though insignificant stock price reactions are seen for firms involved in Swedish merger investigations, as our conclusion is that SCA's mere presence discourages anti-competitive behavior.

12 Further Research

Future research on Swedish merger control may refine the findings of our study as a larger sample for study may increase the significance of the results. Another possible research area is to extend the study to include all Scandinavian countries, which would yield both a larger sample and a possibility of comparing the implementation of the merger regulation of different Scandinavian countries.

Also, other research methods may be used to investigate Swedish merger control, either by complementing the results of the simple market model or be used in lieu of the simple market model. Aktas et al (2002), for example, use a union of three different procedures to study the price reactions of merger control decisions for firms subjected to European merger control, namely the simple market model, the market model with parameters of Scholes and William, and the constant mean return model.

Other interesting topics for future research could be to investigate whether and how the size of the takeover premium, the merger financing, the type of merger (vertical, conglomerate etc), the competitive form of the merger (precompetitive or anticompetitive merger), or other deal specific variables affect share price reactions to merger control decisions.

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Appendix

Tables

Table 1: List of Merger Cases With Bidder Firms Included in Study

Bidder companies included in study				
Bidder	**Target**	**Announcement Date**	**Beginning Phase I**	**Decision Phase I**
Statkraft AS (E.ON)	AB Graninge Fyra	2004-10-07	2005-07-08	2005-07-22
Villeroy & Boch AG	AB Gustavsberg	2000-03-20	2000-03-29	2000-04-18
Ruukki Holding AB (Rautaruukki OY)	AB Omeo Mekaniska Verkstad	2006-12-18	2006-12-22	2007-01-22
Tryg i Danmark smba (Trygvesta)	AB Previa	2007-09-21	2007-09-28	2007-10-24
Atria Meat & Fast Food AB	AB Sardus	2007-02-19	2008-06-09	2008-06-18
Draka Holding N.V.	ABB Kabel	1999-11-16	1999-11-16	1999-12-01
Ericsson Inc.	Advanced Computer Communications	1998-09-09	1998-10-07	1998-10-22
Saab AB	Aerotech Telub Holding AB	2001-09-07	2001-09-18	2001-10-16
Assa Abloy Sverige AB	AKI Låsgrossisten AB	1999-12-27	2000-03-08	2000-03-30
Arrow Electronics Inc. Group	AKS Group Nordic AB	2007-08-07	2007-08-07	2007-08-28
Solar AB	Alvesta V.V.S. Material AB	2007-05-02	2007-03-19	2007-04-24
Faurecia S.A.	AP Automotive Holdings, Inc	1999-11-16	1999-11-19	1999-12-08
Kuoni Reisen Holding AG	Apollo Resor AB	2000-11-13	2000-02-21	2000-03-15
Cygate Group AB	Avansys AB	2008-04-03	2008-04-16	2008-05-15
SAAB Aktiebolag	Barracuda Technologies AB	1999-07-02	1999-07-15	1999-07-22
Peab AB	Berg & Väg Maskin AB	2004-06-30	2004-07-14	2004-07-22
Otis AB	Bravida Öst AB	2003-09-09	2003-09-10	2003-10-01
Birka Värme AB	Brista Kraft AB	2000-03-31	2000-03-31	2000-04-26
YIT Corporation Abp	Calor AB	2000-10-27	2001-01-08	2001-02-01
WM-data AB	Caran AB	1998-12-14	1998-12-21	1999-01-19
Saab Ab	Caran Saab Engineering AB	2007-03-01	2007-03-05	2007-04-04
Balfour Beatty Rail Aktiebolag	Carillion Rail Sverige AB	2007-08-02	2007-07-06	2007-07-06
Ciba Specialty Chemicals AB	CDM (Chemicals Dyestuffs Minerals)	2004-11-09	2004-10-18	2004-11-19
Flextronics International Ltd	Chatham Technologies Inc.	2000-07-31	2000-09-28	2000-10-25
MeritaNordbanken Abp	Christiania Bank og Kreditkasse ASA	1999-09-20	1999-09-30	1999-10-27
Logica Sverige AB	Conagri AB	2010-04-19	2010-04-19	2010-05-03
Hemköpskedjan AB	D & D Dagligvaror	12/04/2000	2000-02-14	2000-02-23
Forma Publishing Group AB	Damm Förlag AB	8/03/2007	2007-03-16	2007-04-16
Brightpoint Inc.	Dangaard Telecom A/S	20/02/2007	2007-03-19	2007-04-19
EDB Business Partner Sverige AB	Datarutin AB	10/01/2006	2006-01-11	2006-01-23
Volvo Aero Aktiebolag	Ecological Advanced Propulsion System AB	29/01/2001	2001-03-20	2001-04-23
Grundstenen 96286 AB (Ratos AB)	Elit Fonster AB	25/04/2000	2004-11-05	2004-12-09
Bisnode AB	Emric AB	8/05/2007	2007-04-04	2007-04-26
Bilia Personbilar AB	Eneqvist Bil AB	23/12/2003	2004-03-05	2004-06-14
Hafslund ASA	Energibolaget i Sverige Holding AB	10/05/2010	2010-05-10	2010-05-25
DMG Scandinavia Sverige AB	Erixon & Bonthron AB	2/10/2006	2007-05-04	2007-05-07
Ratos AB	EuroMaint AB	29/06/2007	2007-07-11	2007-08-15
H&M Hennes & Mauritz AB	FaBric Skandinavien AB	6/03/2008	2008-03-07	2008-04-14
Skanska Facilities Management AB	Favea AB	29/10/2003	2003-11-20	20003-12-02
Kemira Oyj	Finnish Chemicals Oy	7/02/2005	2005-02-18	2005-02-22
ALD Automotive AB	FleetPartner Nordic AB	17/11/2004	2004-11-16	2004-12-10
Motorola Inc.	Force Computers, Inc	16/06/2004	2004-06-23	2004-07-06
Rieber & Søn ASA	Frödinge Mejeri AB	19/05/2006	2006-05-23	2006-06-21
EDB Business Partner ASA	Guide Konsult AB	13/03/2006	2006-03-15	2006-03-29
Ascot plc	Haltermann & Co. GmbH & Co	22/12/1998	1998-11-27	1998-12-17
Bilia Personbilar AB	Hans Persson Personbilar AB, Hans Persson Fastighets AB, Hans Persson Transportbilar AB, Hans Persson Support AB, Hans Persson Fordon AB	27/03/2007	2007-04-05	2007-05-04
Svensk Snabbmat för Storkök AB	Hedmans Partiaffär i Luleå AB, Matgrossisten i Skellefteå AB, Norrsäljarna i Ö-vik AB, Frukt och Matgrossisten i Söderhamn AB	4/09/2006	2006-09-25	2006-10-19

Autotube AB	Hordagruppen Vätterleden AB	11/01/2006	2006-02-16	2006-03-20
Abba Seafood AB	Hållöfisk Fastighets AB	26/01/2005	2004-12-20	2005-01-20
Sportfive GmbH	ISPR Internationale Sportrechte-Verwertungsgesellschaft GmbH	13/10/2003	2003-10-20	2003-11-18
Tibnor AB	J.W. Anderssons Maskin AB	18/05/1999	1999-05-10	1999-05-27
Ellos AB	Jotex AB	1/07/2004	2004-07-02	2004-07-22
Jede AB	Kaffeknappen Sverige AB	3/10/2005	2005-11-03	2005-11-24
Jede AB	Kaffeknappen Sverige AB	4/08/2008	2008-08-13	2008-08-21
Atle AB	Kronans Droghandel	26/01/1998	1999-12-30	2000-01-05
Orion Pharma Aktiebolag	Kronans Droghandel AB	12/04/2002	2002-04-19	2002-05-21
Lindorff Sverige AB	Kundinkasso Aktiebolag K.I.A.B	1/07/2005	2005-07-21	2005-08-05
Blyth Industries Inc.	Liljeholmens Stearinfabriks AB	7/12/1998	1998-12-11	1998-12-22
Svenska Handelsbanken AB	Livförsäkring AB	20/12/2000	2001-01-16	2001-02-08
Braathens ASA	Malmö Aviation AB	17/12/2001	1998-10-07	1998-11-05
Skanska Services AB	Marieholms Högtrycksteknik AB	25/02/2003	2003-02-26	2003-03-17
Atea Sverige AB	Martinsson Informationssystem AB	9/03/2005	2005-03-09	2005-03-30
Metronome AS	Metronome Film & Television AB	28/09/2007	2007-11-22	2007-12-05
Bilia Personbilar AB	Michaelsson & Nelin AB	24/10/2005	2005-11-07	2005-11-17
Bilia AB	Micro AB	17/10/2000	2000-10-23	2000-11-22
Peab Sverige AB	Midroc Construction AB	14/12/2005	2005-12-14	2006-01-17
Draka Holding N.V.	NKF Holding N.V.	26/05/1999	1999-06-28	1999-07-08
Recticel N.V./S.A.	Nordflex AB	14/02/2000	2000-02-22	2000-03-15
Finnair Abp	Nordic Airlink Holding AB	19/08/2003	2003-09-29	2003-10-29
Swerock AB	Nordisk Maskintjänst AB	30/10/2007	2007-10-30	2007-12-03
Nordea Bank Finland Adp	Nordisk Renting AB	9/01/2003	2003-01-09	2003-02-07
Finnlines Plc	Nordö-Link Holding AB	23/04/2002	2002-04-23	2002-05-21
Menzies Aviation Plc	Novia Sverige AB	31/03/2008	2008-03-28	2008-04-24
Peab Sverige AB	Nybyggarna i Nerike AB	16/11/2006	2006-12-06	2006-12-19
Swedish Meats ek.för.	Nyhléns Chark AB	8/06/2005	2005-07-22	2005-08-04
Specma Hydraulic AB	Näsström System Utveckling AB	22/06/2004	2004-06-14	2004-06-30
Strabag SE	Oden Anläggningsentreprenad AB	2/04/2008	2008-04-04	2008-04-28
Saint-Gobain Nordic AB	Optimera Gruppen AS	21/06/2005	2005-06-21	2005-07-14
3i Group Plc	Paper-Pak Sweden AB	6/09/2002	2002-08-13	2002-09-03
WM-data AB	Parere AB	17/03/2004	2004-03-19	2004-04-14
Veolia Transport Sverige AB	People Travel Group AB	16/07/2007	2007-08-02	2007-08-23
Ratos AB	Perlos Healthcare	17/07/2006	2006-08-17	2006-09-18
Clariant AG	Perstorp JV Holding AB	20/12/2001	2002-01-15	2002-02-11
Kronans Droghandel Retail AB	Pharmacy Company Sweden 2 AB	9/11/2009	2009-11-20	2009-12-18
Peab Asfalt AB	PNB Asfalt AB	15/10/2002	2002-10-16	2002-11-14
Flextronics Network Services Sweden AB	PNB Communication AB	22/11/2002	2002-11-14	2002-12-13
Polo Ralph Lauren Corporation	Poloco S.A.	9/09/1999	1999-11-10	1999-12-01
Rautaruukki Oyj	PPTH Steelmanagement Oy	29/09/2005	2005-10-17	2005-11-02
Atle AB	Programmera i Sverige AB	12/04/2000	2000-06-16	2000-07-06
Meda Aktiebolag	Recip AB	25/10/2007	2007-11-08	2007-12-05
Saab AB	Saab Avionics AB	7/05/2001	2001-05-28	2001-06-07
E.ON Sverige AB	SAKAB Ecoplus AB	2008-03-04	2008-03-11	2008-03-27
Bure Equity AB	Sandberg & Trygg AB	2002-05-31	2002-05-21	2002-06-05
GE Fanuc Embedded Systems, Inc.	SBS Technologies, Inc	2006-03-20	2006-04-27	2006-05-11
Hemköpskedjan Aktiebolag	SDU Svensk Detaljhandelsutveckling AB	2000-04-12	2000-06-09	2000-06-16
ElektroSandberg AB	SELEK Holding AB	2004-10-13	2004-10-28	2004-11-17
Skanska Europe AB	Selmer ASA	2000-04-13	2000-05-30	2000-07-07
Cygate AB	Sigma Måldata Network Solutions AB	2002-08-21	2002-10-17	2002-11-20
Birka Energi AB	Sigtuna Energi AB	2000-03-21	2000-03-31	2000-04-26
Fountainfrost Limited	Specialized Engineering Holdings LLC	1999-11-01	1999-11-04	1999-11-24
Tele2 Sverige AB	Spring Mobil AB	2006-10-23	2006-11-01	2006-12-06
Tele2 Sverige AB	Spring Mobil AB, Spring Mobil GSM AB	2010-05-28	2010-06-15	2010-07-21

Nordform Mark-, VA-system AB, Peab Industri AB	St Eriks AB	2009-03-31	2008-12-23	2009-01-21
Schibsted ASA	Svenska Dagbladet Holding AB	1998-10-07	1998-10-09	1998-10-28
Nestlé Sverige AB	Svenska Glasskiosken AB	2005-11-18	2005-11-18	2005-11-29
McDonalds Corporation	Svenska McDonald's Development AB	1999-03-26	1999-02-19	1999-03-09
Bure Equity AB	Svenska PA System AB	2001-08-29	2001-10-23	2001-10-23
Carl Bro as	Sycon AB	2001-11-16	2001-12-14	2001-12-19
Skanska Facilities Management AB	Sydkraft Service Partner AB	2004-04-01	2004-04-02	2004-04-19
Ruukki Sverige AB	Syneco Industri AB	2005-08-31	2005-09-09	2005-09-23
Aftonbladet Hierta Aktiebolag	TA Teleadress Information Holding AB	2005-02-03	2005-02-03	2005-02-22
Schneider Electric S.A.	TAC Holding AB	2003-06-12	2003-07-07	2003-07-15
Reebok International Ltd	The Hockey Company Holdings Inc	2004-04-08	2004-04-26	2004-05-24
Ementor Asa	TopNordic A/S med dotterbolag	2006-02-01	2006-02-06	2006-02-24
Framatome ANP GmbH	Uddcomb Engineering Förvaltning AB	2005-04-08	2005-04-28	2005-05-16
Krüger A/S	VA-Ingenjörerna Renare Vatten RV AB	2006-01-31	2006-02-09	2006-03-03
TeliaSonera AB	Validation AB	2004-04-30	2004-05-11	2004-05-25
Rautaruukki Oyj	Velsa Oy	2004-10-11	2004-10-12	2004-10-27
Beijer Byggmaterial AB	Westwood Fastigheter i Arvika AB	1998-08-07	1998-09-04	1998-09-23
Pergo AB	Witex AG	2003-01-28	2003-02-07	2003-03-03
Bure Equity AB	Xdin AB	2001-09-19	2001-10-23	2001-10-23
Peab AB	Ångström & Mellgren AB	2010-04-08	2010-04-09	2010-04-22
Kemira Oyj	Alcro-Beckers AB	2000-11-07	2000-11-22	2000-12-20
Orkla Foods AS	KåKå AB (AB Cerealia)	1999-02-23	1999-03-11	1999-04-07
Peab Transport & Maskin AB	Siab AB, PNB Invest AB, Swerock AB, Cliffton AB	1998-10-06	1997-03-14	1997-04-08
Bilia Personbilar AB	Eneqvistbolagen AB	2003-12-23	2004-03-05	2004-04-13
United International Enterprises Ltd	Karlshamns AB	2005-06-14	2005-07-20	2005-08-22
Swedish Meats ek. för	SLP Pärsons AB (HKScan)	2005-11-22	2006-02-02	2006-03-09
OneMed AB (CapMan)	Simonsen Material AB	2008-02-28	2008-02-28	2008-04-07
Assa Abloy AB	Copiax AB	2008-02-15	2008-04-04	2008-05-12

Table 2: List of Merger Cases With Target Firms Included in Study

Target companies included in study				
Bidder	**Target**	**Announcement Date**	**Beginning Phase I**	**Decision Phase I**
Stena Metall AB	AB Gotthard Nilsson	1998-11-16	1998-11-24	1998-12-23
Sjätte AP-Fonden	AB Volvofinans	2007-07-17	2007-07-26	2007-08-06
Oy Metro Auto Ab	Ana Stockholm AB	1999-05-10	2001-08-17	2001-09-20
OK ekonomisk förening	Ana Trollhättan AB	2007-04-25	2007-10-04	2007-10-09
Santech Micro Group Sweden Aktiebolag	Arrow Components Sweden AB	2003-10-10	2003-09-19	2003-10-08
LD Equity 2 K/S	Bang & Olufsen Medicom A/S	2006-12-20	2007-01-24	2007-02-08
Nordic Capital	Biovitrum AB	2001-06-11	2001-06-21	2001-07-06
AxCom AB	CellStar - Intercall AB	2003-09-22	2003-09-22	2003-10-13
Bonnier Affärsinformation Holding AB	Dun & Bradstreet Nordic AB	2003-10-09	2003-10-21	2003-11-11
Statkraft AS	E.ON AG	2008-07-24	2008-08-13	2008-09-11
Plansee Holding AG	GTP från Siemens-koncernen	2008-04-23	2008-05-21	2008-06-04
Stena Adactum AB	Envac Centralsug AB	2005-04-28	2005-05-02	2005-05-24
Multek Sweden AB	Ericsson Radio Systems AB	2000-10-09	2001-01-10	2001-01-17
Handelsbanken Liv Försäkrings AB	Euroben Life & Pension Ltd	2003-08-08	2003-07-10	2003-07-25
Stena Metall AB	Eurosteel AB	2007-03-26	2007-04-10	2007-05-15
Wilson Logistics Holding AB	Exceed AB	2002-04-26	2002-05-02	2002-05-22
NS Holding AB	Fastighetsaktiebolaget Norrporten	2000-08-21	2000-09-22	2000-10-17
Egmont Holding AB	Filmlaboratorier Holding AB	1999-03-29	1999-03-12	1999-04-08
Grimaldi Compagnia di Navigazione S.p.A.	Finnlines ABP	2006-10-17	2006-10-25	2006-11-22
Cidron Invest AB	Finnveden AB	2004-11-15	2004-11-15	2004-12-10
Triton Managers Ltd	Frigoscandia Distriubtion AB	2002-03-07	2002-02-12	2002-02-28
Schuttersveld N.V.	Gunnebo Holding AB	1999-12-27	2000-01-03	2000-01-19
Segulah Stellata Holding AB	Gunnebo Industrier AB	2008-07-22	2008-07-22	2008-08-05
Hero-Hus AB	Interoc Plattsättning AB	2003-05-27	2003-06-06	2003-06-26
Grundstenen 118772, Aktiebolaget u.n.t. Gnosjö-Gruppen Holding AB	Kendrion Automotive Metals AB	2007-11-21	2007-11-21	2007-12-21
D. Carnegie & Co AB	Max Matthiessen Holding AB	2007-01-12	2007-01-30	2007-02-23
Gasstone Oy Ab	Partek Sverige AB	1999-06-29	1999-07-12	1999-07-20
Scandic Hotels AB	Provobis Hotel & Restauranger AB	2000-04-12	2000-05-09	2000-06-15
RBS Acquisition Corporation	Rexnord AB	2002-09-30	2002-10-04	2002-11-05
JCE Group AB	Semcon AB	2009-03-06	2009-03-19	2009-04-01
Euro Cater A/S	Svensk Snabbmat för Storkök AB	2007-04-27	2007-05-15	2007-05-23
Braganza AS	Ticket Travel Group AB	2010-02-15	2010-01-27	2010-02-22
KF Media AB	Vision Park Entertainment AB	2001-09-03	2001-10-03	2001-10-17
Scandlines Deutschland Gmbh	Nordö-Link Holding AB (Finnlines)	2001-04-26	2001-06-11	2001-07-19
SF Bio AB (Bonnier)	Sandrew Metronome (Schibsted ASA)	2004-08-13	2004-09-23	2004-10-27
TV4 AB	C More Group AB (ProSiebenSat.1)	2008-06-16	2008-07-07	2008-08-07
Åhléns AB	Department and Stores Europé AB (RNB Retail and Brands)	2009-03-25	2009-04-07	2009-06-01

Table 3: List of Merger Cases with Both Bidder and Target Firms Included in Study

Target and bidder companies included in study				
Bidder	**Target**	**Announcement Date**	**Beginning Phase I**	**Decision Phase I**
Ratos AB	Arcorus Oyj	2002-04-22	2002-05-08	2002-05-31
Ementor ASA	Atea Holding AB	2006-06-19	2006-06-22	2006-06-30
WM-data AB	Atos Origin AB	2005-05-23	2005-05-23	2005-06-27
Swedbank Robur AB	Banco Fonder AB	2008-09-29	2008-10-24	2008-11-06
Bilia Center AB	BMW Group Göteborg	2009-05-07	2009-04-07	2009-04-22
Telenor Broadband Services AB	Canal Digital AS	2002-06-14	2001-08-03	2001-09-03
Cardo AB	Cardo BSI Rail AB	1999-11-29	1999-11-29	1999-12-22
Ricoh Europe Holdings PLC	Carl Lamm Holding AB	2009-04-17	2009-04-17	2009-04-27
Hitachi Ltd	Clarion Co Ltd Japan	2006-10-26	2006-10-25	2006-11-09
TeliaSonera AB	Cygate Group AB	2006-11-16	2006-11-29	2007-01-08
Binnimation Stockholm AB	Dahl International AB	1999-02-11	1999-02-25	1999-03-25
Cygate Group AB	Didata Dimension Data Sverige AB	2007-04-12	2007-04-24	2007-05-22
Fastighets AB Balder	Din Bostad Sverige AB	2009-06-26	2009-07-28	2009-08-14
Tele2 Sverige AB	E.ON Bredband Sverige AB	2006-06-30	2006-06-30	2006-07-13
Flextronics Network Services AB	effero AB	2003-06-19	2003-06-24	2003-07-04
TDC Sverige AB	Effero Group AB	2008-01-28	2008-01-29	2008-02-12
Ahlsell AB	Elektroskandia AB	2001-04-11	2001-04-26	2001-05-23
TietoEnator Telecom Consultants AB	Ericsson Infotech	2002-09-26	2002-09-26	2002-10-24
Flextronics International Sweden AB	Ericsson Radio Systems AB	1999-04-19	2000-02-14	2000-02-22
TeliaSonera Sverige AB	Flextronics Network Services Sweden AB	2004-05-07	2004-05-11	2004-06-09
Maintpartner Oy	Fortum Service Industripartner AB	2006-09-21	2006-09-22	2006-10-16
Andritz AG	GE Hydro Inepar do Brasil S.A., GE Energy AB, GE Energy Oy, General Electric do Brasil Ltda	2008-05-02	2008-08-06	2008-08-19
Kongsberg Automotive Holding ASA	Global Motion Systems	2007-12-28	2007-11-16	2007-12-20
TBS Infrastructure AB	Glocalnet AB	2006-02-08	2006-02-13	2006-03-10
Bilfinger Berger Industrial Service AG	Hydro Production Partner Holding AS, Produksjonstjenester AS	2008-02-18	2008-02-20	2008-03-17
Specma Hydraulic AB	JMS Systemhydraulik AB	2006-10-19	2006-10-20	2006-11-23
Rockwood Holdings Inc	Kemira Oy	2008-05-21	2008-07-15	2008-08-18
SC Motors Sweden Aktiebolag	Mitsubishi Motor Sales Sweden Aktiebolag	2007-03-01	2007-07-30	2007-04-26
Betongindustri AB	NCC Roads AB	2004-06-14	2004-07-14	2004-08-04
Peab AB	Peab Industri AB	2008-11-10	2008-10-27	2008-11-27
Pfleiderer Sweden AB	Pergo AB	2007-01-15	2007-01-15	2007-02-09
York International Corporation	Sabroe Refrigeration A/S	1999-03-29	1999-05-11	1999-05-27
Singapore Technologies Aerospace Ltd	SAS Components Group A/S	2005-12-15	2005-12-20	2006-01-25
Bure Equity AB	Skanditek Industriförvaltning AB	2009-10-14	2009-11-20	2009-11-30
Level 3 Communications Inc.	Software Spectrum Inc	2002-05-02	2002-05-15	2002-05-31
TDC Totallosningar A/S c/o TDC A/S	Song Networks Holding AB	2004-10-27	2004-10-06	2004-11-03
Xerox Corporation	Tektronix Inc	1999-11-30	1999-11-01	1999-11-25
Glocalnet AB	Telenordia Privat AB	2002-10-30	2002-10-30	2002-11-25
Future Rentals plc	Thorn plc	1998-06-30	1998-10-01	1998-10-28
Telenor Business Solutions Hld AS	Utfors AB	2002-11-18	2002-11-18	2002-12-16
Hunter Douglas N.V.	Newell Rubbermaid Inc	2006-09-22	2006-09-08	2006-09-28
Securitas AB	Telelarm AB, Telelarm Multicom AB (Telia AB)	1997-10-06	1997-06-18	1997-07-17
Carlsberg A/S, Carlsberg Breweries A/S	Pripps Ringnes AB (Orkla)	2000-05-31	2000-08-11	2000-09-13
GlaxoSmithKline plc	AstraZeneca Tika SNC	2009-03-10	2008-12-22	2009-01-30
Tidningarnas Telegrambyrå AB (Schibsted ASA)	Retriever AB (Scibsted ASA)	2009-08-28	2010-04-08	2010-05-12

Table 4: List of Merger Cases Subjected to a Phase II Investigation Included in Study

Cases approved				
Bidder	**Target**	**Beginning Phase II**	**Decision Phase II**	**Sector**
North Cape Minerals AB	Forshammar Mineral Holding AB	1996-08-01	1996-09-19	
Selecta AB	Selecta i Uppsala AB	1996-10-14	1996-11-21	
Bure Hälsa och Sjukvård AB	CALAB Medical AB	1996-11-28	1996-12-20	
Fosselius & Alpen AB	Skoogs VVS AB	1996-12-11	1997-03-11	
Ahlsell AB	Tornab AB	1997-01-16	1997-03-26	
Skanska Sydöst AB	Bjursells i Jönköping AB	1997-04-01	1997-06-18	
Peab Transport & Maskin AB	Siab AB	1997-04-08	1997-07-03	
Securitas AB	Telelarm AB och aktier i Telelarm Multicom AB	1997-07-17	1997-10-17	
Bilia Personbilar AB	Eneqvistbolagen AB	2004-04-13	2004-06-14	
United International Enterprises Ltd	Karlshamns AB	2005-08-22	2005-09-16	
Swedish Meats ek. för	SLP Pärsons AB	2006-03-09	2006-05-10	
OneMed AB	Simonsen Material AB	2008-04-07	2008-07-03	
Assa Abloy AB	Copiax AB	2008-05-12	2008-09-08	
TV4 AB	C More Group AB	2008-08-07	2008-10-27	
GlaxoSmithKline plc	AstraZeneca Tika SNC	2009-01-30	2009-04-03	
Tidningarnas Telegrambyrå AB	Retriever AB	2010-05-12	2010-07-15	

Cases approved s.t. conditions				
Bidder	**Target**	**Beginning Phase II**	**Decision Phase II**	**Sector**
NCC AB	Siab AB	1997-04-24	1997-07-22	
Skanska AB	Gatu och Väg AB	1997-06-12	1997-09-12	
Orkla Foods AS	KåKå AB	1999-04-07	1999-06-17	
Carlsberg A/S	Pripps Ringnes AB	2000-09-13	2000-12-12	
DONG Naturgas A/S	Nova Supply AB	2004-07-14	2004-10-06	

Cases withdrawn				
Bidder	**Target**	**Beginning Phase II**	**Decision Phase II**	**Sector**
Svenska Girot AB	Bankgirocentralen BGC AB	2000-10-30	2001-02-13	
Scandlines Deutschland Gmbh	Nordö-Link Holding AB	2001-07-19	2001-11-12	
SF Bio AB	Sandrew Metronome	2004-10-27	2005-01-24	
Åhléns AB	Department and Stores Europé AB	2009-06-01	2009-10-01	

Table 5: Constants and P-values of OLS Regressions on Cumulative Abnormal Returns

Merger Announcement						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Bidder firms	0.0145	0.0110	0.0156	0.0430	0.0249	0.0070
Target firms	0.0545	0.0060	0.0564	0.0060	0.0732	0.0010

Phase I						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Bidder firms	-0.9006	0.3160	-1.4577	0.3190	-3.3361	0.3190
Target firms	0.0063	0.2260	0.0118	0.0520	0.0176	0.0790

Phase II						
Event window	**3-day**		**5-day**		**11-day**	
	CAAR	P-value	CAAR	P-value	CAAR	P-value
Bidder firms	-0.0024	0.8110	-0.0041	0.7440	0.0059	0.7340
Target firms	-0.0158	0.4750	-0.0238	0.1900	-0.0377	0.2150