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ANALYST RECOMMENDATIONS AND STOCK RETURNS

- *Evaluating the performance of analysts covering stocks publicly traded on the Stockholm Stock Exchange*

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Abstract

In addition to evaluating the performance of security analysts covering stocks publicly traded on the Stockholm Stock Exchange (SSE) we investigate the existence of any profitable trading strategies based on analyst recommendations. Performance is analyzed by employing a method of forming (daily rebalanced) portfolios based on the consensus recommendation for each covered company during a time period of five years. The returns earned from each portfolio are further evaluated against benchmarks with both value and equally weightings. In order to measure the impact of trading, and hence the cost of following the advices by analysts, we also record each portfolio's annual turnover. In addition, we also evaluate if the value of analyst recommendations are robust across time, different market conditions and capitalizations. Our obtained results suggest that stock recommendations issued on companies traded at SSE generates investment value and that analysts' thereby can be considered to possess a stock picking ability. We further find, somewhat surprisingly, that analysts' stock picking ability is most pronounced for well performing Large Cap stocks and underperforming Small Cap stocks. Accounting for the cost of trading we finally find that the most suitable trading strategy, employing an equally weighted approach, would be to purchase the most favorable recommended stocks while simultaneously selling short the least favorable rated ones. Such a strategy generates market adjusted returns, net of trading costs, for both institutional and private investors.

Keywords: stock recommendations, analyst performance, trading strategies, portfolio construction, daily rebalancing

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1. INTRODUCTION

1.1 Background

The value of stock recommendations issued by security analysts has for decades engaged the financial and academic community. Research of analyst performance can be traced as far back as to the 1930s, and to a pioneering study performed by Cowles (1933). During later years, stock recommendations have also frequently been debated in the media. From time to time, news paper articles are published with criticism of analysts' often large salaries and bonuses, compared to their ability to generate abnormal returns for their clients. Regarding the academic debate, there seems to be no strong consensus opinion about analysts' ability to outperform relevant benchmarks on a persistent basis. Several international studies have been written on stock recommendations, both in favour of and against the value of trading according to analysts' advice (Desai & Jain (1995), Stickel (1995), Vomack (1996), Barber, Lehavy, McNichols & Trueman (2001), Andersson & Martinez (2007)).

In Desai & Jain (1995) the authors record the performance of recommendations made solely by top ranked analysts. Although they conclude that abnormal returns earned from buy recommendations are not significantly different from zero, they find some evidence of abnormal return generated from sell recommendations. Reversely, Andersson & Martinez (2007) find abnormal return from following positively revised stock recommendations, while not from negative recommendations. On the contrary to both of the above studies, Barber et al. (2001) find statically significant abnormal returns for buy as well as for sell recommended stocks.

In our opinion, the discussion about the value of stock recommendations is highly interesting and important since it relates to the choice between active and passive trading strategies. One of the important differences between pursuing such strategies is that the former strategy often results in substantial trading costs. Hence, the additional returns generated by an active approach have to exceed the additional trading costs in order to be considered.

1.2 Purpose and Contribution

As a result of the somewhat contradictory nature of the previous research within this field and the fact that most studies have primarily been based on US data, leaving the Swedish stock market relatively unanalysed, we intend to accomplish two things with this paper.

First, carry out an in-depth study of the performance of analysts' stock recommendations covering the Stockholm Stock Exchange (SSE). Our aim in this task is to investigate if recommendations on stocks traded on the SSE, issued by various analyst houses, have investment value.

Second, we intend to develop and to economically as well as statistically test active investment strategies. These strategies will be based on the empirical results obtained from the returns generated by the examined stock recommendations.

Up to this point, most studies covering stock recommendations have focused on event studies related to the issuance of recommendations. However, such methods have a number of disadvantages¹ which have lead us to instead use a portfolio construction approach which can be implemented more easily by investors. The only previous research with some resemblance to our study, using Swedish data, is a thesis written by Blomquist et al. (2003). Blomquist et al. use data covering the period 1996 to 2002 while our timeframe reaches from 2003 to 2008. Further, they are focusing solely on Large Cap stocks, while our research covers Large-, Mid- and Small Cap stocks. In addition, we will employ a more thorough method, entailing more frequent rebalancing and wider robustness checks, as well as forming both value and equally weighted portfolios in combination with developing possible trading strategies. Our contribution, through an extension of previous empirical research on the chosen topic, will be a deeper knowledge of the true value of stock recommendations on companies traded on the SSE along with possible hands-on trading strategies. We believe that our results will be of value for anyone investing in the Swedish stock market.

1.3 Results

We find evidence supporting the fact that stocks with the most (least) favourable consensus recommendations persistently outperform (underperform) their benchmarks. We further investigate if the market adjusted returns generated from trading strategies based on analysts' stock recommendations will become positive when accounting for transaction costs. Our empirical results suggest that an institutional investor earns an annual market adjusted return of 10.2 percent net of fees when pursuing a long-short strategy on the most highly- and least highly rated stocks. When following the same strategy on the Small Cap list, the private investor earns 6.4 percent annual market adjusted return, reflecting higher transaction costs. Both returns are statistically significant at reasonable levels. Our results further suggest that analysts have a strong ability to identify underperforming Small Cap stocks, while they lack skills in finding outperforming Small Cap stocks.

¹ For a more detailed discussion see Fama (1998)

1.4 Outline

Our paper will continue with a discussion of relevant theoretical frameworks and previous research on the topic follows in section 2 along with a description of the data in section 3. The method employed in our study will be presented in section 4 followed by the obtained empirical result in section 5 and related analysis in section 6. The empirical results will be used when examining potential trading strategies in section 7. Finally, a summary of our findings together with concluding remarks can further be found in section 8.

2. THEORY

2.1 Previous research

Following the introduction, the observers of the financial markets seem to disagree on to which extent stock recommendations generate acceptable returns for anyone investing according to them. As mentioned earlier, Desai and Jain e.g. examine the performance of common stocks recommended by the so called ‘superstar’ money managers who are invited to the world leading business publication *Barron’s* “Annual Roundtable” (Desai & Jain (1995)). The invited group consists of eight to twelve highly successful and well reputed money managers. They are normally mutual fund managers, stock analysts, proprietors of private money management firms and successful private investors. Desai and Jain use 4 different holding periods, ranging from 2 days up to 750 days, over a time period from 1968 to 1991, when evaluating the issued recommendations. They also define the meeting day (MD) as the day on which the invited money managers at *Barron’s* Roundtable meets and stocks are recommended, and similarly the publication day (PD) as the day when the recommendations are published. The average time between MD and PD is 14 days. The authors reach the conclusion that *buy* recommendations earn statistically insignificant abnormal returns decreasing from 0.33 percent to -0.71 percent over holding periods of 25 days to 750 days respectively following the publication day. Overall, their findings suggest that the so-called ‘superstar’ money managers do not manage to generate abnormal returns on average. Suggesting that buy recommendations lack investment value.

When Desai and Jain examine the performance of *sell* recommendations on the other hand, they find that those earn an abnormal return of -8.12 percent on average from PD + 1 to PD + 250. This is somewhat contradictory to the performance of the issued buy recommendations, suggesting that money managers only have skills in making sell recommendations. These results could partly be explained by analysts being reluctant to issue sell recommendations unless they have substantial evidence supporting their case. It should also be pointed out that only 9 percent of the recommendations given by the money managers at the ‘Roundtable’ were sell recommendations suggesting that the evidence of their over performance is less general than perhaps as with the results from the buy recommendations. Similar results are obtained by Stickel (1995) and Womack (1996).

Anderson & Martinez (2007) on the other hand, show in their event study that trading according to positively revised stock recommendations on stocks listed on the Nordic Stock Exchange will generate abnormal profits, while negatively revised stocks, e.g. sell stocks, do not show the same pattern of abnormal returns. Fama (1991) describes a similar pattern observed from *the value line investment survey* which claims that stocks show the highest price increase when they are upgraded from “better” to “best”

in terms of analyst recommendations. Hence, there seem to be contradictory evidence regarding the value of stock recommendations.

In contrast to both Desai & Jain (1995) and Anderson & Martinez (2007), Barber et al. (2001) examine whether investors can profit from the publicly available recommendations of security analysts and arrive at the conclusion that *both* buy and sell recommendations generate abnormal returns. They use daily data for the sample period of 1986-1996 in their study. They further construct their portfolios 1-5 according to the average consensus recommendation for each covered stock. Portfolio 1 represents stocks with a strong buy recommendation while portfolio 5 represents those with a strong sell recommendation. They re-balance their portfolios on a daily basis in order to incorporate changes in stock recommendations. Barber et al. further confirm the fact that analysts are reluctant to issue sell recommendations. Taking a closer look at their data shows that 47.1 percent represent buy recommendations while only 6.3 percent are sell recommendations, which confirms the pattern observed by Desai & Jain (1995). An interpretation of the low fraction of sell recommendations could be that analysts prefer to stop covering firms which they expect to perform poorly over issuing a sell recommendation. A possible explanation for this pattern is that larger financial institutions do not want to risk losing firms as future investment banking clients as a result of an issued sell recommendation.

The authors conclude that the most highly recommended stocks have an average annual abnormal return of 4.2 percent while the portfolio with least recommended stocks earned an average annual abnormal return of -7.6 percent, after controlling for size and book-to-market effects. In other words, buying the most highly rated stocks and selling short the least highly rated ones yield an abnormal return of 11.8 percent annually, gross of transaction costs. However, pursuing such a strategy requires frequent trading activity which will generate substantial costs due to the bid-ask spreads and commission to brokers. They find that the minimal annual cost of the trading conducted in portfolio 1 is 4.56 percent and similarly 4.76 percent for portfolio 5 (Carhart (1997)). This further results in a total annual transactions cost of 9.32 percent which should be compared to the annual abnormal gross return of 11.8 percent generated by the proposed trading strategy. Bottom line is that the authors' trading strategy yields approximately 2.5 percent net of transaction costs.

Finally, Barber et al. (2001) conclude that the difference in returns between the portfolio of most favorably recommended stocks and the one with the least favorably recommended stocks is largest among small- and mid-sized listed companies. They further arrive at the conclusion that there is no reliable difference between the returns of the most highly and least favorably recommended stocks among large firms. This suggests that security analysis on small- and mid-sized firms pays off better than on large sized firms, probably reflecting that there is less available information on smaller firms. Hence, a trading

strategy encompassing a long position in highly rated Small Cap stocks together with a short position in the lowest rated Small Cap stocks could be profitably implemented.

With these somewhat different results in our mind, we turn to the available recent research conducted on Swedish listed stocks. Blomquist et al. (2003) e.g. examines the stock picking ability of top-ranked Swedish equity research analysts on Swedish Large Cap stocks. They investigate if a portfolio consisting of buy recommended stocks outperforms relevant benchmarks. Their data set ranges from 1996 to 2002 and comprises information about 35 shares. The authors note that there is far more issued buy recommendations than sell recommendations which confirm the findings of the previous mentioned research. They also note that the number of buy recommendations per sell recommendation actually increases from 2.7 in bull markets to 3.6 in bear markets.

The method used by Blomquist et al. is employed by forming equally weighted buy and sell portfolios based on the recommendations from three top-ranked analysts in each sector. Portfolios are formed in the beginning of each quarter. Thereafter, the performances of the portfolios are recorded for 3, 6, 12 and 24 month time horizons to further be compared with a relevant index. When evaluating the raw return, the authors find that the buy portfolio, on average, outperforms the benchmark by 7.6, 8.3, 9.9 and 5.1 percent on an annualised basis over the respective time span. Analogous, the sell portfolio underperforms the benchmark, on average, by -29.4, -14.5, -14.4 and -11.8 percent.

The authors conclude that the buy portfolio outperforms the benchmark by a statistically significant annualised return of 8.0 percent. They also find that the sell portfolio underperforms the benchmark by an annualised -21.3 percent, however with weaker statistical significance. Not surprisingly, the buy portfolio performs better in bull markets while the sell portfolio performs better in bear markets. Bottom line seems to be that the top-ranked Swedish equity research analysts seem to possess stock picking skill along with some timing ability. These results are very interesting from mainly two aspects. First, Blomquist et al. provide evidence of higher abnormal returns on stocks listed at the SSE compared to what research on stocks listed on stock exchanges in the US show (Barber et al. 2001). Second, the authors prove that abnormal returns can be generated on Large Cap stocks which Barber et al. finds highly unlikely in their study. These results suggest that the SSE might be less analyzed, less liquid or being different from its US counterparts in some way, allowing for larger abnormal returns to be generated than what we would typically expect. However, as pointed out earlier, there are a few shortcomings with the method employed by Blomquist et al., which opens up for us to take research on the SSE to the next level by using unexamined data ranging from 2003 to 2008, construct value and equal weighted portfolios, rebalance on a daily instead of a quarterly basis, test robustness over sub-periods etc.

Furthermore, a crucial aspect of pursuing an active investment strategy is the transaction costs induced by a higher trading frequency. Previous research points out that although analysts might be able to generate excess returns gross of fees through their issued stock recommendations, they might not be able to generate excess return significantly different from zero net of fees (Dimson & Marsh (1984) and Barber et al. (2001)). Thus, adjusting our obtained empirical results for transaction costs properly is imperative for us in order to reach correct conclusions.

The transaction costs encompass the *bid-ask spread*, *commission fees* charged by brokers and the *market impact of trading*. The average total round-trip cost for the bid-ask spread is roughly 1 percent for institutional as well as for individual investors, based on portfolios constituting *all covered* stocks. This cost structure suggests that for every 100 percent increase in turnover, annual market adjusted return drops by about 1 percent according to Carhart (1997) and Barber & Odean (2000). However, the bid-ask spreads on Large Cap stocks are narrower than the corresponding spreads on Small Cap stocks. The implication is total round-trip costs for the bid-ask spread of 0.7, 1.9, and 4.1 percent for Large-, Medium- and Small Cap stocks respectively in our sample according to Keim & Madhavan (1998).

The commission fees are assumed to be relatively small for *institutional* investors (Barber et al. (2001)). On the contrary, *private* investors incur an average commission fee of 1.4 percent (Barber & Odean (2000)). Transaction costs derived from the bid-ask spread and from commission fees are relatively easy to quantify while the market impact of trading is not. Hence we will not take the market impact of trading into account when adjusting our obtained returns for transaction costs.

Following this introduction to previous research on stock recommendations, transaction costs, and different trading approaches, we are now prepared to carry on to the sections covering our performed studies. However, it is be imperative for us to narrow down our beliefs about the value of stock recommendations and trading strategies into a few well-defined hypotheses before we move further.

2.2 Hypotheses

Following the previous research and the extensively debated question about analysts' ability to create value through their stock recommendations, we formulate the first hypothesis.

Hypothesis 1: Stocks with the most favorable consensus recommendations persistently outperform their benchmark, while stocks with least favorable consensus recommendations underperform their benchmark.

Furthermore, if analysts are successful in their stock recommendations, can trading strategies be created so that the generated market adjusted returns will be large enough to exceed the additional transaction costs?

Hypothesis 2: Any market adjusted returns generated by stock recommendations on stocks traded on the SSE will become negative or insignificantly small when taking transaction costs into account.

Moreover, we have reason to believe that analysts are better at generating market adjusted returns from recommendations on stocks with the smallest market caps since those tend to be less extensively covered by the investment community overall.

Hypothesis 3: Analysts are more successful in identifying under- and overvalued stocks on the Small Cap list than on the Mid- and Large Cap lists.

3. DATA DESCRIPTION

3.1 Introduction to the data

The data used in this thesis mainly comes from two major sources, the *Thomson ONE* and *Thomson Datastream* databases. A more detailed discussion of the provided data from each of the respective databases will follow later under this section. The analyst recommendations and other types of investigated data, reaches from the period March 27th, 2003 until March 26th, 2008. Our dataset consequently consists of daily (trading days) observations during a period of five years.

During the five year sample period the Swedish stock market, as well as most of its world counterparts, has been experiencing significant growth following a recovery from the “dot-com bubble” burst in the beginning of the present century. Therefore, the data used largely consists of continuously rising stock prices. As partly an effect of the US “sub-prime mortgage crisis” stock markets has though been recording declining prices since the second half of 2007. The evolvement of the OMXS value weighted index (all securities listed on the Stockholm Stock Exchange) during our sample period is shown in the graph below.

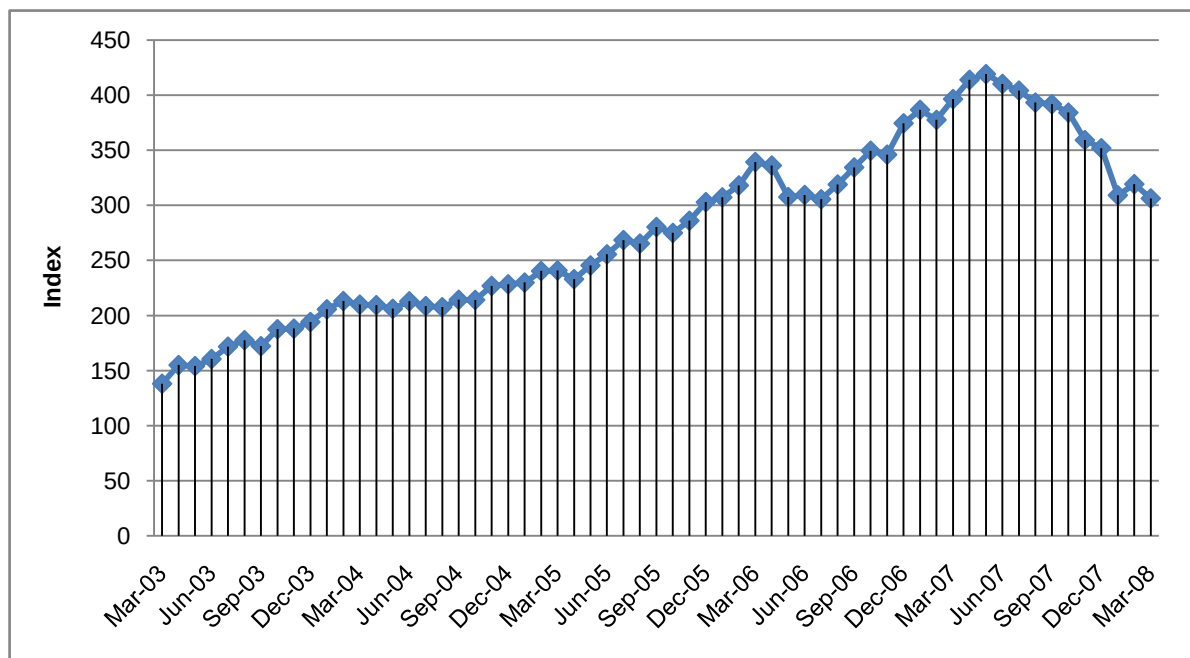


Figure 1: OMXS value weighted index during sample period

3.2 Analyst recommendations²

The recommendations data has been collected from the database *Thomson ONE* which is a platform provided by the company Thomson Financial, delivering a variety of real-time financial measures, including analyst recommendations. More than 1,200 contributors provide recommendations for more than 21,500 companies worldwide, whereof more than 4,600 companies are covered in the Europe, Middle East and Africa regions. Since almost all of the world's major players in the equity research/advisory business (including the major Nordic brokerage houses such as SEB Enskilda, Carnegie, Handelsbanken, ABG Sundal Collier etc.) provide estimates to the database, we have no reason to suspect any loss of validity due to neglected recommendations, which has been a concern for a number of previous studies that has been using other databases (Barber et al. (2001)).

For each company, the *Thomson ONE* database provides company-specific estimates (for all measures included in the platform) that reflect the *general* view of all analysts following a specific company. *Individual* analyst estimates from *Thomson ONE* are provided exclusively to institutional “buy-side” investors and to the research department of the contributing analyst. Hence, in regard of the information provided for the work with this thesis, we have only had access to the *general* view of all analysts following a specific company. Further, in regard of recommendations, the *general* analyst view for each covered company are normalized to a 1-5 scale as follows,

TABLE I

Thomson Financial's recommendations scale

The table shows Thomson Financial's normalized scale over analyst recommendations

Recommendation				
1	2	3	4	5
Strong buy	Buy	Hold	Underperform	Sell

Even though such scale is commonly used among analysts, some contributors naturally uses other scales than the one presented in the table above. For example, a number of brokerage houses use a 3-point scale (of BUY, HOLD and SELL) or a dual-tiered system. In such cases it is up to every contributor (when different scales apply) to individually determine how their scale maps to the Thomson Financial scale above. Thomson Financial states that the only stipulation, when mapping to Thomson's scale, being

² Information of the *Thomson ONE* platform and how the data is constructed has been provided to us during an interview with a Thomson Financial representative.

that the mapping requested must allow for negative to negative ratings, positive to positive ratings and neutral to neutral ratings.

After an analyst has submitted an estimate to the database, it passes through an automated system which validates that the estimate is not too different from previous estimates or from the present *general* view of the specific company. Moreover, a preliminary estimate appears in the *Thomson ONE* database within a couple of hours and will from that point be included in the *general* view. After additional checks the preliminary estimate is confirmed, usually within the same day as the estimate is reported. Occasionally, an estimate may be delayed when Thomson needs to contact the broker directly for a validation. If such circumstances apply, a broker might have publically announced his/her estimate making it possible for some investors to take gain from a broker's recommendation before it has been recorded in the *Thomson ONE* database. Such delays might therefore affect the validity of our dataset and hence the power of our tests. However, those delays are not common according to Thomson so an eventual impact will not significantly alter our results.

Furthermore, an analyst's recommendation for a specific firm remains outstanding until the same analyst has updated his/her recommendation or if he/she confirms the old recommendation within a timeframe of 180 days, i.e. an unconfirmed or not updated recommendation will be excluded from the mean after 180 days.

Besides the uncertainty with respect to delays in recording recommendations in the database, another source of uncertainty that might affect the validity of our results comes from the recording of recommendations for a certain company's different equity codes. A company that is listed on more than one stock exchange, for example a company that is listed in both Stockholm (OMXS) and New York (NYSE or NASDAQ), appears with different codes in the *Thomson ONE* database, i.e. one code for the listing in Stockholm (e.g. Ericsson (OMXS)) and one code for the listing in New York (e.g. Ericsson (NYSE)). In such cases Thomson Financial aims at providing all estimates from all analysts covering the specific company, no matter what code you choose to look at in the *Thomson ONE* database. Despite that, we have found that for a number of companies, especially those simultaneously listed in both Stockholm and Helsinki, the provided estimates and number of analysts seem to differ depending on which code you choose. It is hard to measure the impact on our data, but since the number of companies affected by such dual listings only makes up a relatively small fraction of our dataset the impact can be estimated to be quite modest. Also, since such companies mostly are relatively large companies (such as Stora Enso and Tieto Enator), we still have enough recommendations, regardless of the code, in order for the general analyst view not to differ too much between the two. To remain consistent we have chosen to include estimates only from equity codes that apply to the Stockholm Stock Exchange (OMXS).

3.3 Other variables

Another database frequently used during the work with this thesis has been *Thomson Datastream*, also provided by Thomson Financial. The data collected from *Datastream* refers to the following variables,

$Price_{it}$: Price of firm i at time τ (for all covered firms listed on SSE during our five year's sample period)

MC_{it} : Market cap of firm i at time τ (for all securities listed on SSE during our five year's sample period)

R_{ft} : Swedish treasury-bill having 1 month until maturity at month t

$OMXS_{\tau}$: PI value of OMXS value weighted index, containing all stocks publicly traded on SSE, at time τ

3.4 Descriptive statistics

As mentioned earlier Thomson Financial collects recommendations (as well as other financial measures) from a very large pool of contributors. In that sense we can feel quite sure that our dataset covers a significantly large fraction of all outstanding recommendations on the companies we aim to investigate. Even though the coverage ratio, i.e. the number of covered stocks as a fraction of all stocks in our sample, can be said to be satisfying, analysts' tend, in a much wider sense, to cover companies with the highest market cap, which makes a relatively large fraction of our dataset's outstanding recommendations being concentrated to the top third of stock exchange (in terms of market cap), i.e. to the part of the Stockholm stock exchange denoted "Large Cap". In the table (**table II**) below we present descriptive statistics over our coverage compared to both the aggregated market cap on the Stockholm Stock Exchange as a whole, as well as our coverage in respect to the number of companies traded. In the appendix (**table AI**) we also present tables of how these measures differ across the different sub listings, "Large Cap" (companies with a market cap of at least 1 billion euro), "Mid Cap" (companies with a market cap between 150 million to 1 billion euro), "Small Cap" (companies with a market cap less than 150 million euro).

TABLE II

Descriptive Statistics on Analyst Recommendations collected from THOMSON ONE & DATASTREAM

The table shows our dataset recommendation coverage of the Stockholm Stock Exchange. A company is defined as covered if at least one analyst has an outstanding recommendation a specific day, on that company. The sample and total market caps refer to all traded stocks of a specific company. Although analysts usually issue recommendations only for e.g. Ericsson B, we also have counted Ericsson A as covered (as well as encountered both stock types in the total market cap). Total nr. of recommendations refer to the total nr of recommendations outstanding during a specific point in time (full period tot. nr of recommendations refer to all outstanding recommendations during the entire sample period). Market caps are denoted in billion SEK.

Date	Listed firms	Total Market cap	Covered firms	Sample Market cap.	Covered Firms		Analysts per Covered Firm		Tot. nr of rec.
					% of Listed firms	% of Market cap.	Mean	Median	
2003-03-31	227	1,961	174	1,343	76.65	68.47	10.4	6	1,812
2003-12-31	231	2,713	191	2,062	82.68	76.00	10.5	6	2,004
2004-12-31	240	2,968	198	2,517	82.50	84.81	11.0	6	2,184
2005-12-31	248	4,050	209	3,316	84.27	81.87	11.1	6	2,313
2006-12-31	264	4,930	232	4,786	87.88	97.07	5.9	4	1,366
2007-12-31	272	4,656	250	4,599	91.91	98.79	6.0	4	1,500
2008-03-26	272	4,014	251	3,970	92.28	98.90	5.9	3	1,487
Full period	247	3,720	212	3,093	85.71	83.14	8.6	5	2,384,279

As we can see from the above table (**table II**), our coverage in terms of market cap stretches from a low of 67.4 percent of the total OMXS market cap to a high of 98.9 percent the last day of the sample period. On average our dataset contains recommendations covering about 85.71 percent of the total market cap of the Stockholm Stock Exchange. In terms of the number of firms covered, we find the lowest ratio in the beginning of our sample period, with a percentage coverage of about 76.3 percent. The percentage coverage continuously climbs to 92.3 percent at the end of the period.

The reason for the relatively low market cap coverage in the beginning of the sample period accrue from the fact that our dataset is missing recommendations for a few of the very largest companies, such as AstraZeneca with an average sample period market cap of about 450 billion SEK, during the first year and half of our investigated period. We have found no logical reason why such circumstances apply, but as mentioned earlier, *Thomson ONE* sometimes record recommendations and other measures differently between different equity codes for the same company, which might be one reason for the lack of recommendations in this case. In order to be consistent, as earlier stated, we have though chosen to continuously use equity codes that apply only to the OMXS.

Following the discussion of missing recommendations one can also read from the table that the total number of recommendations (outstanding on the referred date in the table) declines quite heavily

during the year of 2006. We again suspect that the recording of recommendations for different equity codes is the factor that makes the total number of recommendations decline. Lower number of outstanding recommendations naturally has the effect of lowering the mean and median number of analysts following a specific company.

Turning now to another interesting feature of the recommendations data, we below present a table (**table III**) showing statistics over how the analysts' recommendations in our data sample apply to Thomson Financial's normalized 1-5 recommendations scale referred to above.

TABLE III

Descriptive Statistics on Analyst Recommendations collected from THOMSON ONE

The table shows the mean and median consensus recommendation for the full sample. as well as for the different sub-listings. at different points in time.

Date	Full sample		Large Cap		Mid Cap		Small Cap	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
2003-03-31	2.68	2.62	2.54	2.50	2.49	2.43	2.88	2.92
2003-12-31	2.79	2.75	2.69	2.60	2.72	2.73	2.90	3.00
2004-12-31	2.75	2.74	2.68	2.68	2.73	2.63	2.82	3.00
2005-12-31	2.70	2.69	2.60	2.65	2.65	2.69	2.80	2.75
2006-12-31	2.52	2.50	2.62	2.60	2.49	2.50	2.49	2.36
2007-12-31	2.40	2.33	2.45	2.46	2.26	2.23	2.47	2.50
2008-08-26	2.43	2.35	2.49	2.48	2.29	2.20	2.50	2.60
Full period	2.64	2.63	2.61	2.61	2.57	2.55	2.71	2.75

Having a look first at the mean and median recommendations for the full sample one can observe a full period mean of about 2.64 and a median value of about the same. The mean value peaks at a period high of 2.79 at the end of 2003. Thereafter, both the mean and median recommendations decline to a period low of 2.43 and 2.35 respectively at the end of 2007. A possible explanation for the declining values might be that analysts, following the declining stock prices in general, believe in a general overreaction towards an eventual recession following the ongoing credit squeeze.

Turning to the differences between the sub-listings, one can see in the above table that Mid Cap constitutes the lowest values, reflecting analysts' generally more positive view of companies traded on that list. The smallest companies, traded on Small Cap, represent the highest mean and median recommendation values, with 2.71 and 2.75 respectively. We believe that the latter finding is somewhat surprising; bearing in mind for example the "size-effect" in which a traded company's size and stock market return is inversely related.³ The differences between the sub-listings are moreover consistent over

³ See e.g. Fama & French (1992) for a more detailed discussion of the "size-effect"

time, at least in our dataset. It should be noted though that since the number of analysts covering the smallest companies is far less than its larger counterparts (see **table AI** in the appendix) the referred values might not exactly reflect the *general* view of all analysts.

Comparing the recommendations mean value of 2.64 with other studies following a similar approach as ours, we can find some striking differences. For example, in Barber et al. (2001) the authors find a mean recommendation value of about 2.27, for their sample period 1985-1986. Further, the same authors argue that a reason for why their mean value tend towards a more positive approach has to do with the “commonly known” fact that analysts tend be quite positive and in general are reluctant to issue underperform, and especially sell recommendations.

The higher mean and median recommendation values in our study might possibly be explained by the high levels of the OMXS index during our sample period. During the 2006-2007 the OMXS index traded at the same high levels as the early years of the present century, before the burst of the “dot-com bubble”. A number of all time high’s were recorded during the first half of 2007. Possibly, the analysts’ following the Stockholm Stock Exchange feared an overvalued stock market and therefore issued a higher frequency of underperform and sell recommendations, making the mean and median recommendation values in our dataset increase.

As noted earlier, the mean and median recommendation values are at the present time at its lowest values for the last five years. If analysts believe that the market now is undervalued, or if they still believe in a future of declining prices, is hard to say especially since we have no data of any “normal” mean and median recommendation values.

Despite some of the above discussed uncertainties, we believe both in our dataset’s robustness as well as its uniqueness, in that we have found no previous study on the Swedish stock market containing so many observations such as ours.

4. METHOD

4.1 Portfolio Construction

In order to analyse the performance of stock recommendations, as well as to decide whether it is possible to create any profitable trading strategies, we construct five calendar time portfolios. The five portfolios together include all covered stocks whereof each stock is placed in the appropriate portfolio based on analysts' average rating of recommendations at the closing of SSE on date $\tau - 1$. The portfolios are constructed so that all covered stocks are divided into five different groups based on their average⁴ consensus rating on date $\tau - 1$, i.e. $Rec_{i\tau-1}$. The firms with the highest favourable consensus recommendation, strong buy, are placed in the first portfolio (*portfolio 1*) where $1 \leq Rec_{i\tau-1} < 2$. The second portfolio (*portfolio 2*) contains firms in which the average rating is between $2 \leq Rec_{i\tau-1} < 2.5$. The third and fourth portfolio (*portfolio 3* and *portfolio 4*) hold stocks for which $2.5 \leq Rec_{i\tau-1} < 3$ and $3 \leq Rec_{i\tau-1} < 3.5$. The fifth and last portfolio (*portfolio 5*) contains all the stocks with the lowest average consensus recommendations, where $3.5 \leq Rec_{i\tau-1} \leq 5$. Since *strong buy* and *sell* recommendations are relative infrequent in our data, compared to *buy*, *hold* and *underperform*, we choose to construct portfolio 1 and portfolio 5 with wider boundaries to get a more satisfying dispersion of the stocks. These adjustments in cut-offs are important in order to obtain statistically significant portfolio returns.

The reason why we construct portfolios with fixed recommendations ranges, instead of allocating a fixed number of stocks each period, is because we believe that the former method makes it more convenient for an investor to follow an eventual trading strategy based solely on consensus recommendations. If the number of stocks allocated to each portfolio was fixed, a specific portfolio could theoretically include stocks with very different recommendations, i.e. portfolio 1 could possibly include stocks with recommendations ranging from strong buy to hold. The latter method would also complicate the performance evaluation even further.

Since we aim at evaluating the return each day and given the fact that we are dealing with daily recommendations, the composition of each portfolio is frequently changing. In order to construct the portfolios with daily rebalancing we use dummy variables for each day, which puts all the covered stocks in the appropriate portfolios. When trading at the SSE close on date $\tau - 1$ the composition of the five portfolios are set for the next trading day. In many cases analysts provide their more important clients with stock recommendations before they make them public for anyone else, however most investors are

⁴ An alternative approach would have been to instead use the median recommendation for each firm. However, since we only have access to mean *consensus* recommendations such a method is not possible.

unable to act on these recommendations before they are made public. So even if a recommendation is made public in the middle of a trading day we choose to rebalance the portfolios on the next day. By using this approach we exclude the return from the first day which will represent the return that investors will be able to earn by following analysts' recommendations from day one in the sample period.

The daily return for each portfolio at date τ is calculated when the five portfolios are constructed for every trading day in the five year sample period. Following that, the daily portfolio returns are compounded to monthly portfolio returns, which are compared to the monthly benchmark index. The performance is then evaluated and used as a measure of the value that analysts' consensus recommendations actually create. When evaluating the portfolios' daily returns we chose to calculate both the value weighted (VW) and equally weighted (EW) returns. The reasons for looking at both types of weightings are because they provide different results and might give valuable input to our analysis. It is difficult to say which approach to prefer since it depends on the economic hypothesis of interest but generally the equally weighted approach is more common because it is convenient to use (Chiang (2002)). Economic theories often suggest that the differences between the portfolio returns are a positive function of the variation of market cap. If the variation in market cap is large then the differences between EW and VW returns will be large as well (Chiang (2002)). As stated in Ritter (1999) you will find greater abnormal returns using an equally weighted approach if the undervaluation is greater among small firms than big firms. One of the main reasons why Barber et al. (2001) are using a value weighted method in their study is to avoid overestimated returns. Given that small firms often yield higher returns than big firms, holding all other factors constant, the EW return is expected to systematically yield higher returns than the value weighted (Barber et al. (2001)). Another reason for using the VW returns is because the calculation of EW returns, with respect to daily rebalancing and the bid-ask spread, will lead to overestimated returns. This result arise because Small Cap stocks have a wider bid-ask spread hence the trading costs will be much higher (Barber et al. (2001)). It will also be difficult for a large investor to buy or sell large quantities of Small Cap shares without affecting the stock price (Ritter (1999)). Given this, the value weighted approach might capture the economic significance of our results better since stocks with more frequent trading and larger market cap will represent the portfolio returns to a higher degree. The VW portfolio returns can of course also lead to biased results. There can obviously be some time periods in our data sample where a single firm represent a very large proportion of a total portfolio, which will result in high variance of the portfolio returns. Taken these advantages and corresponding drawbacks into account we choose to compute both VW and EW returns.

The VW portfolio return for date τ is calculated and given by the equation:

$$R_{p\tau}^{vw} = \sum_{i=1}^{n_{p\tau-1}} c_{i\tau-1} R_{i\tau} \quad (1)$$

where the VW return for portfolio p at date τ is denoted by $R_{p\tau}^{vw}$ and $R_{i\tau}$ is the stock return for firm i at date τ . The variable $c_{i\tau-1}$ is the market cap for firm i as the trading close on date $\tau - 1$, divided by the total market cap of all stocks in portfolio p on that date. The number of stocks that portfolio p contains at the close of trading on date $\tau - 1$ is denoted by $n_{p\tau-1}$. The EW return for date τ is calculated and given by the equation:

$$R_{p\tau}^{ew} = \sum_{i=1}^{n_{p\tau-1}} \frac{R_{i\tau}}{n_{p\tau-1}} \quad (2)$$

where $n_{p\tau}$ is the number of firms in portfolio p at the close of trading on date τ . When the daily portfolio returns, $R_{p\tau}^{vw}$ and $R_{p\tau}^{ew}$, are calculated we compound the daily returns over the n trading days of the month into monthly returns (R_{pt}^{vw} and R_{pt}^{ew}) by:

$$R_{pt} = \prod_{\tau=1}^n (1 + R_{p\tau}) - 1 \quad (3)$$

4.2 Benchmarks

In order to determine if any of the five portfolios generate market adjusted returns we need to compare the monthly returns to an appropriate benchmark. Since we are calculating both VW and EW returns we need to construct corresponding VW and EW benchmarks. The reason for constructing the benchmarks ourselves and not using e.g. an existing market index is because we want to make the comparison as precise as possible. As described earlier there are periods when analysts' for some reason drop coverage of a specific stock which we certainly want to take into account. Both benchmarks are constructed, using dummy variables, so that they only include stocks that have analyst coverage each day and where consensus recommendations are available. The daily return for the VW benchmark at date τ , $R_{b\tau}^{vw}$, is calculated by:

$$R_{b\tau}^{vw} = \sum_{i=1}^{n_{\tau}} z_{i\tau-1} R_{i\tau} \quad (4)$$

where the market cap for firm i , at the close of trading on date $\tau - 1$, divided by the total market cap of *all* covered firms that date is denoted by $z_{i\tau-1}$. The n_τ variable is the number of covered firms at the close of trading on date τ . The EW benchmark for date τ is calculated and given by the equation:

$$R_{b\tau}^{ew} = \sum_{i=1}^{n_\tau} \frac{R_{i\tau}}{n_{b\tau}} \quad (5)$$

where n_τ is the number of covered firms at the close of trading on date τ . After the daily benchmark returns, $R_{b\tau}^{vw}$ and $R_{b\tau}^{ew}$, are calculated they are compounded over the n trading days of the month into monthly returns (R_{bt}^{vw} and R_{bt}^{ew}) by:

$$R_{bt} = \prod_{\tau=1}^n (1 + R_{b\tau}) - 1 \quad (6)$$

Again, the monthly benchmark returns are then compared to the portfolio returns, which will show each of the portfolios market adjusted return.

4.3 Turnover

Since we are evaluating if it is possible to profit from following analysts' consensus recommendation on a daily basis, we have to account for the trading cost that the investor will incur. The trading costs can however be hard to estimate since they differ across investors, investment styles and stock exchanges (Cooper (1998)). The cost is often referred to as costs that come from the bid-ask spread, commission to brokers and the market impact of trading (Barber (2001)). The previous calculations of the portfolios monthly market returns are not taking any transaction costs into consideration. In order to measure the costs we need to calculate the daily turnover for each of the five portfolios. We choose to follow the approach employed by Barber et al. (2001) and define the turnover for portfolio p at trading day τ as the percentage of the portfolio's stocks at the close of date $\tau - 1$ that has been sold as the close of date τ . This simply means the proportion of the portfolio that has been sold and changed into some other stock during that trading day.

To compute the turnover we follow the three-step procedure defined in Barber et al. (2001). First of all we calculate the fraction, $G_{i\tau}$, of each stock i in portfolio p as of the close of trading on date $\tau - 1$ as if there were no portfolio rebalancing. The equation is given by:

$$G_{i\tau} = \frac{c_{i\tau-1} \cdot (1 + R_{i\tau})}{\sum_{i=1}^{n_{p\tau-1}} c_{i\tau-1} \cdot (1 + R_{i\tau})} \quad (7)$$

After the daily fraction $G_{i\tau}$, is computed for each of the covered firms we compare them to the actual fraction, $F_{i\tau}$, that the firms make up in the portfolios at the end of trading date τ when we take daily portfolio rebalancing into account. Representing portfolio p 's daily turnover, the percentage decrease in the covered stocks on each date is then summed. The calculation is given by:

$$U_{i\tau} = \sum_{i=1}^{n_{p\tau}} \max\{G_{i\tau} - F_{i\tau}, 0\} \quad (8)$$

In order to obtain the annual turnover we take the average and multiply every $U_{i\tau}$ by the number of trading days each year. Later on we will show how the turnover will affect the cost of trading.

4.4 Performance evaluation

After computing monthly portfolio and benchmark returns, the performance of analysts' consensus recommendations can be evaluated. In order to study the performance and to see if it is possible to form any potential trading strategies by following analyst recommendations we start off by calculating the market adjusted returns earned by every portfolio. This is done by comparing the VW and EW portfolio returns with their corresponding benchmarks. The equations are given by:

$$MAR_{pt}^{vw} = R_{pt}^{vw} - R_{bt}^{vw} \quad (9)$$

$$MAR_{pt}^{ew} = R_{pt}^{ew} - R_{bt}^{ew}$$

In order to measure the statistical significances of our obtained market adjusted returns we further perform two statistical tests. First, we perform t-tests to test if the differences between the portfolio and benchmark returns are significant. To perform the t-tests we use the *daily* market adjusted returns and test the following hypotheses, using the test statistic below:

$$H_0: \mu_p = 0 \text{ against } H_1: \mu_p \neq 0.$$

$$\frac{\overline{dMAR}_p - \mu_p}{s_{dMAR_p}/\sqrt{n}} \sim t_{n-1, \alpha} \quad (10)$$

where $\overline{dMAR}_p$ is the daily market adjusted return for portfolio p and s_{dMAR_p} denotes the standard deviation of portfolio p 's daily market adjusted return. Even though the Central Limit Theorem of $n > 30$ holds, and hence guarantees the validity of the t-tests, we still suspect that there might be some heteroskedasticity in our data, which could violate the t-test assumption of equal variances. Therefore, we

also compute standard errors robust to heteroskedasticity by using the Huber-White estimator and performing a constant-only regression over the daily market adjusted returns.

Next, in order to measure if the portfolios yield any abnormal return we use the Capital Asset Pricing Model (CAPM), estimating the following monthly time-series regression:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{mt} - R_{ft}) + \epsilon_{pt} \quad (11)$$

where the monthly return on portfolio p is denoted by R_{pt} , the risk free return and the return on the market portfolio by R_{ft} and R_{mt} , respectively. The estimated intercept by CAPM, also known as Jensen's alpha, is denoted by α_p and the portfolio beta by β_p . The ϵ_{pt} variable is the error term given by the regression.

From the regression we obtain values of parameters α_p and β_p . The intercept term α_p denotes a risk-adjusted performance measure of portfolio p 's abnormal return.

5. PORTFOLIO CHARACTERISTICS AND RETURNS

It is evident from **table IV** below that the fraction of all covered shares allocated into portfolio 1, representing stocks with an average strong buy consensus recommendation, is lower than in any other portfolio. When examining the distribution of the total covered market cap we find that portfolio 1, in addition to a few larger companies, comprises mainly stocks with small to medium market caps. We believe that this reflects analysts being a bit careful when it comes to issuing strong buy recommendations and that such recommendations, encountering also for the descriptive statistics in **table III** above, are mostly issued on stocks with medium market caps. Also supporting the fact that stocks, on average in the strong buy portfolio, have smaller market caps is the low number of analysts that, on average, cover the stocks in that portfolio (3.6 analysts compared to the stocks in portfolio 3, which are covered by 15.1 analysts). Similarly, a relatively small fraction of the total number of firms is allocated to portfolio 5, the sell portfolio, along with on average 2.1 percent of the total covered market cap. Hence, the sell portfolio principally comprises stocks with even smaller market caps than in the first portfolio. As partly mentioned in earlier sections, we therefore draw the conclusion that analysts' tend to issue the least favorable recommendations on stocks with the smallest market cap to a larger extent than on stocks with larger market caps. We believe this reflects a known reluctance for analysts to issue sell recommendations in general, partially explained by the fact that they do not want to spoil future investment banking business, but also because analysts prefer to stop covering stocks over continuously issuing sell recommendations for underperforming companies (Desai & Jain (1995)). However, our study does not indicate as strong reluctance as in the study performed by Barber et al. (2001). Barber et al. find that the fraction of the total covered shares allocated to their least favorable portfolio is several times smaller than their second largest portfolio. Taking in consideration the discussion in the data description above, Barber et al. find that their mean recommendation, for their full sample, tends to the favorable side of the recommendations scale, while our mean value is about 2.64 (see **table III** above). However, even though we observe a higher mean in our study we still have quite a small fraction of companies allocated to the least favorable portfolio. As is clearly displayed in **table IV** the largest number of companies, 55.6 on average, can be found in the hold portfolio (portfolio 3). Since the total market cap in that portfolio is substantially higher than in the second portfolio, with an average of 51.6 firms, one might easily draw the conclusion that the largest firms are allocated to the middle of the recommendations scale. Further, looking again at the aggregated market cap in the hold portfolio, averaging almost 1 500 billion SEK, we conclude that half to the total covered market cap of approximately 3 000 billion SEK on average.

TABLE IV

Descriptive statistics and turnover rates for portfolios formed on consensus recommendations

The table shows the average and relative number of firms in portfolio 1-5, as well as the average total market capitalization in the respective portfolios. Also displayed is average number of analysts covering firms in the respective portfolios, and every portfolio's average consensus recommendation. Annual turnover rates are shown at right-hand side of the table. Values of capitalizations are denoted in billion SEK.

Portfolio	No. of firms	% of firms	Market cap	% of Market cap	No. of analysts per firm	Average rec.	Value weighted	Equally weighted
							Turnover rate in %	Turnover rate in %
1	30.8	14.5	244	7.9	3.60	1.45	688	270
2	51.6	24.4	838	27.1	9.08	2.18	680	385
3	55.6	26.3	1,476	47.7	15.18	2.68	419	418
4	42.4	20.0	471	15.2	7.11	3.10	578	337
5	31.3	14.8	64	2.1	3.22	3.93	450	146
All Covered	211.7	100.0	3,092	100.0	8.63	2.64		

Turning to the evolvement over time, analysts seem to issue more favorable recommendations towards the end of the sample period. As already mentioned this might accrue from a belief in an overstated fear of an approaching recession, or that analysts earlier believed in an overvalued market. **Figure II** below demonstrates that the relative number of stocks in portfolio 5 is quite constant while the relative number of shares in portfolio 1 increases over time. From March 2006 until the end of the sample period, the percentage of all covered firms that are allocated to the strong buy portfolio has more than doubled, from about 11 percent to over 22 percent.

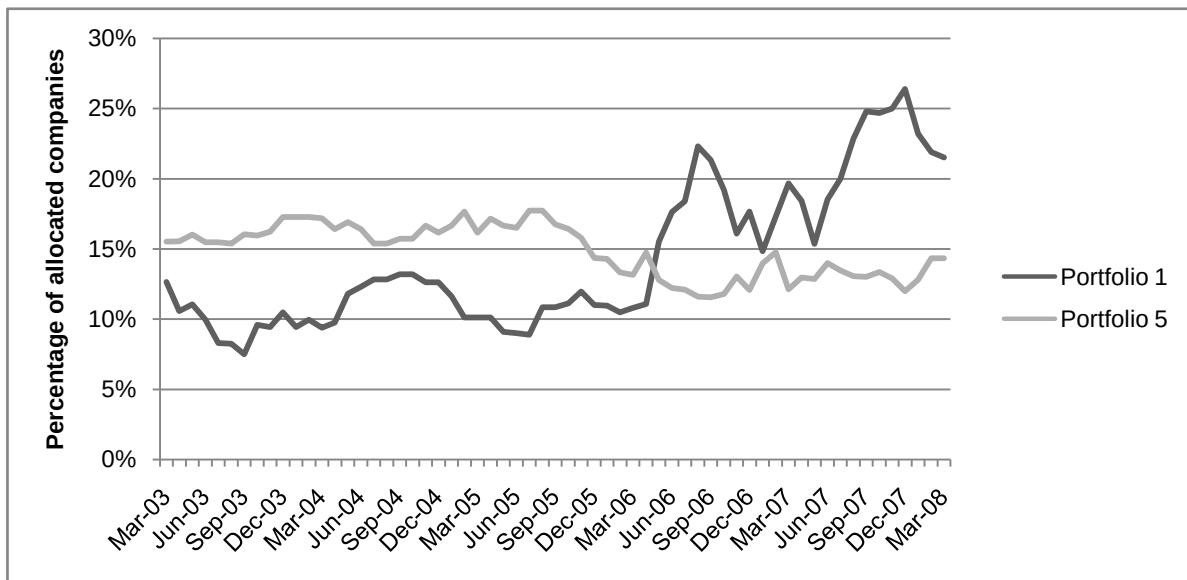


Figure II: Percentage of total covered companies placed in portfolio 1 and 5 during sample period

Another interesting characteristic of the recorded portfolios is the high turnover. Looking first at the VW portfolios, the strong buy and buy portfolios (portfolio1 and 2) have annual turnovers of 688 percent and 679 percent respectively, compared to a turnover of 419 percent to 577 percent for the remaining three portfolios. The equal weighted counterparts have turnover rates of 270 percent for the first portfolio and 385 percent for the second, while the remaining equal weighted portfolios turnover rates ranges from 146 percent to 418 percent. We believe that the high turnover rates in the first and second portfolios reflect the bull market that prevailed from the beginning of our sample period until the second half of 2007. Stocks are moving frequently between those two portfolios perhaps as a result of analysts' favoring stocks that perform well. Comparing the value weighted to the equal weighted portfolios, the higher turnover rates in the former, for the first and second portfolios, are due the impact of trading a few larger capitalized companies, which switches between the two portfolios.

Moreover, **table V** indicates that the value weighted monthly raw return is 2.14 percent for portfolio 1 while the corresponding raw return for portfolio 5 is 0.79 percent. Hence, the most favored stocks seem to outperform the least favored ones, on average, by 1.35 percent. We further notice that portfolio 4 performs better than both portfolio 2 and 3. This is a bit puzzling since we would typically expect portfolio 2 and 3 to actually perform better than portfolio 4, comprising stocks with more favorable consensus recommendations. Barber et al. (2001) e.g. finds that their most favorable portfolio generates a higher raw return than their second portfolio, which generates higher return than their third portfolio and so forth down to their least favorable portfolio. The same pattern, as with our value weighted portfolios, is shown when examining the equally weighted, where portfolio 1 generates a raw return of 2.40 percent and portfolio 5 generates 1.45 percent, resulting in a monthly spread of 0.95 percent. These figures are somewhat higher than for the VW portfolios suggesting that stocks with smaller market capitalizations, on average, perform better than the stock of larger companies. Also interesting is that the hold portfolio, of both weightings, earns less than their respective benchmarks. Following the high raw return of the fourth portfolio we can also see relatively, and surprisingly high, market adjusted returns generated from that portfolio.

The perhaps most important results of our study are also presented in **table V**, displaying results in the form of market adjusted returns for VW as well as EW portfolios. Market adjusted return is defined as a specific portfolio's mean monthly raw return less the monthly mean return on its corresponding benchmark.

We find that the most favorable portfolio (portfolio 1) outperforms the least favorable portfolio (portfolio 5) no matter how we weight the individual stock returns. In order to further investigate if it is possible to construct any profitable trading strategies based on these results we decide to look at two different spreads. First, we evaluate the return that you would earn if you buy portfolio 1 and short

portfolio 5. We then look at the return you would get if you buy both portfolio 1 and 2 and short portfolio 4 and 5. These two spreads seems to be the best trading strategies, from a logical point of view. When looking at the VW portfolios we conclude that first spread would result in a market adjusted return of 1.35 percent, while the second spread would result in a 1.14 percent monthly return. Turning to the EW portfolios we see that the first spread would result in a 0.95 percent market adjusted return and the second spread would earn a 1.14 percent monthly return.

TABLE V⁵

Percentage monthly returns earned by forming portfolios based on Analyst Recommendations

The table displays the monthly mean (arithmetic) raw return for each value and equally weighted portfolio, as well as every portfolio's market adjusted return (mean monthly raw return for each portfolio less the mean monthly benchmark return). Also displayed in the table are the t-statistics and corresponding significance levels (p-value) for every portfolio's market adjusted return.

Portfolio	Value Weighted portfolios				Equally Weighted portfolios			
	Raw return	Market adj. return	t	p-value	Raw return	Market adj. return	t	p-value
1	2.14 %	0.76 %	1.51	0.13	2.40 %	0.48 %	1.63	0.10
2	1.66 %	0.28 %	1.02	0.31	2.32 %	0.40 %	2.03	0.04
3	0.85 %	-0.53 %	-2.38	0.02	1.43 %	-0.49 %	-2.81	0.01
4	1.87 %	0.49 %	1.00	0.32	2.13 %	0.21 %	0.95	0.34
5	0.79 %	-0.59 %	-1.17	0.24	1.45 %	-0.47 %	-1.55	0.12
1-5	1.38 %	1.35 %	2.09	0.04	0.95 %	0.95 %	2.09	0.04
(1+2)-(4+5)	1.14 %	1.11 %	1.92	0.06	1.14 %	1.14 %	1.23	0.22
All covered	1.38 %				1.92 %			

Turning to the significances of every portfolios' market adjusted returns, we can see from the t-statistics and corresponding p-values in **table V** above that the only significant VW portfolio (on a 10 percentage level) is portfolio 3. Looking at the EW portfolios, portfolio 2 and 3 are significant and portfolio 1 and 5 are almost significant with p-values of 10.4 percent and 12 percent, respectively. It is not very surprising that the third portfolio show a very high statistical significance since it comprises the largest fraction of all covered stocks as well as virtually half of all covered market cap. In that sense, in addition to the fact that it comprises hold recommendations, portfolio 3 should not differ that much from the benchmark. Regarding the strong buy portfolio, we believe that the insignificances are due the high volatility during the mid of the sample period. The most volatile and hence least significant portfolio is the value and equal weighted forth portfolio. The insignificance is probably due to a number of months in

⁵ Since the t-values from the second statistical test (see section 4.4) gave rise to similar conclusions we choose to report t-values and corresponding p-values only from the first procedure, i.e. the ordinary t-test.

the beginning of the sample period, when the fourth portfolios earned extensive returns over the benchmarks.

Turning to the t-values of the two different spreads we can see that both VW spreads are significant at a 10 percent level with p-values of 4 percent respectively 6 percent. Looking at the EW spreads we see that the first spread is significant (5 percent level) while the second spread is insignificant.

Looking again at the portfolio returns, the cumulative market adjusted return earned for each VW portfolio over the sample period are plotted in **figure III** below. It is clear that the return is higher for the most favorably recommended stocks than for the least favorable ones which is supported by Anderson & Martinez (2007) and Fama (1991). The stocks in the first portfolio generate a cumulate return of 46.6 percent while the fifth portfolio only generates a negative 35.8 percent below the benchmark. As displayed in the below figure the fourth portfolio earns extensive marked adjusted returns during some months in the beginning of the sample period, while thereafter struggling below the benchmark at a quite constant level. The strong buy portfolio takes the lead and pass by portfolio 4 first at the end of the sample period.



Figure III: Cumulative market adjusted returns for (value weighted) portfolio 1-5

In the light of the recently presented results, one might suspect that the market adjusted returns can be explained by the corresponding market risk characteristics of the stocks in the five portfolios. On the contrary, the performed CAPM regressions suggest that the abnormal returns (measured as the

intercept term, alpha, of the regressions) are higher for stocks with strong buy recommendations in i.e. portfolio 1 than for stocks with sell recommendations i.e. portfolio 5. However, looking at **table VI** below, only the VW portfolio 1 and 3, and the EW portfolio 3 shows abnormal returns that are significant at a 10 percentage level or better. With both value and equal weightings, the least significant values can again be allocated portfolio 4, whereas the most significant values are found in the hold portfolio. EW portfolio 1 again slightly fails to meet a 10 percent significance, with a p-value of 10.8 percent. Interesting is that the VW strong buy portfolio earns a risk adjusted abnormal return above the corresponding market adjusted return, while the EW counterpart earns less when encountering for risk. Looking at the significance at the two spreads we see that the first strategy in both VW and EW are significant at a 10 percent level, while the second spread is insignificant in both weightings. Even though the validity of the Capital Asset Pricing model (CAPM)⁶ is widely debated and questioned; we can see on an overall basis that all portfolios seem to perform more or less in line with our earlier presented results. Abnormal returns generated from the regressions seem to differ from their corresponding market adjusted returns somewhat more for the value weighted than for the equal weighted portfolios.

TABLE VI

Market adjusted and abnormal returns for portfolios formed on consensus Analyst Recommendations

The table shows the monthly mean (arithmetic) market adjusted return for all portfolios, equally and value weighted, during the sample period. Also shown is the intercept, alpha, (measured in monthly abnormal return) as well as corresponding p-values from performing regression using the Capital Asset Pricing Model (CAPM).

Portfolio	Value Weighted portfolios			Equally Weighted portfolios		
	Market adj. return	Intercept from CAPM (alpha)	Intercept p-value	Market adj. return	Intercept from CAPM (alpha)	Intercept p-value
1	0.73 %	0.97 %	0.08	0.46 %	0.45 %	0.11
2	0.26 %	0.27 %	0.36	0.38 %	0.34 %	0.18
3	-0.56 %	-0.43 %	0.03	-0.50 %	-0.40 %	0.02
4	0.41 %	0.27 %	0.56	0.20 %	0.23 %	0.34
5	-0.62 %	-0.46 %	0.27	-0.52 %	-0.58 %	0.13
1-5	1.35 %	1.42 %	0.04	0.98 %	1.02 %	0.07
(1+2)-(4+5)	1.20 %	1.42 %	0.13	1.16 %	1.13 %	0.12

Finally, we can see from **table VII** below that the most favorable recommended stocks allocated to the VW portfolio 1, outperform its benchmark in 60.7 percent of the months in the sample period. When comparing to the least favorable portfolio 5, we observe that it only manage to outperform its benchmarks in 34.4 percent of the months. The same pattern is observed among the equally weighted portfolios. The most highly rated stocks, in portfolio 1, outperform its benchmarks in 54.1 percent of the

⁶ See e.g. Roll & Ross (1995) and Black (1993) for a more detailed discussion of the CAPM

months, while the least highly rated stocks, in portfolio 5, underperform the benchmark in 59 percent of the months. Another interesting feature, also displayed in **table VII**, is that the portfolio with the highest outperforming rate is the second portfolio, both with value and equal weightings.

TABLE VII

Value and equally weighted portfolios performance against benchmark

The table shows how the sample portfolios perform against their respective benchmarks. OVER is defined as the percentage number of months in which the specific portfolio earns above benchmark returns, whereas UNDER is months in which returns are less than the benchmark.

Portfolio	Value Weighted portfolios		Equally Weighted portfolios	
	OVER	UNDER	OVER	UNDER
1	60.66 %	39.34 %	54.10 %	45.90 %
2	62.30 %	37.70 %	65.57 %	34.43 %
3	34.43 %	65.57 %	40.98 %	59.02 %
4	50.82 %	49.18 %	50.82 %	49.18 %
5	34.43 %	65.57 %	40.98 %	59.02 %

The results from our calculations indicate that it might be possible for investors to form profitable trading strategies based on consensus recommendations. When following for example a strategy of buying portfolio 1 and at the same taking a short position in portfolio 5, an investor would earn a monthly market adjusted return of 1.35 and 0.95 percent for the value and equal weightings. Barber et al. (2001) obtain a similar return pattern when they pursue the same strategy. The good news in our case is also that these returns are statistically significant (10 percent level) both when looking at the market adjusted return and the CAPM regressions. Another strategy, of buying portfolio 1 and 2 and simultaneously shorting portfolio 4 and 5 also generate a quite satisfying return, earning 1.14 percent in both weightings. However, these returns are only statistically significant when the portfolios are value weighted. Later on, we further investigate if there are any strategies that can be profitable implemented in reality when taking turnover and transaction costs into account.

6. ADDITIONAL ANALYSIS

6.1 Differences between equal and value weighted portfolio returns

As one can observe from our earlier presented results, returns and performance for the EW and VW portfolios seem to differ in a number of aspects. This is especially obvious when looking at the market adjusted returns for different weights. Comparing the different weights for the strong buy portfolio (portfolio1), one can see a monthly market adjusted return of 0.76 percent for the VW portfolio and 0.48 percent for the EW portfolio. A first impression of such results is that the analysts' in our dataset are somewhat better at picking stocks with high market cap, than vice versa. In order to further figure out if and why such circumstances apply, we have to take a deeper look within the portfolios.

Turning to the strong buy portfolio, after analysing which securities it encompasses at different points in time, one can observe that Large Cap stocks are relatively rare. Although, those Large Cap stocks that actually can be found in the strong buy portfolio perform well in general. As an example, the Large Cap listed company Investment AB Kinnevik has been a frequent holding in the strong buy portfolio. During our sample period Kinnevik has almost four folded its share price, whilst the VW and EW sample benchmarks "only" have increased 119 percent and 199 percent, respectively. Since the other holdings mainly are companies with smaller market caps, high performing Large Cap stocks naturally increases the return in the VW portfolio more than in the EW counterpart.

Looking at the sell portfolio (portfolio 5), the observed monthly market adjusted returns are -0.59 percent and -0.47 percent respectively for the VW and EW portfolios. As for the strong buy portfolio there are relatively low frequencies of Large Cap companies, ranging from a low of zero to a high of four. Small Cap stocks are represented in a much wider sense, ranging from a low of 18 to a high of 27 companies. The Large Cap stocks represented in portfolio 5 has in general performed almost as poorly as they have performed well in the strong buy portfolio. As an example, Large Cap listed Investment AB Latour has, during its holding period in the sell portfolio, continuously struggled both below the VW and EW benchmarks.

Following the above discussion, the reason for the relatively low performance of the EW portfolios compared to the VW portfolios, seems to be attributable to our sample analysts stock picking ability of strong buy securities with large market caps.

6.2 Performance across different market capitalizations

In order to further analyze our empirical results, we examine the performance across different market caps. The purpose is to see if the performance achieved by following analysts' consensus

recommendations are in some way correlated with firm size. As mentioned earlier, the firm size effect is widely investigated in the economic literature and a large amount of the previous research suggests that stock returns, even after accounting for higher risk, are actually larger for small firms.⁷ The SSE is, as earlier stated, divided into three different sub-lists according to firm size; Large Cap, Mid Cap and Small Cap. We have employed these three lists to evaluate the market adjusted returns across different market caps.

TABLE VIII

Market adjusted returns across different market capitalizations

The table displays the mean market adjusted return and corresponding p-values for portfolio 1-5 across different market caps. i.e. the Stockholm Stock Exchange's different sub-lists; Large Cap, Mid Cap and Small Cap.

Portfolio	Large Cap		Mid Cap		Small Cap	
	Market adj. return	p-value	Market adj. return	p-value	Market adj. return	p-value
Value Weighted portfolios						
1	1.08 %	0.16	1.00 %	0.05	-0.54 %	0.31
2	0.57 %	0.08	0.19 %	0.55	-0.74 %	0.06
3	-0.36 %	0.20	-0.26 %	0.38	-1.52 %	0.00
4	0.78 %	0.17	-0.53 %	0.19	-0.33 %	0.50
5	-0.43 %	0.60	0.06 %	0.89	-1.52 %	0.00
1-5	1.53 %	0.17	0.94 %	0.25	0.98 %	0.15
(1+2)-(4+5)	1.30 %	0.34	1.66 %	0.11	0.57 %	0.58
Equal Weighted portfolios						
1	0.96 %	0.18	0.64 %	0.13	- 0.36 %	0.73
2	0.63 %	0.01	0.11 %	0.68	-0.43 %	0.53
3	-0.39 %	0.02	-0.13 %	0.64	-1.42 %	0.03
4	0.57 %	0.18	-0.51 %	0.20	-0.59 %	0.34
5	-0.64 %	0.40	0.39 %	0.53	-1.57 %	0.01
1-5	1.60 %	0.14	0.25 %	0.84	1.21 %	0.04
(1+2)-(4+5)	1.66 %	0.20	0.87 %	0.48	1.37 %	0.13

As we can observe from the above table (**table VIII**) the differences in market adjusted returns are quite large between the three groups. When looking at the stocks with the largest market cap (Large Cap), the monthly mean market adjusted return for the strong buy portfolio (portfolio 1) is 1.08 percent and 0.96 percent respectively for the VW and EW portfolios. Comparing this to the strong sell portfolio (portfolio 5) the VW portfolio yields a monthly return of -0.43 percent, whilst the EW portfolio yields a monthly return of -0.64 percent. The difference between the VW and EW returns on the Large Cap list indicates that analysts manage to identify outperforming stocks with large market caps and

⁷ See e.g. Fama & French (1992) for a more detailed discussion of the "size-effect"

underperforming stocks with small market caps. The results can be perceived as satisfying from an investor's perspective. The intuitive conclusion is that analysts perform well and that the consensus recommendations are obviously valuable for investors. However, even if the market adjusted returns among these stocks are relatively high we need to consider the portfolio construction. The reliability of the results can be questioned since the average amount of stocks in both the strong buy and the sell portfolios are very small. The strong buy portfolio includes a low number of 4.3 stocks on average and the strong sell portfolio contains an even lower number of stocks, 1.7 on average. The consequence, as mentioned in the previous section, is that the return of a single stock could have a substantial impact on the interpretation of the overall return of a portfolio. Bottom line, the risk of drawing the wrong conclusion about analysts' stock picking ability from the recorded portfolio performance increases as the average number of stocks in the portfolio decreases. The lack of statistical significance further complicates drawing any conclusion. As displayed in **table VIII**, only VW portfolio 2 and EW portfolio 2 and 3 show significant returns at a 10 percentage level.

Moreover, somewhat different results are obtained when examining analysts' stock picking ability on Mid Cap stocks. Portfolio 1 is yielding a monthly market adjusted return of 1.00 percent for the VW portfolio and 0.64 percent for the EW portfolio. When looking at portfolio 5, we find that the VW portfolio yields a return of 0.06 percent while the EW portfolio yields 0.39 percent. The results for portfolio 1 are very similar to what we obtained from the Large Cap list, even if the returns are somewhat lower. However, looking at the p-values we observe slightly stronger evidence of statistical significances. An interesting difference between the performance of the Mid Cap and Large Cap portfolios is that the Mid Cap sell portfolio actually outperforms its benchmark. As mentioned before, we need to consider the low number of average stocks (5.5) in the sell portfolio and the possible impact that might have on conclusions drawn. Additionally, only the VW portfolio 1 is statistically significant on any reasonable level, which further complicates the analysis of our obtained results.

Finally, we examine the performance of the Small Cap stocks. The monthly market adjusted return for the strong buy portfolio is -0.54 percent value weighted, and -0.36 percent equally weighted. The VW sell portfolio (portfolio 5) yields a monthly market adjusted return of -1.52 percent, whilst the EW sell portfolio yields a market adjusted return of -1.57 percent. These findings are quite interesting. Both the VW and EW strong buy portfolios (portfolio 1) are beaten by their benchmarks, which would indicate that analysts' lack ability in finding well performing small firms. However, none of the weightings gives nearly significant returns. In contrast, turning to the sell portfolios (portfolio 5) with highly significant returns for both weightings, analysts' seems to be excellent at finding small firms that underperforms the market. The number of analysts that follows Small Cap stocks is rather low and in this particular case the consensus recommendations are on average only calculated from 3.44 estimates. The

consequence is that a single analyst's opinion could have a large impact on which portfolio a covered stock would end up in. This could of course lead to high risk and variation in return and it can also be discussed if the recommendation really is based on "consensus".

Turning to possible trading strategies by looking at portfolio spreads, we can see that the only spread that earns a positive market adjusted return and at the same time is statistically significant is when you buy EW portfolio 1 and short EW portfolio 5, within the Small Cap list. This strategy would generate a monthly return of 1.21 percent to the investor. Barber et al. (2001) find similar evidence using a VW portfolio. If we on the other hand only consider returns and *economic* significances we could conclude that the Large Cap list would be the best choice when constructing strategies based on portfolio spreads. The first spread (buy portfolio 1 and short portfolio 5) would generate a monthly VW and EW return of 1.53 respectively 1.30 percent, while the second spread would generate a VW and EV return of 1.60 and 1.66 percent, respectively. The returns of these two spreads are considerable higher compared to any other sub-list. However, the size-effect theories points in the opposite direction suggesting that the largest returns should be earned investing in stocks with small market cap.

6.3 Sub-period analysis

To further evaluate analyst performance and to check if the results are robust over time we divide our dataset into two separate sub-periods. This will show if the returns are in some way changing during different market conditions. The first sub-period, between March 2003 and September 2005, SSE increased rather stable with roughly 100 percent. In the beginning of the second sub-period, between October 2005 and March 2008, the stock market continued to increase. During the second half of 2007 it started to decline partly following the negative impact of the US "sub-prime mortgage crisis".

As one can observe from **table IX** below the strong buy portfolio (portfolio 1) in the first sub-period shows a VW market adjusted return of 0.72 percent and an EW market adjusted return of 0.47 percent. The strong sell portfolio (portfolio 5) yields a VW market adjusted return of -0.46 percent, whilst the EW portfolio yields a return of -0.37 percent. Looking at the second sub-period we can see a market adjusted return of 0.81 percent for the VW strong buy portfolio and an EW market adjusted return of 0.49 percent. Further, the strong sell portfolio shows VW an EW market adjusted returns of -0.72 percent and -0.57 percent respectively. When comparing these results across the different sub-periods we can observe that none of the portfolios' market adjusted returns are statistically significant during both periods. This is also true when evaluating the results from the two spreads. As one can see the return are higher in the second period as well as the statistical significance. The absence of statistical significances can especially be found during the first period, which is probably due to the high return volatilities for almost all portfolios during that period.

Moreover, the largest differences in return between the sub-periods can be observed within the VW portfolio 4. In the first period the average monthly abnormal return was 1.08 percent and in the second period the abnormal return was -0.11 percent. As partly mentioned earlier, when examining the daily and monthly return further we observe a few firms with large market caps that have unusually high return during the first half of the sample period. This will of course affect the total aggregated return in the VW sell portfolio.

Overall, disregarding the statistical insignificances, the strong buy portfolio for both weightings seems to show the most even distributed returns across both periods. Further, when looking at the two different spreads we can see that the highest returns in period 1 yields from the first strategy, while the highest return in period 2 yields from the second strategy. Although the returns from the two spreads are different between both sub-periods we can conclude that the strategies are at least in some extent robust over time and would generate a positive return for an investor.

TABLE IX

Percentage monthly mean market adjusted returns over different sub-periods

The table displays the mean (arithmetic) market adjusted return for portfolio 1-5 across different sub-periods.

Portfolio	Value Weighted portfolios				Equally Weighted portfolios			
	Period 1		Period 2		Period 1		Period 2	
	Market adj. return	p-value	Market adj. return	p-value	Market adj. return	p-value	Market adj. return	p-value
1	0.72 %	0.34	0.81 %	0.24	0.47 %	0.36	0.49 %	0.07
2	0.31 %	0.45	0.25 %	0.50	0.22 %	0.55	0.58 %	0.01
3	-0.57 %	0.05	-0.48 %	0.14	-0.39 %	0.12	-0.60 %	0.01
4	1.08 %	0.17	-0.11 %	0.77	0.50 %	0.14	-0.10 %	0.75
5	-0.46 %	0.51	-0.72 %	0.33	-0.37 %	0.40	-0.57 %	0.18
1-5	1.18 %	0.16	1.53 %	0.12	0.84 %	0.24	1.06 %	0.06
(1+2)-(4+5)	0.41 %	0.79	1.89 %	0.13	0.56 %	0.55	1.57 %	0.03

In order to further investigate the performance between market caps, the three different sub-lists are also divided into two sub-periods. The market adjusted return and corresponding p-values for the portfolios can be found in appendix **table AIII**. As one can see, the only significant return at a 10 percent level in both periods is derived from the EW portfolio 2, in the Large Cap list. When looking at the different sub-lists in the first period we see that the spreads that generate the highest return and at the same time are statistical significant is formed in the Mid Cap list, value weighted. The first spread yields a 2.57 percent market adjusted return while the second spread yields a 3.13 percent return. In the second sub-period we observe even higher monthly market adjusted returns when constructing the spreads

equally weighted with stocks from the Large Cap list. The returns are also significant at a 5 percent level and the first spread yields a 3.50 percent return while the second spread yields a 4.47 percent return. Turning to the Small Cap list in the same period we see that the first spread is significant for both types of weightings. Our results point out that the highest return in the first period are generated from the spreads constructed by Mid Cap stocks, while in the second period by Large Cap stocks. As one can see, the differences in return between the spreads are quite large and none of them are actually significant in both sub-periods. These findings, regarding the statistical significance, are quite similar comparing to the obtained results when looking at all covered stocks.

6.4 Bull and Bear market returns

Another interesting aspect of stock recommendations is analysts' performance across upswings and downturns in the market. We evaluate the returns on the portfolios across bull and bear markets in order to further explore the analysts' predictability. The bull markets prevail when the monthly sample benchmarks (equal and value weighted) respectively are positive, while the bear markets prevail when the benchmark is negative.

TABLE X

Value and equally weighted portfolio performance in different market conditions

The table shows how the sample portfolios perform in different market conditions (Bull and Bear markets). OVER is defined as months when the specific portfolio yields above benchmark returns, whereas UNDER is defined as months when the specific portfolio yields returns less than the benchmark. At the bottom of the table the different market conditions is presented as a percentage of all months'.

Portfolio	Value Weighted portfolios				Equally Weighted portfolios			
	Bull Markets		Bear Markets		Bull Markets		Bear Markets	
	OVER	UNDER	OVER	UNDER	OVER	UNDER	OVER	UNDER
1	56.41 %	43.59 %	50.00 %	50.00 %	55.88 %	44.12 %	66.67 %	33.33 %
2	64.10 %	35.90 %	68.18 %	31.82 %	52.94 %	47.06 %	74.07 %	25.93 %
3	38.46 %	61.54 %	45.45 %	54.55 %	41.18 %	58.82 %	25.93 %	74.07 %
4	48.72 %	51.28 %	54.55 %	45.45 %	47.06 %	52.94 %	55.56 %	44.44 %
5	48.72 %	51.28 %	27.27 %	72.73 %	35.29 %	64.71 %	51.85 %	48.15 %
Bull/Bear Markets	55.74 %		44.26 %		63.93 %		36.07 %	

Looking at **table X** above, one can first of all observe a much lower frequency of bull markets (55.7 percent) for the value weighted benchmark, than for its equally weighted counterpart, with the latter showing a bull market fraction of as high as 63.93 percent. The different performances for the benchmarks naturally increase the difficulty in comparing the different weighted portfolios.

When looking at the EW portfolios, we can observe that all portfolios except for the hold portfolio (portfolio 3) outperform their benchmarks more often in bear markets than in bull markets. There are large differences between the performance in portfolio 1 and 2 across the two market conditions. The sell portfolio seems to outperform the benchmark more often in bear markets, which does not speak in favour of analysts' stock picking ability in terms of identifying underperforming stocks when the market is decreasing. However, looking at the sell portfolio (portfolio 5) during bull markets, and encountering for the fact that the sample months mostly constitute bull markets, one might draw the conclusion that the sell portfolio underperforms the benchmark after all, on average. Hence, we can find a tendency in favour of analysts' ability to find underperforming companies. Several papers provide evidence supporting our case (Desai & Jain (1995), Stickel (1995) and Womack (1996)). Since both portfolio 1 and 2 outperform their benchmarks in both the bear and bull markets, one can conclude that analysts have ability to find outperforming companies, which is further supported by Anderson & Martinez (2007) and Fama (1991).

Looking at the VW portfolios one can observe a somewhat different pattern than for their EW counterparts. Neither portfolio 1 nor 2 underperforms their benchmarks regardless of the market condition. Although, they do not outperform their benchmarks to the same extent as the equally weighted. Observing the number of times portfolio 4 and 5 outperform their benchmark one can see that the only portfolio that outperform its benchmark is portfolio 4 in bear markets.

Overall, for portfolio 1 and 2 in both weightings, it seems like they beat the benchmark to a higher extent in bear than in bull markets. Regarding portfolio 4 and 5, it is hard to draw any specific conclusion since the VW and EW portfolios move in quite different directions. There are some indications however that these portfolios tend to underperform on average. Finally, in both market conditions and weightings the hold portfolio tends to underperform the benchmark.

6.5 Concluding analysis

After having analyzed portfolio characteristics and returns from a number of perspectives, such as different time-periods, market caps and market conditions we will under this heading present a concluding analysis aiming at encompassing all previous findings, as well as to further compare our results to findings in previous studies.

At a first glance one might conclude that our results are to a large extent in line with many of the previous studies presented in earlier sections. Comparing to e.g. Barber et al. (2001) our results also advert that the largest (lowest) market adjusted returns are to be found in the strong buy (sell) portfolios. This is true to the extent of looking at all covered stocks during the full sample period. We also find some indications of such results when checking for robustness over time, dividing our sample into two different

periods. However, during the first sub-period both the VW and EW portfolio 4 yields even larger positive abnormal returns than the strong buy portfolio (portfolio 1). As mentioned earlier this is due to a few months with exceptionally high returns. Turning to the second period the unusually high returns from the forth portfolio vanishes and the first portfolio shows a clear lead in generating the highest positive market adjusted returns. The only portfolio that is statistically significant at a 10 percent level in both periods is the EW portfolio 2. When looking at different strategies we find that the first spread is statistically significant in both weightings, which is in line with the results in Barber et al. (2001). The second investigated spread also yields a positive market adjusted return, but is only significant at a 10 percent level when using the value weighted approach. The spreads are to some extent robust over time and generate positive returns, but the differences are however quite large and none are completely statistically significant across both sub-periods.

Further, comparing once again to the results in Barber et al. (2001), looking at the differences between market caps, we find within the Large Cap list the greatest market adjusted returns in portfolio 1 and 5. This is also true when we evaluate the returns from the spreads in the second period, where the spreads constructed with only Large Cap stocks yields the highest returns. However, when observing the market adjusted returns for Mid Cap stocks we found that portfolio 5 evolves in line with the benchmark, whereas portfolio 4 instead shows the greatest negative market adjusted returns. Even though this might be strange, the highest returns are however found when constructing the spreads with only Mid Cap stocks in the first period. Even greater differences can be found within the Small Cap list in which all portfolios, both value and equally weighted, underperform their benchmarks. On the other hand, the returns from the spreads formed with only Small Cap stocks generate quite large market adjusted returns. Those are statistically significant in three out of four spreads, where the second VW spread are insignificant with a p-value of 22 percent.

Regarding bull and bear markets we find that the buy and strong buy portfolios (portfolio 1 and 2) tend to, on an overall basis, generate somewhat greater market adjusted returns in bear than in bull markets. Even if this might seem a bit surprising, similar results have been found in previous studies (Barber et al. (2001)). One possible explanation to these results could be that analysts' are only willing to issue buy recommendations in bear markets when they are really certain of their analysis and after extensive research. When the entire stock market decreases it seems naturally that analysts' are more restrictive to issue strong buy recommendations as the chance to be wrong might be higher. In a bull market on the other hand analysts' tend to be overoptimistic.

The possibly largest concern, no matter from what perspective we analyze, is the many statistically insignificant portfolios. Even if many of the individual portfolios are statically insignificant we find several occasions where the two spreads actually generate large positive return and at the same

time are statistically significant. This certainly speaks in favor of the analysts indicating that it may be possible to form a profitable trading strategy by following analysts' consensus recommendations. Taking our findings into consideration we will in the next section investigate if an active investment strategy might pay off also when accounting for turnover and transaction costs.

7. POSSIBLE TRADING STRATEGIES

Economic theories and several previous studies imply that financial markets to a large extent are efficient and that, when accounting for transaction costs, active trading earns almost zero return (Fama (1991)). However, in this section we will evaluate if our results and findings on the SSE could be used to form any profitable trading strategies.

In the additional analysis we examined the market adjusted returns for the three different sub-lists. In order to form a trading strategy based on analysts' consensus recommendations we believe that the most efficient way is to construct strategies based on our results from all covered stocks.

When evaluating if there could be any profitable trading strategies we obviously also need to take transaction costs into account. As mentioned in section 2.4 an institutional investor incur on average a total cost of 1 percent of the annual turnover in a portfolio constructed from *all covered* stocks, while the cost for a private investor is approximately 2.4 percent. Additionally, the bid-ask spreads on *Large Cap* stocks are narrower than the corresponding spreads on *Small Cap* stocks. The result is total round-trip costs for the bid-ask spread of 0.7, 1.9, and 4.1 percent for Large-, Mid- and Small Cap stocks respectively in our sample.

As a starting point we first look at all *individual* portfolios separately. Looking at the VW portfolios for all covered stocks we see that the largest market adjusted return can be found when you buy portfolio 1, which will earn you 10.6 percent annually. When taking transaction costs into account an institutional and private investor would earn an annual return of 3.7 percent and -6 percent respectively, since the annual turnover in portfolio 1 is 688 percent. This is clearly good news for institutional investors but as mentioned before the return is however not statistically significant at the 10 percent level. The second largest return can be obtained when shorting portfolio 5, resulting in an annual market adjusted return of 8.3 percent. This strategy will generate a positive annual return of 3.9 percent respectively -2.5 percent for the institutional and private investor after taking transaction costs and annual turnover of 449 percent into account. The return is however not statistically significant. Turning to the EW portfolios we see some increasing statistical significances in the returns. After transaction costs an institutional investor would annually earn 4.2 percent when buying portfolio 1 and 6 percent from shorting portfolio 5, as the annual turnover is 270 percent and 146 percent, respectively. A private investor would on the other hand annually earn 0.7 percent buying portfolio 1 and 3.9 percent when shorting portfolio 5. In this particular case, comparing to the value weighted approach, portfolio 1 is statistical significant at a 10 percent level. Another strategy, which generates a somewhat lower return but with a 5 percent statistical

significance, is when you buy portfolio 2. This will lead to a positive market adjusted return for the institutional investors of 1.9 percent annually, net of transaction costs.

To summarize the strategies based on *individual* portfolio returns for all covered stocks, we conclude that the most profitable strategy for institutional as well as for private investors would be to sell short EW portfolio 5. Such a strategy would also generate the most statistically significant returns. The same results are obtained by Desai & Jain (1995), Stickel (1995) and Womack (1996), who provide evidence of analysts' ability to generate valuable sell recommendations suggesting them being better at picking underperforming stocks.

Even though there are possible shortcomings (recall section 6.2) on strategies based on portfolios formed on any of the three sub-lists, we below evaluate the market adjusted returns that could potentially be earned by following such "sub-list strategies". At a first glance, looking at the market adjusted return from portfolios constructed solely by Large Cap stocks; we expect that portfolio 1, 2 and 5 might generate profitable returns. When adjusting the portfolio returns for transaction costs we find that the best strategy would be to buy the EW portfolio 1 and short the EW portfolio 5. The annual return institutional and private investors would earn buying portfolio 1 are 8.4 percent and 1.9 percent respectively, when taking the 465 percent annual turnover into account. At the same time shorting portfolio 5, with an annual turnover of 375 percent, would generate a return of 8.5 percent to institutional investors and 3.2 percent to private investors. The value weighted approach shows similar outcomes for both portfolios, although the return is somewhat lower resulting in a negative return for the private investors. As mentioned in previous sections these returns are however not statistically significant.

Our results for the Mid Cap portfolios indicate that it might be profitable to buy portfolio 1 or 2 and to short portfolio 4. However, when we calculate the annual return net of fees we see that the only acceptable strategy for an institutional investor would be to buy portfolio 1. We note that none of the portfolios generate a positive return for private investors. The institutional investor would though earn an annual market adjusted return of 3.5 percent and 0.8 percent respectively for the VW and EW portfolios. The VW portfolio return is almost significant while the EW portfolio return is statistically significant at a 5 percent level.

Turning to the Small Cap list, where all portfolios underperform their benchmarks, our results indicate that shorting portfolio 4 and 5 might be a profitable strategy. After calculating the annual return with respect to transaction costs we see that when shorting portfolio 4 neither the institutional nor private investor would end up with positive returns. However, shorting portfolio 5 generates a considerable large return for both investors and is at the same time significant at a 1 percent level in both weightings. This strategy, when shorting the EW portfolio, will generate a positive return of 18.1 percent respectively 17.1 percent for the institutional and private investor after taking transaction costs and annual turnover of 137

percent into account. When value weighting the portfolio the annual return is somewhat lower but still very high, earning 14.9 respectively 12.3 percent for the institutional and private investor. However, as stated earlier considering the low number of analysts per covered firm one can question if the recommendation really are based on a consensus opinion.

So far we have investigated *individual* portfolio returns net of transaction costs. Even if we find positive returns with statistical significances during the full sample period we also need to consider the fact that none of these returns actually are statistically significant over time. However, we strongly suspect that forming strategies by combining *individual* portfolios will improve statistical significances extensively. Therefore, in order to further investigate the existence of any trading strategies we also look at two different spreads where you buy and sell at least two portfolios, simultaneously. In the first strategy we buy portfolio 1 and sell short portfolio 2 while in the second strategy we buy both portfolio 1 and 2 while at the same time taking short positions in portfolio 4 and 5.

We first investigate if any of these two strategies would be profitable on all covered stocks. After calculating annual returns with respect to transaction costs and turnover rates we see that the only strategy that generates positive annual return for both types of investors is the first strategy, when portfolios are weighted equally. With this strategy an institutional investor would annually earn a 10.2 percent market adjusted return while a private investor would earn 4.9 percent, with statistical significance at a 10 percentage level. The institutional investor would also earn a positive 7.5 percent market adjusted return when buying and shorting the VW portfolios. The second strategy will not be considered since it generates substantially less return and at the same time is not statistical significant at any reasonable level.

Turning to the different sub-lists, starting with Large Cap stocks, we can see some similar results from the two strategies. Again, the best strategy (and the only strategy that generates positive return for private investors) is the spread when you buy EW portfolio 1 and at the same time sell short EW portfolio 5. This strategy annually generates an annual market adjusted return net of fees of 16.8 percent to institutional investors and 5.1 percent for a private investor. The second strategy again generates a somewhat lower return for the institutional investor compared to the first strategy, with an annual market adjusted return of 11.3 percent and 2.7 percent for the EW and VW portfolios, respectively. None of the strategies following Large Cap are however statistically significant. When evaluating the strategies on Mid Cap we see that no strategy is actually able to generate positive return to the investors. Turning to the Small Cap lists we again see similar results compared to the results obtained from all covered stocks and Large Cap. The only strategy that generates any positive return is when you buy portfolio 1 and short portfolio 5, equally weighted. This spread is significant at a 5 percent level and generates a 9.3 percent market adjusted annual return for institutional investors and 6.4 percent to private investors.

When comparing the results from the strategies based on *individual* portfolios as well as from the two suggested spreads we conclude that the best choice for a private investor, taking in consideration statistical and *economic* significances in addition to shortcomings from investing across sub-lists, would be to follow an equally weighted approach on all covered stocks, buying portfolio 1 and simultaneously selling short portfolio 5. The market adjusted return earned from such strategy is significant for the full sample period (5 percent level), as well as during the second sub-period (10 percent level). However, as for virtually all other strategies, this strategy is statistically insignificant during the first sub-period, with a p-value of 24 percent. The *economic* significance of this strategy also has to be considered as fairly high, both compared to previous research as with respect to the intuitiveness of buying the most highly recommended stocks and selling short the least favorable ones. This strategy is successfully implemented in Barber et al. (2001) as well, generating approximately 2.5 percent net of transaction costs.

We further conclude that the above proposed strategy also would have to be considered as the most suitable in regard of institutional investors. An institutional investor would to an even greater extent be hit by the drawbacks of investing solely in any of the sub-lists. Institutions only investing in e.g. Small Cap stocks would encounter difficulties buying and selling larger quantities of stocks. Moreover, the low number of stocks in certain sub-list portfolios would entail similar difficulties.

8. CONCLUDING REMARKS

8.1 Conclusion

This thesis aims at investigating whether recommendations on stocks traded at the SSE, issued by various brokerage houses, have investment value. Three hypotheses were proclaimed in section 2.2, based on previous research and our own personal intuition. Using the empirical results and additional analysis, the answers to the hypotheses are presented below.

First, regarding whether stocks with the most (least) favourable consensus recommendations persistently outperform (underperform) their benchmark, the results from our data suggests that they actually do. This is supported by our findings, evaluating the performances of portfolio 1 and 5, for both all covered stocks and when we look at stocks listed on Large Cap. This is also supported by the results from the CAPM regression and the statistical significances found in the equally weighted portfolios. Although some contradictory results can be found within the two other sub lists, where only portfolio 1 in Mid Cap and portfolio 5 in Small Cap evolves in line with the consensus recommendations, we conclude that analysts' possess some ability to create value through their stock recommendations. Hence, our results suggest that, even if several portfolios are statistically insignificant, stocks with the highest consensus recommendations generate positive market adjusted returns while stocks with the lowest consensus recommendation generate negative market adjusted returns. The former is supported by Anderson & Martinez (2007) and Fama (1991) while the latter is supported Desai & Jain (1995) and Stickel (1995). Both of these findings are in line with the results presented by Blomqvist et al. (2003), which show indications of statistically insignificant market adjusted returns on their examined portfolios. Barber et al. (2001) on the other hand find evidence of market adjusted returns on portfolios that actually are significant to a large extent. Bottom line is that stock recommendations on stocks traded on the SSE have some investment value.

Second, in the occurrence of market adjusted returns as defined in hypothesis 1, we investigate if such returns will become negative or insignificantly small when accounting for transaction costs. Our empirical results suggest that an institutional investor earns an annual market adjusted return of 10.2 percent net of fees when buying the EW portfolio 1 and selling the EW portfolio 5 based on *all covered* stocks. This return is statistically significant at the 10 percent level. When following the same strategy on the Small Cap list, the private investor earns a 6.4 percent annual market adjusted return, statistically significant at the 10 percent level. Hence, the market adjusted returns are indeed positive when accounting for transaction costs, both for institutional and private investors.

Third, we investigate if analysts are more successful in identifying under- and overvalued stocks on the Small Cap list than on the Mid- and Large Cap lists. Our obtained results show that all of the five portfolios generate negative market adjusted returns both value and equal weighted. These findings are interesting since previous research and economic theories indicate that stocks with lower market cap tend to outperform firms with larger market cap i.e. the size effect mentioned by Fama & French (1992). The t-test shows that portfolio 5 is significant at the 1 percent level, suggesting that analysts have the ability to identify underperforming Small Cap stocks, while they lack skills in finding outperforming Small Cap stocks.

8.2 Critical evaluation

The results and findings in this thesis are based on a very large sample of daily data during the five year period between March 2003 and March 2008. When handling such extensive data, with over 2 million daily observations of recommendations and stock prices on almost every firm traded on the SSE, you might expect that the data could include some errors. We notice a relatively small coverage ratio in the beginning of our sample period which might have a negative impact on the reliability of our test results. In addition, Thomson uses different equity codes for stocks listed on more than one exchange. This results in fewer outstanding recommendations at some occasions in our sample period. Another potential source of uncertainties could arise from the fact that some analyst are using a different scale on their recommendations than the one proposed by Thomson. We suspect that there is a chance that the conversion to the Thomson scale could lead to some minor errors in terms of portfolio compositions.

Moreover, the cut offs in consensus recommendations between the five portfolios are constructed to create a suitable dispersion between all covered stocks. Hence, these cut offs might be less suitable for the sub lists, e.g. resulting in very few stocks in some portfolios. Further, there might be occasions when estimates are delayed and not reported to Thomson the same day as they are officially announced. This is however very rare and should not impact the results of our calculations according to Thomson. Finally, a critical area is our assumptions regarding the transaction costs for the portfolios. We are heavily relying on assumptions in previous research conducted in the U.S., which might lead to biases in applied transaction costs. All in all, the data provided by Thomson are in a high degree reliable and we are not aware of any other way that could have improved the validity.

8.3 Further research

In addition to our study it would be interesting to see the differences in return if rebalancing was done with e.g. 30 or 60 days delay using our data sample. The outcome of such a study would be to see

how long time it takes for the market to incorporate new information into the stock prices. Another area to explore could be a comparison between the performance of stock recommendations across different analysts and financial institutions, or perhaps just looking at the outcome from recommendation issued by top-ranked analysts. We expect that following these recommendations could result in higher abnormal return for the investor. It would also be interesting to conduct a study similar to ours using a longer time frame to find out more about the persistence of our results. Finally, further research about more sophisticated trading strategies based on the consensus recommendations would provide valuable information for both institutional and private investors.

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Electronic and Other Sources

OMX Nordic Exchange, www.omxnordicexchange.com

APPENDICES

TABLE AI

Descriptive statistics on Analyst Recommendations collected from THOMSON ONE & DATASTREAM

The table shows our dataset recommendation coverage of the Stockholm Stock Exchange, across the different sub-lists. A company is defined as covered if at least one analyst has an outstanding recommendation a specific day, on that company. The sample and total market capitalizations refer to all traded stocks of a specific company. Although analysts usually issue recommendations only for e.g. Ericsson B, we also have counted Ericsson A as covered (as well as encountered both stock types in the total market cap). Total nr. of recommendations refer to the total nr of recommendations outstanding during a specific point in time (full period tot. nr of recommendations refer to all outstanding recommendations during the entire sample period). Values of capitalizations are denoted in billion SEK.

Date	Listed firms	Total Market cap	Covered firms	Sample Market cap.	Covered Firms		Analysts per Covered Firm		Tot. nr of rec.
					% of Listed firms	% of Market cap.	Mean	Median	
Small Cap									
2003-03-31	108	22	80	18	74.07	81.52	4.03	3	322
2003-12-31	109	37	85	32	77.98	87.45	3.89	3	331
2004-12-31	113	45	87	38	76.99	84.72	4.15	3	361
2005-12-31	114	70	91	59	79.82	84.66	4.26	3	388
2006-12-31	120	79	100	70	83.33	88.09	2.61	2	261
2007-12-31	123	65	109	59	88.62	90.63	2.48	2	270
2008-08-26	123	62	109	57	88.62	91.11	2.42	2	264
Full period	115	56	87	50	75.70	88.83	3.44	2	413,654
Mid Cap									
2003-03-31	60	732	43	650	71.67	88.67	6.86	6	302
2003-12-31	62	110	50	104	80.65	94.25	6.84	6	349
2004-12-31	65	145	52	136	80.00	93.31	7.62	7	404
2005-12-31	71	226	58	202	81.69	89.44	7.44	6	439
2006-12-31	77	334	70	315	90.91	94.24	4.24	4	297
2007-12-31	82	315	76	300	92.68	95.03	4.66	5	354
2008-08-26	82	285	77	272	93.90	95.46	4.71	4	363
Full period	69	206	59	193	85.64	93.32	5.93	5	465,175
Large Cap									
2003-03-31	60	1,898	50	1,260	83.33	66.39	23.76	23	1188
2003-12-31	61	2,595	55	1,925	90.16	74.18	24.07	20	1324
2004-12-31	63	2,805	58	2,342	92.06	83.52	24.47	21	1419
2005-12-31	64	3,786	59	3,053	92.19	80.65	25.19	20	1486
2006-12-31	67	4,514	62	4,397	92.54	97.41	13.03	10	808
2007-12-31	67	4,273	65	4,237	97.01	99.16	13.48	12	876
2008-08-26	67	3,672	65	3,645	97.01	99.27	13.23	12	860
Full period	63	3,456	59	2,849	93.71	82.43	19.36	16	1,505,450

TABLE AII

Monthly RAW returns for portfolios formed on Analyst Recommendations

The table displays the monthly RAW return for each portfolio 1-5 during the full sample period

Date	Value weighted portfolios					Equally weighted portfolios				
	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
31/03/2003	-2.6%	-2.3%	-4.4%	-7.7%	-3.0%	-2.9%	-2.0%	-3.1%	-3.4%	-2.3%
30/04/2003	9.1%	7.7%	12.6%	26.5%	3.6%	5.8%	9.7%	7.9%	8.5%	2.4%
30/05/2003	4.6%	-0.2%	-4.7%	4.8%	2.0%	10.1%	2.5%	6.6%	11.3%	4.4%
30/06/2003	3.7%	3.7%	1.8%	5.8%	5.8%	11.6%	7.7%	6.5%	15.3%	5.8%
31/07/2003	5.3%	3.8%	6.0%	17.5%	10.9%	5.9%	5.1%	8.4%	7.3%	4.0%
29/08/2003	9.7%	3.1%	4.5%	3.0%	5.1%	9.0%	7.0%	5.9%	8.7%	2.7%
30/09/2003	-2.9%	-2.9%	-1.7%	-5.0%	-5.0%	2.6%	1.3%	3.5%	4.9%	11.9%
31/10/2003	6.0%	10.8%	6.3%	10.3%	5.1%	6.4%	11.3%	9.6%	7.9%	5.1%
28/11/2003	4.7%	1.4%	3.0%	-3.3%	-1.3%	5.4%	3.4%	4.9%	4.1%	2.0%
31/12/2003	4.1%	2.8%	2.0%	7.2%	7.4%	7.1%	1.5%	2.2%	1.2%	-0.7%
30/01/2004	6.8%	5.8%	3.7%	12.6%	6.9%	11.4%	15.6%	8.9%	11.5%	24.8%
27/02/2004	1.5%	-0.8%	3.4%	7.0%	2.4%	2.9%	-1.5%	3.5%	5.1%	5.3%
31/03/2004	-5.8%	-0.2%	-2.0%	-3.6%	-2.0%	-5.0%	-3.3%	-2.0%	0.1%	-2.6%
30/04/2004	6.0%	2.1%	-1.0%	-3.6%	2.9%	3.0%	1.4%	-0.8%	-1.4%	-0.7%
31/05/2004	-5.2%	-1.6%	-1.5%	0.0%	-1.2%	-5.5%	-3.9%	-2.7%	-2.2%	-2.1%
30/06/2004	5.0%	4.1%	3.5%	3.4%	0.8%	1.7%	4.0%	1.2%	0.7%	-0.5%
30/07/2004	-1.9%	-2.0%	-3.3%	1.3%	0.6%	-3.0%	-3.8%	-2.6%	-4.3%	-6.1%
31/08/2004	-3.5%	0.4%	-0.8%	2.4%	-2.1%	-1.1%	-3.8%	-3.3%	1.1%	-3.2%
30/09/2004	6.4%	3.1%	5.2%	2.4%	0.2%	6.8%	4.6%	5.1%	7.5%	7.0%
29/10/2004	-2.9%	2.2%	-2.4%	5.0%	2.0%	2.5%	1.1%	-1.8%	0.0%	2.6%
30/11/2004	8.6%	6.4%	6.8%	6.8%	7.2%	9.5%	8.0%	7.9%	6.7%	7.3%
31/12/2004	0.0%	1.1%	0.5%	-1.0%	3.8%	0.8%	5.4%	3.5%	2.8%	6.5%
31/01/2005	4.9%	3.8%	-1.0%	1.2%	-0.1%	3.1%	4.1%	0.9%	2.9%	3.5%
28/02/2005	10.6%	9.5%	4.0%	5.7%	2.5%	5.2%	7.1%	7.4%	5.3%	7.0%
31/03/2005	2.2%	1.8%	0.0%	1.1%	0.2%	0.7%	8.5%	1.7%	1.7%	1.8%
29/04/2005	-4.4%	-4.9%	-2.9%	-4.6%	-4.7%	-4.4%	-3.6%	-3.8%	-4.4%	-4.3%
31/05/2005	7.0%	3.1%	5.7%	1.9%	1.6%	5.6%	2.1%	2.0%	2.0%	1.5%
30/06/2005	3.6%	7.1%	4.0%	4.1%	2.3%	7.1%	4.5%	4.7%	7.2%	2.3%
29/07/2005	6.8%	7.4%	4.9%	3.6%	4.0%	6.0%	5.0%	3.8%	4.5%	2.9%
31/08/2005	7.1%	0.4%	-1.5%	1.1%	-0.4%	6.2%	4.6%	0.1%	1.0%	0.1%
30/09/2005	1.7%	7.2%	6.1%	1.8%	2.6%	4.3%	7.5%	6.3%	6.3%	4.6%
31/10/2005	-8.2%	-1.0%	-1.7%	-0.2%	-3.0%	-3.4%	-2.9%	-2.3%	-3.7%	-3.7%
30/11/2005	6.5%	4.1%	4.3%	4.2%	4.9%	7.7%	6.5%	6.1%	4.1%	5.6%
30/12/2005	9.2%	8.2%	5.5%	0.0%	5.4%	7.3%	10.2%	6.2%	8.4%	8.1%
31/01/2006	15.6%	4.6%	0.9%	1.5%	-1.2%	6.4%	4.9%	1.9%	1.1%	0.9%
28/02/2006	5.0%	5.8%	3.5%	7.6%	5.6%	3.2%	4.6%	2.9%	4.6%	4.7%
31/03/2006	10.0%	6.6%	5.6%	5.5%	7.6%	7.3%	6.5%	5.1%	5.2%	5.3%
28/04/2006	0.6%	0.9%	-1.4%	0.8%	0.7%	2.4%	-0.4%	-1.1%	-2.6%	-4.6%
31/05/2006	-9.8%	-7.3%	-9.2%	-5.6%	-9.7%	-7.6%	-8.9%	-9.5%	-8.6%	-11.4%

TABLE AII (Cont'd)

Date	Value weighted portfolios					Equally weighted portfolios				
	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
30/06/2006	-2.7%	1.0%	-1.2%	-1.2%	-1.2%	-0.9%	0.1%	-2.0%	0.3%	-0.8%
31/07/2006	-5.2%	-0.2%	-2.8%	1.1%	2.3%	-3.2%	-3.1%	-0.3%	-1.9%	-2.7%
31/08/2006	2.6%	3.3%	5.2%	4.0%	-0.6%	2.4%	4.5%	0.8%	5.2%	3.2%
29/09/2006	1.9%	5.5%	2.6%	3.4%	9.4%	4.5%	4.5%	4.6%	4.2%	5.4%
31/10/2006	7.4%	2.1%	5.2%	3.3%	-4.0%	2.2%	4.3%	1.9%	1.2%	-5.0%
30/11/2006	0.5%	0.2%	-3.1%	-1.8%	3.1%	1.7%	0.9%	2.5%	2.0%	1.8%
29/12/2006	5.6%	5.6%	6.4%	9.1%	7.9%	11.0%	8.2%	8.6%	10.5%	10.9%
31/01/2007	3.0%	4.8%	2.1%	2.7%	3.2%	2.8%	7.3%	2.2%	2.2%	3.4%
28/02/2007	1.2%	-1.8%	-4.6%	2.4%	0.6%	-3.6%	-1.8%	-3.9%	-2.7%	-1.9%
30/03/2007	-0.9%	5.2%	4.7%	4.9%	3.7%	8.2%	4.2%	3.4%	4.1%	4.8%
30/04/2007	-5.0%	5.8%	7.0%	1.1%	1.8%	3.5%	2.1%	4.3%	3.9%	5.9%
31/05/2007	2.4%	2.2%	-0.7%	1.7%	1.3%	2.2%	3.3%	0.9%	0.9%	4.7%
29/06/2007	1.3%	0.1%	-3.9%	-2.7%	-4.2%	-2.6%	-3.0%	-3.3%	-2.6%	-3.8%
31/07/2007	-1.0%	-2.0%	0.4%	-3.5%	-2.1%	-2.7%	-1.7%	-2.2%	-3.3%	-5.6%
31/08/2007	-0.5%	-1.8%	-3.3%	-6.5%	-1.3%	-4.2%	-3.9%	-5.4%	-4.5%	-2.6%
28/09/2007	-0.6%	-0.1%	-0.5%	-6.8%	-2.7%	-0.3%	-1.8%	-2.7%	-1.6%	-1.0%
31/10/2007	6.1%	-6.9%	1.4%	-0.2%	0.2%	-1.9%	-0.7%	-1.6%	-0.5%	-4.5%
30/11/2007	-1.6%	-7.5%	-6.6%	-1.5%	-10.1%	-6.9%	-9.1%	-7.5%	-5.2%	-7.3%
31/12/2007	-5.3%	-1.3%	-2.4%	-5.3%	-5.3%	-3.1%	-1.1%	-5.5%	-5.5%	-6.6%
31/01/2008	-4.6%	-15.4%	-11.4%	-14.1%	-13.9%	-10.7%	-8.9%	-9.2%	-6.0%	-4.9%
29/02/2008	2.3%	-0.3%	3.5%	4.6%	-4.1%	8.9%	8.7%	3.9%	2.6%	2.9%
26/03/2008	-1.3%	-2.9%	-9.9%	-1.9%	-5.9%	-3.3%	-3.5%	-3.9%	-2.1%	-5.6%
AVERAGE	2.1%	1.7%	0.9%	1.9%	0.8%	2.4%	2.3%	1.4%	2.1%	1.5%

TABLE AIII

Monthly market adjusted returns for portfolios formed on Analyst Recommendations

The table displays the monthly market adjusted return for each portfolio 1-5 during the full sample period

Date	Value weighted portfolios					Equally weighted portfolios				
	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
31/03/2003	1.4%	1.7%	-0.4%	-3.6%	1.0%	-0.2%	0.7%	-0.4%	-0.8%	0.4%
30/04/2003	-3.6%	-4.9%	0.0%	13.9%	-9.0%	-1.6%	2.3%	0.5%	1.1%	-4.9%
30/05/2003	5.2%	0.3%	-4.2%	5.3%	2.5%	3.8%	-3.8%	0.3%	5.1%	-1.9%
30/06/2003	-0.5%	-0.5%	-2.5%	1.5%	1.5%	3.0%	-0.9%	-2.2%	6.7%	-2.8%
31/07/2003	-2.5%	-4.0%	-1.8%	9.7%	3.1%	-0.5%	-1.2%	2.1%	0.9%	-2.4%
29/08/2003	5.7%	-0.9%	0.5%	-1.0%	1.1%	2.4%	0.5%	-0.6%	2.1%	-3.8%
30/09/2003	0.1%	0.1%	1.3%	-2.0%	-2.0%	-1.8%	-3.1%	-0.9%	0.5%	7.5%
31/10/2003	-2.1%	2.7%	-1.8%	2.2%	-3.0%	-2.2%	2.7%	1.0%	-0.7%	-3.5%
28/11/2003	3.8%	0.5%	2.1%	-4.3%	-2.2%	1.5%	-0.5%	1.0%	0.2%	-1.9%
31/12/2003	0.6%	-0.8%	-1.5%	3.7%	3.8%	5.3%	-0.3%	0.4%	-0.6%	-2.5%
30/01/2004	0.6%	-0.4%	-2.6%	6.3%	0.6%	-2.3%	1.8%	-4.9%	-2.2%	11.1%
27/02/2004	-2.8%	-5.1%	-1.0%	2.6%	-2.0%	-0.2%	-4.6%	0.4%	2.0%	2.2%
31/03/2004	-4.6%	1.0%	-0.8%	-2.4%	-0.8%	-2.9%	-1.1%	0.1%	2.2%	-0.4%
30/04/2004	6.5%	2.5%	-0.6%	-3.2%	3.3%	3.1%	1.5%	-0.8%	-1.4%	-0.6%
31/05/2004	-3.9%	-0.3%	-0.2%	1.4%	0.2%	-2.5%	-0.9%	0.3%	0.8%	0.9%
30/06/2004	1.4%	0.5%	-0.1%	-0.2%	-2.8%	0.2%	2.5%	-0.3%	-0.8%	-2.0%
30/07/2004	0.4%	0.3%	-1.0%	3.6%	2.9%	0.8%	0.1%	1.2%	-0.4%	-2.2%
31/08/2004	-3.3%	0.6%	-0.6%	2.6%	-2.0%	1.1%	-1.6%	-1.1%	3.3%	-1.0%
30/09/2004	2.2%	-1.0%	1.0%	-1.8%	-3.9%	0.8%	-1.4%	-0.9%	1.4%	0.9%
29/10/2004	-2.7%	2.5%	-2.1%	5.3%	2.3%	2.0%	0.6%	-2.4%	-0.5%	2.1%
30/11/2004	1.9%	-0.3%	0.1%	0.1%	0.5%	1.7%	0.2%	0.1%	-1.0%	-0.5%
31/12/2004	-0.4%	0.6%	0.1%	-1.4%	3.3%	-3.0%	1.5%	-0.4%	-1.1%	2.7%
31/01/2005	5.0%	3.9%	-0.9%	1.3%	0.0%	0.4%	1.4%	-1.7%	0.2%	0.8%
28/02/2005	5.6%	4.5%	-1.0%	0.7%	-2.5%	-1.3%	0.6%	0.9%	-1.2%	0.5%
31/03/2005	1.9%	1.5%	-0.4%	0.7%	-0.1%	-2.1%	5.7%	-1.1%	-1.1%	-1.0%
29/04/2005	-1.1%	-1.6%	0.4%	-1.2%	-1.4%	-0.4%	0.5%	0.2%	-0.4%	-0.3%
31/05/2005	1.8%	-2.2%	0.4%	-3.3%	-3.6%	2.8%	-0.7%	-0.8%	-0.8%	-1.3%
30/06/2005	-0.6%	2.9%	-0.1%	0.0%	-1.9%	2.1%	-0.5%	-0.3%	2.2%	-2.7%
29/07/2005	1.9%	2.5%	0.0%	-1.3%	-0.8%	1.7%	0.6%	-0.6%	0.2%	-1.4%
31/08/2005	8.0%	1.2%	-0.7%	2.0%	0.5%	4.5%	2.9%	-1.6%	-0.7%	-1.6%
30/09/2005	-3.7%	1.7%	0.6%	-3.7%	-2.8%	-1.7%	1.4%	0.2%	0.2%	-1.4%
31/10/2005	-6.7%	0.5%	-0.2%	1.3%	-1.6%	-0.4%	0.1%	0.7%	-0.7%	-0.7%
30/11/2005	2.3%	-0.1%	0.2%	0.0%	0.7%	1.8%	0.5%	0.2%	-1.8%	-0.3%
30/12/2005	3.5%	2.6%	-0.1%	-5.6%	-0.2%	-0.6%	2.3%	-1.7%	0.5%	0.2%
31/01/2006	13.8%	2.8%	-0.8%	-0.3%	-3.0%	3.7%	2.2%	-0.8%	-1.6%	-1.8%
28/02/2006	0.7%	1.5%	-0.9%	3.3%	1.3%	-0.7%	0.7%	-1.0%	0.7%	0.8%
31/03/2006	4.3%	0.8%	-0.1%	-0.3%	1.9%	1.6%	0.7%	-0.7%	-0.6%	-0.5%
28/04/2006	1.1%	1.4%	-0.9%	1.3%	1.2%	3.7%	0.9%	0.2%	-1.3%	-3.3%
31/05/2006	-1.4%	1.1%	-0.8%	2.7%	-1.3%	1.6%	0.3%	-0.4%	0.6%	-2.2%

TABLE AIII (Cont'd)

Date	Value weighted portfolios					Equally weighted portfolios				
	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
30/06/2006	-4.8%	-1.1%	-3.3%	-3.2%	-3.2%	-0.4%	0.7%	-1.4%	0.8%	-0.3%
31/07/2006	-4.4%	0.6%	-2.0%	1.9%	3.1%	-1.0%	-0.9%	1.9%	0.3%	-0.5%
31/08/2006	-1.8%	-1.2%	0.7%	-0.4%	-5.0%	-1.0%	1.2%	-2.6%	1.8%	-0.1%
29/09/2006	-1.8%	1.8%	-1.1%	-0.3%	5.7%	-0.1%	-0.1%	0.0%	-0.4%	0.8%
31/10/2006	4.0%	-1.3%	1.8%	-0.1%	-7.4%	0.5%	2.6%	0.2%	-0.6%	-6.7%
30/11/2006	1.9%	1.7%	-1.6%	-0.3%	4.6%	0.0%	-0.8%	0.8%	0.3%	0.1%
29/12/2006	-1.1%	-1.1%	-0.3%	2.4%	1.2%	1.4%	-1.4%	-1.0%	0.9%	1.3%
31/01/2007	-0.4%	1.4%	-1.3%	-0.7%	-0.2%	-0.9%	3.6%	-1.5%	-1.6%	-0.4%
28/02/2007	3.0%	0.0%	-2.9%	4.2%	2.4%	-0.9%	1.0%	-1.1%	0.1%	0.9%
30/03/2007	-4.8%	1.3%	0.8%	1.0%	-0.3%	3.4%	-0.6%	-1.5%	-0.7%	0.0%
30/04/2007	-8.9%	1.9%	3.1%	-2.8%	-2.1%	-0.2%	-1.6%	0.6%	0.2%	2.2%
31/05/2007	1.0%	0.8%	-2.1%	0.3%	-0.1%	0.0%	1.1%	-1.3%	-1.3%	2.5%
29/06/2007	2.9%	1.8%	-2.3%	-1.0%	-2.6%	0.4%	0.0%	-0.3%	0.4%	-0.8%
31/07/2007	0.2%	-0.8%	1.6%	-2.3%	-0.9%	0.1%	1.1%	0.7%	-0.4%	-2.7%
31/08/2007	2.1%	0.8%	-0.7%	-3.9%	1.4%	-0.1%	0.3%	-1.2%	-0.3%	1.6%
28/09/2007	0.1%	0.6%	0.2%	-6.1%	-2.0%	1.2%	-0.3%	-1.2%	-0.1%	0.5%
31/10/2007	7.2%	-5.8%	2.6%	0.9%	1.3%	-0.1%	1.0%	0.1%	1.3%	-2.7%
30/11/2007	4.3%	-1.6%	-0.7%	4.5%	-4.2%	0.6%	-1.6%	0.0%	2.3%	0.2%
31/12/2007	-2.5%	1.5%	0.4%	-2.5%	-2.5%	0.1%	2.2%	-2.3%	-2.3%	-3.4%
31/01/2008	7.4%	-3.5%	0.5%	-2.2%	-2.0%	-2.1%	-0.4%	-0.7%	2.5%	3.6%
29/02/2008	1.0%	-1.7%	2.2%	3.2%	-5.4%	2.7%	2.6%	-2.3%	-3.6%	-3.2%
26/03/2008	2.2%	0.6%	-6.4%	1.7%	-2.4%	0.3%	0.1%	-0.3%	1.4%	-2.0%
AVERAGE	0.8%	0.3%	-0.5%	0.5%	-0.6%	0.5%	0.4%	-0.5%	0.2%	-0.5%

TABLE AIV

Market adjusted returns across different market capitalizations and sub-periods

The table displays the mean monthly (arithmetic) market adjusted return and corresponding p-values for portfolio 1-5 across different market capitalizations. i.e. the Stockholm Stock Exchange's different sub-lists; Large Cap, Mid Cap and Small Cap., as well as for different sub-periods, i.e. period 1 and period 2

Portfolio	Large Cap		Mid Cap		Small Cap	
	Market adj. return	p-value	Market adj. return	p-value	Market adj. return	p-value
Value Weighted portfolios - Period 1						
1	0.61 %	0.47	1.76 %	0.04	-0.53 %	0.61
2	0.85 %	0.09	0.05 %	0.97	-1.28 %	0.06
3	-0.28 %	0.54	-0.26 %	0.49	-1.75 %	0.01
4	1.33 %	0.16	-0.52 %	0.26	-0.38 %	0.65
5	0.36 %	0.79	-0.81 %	0.32	-1.28 %	0.08
1-5	0.24 %	0.80	2.57 %	0.03	0.75 %	0.52
(1+2)-(4+5)	-0.24 %	0.96	3.13 %	0.04	-0.14 %	0.92
Equally Weighted portfolios - Period 1						
1	-0.05 %	0.92	0.84 %	0.21	-1.55 %	0.28
2	0.74 %	0.03	0.14 %	0.76	-1.48 %	0.20
3	-0.26 %	0.23	0.27 %	0.53	-1.91 %	0.09
4	1.56 %	0.01	-0.90 %	0.09	-1.20 %	0.32
5	0.18 %	0.89	-0.03 %	0.91	-2.59 %	0.02
1-5	-0.23 %	0.86	0.88 %	0.63	1.03 %	0.28
(1+2)-(4+5)	-1.05 %	0.55	1.91 %	0.31	0.75 %	0.63
Value Weighted portfolios - Period 2						
1	1.57 %	0.22	0.22 %	0.66	-0.55 %	0.17
2	0.28 %	0.47	0.34 %	0.33	-0.19 %	0.64
3	-0.44 %	0.21	-0.25 %	0.58	-1.28 %	0.01
4	0.20 %	0.73	-0.55 %	0.43	-0.27 %	0.60
5	-1.25 %	0.29	0.96 %	0.24	-1.77 %	0.00
1-5	2.83 %	0.11	-0.74 %	0.50	1.22 %	0.09
(1+2)-(4+5)	2.91 %	0.16	0.15 %	0.92	1.30 %	0.22
Equally Weighted portfolios - Period 2						
1	2.00 %	0.05	0.42 %	0.38	0.87 %	0.03
2	0.52 %	0.10	0.09 %	0.77	0.65 %	0.14
3	-0.51 %	0.04	-0.55 %	0.20	-0.92 %	0.12
4	-0.45 %	0.30	-0.10 %	0.88	0.05 %	0.87
5	-1.49 %	0.18	0.83 %	0.30	-0.53 %	0.27
1-5	3.50 %	0.03	-0.41 %	0.72	1.39 %	0.05
(1+2)-(4+5)	4.47 %	0.02	-0.21 %	0.88	2.00 %	0.06

TABLE AV

Annual turnover rates for portfolios formed on Analyst Recommendations

The table displays annual turnover rates for portfolios based on all covered stocks, as well as across different market caps. i.e. the Stockholm Stock Exchange's different sub-lists; Large Cap, Mid Cap and Small Cap.

Portfolio	All Covered	Large Cap	Mid Cap	Small Cap
Value Weighted portfolios				
1	688%	680%	517%	197%
2	679%	613%	551%	376%
3	419%	316%	596%	472%
4	578%	486%	634%	311%
5	449%	404%	389%	189%
Equally Weighted portfolios				
1	270%	465%	443%	137%
2	385%	475%	463%	250%
3	418%	358%	591%	325%
4	337%	517%	478%	180%
5	146%	375%	308%	72%

TABLE AVI

T-statistics and p-values for portfolios formed on Analyst recommendations

The table shows t-statistics and corresponding p-values for marked adjusted returns earned by forming portfolios of analysts' consensus recommendations. T-statistics and p-values are shown over the full sample, sub-list and across different periods.

Portfolio	All Cap		Large Cap		Mid Cap		Small Cap	
	t-value	p-value	t-value	p-value	t-value	p-value	t-value	p-value
Value weighted - full period								
1	1.51	0.13	1.40	0.16	1.96	0.05	-1.02	0.31
2	1.02	0.31	1.76	0.08	0.60	0.55	-1.88	0.06
3	-2.38	0.02	-1.28	0.20	-0.89	0.37	-3.69	0.00
4	1.00	0.32	1.39	0.16	-1.31	0.19	-0.67	0.50
5	-1.17	0.24	-0.53	0.59	0.14	0.89	-3.37	0.00
1-5	2.09	0.04	1.37	0.17	1.16	0.25	1.45	0.56
(1+2)+(4+5)	1.23	0.22	0.95	0.34	1.60	0.11	0.15	0.57
Equally weighted - full period								
1	1.63	0.10	1.34	0.18	1.54	0.12	-0.34	0.73
2	2.03	0.04	2.68	0.01	0.42	0.68	-0.63	0.53
3	-2.81	0.00	-2.39	0.02	-0.46	0.64	-2.22	0.03
4	0.95	0.34	1.34	0.18	-1.28	0.20	-0.84	0.40
5	-1.55	0.12	-0.84	0.40	0.63	0.53	-2.62	0.01
1-5	2.09	0.04	1.47	0.14	0.20	0.84	2.02	0.04
(1+2)+(4+5)	1.92	0.06	1.29	0.20	0.71	0.47	1.50	0.13
Value weighted - period 1								
1	0.96	0.34	0.73	0.47	2.03	0.04	-0.52	0.61
2	0.76	0.45	1.71	0.09	0.04	0.97	-1.91	0.06
3	-1.97	0.05	-0.62	0.54	-0.72	0.47	-2.73	0.01
4	1.37	0.17	1.41	0.16	-1.12	0.26	-0.45	0.65
5	-0.66	0.51	0.27	0.79	-1.00	0.32	-1.77	0.08
1-5	1.40	0.16	0.26	0.80	2.12	0.03	0.65	0.52
(1+2)+(4+5)	0.26	0.79	-0.05	0.96	2.08	0.04	-0.10	0.92

TABLE AVI (Cont'd)

Portfolio	t-value	p-value	t-value	p-value	t-value	p-value	t-value	p-value
Equally weighted - period 1								
1	0.92	0.36	-0.10	0.92	1.26	0.21	-1.08	0.28
2	0.60	0.55	2.14	0.03	0.30	0.76	-1.29	0.20
3	-1.54	0.12	-1.21	0.23	0.63	0.53	-1.67	0.09
4	1.49	0.14	2.47	0.01	-1.71	0.09	-1.01	0.32
5	-0.85	0.39	0.14	0.89	0.11	0.91	-2.38	0.02
1-5	1.18	0.24	-0.17	0.86	0.48	0.63	1.07	0.28
(1+2)+(4+5)	0.60	0.55	-0.59	0.55	1.01	0.31	0.48	0.63
Value weighted - period 2								
1	1.18	0.24	1.22	0.22	0.43	0.66	-1.38	0.17
2	0.67	0.50	0.72	0.47	0.97	0.33	-0.47	0.64
3	-1.46	0.14	-1.25	0.21	-0.56	0.58	-2.49	0.01
4	-0.29	0.77	0.34	0.73	-0.80	0.43	-0.53	0.60
5	-0.97	0.33	-1.05	0.29	1.18	0.24	-3.17	0.00
1-5	1.55	0.12	1.60	0.11	-0.68	0.50	1.72	0.09
(1+2)+(4+5)	1.51	0.13	1.41	0.16	0.10	0.92	1.24	0.22
Equally weighted - period 2								
1	1.79	0.07	1.94	0.05	0.88	0.38	2.22	0.03
2	2.54	0.01	1.64	0.10	0.29	0.77	1.49	0.14
3	-2.46	0.01	-2.11	0.04	-1.29	0.20	-1.56	0.12
4	-0.32	0.75	-1.03	0.30	-0.15	0.88	0.16	0.87
5	-1.35	0.18	-1.34	0.18	1.04	0.30	-1.10	0.27
1-5	1.89	0.06	2.21	0.03	-0.36	0.72	2.00	0.05
(1+2)+(4+5)	2.23	0.03	2.37	0.02	-0.15	0.88	1.89	0.06

TABLE AVII

Statistics over sample selection

The table displays all stocks traded on the Stockholm Stock Exchange during our sample period. Total market cap denotes a specific traded company's market capitalization during a specific point in time. Companies that are included in our sample, at different points in time, can be seen at the table's right hand side. Capitalization values are denoted in billion SEK.

Company	List	Total market cap at time: year, end of month							Included in sample 1=at least 1 recommendation,0=no outstanding recommendations at time: year, end of month						
		0303	0312	0412	0512	0612	0712	0803	0303	0312	0412	0512	0612	0712	0803
AARHUSKARLSHAMN	Mid				7,55	8,32	4,84	6,44	0	0	0	1	1	1	1
ABB	Large	23,88	73,64	77,22	159,41	267,84	424,73	364,7	1	1	1	1	1	1	1
ACADEMEDIA	Small	0,04	0,03	0,14	0,11	0,09	0,48	0,54	1	1	1	1	1	1	1
ACANDO	Small	0,11	0,25	0,32	0,60	1,09	1,05	0,90	1	1	1	1	1	1	1
ACAP INVEST	Small	0,10	0,08	0,08	0,23	0,45	0,64	0,63	0	0	0	0	0	0	0
A COM	Small	0,02	0,05	0,06	0,10	0,12	0,11	0,09	1	1	1	1	1	1	1
ACTIVE BIOTECH	Mid	0,18	2,06	1,23	3,24	3,10	2,78	2,79	1	1	1	1	1	1	1
ADDNODE	Small	0,01	0,13	0,13	0,56	0,54	0,45	0,56	1	1	1	1	1	1	1
ADDTECH	Mid	0,73	1,12	1,54	2,87	3,87	3,56	3,36	1	1	1	1	1	1	1
AEROCRINE	Small						0,68	0,69	0	0	0	0	0	1	1
AFFARSSTRATEGERNA	Small	0,02	0,05	0,10	0,23	0,14	0,10	0,09	1	1	1	1	1	1	1
ALFA LAVAL	Large	7,71	12,23	12,00	19,21	34,51	40,65	39,81	0	1	1	1	1	1	1
ANGPANNEFORENINGEN	Mid	0,48	0,62	0,73	1,31	2,26	2,61	2,17	1	1	1	1	1	1	1
ANOTO GROUP	Small	0,85	1,76	1,30	3,38	1,40	1,24	0,89	1	1	1	1	1	1	1
ARTIMPLANT	Small	0,05	0,26	0,25	0,49	0,21	0,19	0,20	1	1	1	1	1	1	1
ASPIRO	Small	0,03	0,07	0,28	0,84	0,61	0,26	0,25	1	1	1	1	1	1	1
ASSA ABLOY	Large	24,10	29,65	39,36	43,34	51,66	44,99	37,36	1	1	1	1	1	1	1
ASTRAZENECA	Large	495,24	593,29	397,28	613,76	562,98	403,55	322,7	0	0	0	0	1	1	1
ATLAS COPCO	Large	34,31	52,37	61,31	107,43	142,95	115,44	119,9	1	1	1	1	1	1	1
ATRIUM LJUNGBERG	Mid	1,08	1,44	1,96	2,70	4,57	8,24	8,66	1	1	1	1	1	1	1
AUDIODEV	Small	0,28	0,88	0,64	0,55	0,26	0,08	0,10	1	1	1	1	1	1	1
AUTOLIV SDB	Large	15,65	25,90	9,01	5,36	6,55	5,35	4,39	1	1	1	1	1	1	1
AVANZA	Mid	0,34	0,75	1,13	2,72	3,39	3,72	3,50	0	0	0	0	1	1	1
AXFOOD	Large	8,60	8,86	12,06	12,10	15,45	13,67	10,99	1	1	1	1	1	1	1
AXIS	Large	0,94	1,17	1,24	4,01	6,35	11,03	7,46	1	1	1	1	1	1	1
B&B TOOLS	Mid	1,09	1,26	2,08	3,12	5,21	5,30	4,57	1	1	1	1	1	1	1
BALLINGSLOV INTL.	Mid	0,57	0,84	1,05	1,72	2,18	2,21	1,79	1	1	1	1	1	1	1
BE GROUP	Mid					3,53	2,89	3,10	0	0	0	0	0	1	1
BEIJER ALMA	Mid	0,34	0,53	1,08	1,76	2,43	1,67	1,98	1	1	1	1	1	1	1
BEIJER ELECTRONICS	Small	0,35	0,44	0,48	0,73	0,99	0,94	0,93	0	0	0	0	0	0	0
BERGS TIMBER	Small	0,05	0,06	0,07	0,14	0,22	0,29	0,24	1	1	1	1	1	1	1
BETSSON	Mid	0,07	0,42	0,53	0,92	0,81	2,84	2,01	0	0	0	0	1	1	1
BILIA	Mid	2,16	2,36	2,85	3,46	2,55	2,20	2,06	1	1	1	1	1	1	1
BILLERUD	Mid	6,43	6,28	6,31	5,54	6,47	3,55	3,40	1	1	1	1	1	1	1
BIOGAIA	Small	0,12	0,22	0,22	0,32	0,67	0,46	0,52	1	1	1	1	1	1	1
BIOINVENT INTL.	Small	0,29	0,30	0,27	0,58	0,51	1,04	1,34	1	1	1	1	1	1	1
BIOLIN	Small	0,03	0,04	0,05	0,14	0,33	0,13	0,14	1	1	1	1	1	1	1
BIOPHAUSIA	Small	0,04	0,09	0,07	0,27	0,72	0,60	0,51	0	0	0	0	0	0	0
BIOTAGE	Small	0,21	0,68	0,57	1,07	1,18	0,76	0,79	1	1	1	1	1	1	1
BIOVITRUM	Mid					4,94	3,47	3,28	0	0	0	0	1	1	1

TABLE AVII (Cont'd)

Company	List	0303	0312	0412	0512	0612	0712	0803	0303	0312	0412	0512	0612	0712	0803
BJORN BORG	Mid			0,06	0,26	2,00	2,88	1,71	0	0	0	0	0	1	1
BOLIDEN	Large	1,30	3,30	3,66	18,81	50,94	23,52	17,22	1	1	1	1	1	1	1
BONG LJUNGDAHL	Small	0,31	0,31	0,46	0,83	0,88	0,56	0,54	1	1	1	1	1	1	1
BORAS WAFVERI	Small	0,13	0,15	0,13	0,19	0,15	0,04	0,04	1	1	1	1	1	1	1
BRINNOVA FASTIGHETER	Mid	0,00	0,46	0,58	1,69	2,94	2,30	2,26	0	0	1	1	1	1	1
BRIO	Small	0,12	0,11	0,20	0,22	0,24	0,23	0,15	1	1	1	1	1	1	1
BROSTROM	Mid	1,09	1,95	2,68	4,88	4,62	3,06	2,55	1	1	1	1	1	1	1
BTS GROUP	Small	0,11	0,17	0,36	0,69	0,83	0,72	0,60	0	1	1	1	1	1	1
BURE EQUITY	Mid	0,27	0,35	0,65	1,44	2,06	3,73	3,64	1	1	1	1	1	1	1
CARDO	Mid	5,54	5,99	5,72	5,84	7,80	6,03	4,67	1	1	1	1	1	1	1
CARL LAMM	Small					0,55	0,64	0,58	0	0	0	0	1	1	1
CASHGUARD	Small	0,09	0,27	0,74	0,84	0,84	0,61	0,57	1	1	1	1	1	1	1
CASTELLUM	Large	4,90	7,31	10,23	12,30	15,70	11,57	12,90	1	1	1	1	1	1	1
CATENA	Small					1,17	1,24	1,19	1	1	1	1	1	1	1
CISION	Mid	1,03	2,33	2,45	2,47	2,88	1,27	1,18	0	0	0	0	1	1	1
CLAS OHLSON	Mid	3,89	5,65	7,48	9,01	8,41	8,38	6,18	1	1	1	1	1	1	1
CLOETTA FAZER	Mid	3,59	3,29	4,79	4,67	5,31	4,44	4,40	1	1	1	1	1	1	1
CONCORDIA MARITIME	Small	0,48	0,76	1,57	1,88	2,41	1,18	0,90	1	1	1	1	1	1	1
CONNECTA	Small			0,29	0,49	0,72	0,72	0,68	1	1	1	1	1	1	1
CONSILIUM	Small	0,11	0,16	0,18	0,21	0,39	0,43	0,40	0	0	0	0	1	1	1
CTT SYSTEMS	Small	0,10	0,13	0,08	0,58	0,40	0,32	0,29	1	1	1	1	1	1	1
CYBERCOM GROUP EUROPE	Small	0,10	0,27	0,32	0,50	0,51	1,30	0,87	0	0	0	0	1	1	1
D CARNEGIE & CO	Large	2,97	4,74	5,74	7,88	10,20	9,73	7,64	1	1	1	1	1	1	1
DAGON	Small	0,03	0,04	0,05	0,06	0,06	0,01	0,01	0	0	0	0	0	1	1
DIAMYD MEDICAL	Small	0,08	0,28	0,35	0,55	1,32	0,64	0,80	0	0	0	1	1	1	1
DIGITAL VISION	Small	0,05	0,06	0,04	0,14	0,10	0,09	0,09	1	1	1	1	1	1	1
DIN BOSTAD SVERIGE	Small	0,08	0,09	0,12	0,17	0,03	0,02	0,02	1	1	1	1	1	1	1
DIOS FASTIGHETER	Small					1,06	1,04	0,99	0	0	0	0	1	1	1
DORO	Small	0,08	0,09	0,13	0,13	0,09	0,10	0,10	1	1	1	1	1	1	1
DUNI	Mid					2,33	2,19		0	0	0	0	0	0	1
DUROC	Small	0,04	0,05	0,09	0,17	0,15	0,19	0,18	0	0	0	0	0	0	0
EAST CAPITAL EXPLORER	Mid					3,38	3,52		0	0	0	0	0	0	0
ELANDERS	Small	0,31	0,71	0,84	0,92	1,13	1,28	1,12	1	1	1	1	1	1	1
ELECTROLUX	Large	47,01	51,19	46,94	63,86	42,35	33,52	30,24	0	1	1	1	1	1	1
ELEKTA	Large	2,74	4,29	5,82	10,77	13,00	9,56	8,56	1	1	1	1	1	1	1
ELEKTRONIKGRUPPEN BK	Small	0,15	0,29	0,32	0,28	0,38	0,23	0,21	1	1	1	1	1	1	1
ENEA	Small	0,21	0,84	1,69	2,15	1,38	0,79	0,76	1	1	1	1	1	1	1
ENIRO	Large	9,21	11,55	10,75	18,21	16,48	9,39	6,91	1	1	1	1	1	1	1
EPICEPT CORP.	Small					0,25	0,37	0,17	0	0	0	0	0	0	0
ERICSSON	Large	85,84	208,76	342,61	440,67	445,99	245,12	185,3	1	1	1	1	1	1	1
EXPANDA	Small	0,21	0,22	0,32	0,36	0,71	0,48	0,43	1	1	1	1	1	1	1
FABEGE	Large	4,46	5,77	12,68	14,57	18,46	11,82	11,11	1	1	1	1	1	1	1
FAGERHULT	Mid	1,15	1,32	1,31	1,98	1,93	1,99	1,71	1	1	1	1	1	1	1
FAST PARTNER	Mid	0,36	0,53	1,03	1,67	2,25	1,76	1,68	0	1	1	1	1	1	1
FASTIGHETS BALDER	Small	0,03	0,04	0,07	0,98	1,46	1,15	0,98	1	1	1	1	1	1	1
FEELGOOD SVENSKA	Small	0,09	0,14	0,14	0,24	0,20	0,14	0,18	0	0	0	0	0	0	0
FENIX OUTDOOR	Small	0,27	0,34	0,28	0,63	0,69	0,69	0,75	0	0	1	1	1	1	1
FINGERPRINT CARDS	Small	0,09	0,18	0,08	0,11	0,19	0,16	0,11	1	1	1	1	1	1	1
G & L BEIJER	Mid	0,38	0,45	0,74	0,99	1,21	1,95	1,90	1	1	1	1	1	1	1
GETINGE	Large	7,23	13,00	15,59	20,63	28,92	32,68	30,12	1	1	1	1	1	1	1
GEVEKO	Small	0,36	0,53	0,61	0,73	0,76	0,44	0,34	1	1	1	1	1	1	1
GUNNEBO	Mid	2,69	3,81	3,64	3,44	3,52	2,95	2,96	0	1	1	1	1	1	1

TABLE AVII (Cont'd)

Company	List	0303	0312	0412	0512	0612	0712	0803	0303	0312	0412	0512	0612	0712	0803
GUNNEBO INDUSTRIER	Mid				1,03	1,72	1,24	1,17	0	0	0	1	1	1	1
HAKON INVEST	Large				7,37	12,38	10,45	10,55	0	0	0	0	1	1	1
HALDEX	Mid	1,67	2,27	2,60	3,52	3,65	2,53	2,22	1	1	1	1	1	1	1
HAVSFRUN	Small	0,15	0,35	0,35	0,37	0,39	0,33	0,32	0	0	0	0	0	0	0
HEBA	Mid	0,97	1,17	1,55	1,61	2,67	2,17	2,05	1	1	1	1	1	1	1
HEMTEX	Mid				2,19	3,92	2,18	2,10	0	0	0	1	1	1	1
HENNES & MAURITZ	Large	130,00	124,89	169,07	197,19	252,70	287,39	246,8	1	1	1	1	1	1	1
HEXAGON	Large	2,32	3,42	5,52	15,80	24,70	34,35	30,49	1	1	1	1	1	1	1
HIQ INTERNATIONAL	Mid	0,22	0,59	1,17	2,12	2,11	1,72	1,59	1	1	1	1	1	1	1
HL DISPLAY	Small	0,49	0,75	0,93	0,96	1,25	1,33	1,32	1	1	1	1	1	1	1
HMS NETWORKS	Small						0,77	0,62	0	0	0	0	0	1	1
HOGANAS	Mid	4,79	5,25	6,09	5,87	6,12	4,67	4,54	1	1	1	1	1	1	1
HOLMEN	Large	15,85	20,58	19,81	22,58	25,33	20,56	17,08	1	1	1	1	1	1	1
HOME PROPERTIES	Mid	0,87	1,28	2,37	2,81	1,89	1,83	1,84	1	1	1	1	1	1	1
HQ	Mid	0,28	0,45	0,69	1,76	3,59	4,69	3,98	0	0	0	0	1	1	1
HUFVUDSTADEN	Large	5,35	7,34	10,06	10,95	16,56	13,58	13,72	1	1	1	1	1	1	1
HUMAN CARE H C	Small	0,14	0,14	0,14	0,23	0,27	0,17	0,24	0	0	0	0	0	0	0
HUSQVARNA	Large					31,79	29,56	26,12	0	0	0	0	1	1	1
IBS	Small	0,28	1,02	0,99	1,87	2,11	1,05	1,11	1	1	1	1	1	1	1
INDL.& FINL.SYS.'B'	Mid	0,38	0,62	1,04	2,12	2,41	1,64	1,56	1	1	1	1	1	1	1
INDUSTRIVARDEN	Large	18,25	22,63	31,79	40,91	51,56	42,77	38,71	1	1	1	1	1	1	1
INDUTRADE	Mid				3,56	5,40	4,93	5,44	0	0	0	1	1	1	1
INTELLECTA	Small	0,08	0,10	0,12	0,17	0,19	0,26	0,28	1	1	1	1	1	1	1
INTRUM JUSTITIA	Mid	2,97	3,23	4,38	5,71	6,92	9,10	8,13	1	1	1	1	1	1	1
INVESTOR	Large	41,12	58,54	71,41	106,48	128,26	111,45	100,3	1	1	1	1	1	1	1
JEEVES INFO.SYSTEMS	Small	0,04	0,07	0,15	0,28	0,27	0,19	0,19	1	1	1	1	1	1	1
JM	Large	2,79	2,97	5,37	8,64	15,32	11,78	11,83	1	1	1	1	1	1	1
KABE HUSVAGNAR	Small	0,13	0,28	0,55	1,23	0,94	0,67	0,78	0	0	0	0	1	1	1
KAPPAHL HOLDINGS	Mid					5,38	6,34	4,13	0	0	0	0	1	1	1
KARO BIO	Small	0,36	0,50	0,40	0,68	1,21	0,52	0,51	1	1	1	1	1	1	1
KAUPTHING BANK	Large	6,89	10,04	31,45	61,80	59,17	67,38	46,65	0	0	0	0	0	1	1
KINNEVIK	Large	2,10	5,44	18,91	19,59	30,40	39,16	30,17	1	1	1	1	1	1	1
KLOVERN	Mid	0,38	1,08	2,05	2,95	3,61	3,07	2,88	1	1	1	1	1	1	1
KNOW IT	Small	0,06	0,13	0,26	0,65	0,73	0,74	0,65	1	1	1	1	1	1	1
KUNGSLEDEN	Large	2,63	3,66	4,76	10,47	14,33	9,83	9,96	1	1	1	1	1	1	1
LAGERCRANTZ	Small	0,45	0,60	0,54	0,64	0,87	0,68	0,65	0	1	1	1	1	1	1
LATOUR INVESTMENT	Large	5,00	6,05	7,75	8,94	12,24	13,83	11,84	1	1	1	1	1	1	1
LAWSON SOFTWARE	Large					9,73	11,75	8,31	0	0	0	0	0	0	0
LBI INTERNATIONAL	Mid	0,14	0,18	0,52	0,98	1,22	1,80	1,71	0	1	1	1	1	1	1
LEDSTIERNAN	Small	0,28	0,38	0,45	0,58	0,52	0,41	0,30	0	1	1	1	1	1	1
LINDAB INTERNATIONAL	Large					10,25	11,59	11,37	0	0	0	0	0	1	1
LINKMED	Small					0,60	0,28	0,31	0	0	0	0	1	1	1
LUNDBERGFORETAGEN	Large	7,02	8,87	10,85	12,80	16,94	14,04	12,72	1	1	1	1	1	1	1
LUNDIN MINING SDB	Large	0,00	0,01	0,65	1,26	11,12	8,69	5,78	0	0	0	1	1	1	1
LUNDIN PETROLEUM	Large	2,32	8,55	9,66	21,57	24,96	21,29	24,68	0	1	1	1	1	1	1
LUXONEN SDB	Small	0,47	0,58	0,78	0,85	1,08	1,19	1,17	1	1	1	1	1	1	1
MALMBERGS ELEKTRISKA	Small	0,11	0,18	0,31	0,48	0,49	0,44	0,37	0	0	0	0	0	0	0
MEDA	Large	0,67	1,11	2,20	11,28	28,94	20,08	15,03	1	1	1	1	1	1	1
MEDIVIR	Small	0,32	0,92	1,12	0,77	0,70	1,00	1,30	1	1	1	1	1	1	1
MEKONOMEN	Mid	1,15	2,41	2,73	2,81	2,95	4,51	3,80	1	1	1	1	1	1	1
MELKER SCHORLING	Large					14,92	14,03	12,85	0	0	0	0	0	1	1
METRO INTL.SDB	Mid	0,39	7,04	7,73	6,97	4,78	2,57	2,42	1	1	1	1	1	1	1

TABLE AVII (Cont'd)

Company	List	0303	0312	0412	0512	0612	0712	0803	0303	0312	0412	0512	0612	0712	0803
MICRONIC LASER SYS.	Mid	0,57	3,27	2,61	4,41	3,02	1,26	1,14	1	1	1	1	1	1	1
MIDELFART SONESSON	Small	0,29	0,40	0,96	1,06	1,04	0,54	0,57	0	0	0	0	0	1	1
MIDWAY HOLDINGS	Mid	0,37	0,45	0,60	0,91	1,58	1,54	1,65	0	0	0	0	0	0	0
MILLICOM INTL.CELU.SDB	Large			7,69	13,29	29,32	44,85	35,02	0	0	1	1	1	1	1
MOBYSON	Small	0,04	0,06	0,12	0,19	0,10	0,24	0,25	1	1	1	1	1	1	1
MODERN TIMES GP.MTG	Large	4,10	10,02	11,99	21,79	29,76	30,28	27,29	1	1	1	1	1	1	1
MODUL 1 DATA	Small	0,03	0,09	0,09	0,08	0,11	0,08	0,08	1	1	1	1	1	1	1
MORPHIC TECHNOLOGIES	Mid			0,15	0,99	1,23	1,87	1,40	0	0	0	0	0	1	1
MSC KONSULT	Small	0,02	0,02	0,02	0,03	0,03	0,05	0,03	1	1	1	1	1	1	1
MULTIQ INTERNATIONAL	Small	0,02	0,08	0,12	0,13	0,08	0,08	0,09	0	0	0	0	0	0	0
MUNTERS	Mid	4,45	4,35	5,00	5,48	7,93	5,76	4,88	1	1	1	1	1	1	1
NCC	Large	5,16	5,96	9,51	15,45	20,31	15,00	17,93	1	1	1	1	1	1	1
NEDERMAN HOLDING	Small						0,97	0,95	0	0	0	0	0	1	1
NEONET	Mid	0,28	0,24	0,34	0,61	1,26	2,77	3,01	1	1	1	1	1	1	1
NET INSIGHT	Mid	0,15	0,28	0,53	0,92	2,91	1,60	1,92	1	1	1	1	1	1	1
NETONNET	Small	0,23	0,43	0,57	0,55	0,49	0,51	0,42	0	1	1	1	1	1	1
NEW WAVE GROUP	Mid	0,70	1,31	2,61	3,74	3,47	3,05	1,97	1	1	1	1	1	1	1
NIBE INDUSTRIER	Mid	1,25	2,54	3,68	4,91	9,29	6,30	4,06	1	1	1	1	1	1	1
NILORNGRUPPEN	Small	0,13	0,12	0,08	0,09	0,07	0,08	0,10	1	1	1	1	1	1	1
NOBEL BIOCARE HOLDING	Large	1,80	3,19	5,28	7,49	9,45	8,03	6,01	1	1	1	1	1	1	1
NOBIA	Large	3,23	4,33	6,34	9,29	15,24	10,03	8,57	1	1	1	1	1	1	1
NOCOM	Small	0,02	0,12	0,11	0,71	0,84	0,44	0,45	1	1	1	1	1	1	1
NOLATO	Small	0,64	1,16	1,37	1,86	1,67	1,08	1,38	1	1	1	1	1	1	1
NORDEA BANK	Large	109,07	157,46	189,91	223,27	273,68	280,50	245,1	1	1	1	1	1	1	1
NORDIC SER.PTNS.HDG.'B'	Small	0,03	0,03	0,02	0,13	0,20	0,24	0,19	0	0	0	0	0	0	0
NORDNET SECURITIES BANK	Mid	0,26	0,60	1,28	3,51	3,94	3,17	2,84	0	0	0	0	1	1	1
NOTE	Small			0,73	0,62	0,81	0,70	0,59	0	0	1	1	1	1	1
NOVACAST TECHS.'B'	Small	0,02	0,01	0,07	0,31	0,40	0,36	0,33	0	0	0	0	0	1	1
NOVESTRA	Small	0,09	0,25	0,67	1,30	0,61	0,32	0,26	0	0	0	0	0	0	0
NOVOTEK	Small	0,13	0,20	0,20	0,24	0,20	0,16	0,16	1	1	1	1	1	1	1
OEM INTERNATIONAL	Small	0,52	0,63	0,72	1,00	1,16	0,79	0,77	1	1	1	1	1	1	1
OMX	Large	4,30	10,34	9,82	13,09	14,94	31,55	31,49	1	1	1	1	1	1	1
OPCON	Small	0,12	0,13	0,16	0,35	0,73	1,09	1,03	0	0	0	0	0	1	1
ORC SOFTWARE	Mid	0,92	1,25	0,86	1,31	1,77	2,47	1,83	1	1	1	1	1	1	1
ORESUND INVESTMENT	Mid	2,82	3,59	5,99	7,19	11,63	8,49	8,87	1	1	1	1	1	1	1
OREXO	Small				1,62	1,72	1,02	0,95	0	0	0	1	1	1	1
ORIFLAME COSMETICS SDB	Large			7,78	11,80	15,06	22,28	20,95	0	0	1	1	1	1	1
ORTIVUS	Small	0,26	0,47	0,34	0,55	0,39	0,11	0,13	1	1	1	1	1	1	1
OXIGENE	Small	0,16	0,84	0,59	0,66	0,95	0,40	0,32	1	1	1	1	1	1	1
PA RESOURCES	Mid	0,13	0,28	0,90	5,00	9,76	7,40	6,93	0	0	0	0	1	1	1
PARTNERTECH	Small	0,21	0,40	0,78	1,26	1,61	0,45	0,49	1	1	1	1	1	1	1
PEAB	Mid	3,06	3,37	5,03	7,89	12,58	10,31	9,23	1	1	1	1	1	1	1
PEAB INDUSTRI	Mid						4,30	4,75	0	0	0	0	0	1	1
PHONERA	Small	0,06	0,06	0,06	0,04	0,19	0,28	0,23	1	1	1	1	1	1	1
POOLIA	Small	0,32	0,36	0,55	0,61	0,97	0,51	0,43	1	1	1	1	1	1	1
PRECISE BIOMETRICS	Small	0,06	0,07	0,18	0,41	0,36	0,14	0,15	1	1	1	1	1	1	1
PREVAS	Small	0,06	0,06	0,15	0,17	0,22	0,18	0,17	1	1	1	1	1	1	1
PRICER	Small	0,16	0,16	0,73	0,85	0,72	0,47	0,71	1	1	1	1	1	1	1
PROACT IT GROUP	Small	0,12	0,23	0,21	0,28	0,41	0,40	0,37	1	1	1	1	1	1	1
PROBI	Small	0,09	0,27	0,28	0,30	0,22	0,34	0,31	0	0	0	0	1	1	1
PROFFICE	Small	1,13	1,27	1,06	1,01	1,57	1,01	1,10	1	1	1	1	1	1	1
PROFILGRUPPEN	Small	0,22	0,29	0,34	0,38	0,45	0,37	0,37	1	1	1	1	1	1	1

TABLE AVII (Cont'd)

Company	List	0303	0312	0412	0512	0612	0712	0803	0303	0312	0412	0512	0612	0712	0803
O MED	Mid	2,01	4,23	4,54	6,22	10,60	8,35	3,79	1	1	1	1	1	1	1
RATOS	Large	7,53	9,04	11,61	15,80	26,45	28,38	30,72	1	1	1	1	1	1	1
RAYSEARCH LABORATORIES	Small	0,01	0,01	0,30	1,28	1,08	1,37	1,04	0	0	0	1	1	1	1
READSOFT	Small	0,12	0,35	0,41	0,89	0,85	0,46	0,43	1	1	1	1	1	1	1
REDERI AB TNSAT.'B'	Small	0,15	0,24	0,40	0,94	1,48	1,15	1,13	1	1	1	1	1	1	1
REJLERKONCERNEN	Small		0,06	0,10	0,26	0,49	0,49	0,48	0	0	0	0	0	1	1
REZIDOR HOTEL GROUP	Mid					8,85	5,84	4,83	0	0	0	0	0	1	1
RNB RETAIL AND BRANDS	Mid	0,11	0,13	0,60	1,45	3,65	3,44	1,87	0	1	1	1	1	1	1
RORVIK TIMBER	Small	0,10	0,13	0,12	0,23	0,53	0,67	0,51	1	1	1	1	1	1	1
ROTTNEROS	Small	1,38	1,61	1,42	1,30	1,23	0,44	0,30	1	1	1	1	1	1	1
SAAB	Large	9,11	10,91	11,86	17,66	21,82	13,45	15,53	0	1	1	1	1	1	1
SAGAX	Small	0,04	0,13	0,30	0,69	1,23	1,20	1,20	1	1	1	1	1	1	1
SAK I	Mid	1,15	1,68	2,97	3,40	4,35	3,25	2,90	0	1	1	1	1	1	1
SANDVIK	Large	49,41	64,16	70,64	87,79	118,04	131,97	122,1	1	1	1	1	1	1	1
SAS	Large	5,92	11,19	9,87	17,19	19,16	13,65	8,68	1	1	1	1	1	1	1
SCA	Large	62,13	68,27	66,73	69,81	84,31	81,16	73,83	1	1	1	1	1	1	1
SCANIA	Large	32,70	40,50	52,60	64,81	97,15	128,80	102,0	1	1	1	1	1	1	1
SCRIBONA	Small	0,46	0,73	0,74	1,05	0,57	0,35	0,35	1	1	1	1	1	1	1
SEB	Large	51,60	74,39	90,41	115,03	149,25	113,45	107,2	1	1	1	1	1	1	1
SECO TOOLS	Large	4,43	5,54	6,24	8,16	11,42	11,34	11,45	1	1	1	1	1	1	1
SECTRA	Mid	1,06	1,75	2,34	1,99	2,68	2,04	2,00	1	1	1	1	1	1	1
SECURITAS	Large	27,83	33,75	39,66	45,92	36,97	31,31	27,05	1	1	1	1	1	1	1
SECURITAS DIRECT	Mid					7,55	9,01	9,57	0	0	0	0	1	1	1
SECURITAS SYSTEMS	Mid					9,64	8,00	5,95	0	0	0	0	1	1	1
SEMCON	Mid	0,11	0,27	0,53	1,01	1,21	1,44	1,09	1	1	1	1	1	1	1
SENSYS TRAFFIC	Small	0,05	0,08	0,17	0,66	1,15	0,60	0,76	0	0	0	0	1	1	1
SIGMA B	Small	0,09	0,26	0,54	1,08	1,16	0,52	0,45	1	1	1	1	1	1	1
SINTERCAST	Small	0,23	0,28	0,34	0,56	0,44	0,78	0,69	0	1	1	1	1	1	1
SKANDITEK INDRI.FRV.	Mid	0,46	1,07	1,42	2,35	2,79	1,65	1,55	1	1	1	1	1	1	1
SKANSKA	Large	14,82	24,31	31,10	47,91	53,47	48,32	44,96	1	1	1	1	1	1	1
SKF	Large	24,74	31,67	33,70	50,75	57,58	49,86	53,73	1	1	1	1	1	1	1
SKISTAR	Mid	1,07	1,59	2,45	3,80	4,40	3,68	3,66	1	1	1	1	1	1	1
SOFTRONIC	Small	0,06	0,11	0,10	0,20	0,24	0,34	0,31	1	1	1	1	1	1	1
SSAB	Large	10,10	12,83	16,05	25,80	41,58	55,60	51,90	1	1	1	1	1	1	1
STORA ENSO	Large	27,11	33,05	16,90	16,34	15,96	14,31	11,01	0	0	1	1	1	1	1
STUDSVIK	Mid	0,37	0,80	0,75	1,68	2,08	1,27	0,88	0	1	1	1	1	1	1
SWECO	Mid	0,95	1,13	2,19	3,58	4,48	5,57	4,52	1	1	1	1	1	1	1
SWEDBANK	Large	51,73	74,68	87,35	114,27	128,07	94,31	85,81	1	1	1	1	1	1	1
SVEDBERGS	Small	0,37	0,50	0,73	1,14	1,53	1,08	1,06	1	1	1	1	1	1	1
SWEDISH MATCH	Large	22,78	25,84	25,92	30,35	38,48	41,25	35,04	1	1	1	1	1	1	1
SVENSKA HANDBKN.	Large	85,15	104,78	123,59	131,91	134,39	130,03	108,0	1	1	1	1	1	1	1
SWITCHCORE	Small	0,22	0,76	0,25	0,24	0,19	0,07	0,07	1	1	1	1	1	1	1
SVITHOID TANKERS	Small			0,01	0,01	0,21	0,25	0,26	0	0	0	0	0	0	0
SVOLDER	Small	0,37	0,59	0,60	0,88	1,04	0,74	0,70	1	1	1	1	1	1	1
SYSTEMAIR	Mid					3,38	3,21		0	0	0	0	0	1	1
TANGANYIKA OIL SDB	Mid		0,22	0,20	0,31	0,59	4,09	5,38	0	0	0	0	1	1	1
TECHNOLOGY NEXUS	Small	0,11	0,25	0,27	0,20	0,12	0,05	0,05	1	1	1	1	1	1	1
TELE2	Large	37,66	56,50	38,53	37,87	44,41	57,57	48,64	1	1	1	1	1	1	1
TELECA	Small	1,41	2,05	2,25	2,20	1,72	0,84	0,75	1	1	1	1	1	1	1
TELELOGIC	Mid	0,95	2,35	3,41	4,95	3,78	4,63	5,13	1	1	1	1	1	1	1
TELIASONERA	Large	113,61	175,79	186,07	199,63	252,59	271,67	211,5	1	1	1	1	1	1	1
TELIGENT	Small	0,21	0,30	0,54	0,63	0,27	0,22	0,10	1	1	1	1	1	1	1

TABLE AVII (Cont'd)

Company	List	0303	0312	0412	0512	0612	0712	0803	0303	0312	0412	0512	0612	0712	0803
THALAMUS NETWORKS	Small	0,14	0,16	0,19	0,21	0,09	0,07	0,13	1	1	1	1	1	1	1
TICKET TRAVEL	Small	0,09	0,21	0,20	0,33	0,31	0,28	0,28	1	1	1	1	1	1	1
TIETOENATOR	Large	9,78	16,45	17,57	22,48	17,06	10,69	10,80	0	1	1	1	1	1	1
TILGIN	Small					0,60	0,14	0,17	0	0	0	0	0	1	1
TRACTION	Small	0,35	0,39	0,54	0,87	1,11	1,00	0,88	1	1	1	1	1	1	1
TRADEDOUBLER	Mid				4,12	5,61	3,95	3,43	0	0	0	0	1	1	1
TRANSCOM WWD.SDB.	Mid	0,60	1,92	2,50	4,54	5,54	3,36	2,49	0	1	1	1	1	1	1
TRELLEBORG	Large	5,68	9,49	9,77	13,71	13,26	10,96	9,22	1	1	1	1	1	1	1
TRICORONA	Mid	0,03	0,04	0,09	0,19	0,68	1,58	1,30	0	0	0	0	0	0	0
UNIBET GROUP SDB	Mid			1,94	4,53	5,54	6,30	4,35	0	0	1	1	1	1	1
UNIFLEX	Small			0,14	0,24	0,35	0,27	0,28	0	0	0	1	1	1	1
WALLENSTAM	Mid	1,42	2,31	3,64	5,59	8,21	6,78	6,81	1	1	1	1	1	1	1
VBG GROUP	Mid	0,28	0,31	0,37	0,74	1,41	1,55	1,38	0	0	0	0	0	0	0
WEDINS SKOR & ACESOR.	Small	0,05	0,38	0,18	0,32	0,51	0,36	0,22	1	1	1	1	1	1	1
WEST SIBERIAN RES.SDB	Mid	0,09	0,06	1,29	3,85	8,08	5,07	5,26	0	0	0	1	1	1	1
WESTERGYLLEN	Small	0,06	0,10	0,22	0,33	0,14	0,30	0,27	0	0	0	0	0	0	0
WHLBORGES FASTIGHETER	Mid				3,69	5,49	4,45	5,21	0	0	0	1	1	1	1
VITROLIFE	Small	0,17	0,42	0,37	0,50	0,68	0,59	0,53	1	1	1	1	1	1	1
VOLVO	Large	65,48	95,89	114,95	158,06	202,67	230,59	183,7	1	1	1	1	1	1	1
VOSTOK GAS SDB	Large	1,14	4,24	5,58	17,77	22,88	24,14	18,41	0	0	0	0	0	0	0
VOSTOK NAFTA INV.SDB	Mid					5,29	5,12		0	0	0	0	0	0	0
XANO INDUSTRI	Small	0,33	0,38	0,23	0,35	0,58	0,58	0,46	1	1	1	1	1	1	1
XPONCARD	Small	0,34	0,36	0,45	0,60	0,37	0,55	0,70	1	1	1	1	1	1	1
ZODIAK TELEVISION	Small	0,02	0,07	0,34	0,57	0,46	0,44	0,60	1	1	1	1	1	1	1
TOTAL MARKET CAP		1961	2713	2968	4050	4930	4656	4014	1343	2062	2517	3316	4786	4599	3970
AVERAGE MARKET CAP		8,57	11,75	12,37	16,33	18,68	17,12	14,76	4,94	7,58	9,26	12,19	17,59	16,91	14,59
MEDIAN MARKET CAP		0,36	0,63	0,81	1,45	1,97	1,74	1,69	0,12	0,30	0,54	0,90	1,43	1,52	1,47
NUMBER OF FIRMS TRADED		227	231	240	248	264	272	272	174	191	198	209	232	250	251