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Is the transparency of the Swedish stock market at risk?

A study on insider trading and analysts' recommendations with
regards to the eased regulation on quarterly reports

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ABSTRACT

This study examines the transparency of the Swedish stock market with regards to the new, eased regulation on quarterly reporting. The study investigates whether insider trading and analysts' recommendations could be alternative sources of information to quarterly reports. Consistent with prior research, it finds the magnitude of informativeness of insider buys being greater than for insider sells. The study finds no strong sign of informativeness of analysts' recommendations, but a direct market reaction is found as a response to analysts' sell recommendations. The obtained results suggest that insider trades and analysts' recommendations are slightly informative, but not informative enough to be regarded as substitutes to quarterly reports. The conclusion is that the amount of publicly available information sources are reduced if firms hand out less quarterly reports, which could lead to increased information asymmetries and thereby a decreased transparency of the Swedish market.

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TITLE	Is the transparency of the Swedish stock market at risk? - A study on insider trading and analysts' recommendations with regards to the eased regulation on quarterly reports
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KEY WORDS	Insiders, analysts, investors, informativeness, transparency, asymmetric information, quarterly reports, eased regulation and behavioural finance
PURPOSE	This study aims to investigate what effects the eased regulation on quarterly reports will have on the transparency of the Swedish stock market and if insider trading and analysts' recommendations could potentially be alternative information sources to quarterly reports
METHODOLOGY	Quantitative panel regression and qualitative survey
THEORETICAL PERSPECTIVES	Traditional and behavioural corporate finance theories and corporate governance objectives
EMPIRICAL FOUNDATION	Regression results on the informativeness of insider trading and analysts' recommendations and answers to the survey
CONCLUSIONS	Insider trading and analysts' recommendations show some significant informativeness but cannot function as substitutes to the quarterly reports. The transparency of the Swedish market could be at risk if firms in the future chose to adapt to the new regulation, as this increases the information gap between insiders and other market participants such as analysts and investors.

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Definition List

Accurate recommendation	When the future stock price turns out to be precisely as recommended
Analyst	Registered analysts working for banks and news papers
Analyst coverage	The number of analysts following a certain stock
Bias	A predisposition towards error
Gambler's fallacy	The tendency to rely on inaccurate estimations of the probabilities for different outcomes causing biased decisions
Herding behaviour	The tendency to mimic friends, family or colleagues in a decision to trade
Heuristic	Rules-of-thumb used in decision making
Hot-hand-fallacy	The tendency to put too much reliance upon past trends when estimating the future outcome of for example a stock or a firm causing biased decisions
Information asymmetry	A situation where one party has more or superior information compared to another
Information gap	Differences in the information available between groups of people, in this study the word refers to the gap between: <ul style="list-style-type: none">• Insiders vs. analysts• Insiders and analysts vs. investors and other market participants
Information gathering costs	Costs associated with gathering information
Informativeness	Insiders' and analysts' ability to correctly predict future stock movements, as this implicates that there is information valuable to investors incorporated in insider trading and analysts' recommendations
Insider	A person that per definition is, or should be, registered as insider at the Swedish Financial Supervisory Authority
Overconfidence	Valuing your own ability higher than what is rational and accurate, leading to ineffective decision-making
Post-Earnings-Announcement-Drift	The stocks of firms giving rise to positive earnings surprises experience positive drift after the announcement, while stocks

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	of firms giving rise to negative earnings surprises experience negative drift after the announcement
Private information	Information that is available only to some people at a cost
Public information	Information that is available to the general public at no cost
Representativeness	People make judgements based on stereotypic thinking, asking how representative an object or idea is for the class to which it belongs
Transparency	Transparency in this study refers to what extent market participants are able to find sufficient public information about the listed firms' financial situations and future outlooks (through financial reports, disclosures or other information sources) to make accurate forecasts
Optimal transparency	A level of transparency where investors can gain sufficient amounts of information to be willing to invest without incurring too high costs for current shareholders

1. INTRODUCTION

This section introduces the reader to the transparency of the Swedish stock market and covers the current discussion of the new and eased regulation of quarterly reports. Headlines such as problem discussion, purpose, delimitations and study outline are included.

1.1. Background

A major obstacle preventing investors from yielding abnormal returns is their ability to make accurate investment decisions. In making those decisions, transparency and information is important for the rational investor, who wants to base his or her investments on fundamental analyses. However, there is a crucial difference between public and private information, as public information is available at no cost to all market participants but private information is available only to some at a cost (Forssbäck and Oxelheim, 2014). Two important sources of public information are quarterly reports handed out by listed firms and the complementary press releases, which are two of the few sources of financial insight an ordinary investor can get of the firms at no cost. Listed firms are obliged to provide those two sources of information and their content is regulated by the Swedish Financial Supervisory Authority to establish a certain informational standard. Conversely, the transparency of the Swedish stock market could now potentially be at risk, as since the first of January 2014, the regulation of quarterly reports handed out by listed firms on Nasdaq OMX Stockholm was eased. The new and more flexible regulation infer that firms can choose to release reports in accordance to the Interim Financial Reporting IAS 34 twice a year instead of four times a year, as of formerly.

The proposal to the regulatory change arose from discussions between various market participants with the aim to reduce managements' time spent on reports, in favour of a stronger focus on pure business and long-term growth. Nasdaq OMX Stockholm desiderates to attract more firm enlistments due to the eased regulation (Affärsvärlden, 2013(a, b and c)). Great Britain initiated an eased regulation on financial reporting with the objective to minimize the critical short-term investment horizons shareholders tended to have on British listed firms. Denmark later imitated Great Britain and also initiated eased regulations on quarterly reporting (Lekvall, 2014). This year, Sweden follows in their path.

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*“This is our interpretation of what the participants think. It is obvious that the listed firms experience it as an administrative burden to write the quarterly reports and all that comes to it in forms of presentations and road shows. It has developed as a praxis containing more and more information.”*¹ - Magnus Billing, Chief of Nasdaq OMX

Stockholm to Nyhetsbyrån Direkt (Affärsvärlden, 2013(b)).

Denmark has a similar corporate governance structure as Sweden, but as there is no previous study found having investigated what effects the eased regulation on quarterly reporting had on the transparency in Denmark, it is not possible to predict what effect it might have in Sweden. Recalling that at the initiation of obligatory quarterly reports in Sweden ten to fifteen years ago, it was seen as a great step towards an increased transparency of the market (Lekvall, 2014), it is noteworthy that the discussion today is reverse. The potential risk associated with fewer quarterly reports available is that the possibility for investors to gain accurate public information decreases and hence also their possibility to make reasonable forecasts and profitable investments. It may moreover alter analysts' contingency to make accurate stock recommendations, as these recommendations largely are based on the quarterly reports. A survey performed by the Swedish communication and consulting firm Hallvarsson and Halvarson in November 2013 reveal that almost 70 per cent of the analysts participating in the survey allege that quarterly reports are very important to them, but that other ways to gain information exists.

*“It is one of the few opportunities except meeting with the firms where one can get an insight in the business”*² – An analyst on how important quarterly reports are (Hallvarsson and Halvarson, 2013)

Swedish Shareholders' Association, an independent organisation protecting the Swedish shareholders' rights by observing the market objectively, declared their criticism to the eased regulations early on. When the discussion of quarterly reports being a burden for firms was introduced in the summer of 2012, Swedish Shareholders' Association published an article clearly stating that the primary purpose of quarterly reports is to provide the market with regular financial information of the firm performance, and that Swedish shareholders need those reports regardless of how time-consuming they may be for management (Swedish Shareholders' Association, 2012). Firms utilising the regulation change will obviously result in fewer financial reports available to analysts and investors, but the real question is what effects it will that have on the overall transparency?

¹ Translated by the authors of this study

² Translated by the authors of this study

1.2. Problem discussion

The new regulation amount to several potential problems because, given that the listed firms will actually hand out fewer reports, the information gap and information asymmetry on the market will increase and investors will consequently need access to other sources of public information. But what other information sources are there really available at no cost for all market participants?

Besides quarterly reports and press releases, analysts' recommendations³ and insider trading are two alternatives advocated by the authors of this study. Both insiders⁴ and analysts⁵ already play an important role in sharing and transferring information to the market. Insiders hold by definition private information about their firms' financial wealth and future cash flows, hence insider trading⁶ is argued to be an essential signalling factor to observe in order for an investor to gain information. Analysts on the other hand do not possess any private information per se, but can more easily access this information than an ordinary investor by exclusive meetings with the firms' management teams. As analysts then provide the market with their recommendations and reports, they help minimizing the information gap. Consequently, insider trading and analysts' recommendations are considered to be potential substitutes to quarterly reports.

One fundamental difference between the two actors is however analysts' informational disadvantage due to higher information gathering costs, pursuing researchers to question whether insiders may eventually crowd out analysts (Gilbert, Tourani-Rad and Wisniewski, 2005). The eased regulation with fewer reports does not only implicate potentially higher costs for analysts, who need to work harder to attain the information, but it also lengthens the open periods⁷ for insiders to trade. This gives insiders an even greater advantage and hence increases the risk of crowding out and minimizing the analyst coverage on the Swedish stock market. This should be of concern as Ravina and Sapienza (2009) find that higher analyst coverage reduces the information gap between insiders and the market. Their study proves higher

³ Only analyst recommendations that have reached the whole market, as the recommendations only given to the analysts' clients are classified as private information

⁴ This study defines insiders as the Swedish Financial Supervisory Authority (n.d.) does. Hence, an insider is a person who through his or her position has access to inside information about a company.

⁵ This study includes both news letter analysts and analysts working for banks

⁶ Insider trading is when an insider trades the stock of "his or her" company. It also includes trades by closely related parties of the insider, such as relatives or legal advisors to the person holding an insider position. Only insider trades reported to Swedish Financial Supervisory Authority are included in this study.

⁷ Insiders in Sweden are not allowed to trade thirty days prior to the release of an interim report, the release day in question included, and all trading that takes place need to be reported to the Swedish Financial Supervisory Authority, Swedish Act (2000:1087). Violation of these regulations can result in prison for up to two years and high penalty fees, Swedish Act (2005:377). Every change in insider holdings in Sweden needs to be reported to the Swedish Financial Supervisory Authority within five calendar days from the date of the transaction.

analyst coverage to bring on smaller abnormal returns yielded by insiders compared to the market, eventuating in an increased market transparency.

Firms listed on small cap and mid cap generally already publish fewer press releases, has a lower analyst coverage and fewer insider trades than large cap firms. The survey by Hallvarsson and Halvarson (2013) reveals that analysts fear firms listed on small and mid cap are most likely to utilise the new regulations. Imaginably, analysts will consequently favour large cap stocks even more, reducing the analyst coverage on mid and small cap further. The risk of fewer quarterly reports could accordingly have a stronger negative effect on the transparency of mid and small cap stocks.

But is transparency optimal? To whom is less transparency a problem? Previous researchers discuss the possibility of low transparency being beneficial to some shareholders (Forssbäck and Oxelheim, 2014; Greenstone, Oyer and Vissing-Jorgensen, 2006; Leuz and Verrecchia, 2000). The reasoning behind this trade-off is that the benefit gained by reducing the information gap towards new and current investors must exceed the loss of revealing competitive advantages to competitors. Competitive advantages are important to all firms, but more crucial to some, such as start-ups and high-technology firms, than others and therefore such firms are rationally motivated to be less transparent than others. The complex difficulty for a firm and its current shareholders is that less transparency will potentially detract investors' willingness to invest, explained by the adverse selection problem causing new uninformed investors to fear others have more beneficial private information and will make a higher profit than them. The financial cost of less transparency is therefore illiquidity followed by the capital market's unwillingness to invest, which needs to be compensated for by issuing more debt. This increases the total cost of capital for the firm and its current shareholders (Forssbäck and Oxelheim, 2014). Regarding the new regulation, the drawback with quarterly reports was never firms revealing competitive advantages, but by quarterly reports stealing precious time from management that could be spent more efficiently within the business. This means that, arguing in line with Forssbäck and Oxelheim (2014), utilising the regulation should rather be motivated by managements' time being spent so efficiently within the business that it compensates for the increased cost associated with less transparency.

Great Britain is seen as a paragon for the Swedish financial reporting system, which could have implications due to differences in the respective countries' corporate governance systems. Compared to Great Britain, Sweden is dominated by fewer but larger shareholders influencing the market. Therefore, investors on the Swedish market can become dependent on information from fewer insiders as opposed

to investors on the British market (La Porta, Lopez-de-Silanes and Schleifer, 2008). There are several corporate governance aspects that will be discussed more thoroughly later on in this study, but it should be emphasized that they ought to be of concern.

Summing up, it is yet unclear whether the alternative public information sources, insider trading and analysts' recommendations, contain any valuable information for investors in Sweden. A majority of prior studies on the subject have been performed in America, hence there is a research gap as those findings might not be directly applicable to a country such as Sweden, due to the differences in the corporate governance systems. Because of the regulatory change in Sweden, this research gap has now become even more important to fill in order to make any predictions about the consequences the eased regulations might have, to give any policy recommendations for firms and to provide investors with answers of how to adapt to a potential new information shift.

1.3. Purpose

This study aims to investigate what effects the eased regulation will have on the transparency of the Swedish stock market and if insider trading and analysts' recommendations could potentially be substitute information sources. It also aims to chart insiders' and analysts' opinions and expectations of the new regulation in order to clarify what to expect from the regulatory change and how to adapt to it.

1.4. Delimitation

The focus of this study is the Swedish market. It covers insider trading and analysts' recommendations of all firms listed on Nasdaq OMX Stockholm during the time period of 2011 to 2013.

1.5. Study Outline

The second section of this study covers the theoretical frame of reference, where focus is on traditional and behavioural theories of corporate finance. In addition, the hypotheses of this study, formed by previous research, are presented here.

In the third section, the methodology section, the research approach and research population are presented. The data collection is explained and excluded observations are reported and motivated. This is followed by a presentation and motivation of the method and the regressions used. The section ends with a discussion on the validity and reliability of the methodology.

Section four presents and evaluates the results of the performed regressions and the survey. The results are presented in separate size groups in the following order: large cap, mid cap and small cap.

The fifth section contains the analysis of the results with regard to their informativeness and in the light of theories and earlier research within the area. The results are also discussed with regard to the eased regulation on quarterly reports in Sweden.

In the last section, section six, the results of this study are summarised and the final conclusions from this study are presented. Proposals to further research are also given.

2. THEORETICAL FRAME OF REFERENCE

This section starts with a description of the differences and influences of corporate governance and covers relevant theories within traditional and behavioural corporate finance. Finally, previous empirical findings and the hypotheses are presented.

2.1. Corporate Governance

Almost all other studies found investigating the informativeness of analysts' recommendations and insider trading are concentrated to the American market (Cohen, Malloy and Pomorski, 2010; Wu and Zhu, 2011; Ravina and Sapienza, 2009; Hsieh, Ng and Wang, 2005; Jeng, Metrick and Zeckhauser, 2003; Lakonishok and Lee, 2001). Several features distinguish Sweden from America, which may have an impact on the informativeness of the markets respectively. The regulatory disparities are summarised in Appendix A.1, but what is argued to be the dominating differencing feature in regard to the transparency and informativeness of insider trades and analysts' recommendations is the corporate governance systems.

The American and British market is characterised by a common law legal system, whereas Sweden is a civil law origin country. As proved by La Porta, Lopez-de-Silanes and Schleifer (2008), legal rules and legal origins in terms of common law or civil law do matter for the corporate governance structure in a country, which in turn influence several factors such as insider trading, shareholder protection, ownership control et cetera. Hence, it is not optimal for civil law countries to directly apply findings of studies conducted in common law countries or to have the British model of financial reporting as a paragon (Lekvall, 2014). Common law countries are characterised by high investor and shareholder protection and low ownership concentration, giving the country a strong corporate governance function, while civil law countries are defined by the opposite (Lekvall, 2014; La Porta, Lopez-de-Silanes and Schleifer, 2008). A high ownership concentration implicates that few but large owners hold most of a firms' shares, which reduces the market transparency in civil law countries (La Porta, Lopez-de-Silanes and Schleifer, 2008; Bushman, Piotroski and Smith, 2003).

Disparities in the board systems potentially also affect the findings of informativeness of insider trading. Common law countries allow managers on board and accept CEO duality, whereas civil law origin countries like Sweden and Denmark do not (Lekvall, 2014; La Porta, Lopez-de-Silanes and Schleifer,

2008). Inferring that managers in America and Great Britain potentially are more informed about the future of their company than Swedish managers, hence American and British insiders' trades could be more informative and profitable to mimic.

Corporate governance has by earlier research been demonstrated to affect the informativeness in insider trading. Fidrmuc, Korczak and Korczak (2010) find evidence that good corporate governance contributes to price informativeness, because stronger investor protection improves the incorporation of information into stock prices and that stocks in these countries thereby reflect the fundamental value of the firms better. Their results are in line with the theory of Verrecchia (2001), that the positive relationship between investor protection and information content of insider trading comes from stronger and more precise signals. In countries with weaker corporate governance functions insiders are also able to make higher returns than those in countries with stronger. The market reaction is on the other hand greater to insider trading in strong corporate governance markets, than in weak ones (Fidrmuc, Korczak and Korczak, 2010; Ravina and Sapienza, 2009). Civil law origin countries like Sweden and Denmark thereby lack the market functions that can improve market transparency and facilitate information sharing (La Porta, Lopez-de-Silanes and Schleifer, 2008). Prior research has found that there is a positive relationship between the quality of information systems and transparency, implying that high quality financial reporting leads to a better transparency (Bushman, Piotroski and Smith, 2003).

2.2. Traditional and Behavioural Finance Theory

Most previous research within corporate finance is based on traditional finance theory and thus assumptions that market participants such as investors, analysts and insiders are fully rational and accordingly their preferences, expectations and behaviour. Investors are assumed to develop unbiased forecasts and to make decisions that serve in their best logical interest. This means that according to traditional finance theory, markets are assumed to be efficient (Baker and Wurgler, 2013). Behavioural finance theory is an approach that has become academically recognized just in recent years, finding evidence for market participants acting more irrationally and causing opportunistic mispricings in the market. Behavioural corporate finance therefore suggests the market to be inefficient (Baker and Wurgler, 2013; Shefrin, 2000).

2.2.1. Market efficiency

The efficient market hypothesis was introduced by Fama (1970) and concludes that unexploited investment opportunities are directly incorporated into the market, hence mispricings do not hold for long. Implying that investors cannot rationally expect to make abnormal returns by exploiting such opportunities arising from differences in information. The only way a rational investor can expect abnormal returns according to traditional theory is to take on more systematic risk.

Robert Merton is another recognized name within the field of market efficiency. In his study from 1987, Merton describes many different ways of unthreading the signs of market inefficiency; one way is to see whether professionals with an information advantage consistently manage to beat the market. If strong market efficiency holds and mispricings do not exist, then the analysts' stock recommendations ought to be worthless, implying one of the major services brokerage firms and banks offer would be useless. Merton (1987) finds that the brokerage firms indeed have proven to beat the market, which indicates them to be better informed than the market. However, the results consist a lot of noise. Merton's findings suggest markets to be inefficient, with mispricings and information gaps that can be used in order to make abnormal returns. The traditional finance theory would explain these opportunistic mispricings to simply be a consequence of analysts recommending riskier stocks in terms of beta, size and price-to-book ratios, whereas a behaviourists would reason that those mispricings arise from irrational investor behaviour (Shefrin, 2000). The uncertainty of whether the market is efficiency or not allows for a discussion between behaviourists and traditionalists about the market anomalies presented in the next paragraphs.

2.2.2. Post-earnings-announcement-drift

A common anomaly found on the market is the post-earnings-announcement-drift, which is a post reaction to earnings announcements, causing a drift in prices (Michaely, Thaler and Womack, 1995). Several different theories explaining the post-earnings-announcement drift have been publicised. Daniel, Hirshleifer and Subrahmanyam (1998) suggest overconfidence about the precision of private information and self-attribution error among investors and analysts to be two explanations to the drift. They conclude that if investors and analysts are overconfident about their ability to forecast abnormal returns in combination with self-attribution error, they will underestimate their forecast errors. It will also lead investors and analysts to underreact to information obtained from public sources and overreact to private information or analyses they come up with on their own. But, as more public information

becomes available, their recommendations will adjust closer towards a price reflecting the information. Stock price will in other words reflect overreactions to private information and underreactions to public information. News of insider trades is similar to news of earnings or news of analysts' recommendations, hence a drift in stock prices can be expected following insider trades as well.

Momentum and winner-loser effect are two other potential explanations to the drift. Shefrin (2007, 2000) states that post-earnings-announcement-drift features the anomaly momentum with a continuing stock price drift for a year, to be followed by a reversal after that year, called winner-loser effect. Momentum and winner-loser effect will be discussed more thoroughly in the next two paragraphs.

2.2.3. Momentum

The momentum effect refers to the fact that short-term winners, in terms of stock price, are likely to continue being short-term winners and short-term losers to continue being short-term losers. Therefore investors can expect yielding higher returns by adopting a short-term strategy of buying recent winners (Shefrin, 2007). Jegadeesh and Titman (2001, 1993) find the effect to be strongest when using prior six-month returns to forecast the returns of the upcoming six-month. The results show that half the excess returns of those past winners and losers dissolve within the following two years, and cannot be described only by delayed stock price reactions (Jegadeesh and Titman, 2001, 1993).

Behaviourists have several explanations to the momentum effect. It could be caused and boosted by analysts and investors underreacting to new information or by investors being overconfident in their investments and assuming recent profitable stock performance to persist (Shefrin, 2007; Jegadeesh and Titman, 1993). Relying too much upon past trends when creating forecasts cause biased expectations about the future stock movements as the stock performance follows a random walk, one should therefore not be able to predict the future based on past performance. The tendency to rely excessively on recent information is referred to as extrapolation bias or hot-hand-fallacy. Investors who are victims of the hot-hand-fallacy are also exposed to the closely related bias called gamblers' fallacy, which is the tendency to rely on inaccurate probabilities. Hot-hand fallacy thereby leads to gambler's fallacy and causes people to make biased decisions, which in turn causes market anomalies such as the momentum effect (Rabin and Vayanos, 2009). Traditionalists, on the other hand, view momentum to simply be an effect of short-term winners being riskier than short-term losers (Shefrin, 2007).

2.2.4. The Winner-Loser effect

The winner-loser effect refers to a reversal of past losers outperforming past winners in the long run and vice versa, in contrast to the short-term anomaly momentum. The winner-loser effect originates from the findings of De Bondt and Thaler (1987, 1985), who find that over a three to five year period, stocks that have performed poorly over the prior three to five years generate higher return than those that performed well in the same prior horizon. Jegadeesh and Titman (1993) find that the winner-loser effect holds in a shorter time horizon of one year as well. Their results show that past winners realize higher returns around the earnings announcement in seven months than past losers, but that in the following thirteen months past losers realize higher returns than the past winners. This finding suggests a contrarian trading strategy of buying past losers and selling recent winners to be profitable.

A behaviourist's explanation to the winner-loser effect is that investors overreact to prior earnings, causing past losers to be undervalued by the market and past winners to be overvalued, facilitating for past losers to beat market expectations and yield abnormal returns in the long run (Shefrin, 2007, 2000). The traditionalists, however, claim that the winner-loser effect reflects differential risk and that past losers are more risky and should therefore also yield a higher return. The argument of traditionalists is statistically proven true by the Fama-French *Three Factor Model* (Shefrin, 2007).

2.2.5. Information asymmetries

Information asymmetries arise when insiders and other market participants, such as investors and analysts, do not possess the same amount of information. This asymmetry does in turn lead to agency and adverse selection problems creating an uncertainty among investors, which produces an unwillingness to invest and trade, resulting in market illiquidity (Admati and Pfleiderer, 2000). Agency problems originate from a conflict of interests in the relationship between the firms' management (agent) and their stockholders (principal). Information asymmetries lead to difficulties for the principal to determinate whether the agent is acting in the principal's interest, as the principal lacks information about the agent's motive. Adverse selection problems arise from the fact that an investor find it hard to differentiate "good stocks", generating high returns, from "bad stocks", generating low returns, due to lack of information concerning the firms financial wealth and future outlooks. The financial reports reduce the information asymmetries and the information gap between management and shareholders (Healy and K. Palepu, 2001). As a reduction in information asymmetry leads to an increased transparency

(Forssbäck and Oxelheim, 2014), the eased regulation being utilised could decrease the transparency on the Swedish market.

2.2.6. Signalling

The theory of Akerlof (1970), emphasizing the problem of separating cherries from lemons, is often applied on the stock market. It states that in order for a firm to separate itself from the “bad” stocks, firms consequently take actions to signal them being a “good” stock. Dividends, share repurchases and issuance of new shares are some examples of signalling actions. Insider trading is another (Gelb, 2000). Although it is illegal in Sweden for insiders to trade with the purpose to manipulate the market, it cannot be ignored that any trading by an insider, theoretically, do has some signalling value as it is a decision based on superior information.

Nevertheless, investors have reasons to doubt the signals of insider transactions. Firstly, insiders could have incentives to buy just to signal positive outlooks, and investors will not know whether a certain transaction is based on such signalling motive or on pure expectations of the company’s future. Secondly, insiders are commonly argued to suffer from biases in their decision to trade. For example, according to a survey performed by Financial Executives International and Baruch College, The City University of New York in 2013, there is evidence that insiders, just as investors, may be victims of the hot-hand fallacy. Furthermore, the survey suggests the majority of the participating executives to be overconfident and affected by representativeness. Representativeness implicate that insiders, in their decision-making, question whether an object is representative for the entire area to which it belongs, in other words applying rules of thumb. Neither rules of thumb nor overconfidence are good features when making future stock predictions or forecasting, as it leads to biased decisions. In turn, insiders’ biased decisions leads to irrational investments, sending the market wrongful signals. Overconfidence also often causes insiders to overreact to market fluctuations, by becoming very optimistic when the market is going up, and very pessimistic when the market is going down.

Analysts additionally constantly signal their market expectations through their stock recommendations, but they are also affected by biases causing inefficiencies in the markets. One bias is what Shefrin (2000) refers to as the recommendation game, implying that analysts do not always mean what they say. A recommendation of hold could actually mean sell and a recommendation of buy could actually mean hold. A vast selection of reasons for analysts not sending the right signal are discussed under paragraph

2.3.2., but the bias implicates that investors would not obtain the underlying message signalled by the analysts, which causes mispricings in the market.

2.2.7. Herding in stock markets

Herding is a behavioural phenomenon where people mimic others when trading, making the stock increase or decrease in a way that does not merely reflect the available information, leading to inefficiencies in the market structure. Cipriani and Guarino (2012) have through their research concluded that on average on a day where public information such as quarterly reports are released two per cent of informed traders⁸ herd-buy or herd-sell. Furthermore they have found that in seven per cent of the days that information were released more than ten per cent of the increase/decrease could be related to herd-trading, in total approximately four per cent of the movements in stock prices could be linked to herd-trading (Cipriani and Guarino, 2012). Herding may thereby cause insiders and analysts to rely too much upon each other, leading to biased recommendations and trading strategies if these are not accurate. Conversely, in the study by Wall Street Journal and Zacks Investment Research (1997) no strong herding behaviour in brokerage houses' recommendations can be found. In fact, the results show the opposite, as only a trickle of the 300 stocks recommended were consistently recommended by all (Shefrin, 2000).

2.2.8. Analysts and insiders expect the opposite trade-off between risk and return

Investors', insiders' and analysts' attitudes towards risk do also affect their investment decisions. The traditional approach to risk and return is that investors are risk averse and therefore require compensation for the increased systematic risk they take on when holding riskier securities. The risk premium required is according to the capital asset pricing model (CAPM) the security's beta deducted by the market risk. CAPM is a recognised method to measure the expected return but uses only one single factor to measure risk, the market risk premium. The Fama-French *Three Factor Model* is another more complex recognised measure that incorporates more factors to measure the firm specific risk. The risk is argued to increase the more sensitive the stock is to market movements, the smaller the firm size is or the more the stock behaves as a small-firm stock, and the higher the book-to-market is (Ogden, Jen and O'Connor, 2003). The relationship between risk and return is in other words positive according to both CAPM and the Fama-French Three Factor Model; when an investor takes on more risk, he or she can

⁸ An investor trading on private information

then expect a higher return (Shefrin, 2007). Contrariwise, earlier findings prove investors tend to favour large and liquid stocks and are consistently found to expect large value-stocks to outperform small growth-stocks (Gilbert, Tourani-Rad and Wisniewski, 2005).

Insiders are, as well as investors, found to rely more on representativeness in the sense that they expect stocks of “good” companies, also called value-stocks, to yield the highest return. Inferring that insiders and investors expect the relationship between risk and return to be negative (Shefrin, 2007) and hence suffer from extrapolation bias (Rabin and Vayanos, 2009). Analysts, on the other hand, are argued to be more rational as they expect the relationship to be positive, in line with the traditional approach. They expect small-capitalisation stocks, or stocks behaving like them, to yield higher return than large-capitalisation stocks in the long-term investment horizon. They also expect growth stocks to earn a higher return than value stocks (Shefrin, 2007).

2.3. Earlier Empirical Findings

2.3.1. Insiders and analysts influencing each other

In order for this study to investigate whether insider trading or analysts’ recommendation could be considered alternative sources of information to quarterly reports, it is central to explore if they influence each other. Previous research conducted on the global and the American market infers that they do (Jin, Livnat and Zhang, 2013; Ravina and Sapienza, 2009; Hsieh, Ng and Wang, 2005; Pioroski and Roulestone, 2005). If similar evidence is found on the Swedish market, the potential of them being separate substitutes to quarterly reports partially diminish.

The implication with analysts and insiders influencing each other is twofold. Firstly, analysts can choose which firms to follow, whereas insider trading by definition is bound to trades of a certain stock. As analysts tend to favour “glamour” stocks, in essence positive momentum, high growth, high volume, and relatively expensive and stocks from large and liquid firms (Gilbert, Tourani-Rad and Wisniewski, 2005; Jegadeesh et al., 2004; Lang and Lundholm, 1996), the analyst coverage of firms is not equally distributed in relation to insider trades. This implicates that a potential correlation between insiders and analysts will only concern some stocks. Secondly, if they depend on each other, analysts’ recommendations are not solely based on the analysts’ fundamental analysis of reports and meetings, and insiders’ trades are not solely based on the insiders’ expectations about the future performance. It is hence more problematic to

interpret the signals of the two actions separately. This reasoning form the basis of the two first hypotheses:

H1: Insiders consider analysts' recommendations in making their decision to trade

H2: Analysts consider how insiders trade in making their recommendations

2.3.1. The informativeness of insider trading

Prior research conducted on the area of informativeness of insider trading solely show mixed results. Some find opportunistic insiders' trades to be more informative than routine insiders' trades⁹, some that insider trades are informative but not profitable and some discover insider trading to be both informative and profitable (Wu and Zhu, 2011; Cohen, Malloy and Pomorski, 2010; Jeng, Metrick and Zeckhauser, 2003; Lakonishok and Lee, 2001). Much of the uncertainty in insider trades' informativeness originates from the ambiguity in insiders' motives to trade. According to previous studies, insider trading could be done in favour of their own personal gains, to signal to the market their future expectations or to minimize effects of negative recommendations of the firm's stock. For example, research has found that if an article or stock recommendation is published foreseeing future bad sales of a firm, insiders will conversely buy their own stock to minimize the negative publicity and to signal positive future expectations (Pioroski and Roulestone, 2005; Hsieh, Ng and Wang, 2005). As many insiders receive a large portion of ownership through stock grant programs, stockholdings are often an essential part of their wealth and salary. Hence, insiders have a great incentive to engage in signalling (Cohen, Malloy and Pomorski, 2010). If people, as Shefrin (2007) suggests, react stronger to negative news than to positive, it would give insiders a more legit reason to purchase as a response to negative analysts' recommendations to smooth out the negative effects of such recommendations.

The ambiguous motives make it hard for investors to interpret insider trade as informative or not. For that reason, earlier findings have found the informativeness to be lower in insider trades in comparison to analysts' recommendations, among with stricter regulation on insider trading (Hsieh, Ng and Wang, 2005). In line with this, Lakonishok and Lee (2001) conclude that the market seems to ignore information about insider trades, as there are very little actions around these trades. Regardless insiders' motive to trade, there is clear evidence that insiders are able to time the market using a contrarian trading

⁹ Insiders are classified as routine or opportunistic by Cohen, Malloy and Pomorski (2010) depending on their past trading history. Insiders that trade with a pattern are defined as routine insiders and all other insiders as opportunistic.

model (Jeng, Metrick and Zeckhauser, 2003), implying that insider trading do contain some valuable information. Ravina and Sapienza (2009) furthermore discover evidence of insiders having an ability to time the market and make abnormal profits not only explained by simple contradictory models of trading. They find that insiders with more information yield higher returns than those with less information, and hence draw the conclusion that the superior and private information insiders trade on actually contains valuable information. Insider buys are in most prior studies found to be more informative than insider sells (Wu and Zhu, 2011; Cohen, Malloy and Pomorski, 2010; Hsieh, Ng and Wang, 2005; Lakonishok and Lee, 2001) but the abnormal returns followed by insider stock purchases are not found to be especially significant due to transaction costs (Lorie and Niederhoffer, 1968; Seyhun, 1986; Rozeff and Zaman, 1988, Lin and Howe, 1990).

Similarly to this study, Wu and Zhu (2011) investigate the effects of a regulatory change on informativeness of insider trading, but on the American market. They establish that insider trades are more informative when firms are less transparent, reporting is timelier, media attention is lower and the perceived risk litigation is reduced. As they in addition find opportunistic insiders' trades¹⁰ to be more informative than routine insiders' trades, the conclusion is drawn that insiders do trade on superior private information. Eckbo and Smith (1998) find insiders on Oslo Stock Exchange to generate zero abnormal returns, in some cases even negative abnormal returns. They use a different method than the American researchers, which might impact their findings. It could also be a result of differences in corporate governance. Whether insider trading is informative or not on the Swedish market is yet unknown, leading up to the third and fourth hypotheses of this study.

H3: Insider buys are informative

H4: Insider sells are informative

2.3.2. The informativeness of analysts' recommendations

The role analysts have as financial intermediaries in the market is very important (Cragg and Malkiel, 1968). Analysts are often viewed as experts and therefore have a certain status when it comes to investment predictions, which makes them influential market participants, as people tend to value their advice more (Driskell and Mullen, 1990). Their two key contributions to the market in terms of information sharing are earnings forecasts and stock recommendations (Loh and Mian, 2006).

¹⁰ Wu and Zhu use the same classification of routine and opportunistic insiders as Cohen, Malloy and Pomorski (2010).

Several studies concerning the informativeness and profitability of following analysts' recommendations can be found, but the results are diverse (Womack, 1996). The same uncertainty concerning the underlying motive as discussed for insiders can be applied on analysts. The ambiguity of whether analysts engage in signalling or not, stems from research indicating that analysts are more prone to present positive recommendations than negative. Stanislawek (2012) has in his study measured the amount of positive recommendations published by analysts globally and concluded that almost 50 per cent are positive, 39 per cent neutral and only 12 per cent negative between the years of 2001 to 2012.

Stanislawek (2012) presents some potential explanations to the domination of positive recommendations made by analysts working for investment banks. Equity markets generally tend to rise and companies expand in the long run, in consideration of such market factors it does not seem unreasonable to have more positive recommendations. He also points out that even if research departments in a bank officially must be independent from other departments, analysts working for banks might still be more likely to present a positive than negative recommendation when in doubt because it would more likely award the bank with a corporate mandate. A negative recommendation might also limit the analysts' access to the important management meetings, if management as a response is unwilling to share information with the analyst.

“(W)hen there’s an investment banking relationship, the analysts’ activities are almost always more optimistic than their fellow analysts. - Edward Keon, past editor of I/B/E/S Innovator, in an appearance with Wall Street Week with Louis Rukeyser on August the 1st 1997 (Shefrin, 2000).

No statistical significant relevance of analysts' recommendations in terms of stock performance is found in the study of Stanislawek (2012), but he points out the possibility of them being useful components to incorporate into a broader investment strategy. In line with this, Hall and Tacon (2010) conclude investors are unable to generate abnormal returns in following analysts' recommendations. Their results are supported by other studies, arguing that analysts' recommendations are based on ad hoc heuristic valuation models rather than fundamental analysis (Shefrin, 2007; Bradshaw, 2004; Jegadeesh et al., 2004; Cornell, 2001). On the contrary, Barber et al. (2001) show that investors are able to generate annual abnormal returns slightly above nine per cent in following stock recommendations, with the investment strategy to invest in stocks that has gotten a strong recommendation, indicating strong recommendations to be informative.

Previous research reveal that the informativeness in analysts' recommendations differ depending on which analyst that gives the recommendation and whether the investors receive the recommendation prior or not to it becoming public. Loh and Mian (2006) find in their study that better ranked analysts have better earnings forecasts and more profitable stock recommendations, which is supported by Stickel's (1995) findings that recommendations from brokerage houses with better reputation have a larger impact on stock prices. Green (2006) find that large abnormal returns at around 30 per cent could be expected by investors acting on subscribed recommendations, meaning private information is more profitable than public one. The available prior studies are primarily concentrated to the American market and hence it is yet unknown whether analysts' recommendations of Swedish stocks are informative, resulting in the fifth and sixth hypotheses:

H5: Analysts' buy recommendations are informative

H6: Analysts' sell recommendations are informative

2.3.4. Summary of hypotheses

Hypothesis		Relevant previous research
H1:	Insiders consider analysts' recommendations in making their decision to trade	Jin, Livnat and Zhang (2013), Ravina and Sapienza (2009), Pioroski and Roulstone (2005), Hsieh, Ng and Wang (2005)
H2:	Analysts consider how insiders trade in making their recommendations	
H3:	Insider buys are informative	Jin, Livnat and Zhang (2013), Wu and Zhu (2011), Cohen, Malloy and Pomorski (2010), Fidrmuc, Korczak and Korczak (2010), Hsieh, Ng and Wang (2005), Pioroski and Roulstone (2005), Jeng, Metrick and Zeckhauser (2003), Lakonishok and Lee (2001), Eckbo and Smith (1998), Rozeff and Zaman (1988), Lorie and Niederhoffer (1968)
H4:	Insider sells are informative	
H5:	Analysts' buy recommendations are informative	Jin, Livnat and Zhang (2013), Stanislawek (2012), Hall and Tacon (2010), Loh and Mian (2006), Green (2006), Gilbert, Tourani-Rad and Wisniewski (2005), Jegadeesh et al. (2004), Bradshaw (2004), Cornell (2001), Barber et al. (2001), Lang and Lundholm (1996), Womack (1996), Stickel (1995), Driskell and Mullen (1990), Cragg and Malkiel (1968)
H6:	Analysts' sell recommendations are informative	

3. METHODOLOGY AND DATA COLLECTION

In the methodology section, the research approach and population is presented. The data collection is explained and excluded observations reported and motivated. This follows by a presentation and motivation of the method and the regressions used in the analyses. The section ends with a discussion on the validity and reliability of the methodology.

3.1. Research approach

In order to assess whether the transparency is at risk, the methodology aims to empirically investigate and evaluate the informativeness in insider trading and analysts' recommendations and test whether there are any connections between the two. The research is performed by the use of quantitative and qualitative methods.

3.2. Population

In order to evaluate the effects between firms of different sizes, find enough data and present results that applies to the entire Swedish market, the study investigates an entire population including all firms listed on Nasdaq OMX Stockholm during the years of 2011 to 2013.

3.3. Data Collection

3.3.1. Primary Data

The primary data in this study is obtained from two questionnaires, one sent out to analysts following stocks listed on Nasdaq OMX Stockholm and one sent to board members and management team members who are registered as insiders of firms listed on Nasdaq OMX Stockholm. 198 analysts are found to follow stocks listed on Nasdaq OMX Stockholm and all those are asked to answer the questionnaire. The number of board members and management team members contacted is 918, which are those who are found on respective companies' webpages. The first questionnaire is answered by 35 analysts, resulting in an answer ratio of 17,68 per cent. The second questionnaire is answered by 166 insiders, resulting in an answer ratio of 18,08 per cent.

3.3.2 Secondary Data

Market-to-book ratios, stock prices and market capitalisations at closing date for all stocks in the research population are attained from the database Datastream¹¹. Stock prices are measured in SEK and market capitalisation in million SEK. The three indices, OMX Stockholm 30¹², OMX Stockholm Mid Cap and OMX Stockholm Small Cap, used in calculating abnormal returns are also gathered from Datastream. The analyst recommendations used in this study are recommendations published on Privata Affärer's website. They gather recommendations from analysts working for a selection of banks and newspapers. A summary of the collected recommendations can be found in appendix A.2.1. table 1. This is an information source accessible by the general public, an important aspect when studying alternative public information sources. The recommendations are given on a scale of five gradients (strong sell, sell, hold, buy, strong buy), which are then translated into numbers from one to five, a five being a strong buy.

All legal insider transactions in Sweden are, or should be, recorded by the Swedish Financial Supervisory Authority. The data on insider transactions is attained from their publicly available register, a summary of the insider transactions collected can be found in appendix A.2.1. table 2. The respective release dates of interim and yearly reports for all companies listed at Nasdaq OMX Stockholm have been collected from Nasdaq OMX Nordic's webpage and when these could not be found there, from respective companies' webpages. Altogether, there are 295 stocks, representing 256 firms (as some firms have more than one stock listed on Nasdaq OMX Stockholm) being included in this study.

3.3.3. Excluded observations

Out of the total research population, 76 stocks are excluded because of lack of available data. Either information is missing of both insider trading and analyst recommendations on these stocks, or because the data provided by Datastream of stock price, market-to-book or market capitalisation were insufficient. This result in a sample of 219 stocks included. A complete list of firms included can be found in Appendix A.2., a shorter summary in table 3.3.3.1. below.

¹¹ Thomson Reuters Datastream is a professional and commonly used data source, applied by several earlier studies to collect financial information.

¹² OMX Stockholm 30, does not cover all firm on large cap, still it is considered the most appropriate index for all firms listed on large cap.

Table 3.3.3.1.

Missing observations	Large Cap	Mid Cap	Small Cap	Total
Total number of shares on market cap	87	91	117	295
Nr of excluded stocks	24	28	24	76
Nr of included stocks	63	63	93	219
Nr of stocks included where information of insider trading is missing	2	4	5	11
Nr of stocks included where information of analysts' recommendations is missing	2	5	21	28

Information of insider trading within the observed period is missing on 11 stocks included in the sample and hence these are excluded in the regressions on informativeness of insider trading. Regarding analysts' recommendations there are 28 stocks within the sample with no found analyst recommendations, thus these are excluded from the regressions on analysts' recommendations. This results in an insider sample of 208 stocks and an analyst recommendation sample of 191 stocks. In the cases where firms have enlisted on Nasdaq OMX Stockholm within the research period of 2011 to 2013, the firms are excluded from the sample because enough data is not found. The shares excluded are spread relatively even in relation to total shares on each market cap and are not correlated, hence there is no reason to expect any biased affecting the results due to those.

The regressions in this study are only run on ordinary shares, which means that preference shares, call options, share option rights et cetera are excluded from the population. Insider trading caused by sales to or purchases from endowment insurances are excluded from the sample since the shares then are only moved to another savings account belonging to the same owner. In addition, in the total sample of insider trading gathered from the Swedish Financial Supervisory Authority's webpage, it is quite often insiders sell off an amount of shares just to buy the same amount of shares again on the same day or some days after. Such transactions are likely motivated by insiders trying to avoid large tax payments. When realizing a profit by selling off shares, investors in Sweden need to tax on these profits. But if the investor at the same time realizes a loss, the total tax payment will decrease. Therefore, such sell-and-buy transactions occurring within a period of five days are excluded from the sample because they are argued to have another motive than the insider's pure expectation of the future of the company. When occurring within a period longer than five days, it cannot for certain be argued that it is just simply because of tax avoidance, and hence these transactions are included in the sample. Firms that have enlisted or delisted on Nasdaq OMX Stockholm within the research period are excluded from the sample because enough data is not found.

3.4. Method

Quantitative method is primarily applied. Regressions are run on the collected data in order to statistically test the six hypotheses stated in the theoretical frame of reference section. Firstly, regressions are run in order to test whether analysts' recommendations are affected by insider trading or vice versa. Secondly, in assessing whether there is any informativeness of insider trading or analysts' recommendations individually, the abnormal movements in stock prices as a response to the publication of analysts' recommendations or insider trades are measured and evaluated. The questionnaires are sent to analysts and insiders in order to attain answers that can support and provide an understanding to the regression results.

3.4.1. Regression analysis

3.4.1.1. Dependent variable

This study argues, in line with Lakonishok and Lee (2001), that given analysts' recommendations and insider trades are informative and the market is efficient in responding to new information, a reaction to insider trading and analyst recommendations should be observed through stock price movements. Hence, the dependent variable in the regressions is the abnormal return of stock prices. The abnormal return is used to eliminate stock movements caused by macro economic factors or general industry movements. The abnormal return is calculated by subtracting the movement in the relevant index from the stock price movement and the relevant index is chosen depending on which market cap the companies in question are listed on. Small cap stock returns are subtracted by the returns of OMX Stockholm Small Cap index and mid cap stock returns are subtracted by OMX Stockholm Mid Cap index. Large cap stock are subtracted by OMX Stockholm 30 index, as this is considered the most appropriate index available.

The abnormal return is measured as the change in stock price since last quarterly report was published (quarterly abnormal return), since last two reports were published (half-year abnormal return), since last four quarterly reports were published (annual abnormal return) and finally since the last eight quarterly reports (two-years abnormal return). There are several reasons for measuring abnormal return in different time horizons. Firstly, analysts and insiders have different time horizons when forming their recommendations and investments. The informativeness of those is therefore expected to be observed through changes in stock prices at different times. Secondly, as discussed in the theory section, investors

sometimes react slower to news, causing a drift in market reaction and stock price movement. As it is yet uncertain whether a drift in market reaction is expected, running the regressions on different time horizons capture this potential anomaly. Thirdly, using abnormal return as dependent variable could raise complications, as stock prices are volatile and can vary from day to day. As the abnormal return is measured simply as a change in stock price from one day to another, the stock movements occurring within the reporting periods are ignored and important information could be lost. Measuring the returns in different time horizons alleviates these complications.

AR_{r_i} = the abnormal return on stock i since last quarterly report r (a quarter)

AR_{HY_i} = the abnormal return on stock i since two quarterly reports ago (half year)

AR_{1Y_i} = the abnormal return on stock i since four quarterly reports (one year)

AR_{2Y_i} = the abnormal return on stock i since eight quarterly reports (two years)

(AR_i = change in stock price – change in index)

The choice to study insider trading and analysts' recommendations occurring within the periods of one quarterly report being published to another, is motivated by the study's aim to investigate any potential effect fewer reports might have on the transparency. Furthermore, as insiders are not allowed to legally trade until one day after those are published, it would be unwise to test for informativeness of insider trading occurring within other periods.

3.4.1.2. Control variables

In order to eliminate fluctuations in stock prices that are results of firm characteristics rather than insider trading and analysts' recommendations, four control variables are included in the regression (firm size, momentum, winner-loser effect and market-to-book ratio). The Fama-French *Three Factor Model* is a recognised measure that incorporates factors to measure the firm specific risk. The risk is argued to increase the more sensitive the stock is to market movements, the smaller the firm size is or the more the stock behaves as a small-firm stock, and the higher the book-to-market is (Ogden, Jen and O'Connor, 2003). Firm size (measured as market capitalisation) and market-to-book¹³ are used in the regression to capture such potential influences and to eliminate the abnormal return explained by the increased risk as argued by Fama French *Three Factor Model*. If the data is not normally distributed, this may cause biased

¹³ Please note that market-to-book ratio is the reverse ratio used in Fama French *Three Factor Model*, meaning that a lower market-to-book is expected to increase the risk

results; therefore the natural logarithm is taken of market-to-book and market capitalisation to minimize extreme values.

Insiders and analysts are sometimes found to make profits due to the market anomalies momentum and winner-loser effect (Lakonishok and Lee, 2001). In examining whether insider trading and analysts' recommendations are informative, it is important to adjust for this potential contrarian trading strategy, as it is not actually built upon financial information (Lakonischok and Lee, 2001). Therefore, control variables are included to capture these anomalies in the regression. Not considering and make adjustments to this in analysing insiders' and analysts' abilities to predict the market would substantially overstate their ability to beat the market (Lakonischok and Lee, 2001). Momentum is measured in percentage as the change in stock price from the date when the second last report was published to the current report date, capturing the past half-year return. Winner-loser effect is measured in percentage as the change in stock price from the report date one year ago to the current report date, capturing the past return in one year. In order to purify the effects of momentum and winner-loser from macro economic factors, the changes in respective market indices are subtracted from the stock price in these variables as well, resulting in an abnormal momentum and winner-loser effect to be used in the regressions.

$LMBR_i = \ln(\text{market-to-book Ratio})$

$LSIZE_i = \ln(\text{market capitalisation in million SEK})$

$ABRMOM_i = \text{abnormal return in the prior 6 months measured in percentages (momentum)}$

$ABRWL_i = \text{abnormal return in the prior one year, measured in percentages (winner-loser effect)}$

3.4.1.3. Explanatory variables

Insider trading and the analysts' recommendations are captured through the two explanatory variables, Net Purchase Ratio (NPR) and Net Buy Recommendation (NBR).

Measure of insider trading:

$NPR_i = (\text{Volume of shares bought within the quarter} - \text{Volume of shares sold within the quarter}) / \text{Total volume of shares traded within the quarter}$

Measure of analysts' recommendation:

$NBR_t = (\text{Number of buy recommendations within the quarter} - \text{Number of sell recommendations within the quarter}) / \text{Total number of recommendations within the quarter}^{14}$

3.4.1.4. Dummy variables for strong signals

A larger amount of shares bought or sold by insiders, as well as a larger amount of insiders buying or selling, are considered to send stronger signals to the market than regular buys. Therefore, dummies are included in the regressions to capture such strong signals. A detailed description can be found in the tables below (3.4.1.4.1. to 3.4.1.4.3.). The same reasoning concerns analysts' recommendations. A strong buy or strong sell recommendation, as well as more analysts recommending buy or sell, is considered to send a stronger signal to the market. Therefore, two dummies are included in the regressions to capture such strong sell and buy signals, specified in the tables below (3.4.1.4.4. to 3.4.1.4.6.).

Table 3.4.1.4.1. Large Cap Dummies Insider Trading

Dummy	Stands for	Top per cent	Takes on a number of 1 if:
SDVB	Strong Dummy Volume Buy	25 %	More than 53 000 number of shares are bought per quarter
SDVS	Strong Dummy Volume Sell	25 %	More than 113 100 number of shares are sold per quarter
SDNIB	Strong Dummy Number of Insiders Buying	18 % ¹⁵	4 insiders or more are buying within the quarter
SDNIS	Strong Dummy Number of Insiders Selling	25 %	3 insiders or more are selling within the quarter

¹⁴ The total number of recommendations include hold recommendations

¹⁵ 25 % were in the middle of 3 and 4 number of different insiders buying, in the top 18 % 4 insiders or more are buying

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Table 3.4.1.4.2. Mid Cap Dummies Insider Trading

Dummy	Stands for	Top per cent	Takes on a number of 1 if:
SDVB	Strong Dummy Volume Buy	25 %	More than 69 000 number of shares are bought per quarter
SDVS	Strong Dummy Volume Sell	25 %	More than 109 000 number of shares are sold per quarter
SDNIB	Strong Dummy Number of Insiders Buying	18 % ¹⁷	4 insiders or more are buying within the quarter
SDNIS	Strong Dummy Number of Insiders Selling	17 % ¹⁶	3 insiders or more are selling within the quarter

Table 3.4.1.4.3. Small Cap Dummies Insider Trading

Dummy	Stands for	Top per cent	Takes on a number of 1 if:
SDVB	Strong Dummy Volume Buy	25 %	More than 100 000 number of shares are bought per quarter
SDVS	Strong Dummy Volume Sell	25 %	More than 100 000 number of shares are sold per quarter
SDNIB	Strong Dummy Number of Insiders Buying	23,7 % ¹⁷	3 insiders or more are buying within the quarter
SDNIS	Strong Dummy Number of Insiders Selling	8,2 % ¹⁸	3 insiders or more are selling within the quarter

Table 3.4.1.4.4. Large Cap Dummies Analysts' Recommendations

Dummy	Stands for	Top per cent	Takes on a number of 1 if:
DSSA	Dummy Strong Sell Analysts'	25 %	The recommendation is a one (strong sell) and/or the stock has two or more sell recommendations
DSBA	Dummy Strong Buy Analysts'	22,5% ¹⁹	The recommendation is a five (strong buy) and/or the stock has four or more buy recommendations

Table 3.4.1.4.5. Mid Cap Dummies Analysts' Recommendations

Dummy	Stands for	Top per cent	Takes on a number of 1 if:
DSSA	Dummy Strong Sell Analysts'	25 %	The recommendation is a one (strong sell) and/or the stock has two or more sell recommendations
DSBA	Dummy Strong Buy Analysts'	21,8 % ²⁰	The recommendation is a five (strong buy) and/or the stock has three or more buy recommendations

¹⁶ 25 % were in the middle of 3 and 4 number of different insiders selling, in the top 17 % 3 insiders or more are selling

¹⁷ 25 % were in the middle of 3 and 4 number of different insiders buying, in the top 23,7 % 3 insiders or more are buying

¹⁸ 25 % were in the middle of 3 and 4 number of different insiders selling, in the top 8,2 % 3 insiders or more are selling

¹⁹ 25 % were in the middle of 4 and 5 number of analysts recommending buy, in the top 22,5 % 4 analysts or more recommend buy

²⁰ 25 % were in the middle of 3 and 4 number of analysts recommending buy, in the top 21,8 % 3 analysts or more recommend buy

Table 3.4.1.4.6. Small Cap Dummies Analysts' Recommendations

Dummy	Stands for	Top per cent	Takes on a number of 1 if:
DSSA	Dummy Strong Sell Analysts'	24,6 % ²¹	The recommendation is a one (strong sell) and/or the stock has two or more sell recommendations
DSBA	Dummy Strong Buy Analysts'	25 %	The recommendation is a five (strong buy) and/or the stock has two or more buy recommendations

3.4.1.5. Size groups

The results of earlier conducted studies on insiders' and analysts' abilities to predict future stock movements have differed among firms of different size (Wu and Zhu, 2011; Lakonishok and Lee, 2001). Therefore, the sample firms are divided into three different groups that correspond to whether the firms are listed on small cap, mid cap or large cap.

3.4.1.6. Regression formulas

Analysts' recommendations run individually:

$$ARr_i = \alpha_1 + \beta_1 LMBR_i + \beta_2 LSIZE_i + \beta_3 ABRMOM_i + \beta_4 ABRWL_i + \beta_5 NBR_i + \beta_6 DSBA_i + \beta_7 DSSA_i$$

$$ARHY_i = \alpha_1 + \beta_1 LMBR_i + \beta_2 LSIZE_i + \beta_3 ABRMOM_i + \beta_4 ABRWL_i + \beta_5 NBR_i + \beta_6 DSBA_i + \beta_7 DSSA_i$$

$$AR1Y_i = \alpha_1 + \beta_1 LMBR_i + \beta_2 LSIZE_i + \beta_3 ABRMOM_i + \beta_4 ABRWL_i + \beta_5 NBR_i + \beta_6 DSBA_i + \beta_7 DSSA_i$$

$$AR2Y_i = \alpha_1 + \beta_1 LMBR_i + \beta_2 LSIZE_i + \beta_3 ABRMOM_i + \beta_4 ABRWL_i + \beta_5 NBR_i + \beta_6 DSBA_i + \beta_7 DSSA_i$$

Insider trading run individually:

$$ARr_i = \alpha_1 + \beta_1 LMBR_i + \beta_2 LSIZE_i + \beta_3 ABRMOM_i + \beta_4 ABRWL_i + \beta_5 NPR_i + \beta_6 SDVB_i + \beta_7 SDVS_i + \beta_8 SDNIB_i + \beta_9 SDNIS_i$$

$$ARHY_i = \alpha_1 + \beta_1 LMBR_i + \beta_2 LSIZE_i + \beta_3 ABRMOM_i + \beta_4 ABRWL_i + \beta_5 NPR_i + \beta_6 SDVB_i + \beta_7 SDVS_i + \beta_8 SDNIB_i + \beta_9 SDNIS_i$$

²¹ 25 % were in the middle of 2 and 3 number of analysts recommending sell, in the top 24,6 % 2 analysts or more recommend sell

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$$\begin{aligned} AR1Y_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i \\ & + \beta_5NPR_i + \beta_6SDVB_i + \beta_7SDVS_i + \beta_8SDNIB_i + \beta_9SDNIS_i \end{aligned}$$

$$\begin{aligned} AR2Y_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i \\ & + \beta_5NPR_i + \beta_6SDVB_i + \beta_7SDVS_i + \beta_8SDNIB_i + \beta_9SDNIS_i \end{aligned}$$

Insider trading and analysts' recommendations run jointly:

$$\begin{aligned} ARr_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i + \beta_5NBR_i + \beta_6DSBA_i \\ & + \beta_7DSSA_i + \beta_8NPR_i + \beta_9SDVB_i + \beta_{10}SDVS_i + \beta_{11}SDNIB_i + \beta_{12}SDNIS_i \end{aligned}$$

$$\begin{aligned} ARHY_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i + \beta_5NBR_i + \beta_6DSBA_i \\ & + \beta_7DSSA_i + \beta_8NPR_i + \beta_9SDVB_i + \beta_{10}SDVS_i + \beta_{11}SDNIB_i + \beta_{12}SDNIS_i \end{aligned}$$

$$\begin{aligned} AR1Y_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i + \beta_5NBR_i + \beta_6DSBA_i \\ & + \beta_7DSSA_i + \beta_8NPR_i + \beta_9SDVB_i + \beta_{10}SDVS_i + \beta_{11}SDNIB_i + \beta_{12}SDNIS_i \end{aligned}$$

$$\begin{aligned} AR2Y_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i + \beta_5NBR_i + \beta_6DSBA_i \\ & + \beta_7DSSA_i + \beta_8NPR_i + \beta_9SDVB_i + \beta_{10}SDVS_i + \beta_{11}SDNIB_i + \beta_{12}SDNIS_i \end{aligned}$$

3.4.1.7. Insiders and analysts influencing each other

In order to see whether there are any connections between analysts and insiders, similar regressions are run but with the explanatory variables Net Purchase Ratio and Net Buy Recommendation as dependent variables for each size group, inferring no differentiation in regard to time.

Regression with insider trading as dependent variable:

$$NPR_i = \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i + \beta_5NBR_i + \beta_6DSBA_i + \beta_7DSSA_i$$

Regression with analysts' recommendations as dependent variable:

$$\begin{aligned} NBR_i = & \alpha_1 + \beta_1LMBR_i + \beta_2LSIZE_i + \beta_3ABRMOM_i + \beta_4ABRWL_i + \beta_5NPR_i \\ & + \beta_6SDVB_i + \beta_7SDVS_i + \beta_8SDNIB_i + \beta_9SDNIS_i \end{aligned}$$

3.4.1.8. Panel Data

In this study, panel data is employed as it embodies information across both time and space and enables measures of quantity about the specific entities over time (Brooks, 2008). Panel data furthermore allows controlling for individual heterogeneity as it suggests the firms to be heterogeneous. Using time-series and cross-sectional series that do not control for this heterogeneity correctly exposes the regression to the risk of giving biased results. Panel data also provides the results of the regressions with more informative data, with more degrees of freedom, less collinearity and more efficiency (Baltagi, 2013).

Within panel data there are two different models that can be employed: Fixed Effects Model (FE) and Random Effects Model (RE). The advantage of the FE-model is that it controls out for all higher-level variance by the higher-level entities themselves and hence the endogeneity problem is avoided and the exogeneity assumption becomes much more realistic (Bell and Jones, 2012). A disadvantage to the FE-model is however that, because of the higher-level of variance being excluded, it only deals with lower-level processes and loses a larger amount of information, which is normally the argument to use random effect models. Running both redundancy and Hausman tests on the data used, the redundancy tests imply that the FE-model is not necessary preferable in most regressions. The results of the Hausman tests suggest that RE-models should be used in many regressions, but the test does not have substantial statistical power to guarantee the RE-model to be completely free from bias (Clark and Linzer, 2012). As the variables in this study are time-variant and its scope is an entire population, the FE-model is argued to be more plausible to use (Bell and Jones, 2012; Brooks, 2008).

3.4.1.9. Test for suitability

Ordinary Least Square (OLS) is the most commonly used method, but in order for it to be suitable the data need to meet four assumptions implicating that the estimators are BLUE (Best Linear Unbiased Estimators). In order to test hypothesis, a fifth assumption must be used. The five assumptions are:

1. The average value of the errors is zero [$E(u_t) = 0$]
2. Homoscedasticity [$\text{var}(u_t) = \sigma^2 < \infty$]
3. No correlation between the error terms [$\text{cov}(u_t, u_s) = 0$]
4. No correlation between the regressors and the error term [$\text{cov}(u_t, x_t) = 0$]
5. Normality [$U_t \sim N(0, \sigma^2)$]

Because constant terms are included in the regression equations, the first assumption can never be violated and does not need to be controlled for (Brooks, 2008). Performing a Breuch-Pagan-Godfrey test with squared residuals controls for the second assumption. In some size groups signs of heteroscedasticity were found, this was then corrected for by using the “white diagonal standard errors and covariance”. In the regression outputs, the Durbin-Watson statistics suggests some autocorrelation in the residuals possibly violating assumption three (Brooks, 2008). However, autocorrelation is foremost a problem when dealing with time-series data, rather than panel data. As the time dimension of the study is relatively short, autocorrelation is not likely very problematic, the DW-statistics may therefore be misleading and should not be given too much attention (Brooks, 2008). The fixed effect dummies account for all the higher-level variance and hence the error terms will be estimated as zero, solving for any potential violations of assumption four (Bell and Jones, 2012). The fifth assumption of normality is discussed further down concerning outliers.

In accordance to Brooks (2008), there are three other problematic areas, which need to be considered in order to ascertain non-biased regressors. The problematic areas are: multicollinearity, non-linearity and outliers. A correlation-matrix is performed to control for correlation above 0,8. There is reason to suspect non-linearity within the parameters if they are multiplied together, divided, squared or cubed et cetera (Brooks, 2008), as this is not the case for the data in this study, linearity is assumed.

Robustness is ascertained by running the regressions on different time horizons as well as regressing insider trading and analysts’ recommendations individually and together. The data is controlled for outliers by plotting the residuals as a boxplot where any extreme values are marked as circles or stars, which reveals that several outliers are present in the variables abnormal return, abnormal winner-loser and abnormal momentum. The presence of outliers is also known through the significance of the Jarque-Bera test, indicating non-normality. Including the outliers makes the standard deviations in the descriptive statistics less suitable for comparison with the coefficients in the test results, as outliers cause the mean to shift towards the extreme values. There is a trade-off between outliers having a negative effect on the OLS estimates, suggesting they should be removed and the notion that every point represents a piece of valuable information, which will be lost if removed (Brooks, 2008). The outliers in this study are values representing high abnormal returns, as abnormal returns is the primary factor that is measured and analysed in assessing whether there is any information in insider trading and analysts’ recommendation, removing those values would implicate a loss of very critical information. According to Brooks (2008) the justification to remove outliers should come from the researchers knowledge that an

extreme event may have influenced the results causing the outliers, making them highly unlikely to be repeated. The stock market is very volatile and some high abnormal returns can possibly be repeated. Not removing the outliers and thereby allowing for the distribution to be non-normal violates the fifth OLS assumption but if the sample size is significantly large a violation of this assumption will be virtually inconsequential and the estimators are still BLUE (Brook, 2008). Over a thousand observations are used for each size-group in this study, which is considered a significantly large population and hence it is concluded that the outliers do not constitute a problem.

3.4.2. Survey through questionnaires

To complement the secondary data with primary data and provide a more thoroughly and deep analysis of the behaviour of analysts and insiders, a survey is performed. The survey is constituted by electronic questionnaires sent out to analysts and insiders of Nasdaq OMX Stockholm. The questions and their answers are enclosed in appendix A.3. and A.4. The questionnaires are composed of ten questions each, the relatively short length is chosen from the background that longer questionnaires may have caused reluctance to participate due to a shortage of time. The characteristics of questionnaires are very similar, in order to make analysts' and insiders' answers comparable. By complementing the quantitative analysis with a qualitative one, it is expected that the results from the regressions can be supported and better understood.

3.5. Methodological problem discussion

3.5.1. Reliability

Reliability is argued to be established, as the results are expected to correspond if the regressions were to be run again and no knowledge exists of random factors affecting the results (Bryman and Bell, 2013). Regarding the quantitative methods in this study, reliability is closely connected to the consistency of the variables in the regressions. Therefore it is necessary to test whether the assumptions on OLS hold for all variables and for potential econometrical problems. One could possibly argue that the research period of three years is quite small. It is however motivated by these years being relatively stable in a macro economic perspective without any crises affecting the results. It is also motivated by the collected data being composed of several thousands observations, which is regarded as enough in order to run all tests and draw proper conclusions from.

Concerning the reliability of the qualitative part of the study, the primary data is considered to be less reliable. The two questionnaires only consist of a few questions and the answer ratio is relatively low. If the survey instead were to consist of more questions and to be answered twice by all participants, the answers could arguably be more reliable. The reason for this study not to pursue this approach and ascertain reliability is because a higher answer ratio is argued to be more valuable. Furthermore, some of the questions answered by analysts are supported by the previous questionnaire performed by Hallvarsson and Halvarson (2013) mentioned in the introductory section and therefore considered more reliable.

3.5.2. Validity

The validity in this study is supported by several previous studies using the same methods to collect data and construct regression equations, for example Lakonischok and Lee (2001), and therefore the method is argued to measure what it is supposed to (Bryman and Bell, 2013).

The questions asked in the survey are expressed and formed in a similar way as many other surveys of the same kind and is hence considered valid. All participants in the survey give their answers anonymously, inferring less reason to expect biased answers. However, the possibility that the participants may have answered what they think they are supposed to, rather than what they actually think, cannot be ignored. The main reason that a large number of people choose not to participate in the survey is most likely because they do not have time or their firm has a general rule that their employees should not participate in such surveys. No connection between the analysts and insiders not answering can be found.

As always when using secondary data, researchers can never be completely certain of the validity in the information given. But as insiders are forced by Swedish law to report their trading to the Swedish Financial Supervisory Authority, the data collected from their webpage is considered to be valid. As mentioned, data on analysts' recommendations are collected from Privata Affärer's webpage. This secondary data is considered less valid than the data on insider trading, because it is manually gathered and published by Privata Affärer as a source alone. On the other hand, Privata Affärer publish recommendations given by various analysts, Swedish and international as well as analysts working for newspapers and banks, which results in a large number of data that may have been hard to collect in

other ways. Hence, *Privata Affärer* is considered a more valid source to attain information from. As the total number of recommendations given on all listed firms on Nasdaq OMX Stockholm published by *Privata Affärer* during this three-year period result in a number of 5400 recommendations, this secondary data is considered to provide a representative sample of the total number of recommendations. If the study instead were to consider only those recommendations reaching the customers of the banks that not has spread to the general market, the informativeness in them would very likely differ and reasonable contain more information about mispricings to benefit from.

The definition of insiders and analysts could also be a possible aspect reducing the validity of this study, no tests are performed to assure whether the results are still robust if the definition of insiders and analysts are broadened or narrowed. Further, as all outliers are argued to be valuable sources of information included in the data by purpose, they are considered genuine.

3.6. General Remarks

As opposed to R-square, adjusted R-square takes into account the loss of degrees of freedom associated with adding an extra variable to a regression and is hence a better measure of the explanatory level of the regressions in this study, as the regressions contains different number of variables on the right hand side (Brooks, 2008). The variables with a significance level of five per cents or lower are primarily discussed, as those with a higher significance level are regarded to be weak and not reliable enough to draw conclusions from. The word significance means econometrical or statistical significance, and not economical significance.

4. RESULTS AND EMPIRICAL FINDINGS

In this section, the results are presented and evaluated as separate size groups in the following order: large cap, mid cap and small cap. The section ends with a summary of the answers from the survey.

4.1. Insiders and analysts influencing each other

On small cap stocks, the regression run on insider trading as dependent of analysts' recommendations is weak and analysts' recommendations as dependent of insider trading is insignificant (see table 4.1.1. and 4.1.2.). On mid cap, several signs of significance can be found. In the regression where insiders are influenced by analysts' recommendations, significance is detected in NBR, indicating that insiders may be influenced by analysts' recommendations. In the regression run with analysts' recommendations as dependent on insiders' trading, significance at one per cent level arises in the dummy capturing a large amount sold (see SDVS in table 4.1.2.). Implying that analysts following mid cap stocks likely incorporate the signals of a large amount of shares sold by insiders when forming a sell recommendation. In the same regression, the dummy capturing plenty insiders selling (SDNIS) is significant at a one per cent level but as it indicates that many insiders selling more likely generate buy recommendations, this result is not considered robust. For stocks listed on large cap, analysts are not found to be influenced by insider trading. On the other hand, the significance in DSBA indicates that when analysts recommend buy of large cap stocks, this slightly affects insiders' decision to trade (see table 4.1.1.).

Some significant results demonstrate that analysts do consider insider trading in some cases and vice versa, however these results are not found to be very robust. Additionally, the explanatory adjusted R-square reveals that the regressions do not explain much on any market cap, reflecting a weak connection between insider trading and analysts' recommendations.

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4.1.1 Insider Trading dependent on analysts' recommendations

Size Group	LMBR	LSIZE	ABRMOM	ABRWL	NBR	DSBA	DSSA	Adj. R ²
Large Cap	-0.6915**	-	-0.7955**	-	-	-0.2951**	-	0,2966***
Mid Cap	-0.5370**	-	-	0.2894**	0.1855*	-	-	0,3254***
Small Cap	-1.2211**	-	-	-	-	-	-	0,2660**

4.1.2. Analysts' recommendations dependent on insider trading

Size Group	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB	SDVS	Adj. R ²
Large Cap	-	-	0.4141*	-	-	-	-	-	-	0,2296***
Mid Cap	-	-	-	-	-	-	0.2871*	-	-0.4651***	0,2139***
Small Cap	-	-	-	-	-	-	-	0.5218*	-	-

*** = Significance at 1%

**= Significance at 5% *= Significance at 10% - = No significant results

Description of variables:

LMBR= Natural logarithm of market to book ratio, LSIZE = natural logarithm of market capitalisation, ABRMOM = abnormal momentum, ABRWL = abnormal winner-loser, NPR = Net Purchase Ratio, SDNIB = strong dummy number of insiders buying, SDNIS = strong dummy number of insiders selling, SDVB = strong dummy volume bought, SDVS = strong dummy volume sold, NBR = Net Buy Recommendations, DSBA = strong dummy buy recommendations, DSSA = strong dummy sell recommendations

4.2. Large Cap

4.2.1. Results of the informativeness of insider trading and analysts' recommendations on large cap stocks

Some signs can be found of analysts' recommendations and insider trading of large cap stocks being informative to investors. The significant test results are summarized in paragraph 4.2.2., while the complete test results can be found in Appendix A.5.1.

The aligned significance in SDNIB in the two regressions run on the informativeness of insider trading, individually and together with variables capturing analyst recommendations, robustly prove that if four insiders or more are buying shares within a quarter, it contains some information about the abnormal share price in two years (see table 4.2.2.2. and 4.2.2.3.). The net volume bought by insiders (NPR) show no significance in the two regressions, neither do the dummies capturing strong signals of large volume bought (SDVB) or sold (SDVS) by insiders within a quarter. Hence, the conclusion is that the volume bought or sold by insiders of firms listed on large cap is not informative for investors when forecasting the share price in any time horizon.

Turning to analysts' recommendations, the significance in DSSA in the regression run on informativeness of analysts' recommendations solely, as well as when run jointly with variables capturing insider trading strongly prove that when a stock get a strong sell recommendation or has two or more ordinary sell recommendations from different analysts, this affects the stock price within the quarter (table 4.2.2.1. and 4.2.2.3.). The net buy recommendations (NBR) and strong dummy capturing strong buy signals (DSBA) show some significance in the tests, but as these significant findings do not hold in both regressions, they are not considered to be robust enough to draw conclusions from. Therefore, only strong sell signals from analysts are argued to contain valuable information about the stock price within a quarter, when it comes to stocks listed on large cap.

Significance in the control variables imply that investors should consider size in terms of market capitalisation when making investments longer than a quarter, as the test results prove larger firms to be more likely to generate abnormal returns within this time horizon. The market-to-book ratio has a negative effect on the abnormal returns in six months to a year, which means that if the firms have a high market value compared to their book value, the share price is likely decrease within this time horizon. The theory of Fama French *Three Factor Model* that high book-to-market shall increase the return is thereby supported.

All regressions indicate that momentum effect is significant for time horizons up to a year, and hence that past winners continues to be winners during this time period and vice versa for losers. The aligned test results in all three regressions (table 4.2.2.1. to 4.2.2.3.) also robustly indicate that the winner-loser effect is strongest for a time period of longer than a year. The abnormal winner-loser effect is found to have some positive effect on the abnormal return over the quarter, suggesting that shares having performed well in the last year are likely to perform well over the following quarter as well. One should however be careful to read too much into this finding, as it is not significantly supported when running the regression on analysts' recommendations alone, which it is expected to be if the variable is robust. The adjusted R-square reveals that the explanatory variables together explain the abnormal return on stocks listed on large cap in one year better than the other time horizons.

4.2.2. Table of summarised significant test results for large cap stocks

4.2.2.1. Regression of analysts' recommendations

LARGE	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NBR	DSBA	DSSA	Adj. R ²
Analysts'	Quarterly	-	-	0.4127***	-	-	0.0197*	-0.0228**	0.4493***
Recom.	Half year	-0.4804***	0.4337***	-0.2073***	-	-	-	-	0.4907***
Alone	One year	-0.5007***	0.5139***	0.8264***	-	-	-	-	0.7614***
	Two years	-	0.5593***	-	0.8205***	-	-	-	0.7254***

4.2.2.2. Regression of insider trading

LARGE	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB	SDVS	Adj. R ²
Insider	Quarterly	-	-	0,4399***	0,0999***	-	-	-	-	-	0.5790***
Trading	Half year	-0,5032***	0,5011***	-0,1530**	-	-	-	-	-	-	0.4907***
Alone	One year	-0,5677***	0,5641***	0,8971***	-	-	-	-	-	-	0.7464***
	Two years	-	0,7187***	-	0,9360***	-	0,1067**	-	0,0751*	-	0.7193***

4.2.2.3. Regression of analysts' recommendations and insider trading together

LARGE	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB
Analysts'	Quarterly	-	-	0.4402***	0.1051***	-	-	-	-
and	Half year	-0.4961***	0.4874***	-0.1281***	-	-	-	-	-
Insiders	One year	-0.5691***	0.5575***	0.9326***	-	-	-	-	-
Together	Two years	-	0.6809***	-	0.8087***	-	0.1241**	-	-

Continuing...	Regression	SDVS	NBR	DSBA	DSSA	Adj. R ²
Analysts'	Quarterly	0.0337**	-	-	-0.0408***	0.6009***
and	Half year	-	0.0405**	-	-	0.4949***
Insiders	One year	-	0.0525**	-	-	0.7518***
Together	Two years	-	-	0.1359***	-	0.7294***

*** = Significance at 1%

**= Significance at 5% *= Significance at 10% - = No significant results

Description of variables:

LMBR= Natural logarithm of market to book ratio, LSIZE = natural logarithm of market capitalisation, ABRMOM = abnormal momentum, ABRWL = abnormal winner-loser, NPR = Net Purchase Ratio, SDNIB = strong dummy number of insiders buying, SDNIS = strong dummy number of insiders selling, SDVB = strong dummy volume bought, SDVS = strong dummy volume sold, NBR = Net Buy Recommendations, DSBA = strong dummy buy recommendations, DSSA = strong dummy sell recommendations

4.3. Mid Cap

4.3.1. Results of the informativeness of insider trading and analysts' recommendations on mid cap stocks

Analysts' recommendations of stocks listed on mid cap contain no significant information of the future abnormal return in any time horizon of one quarter up to two years. Insider trading contains no significant information about the future abnormal returns in one quarter and provides significantly weak signs of informativeness about the future returns in half a year to one year. The volume of shares bought minus the volume sold by insiders in one quarter (NPR) is recognized to contain some information of the future abnormal return in two years (see table 4.3.2.2. and 4.3.2.3.). Significance is also seen in the variables capturing analysts' strong signal to buy, several insiders buying and extra large amount of volume bought by insiders (see DSBA, SDNIB and SDVB in table 4.3.2.2. and 4.3.2.3.).

The control variable abnormal momentum show significance in most regressions, indicating that past winners will continue to realise profits. After one year, investors can expect the profitability of recent winners to cease. When having an investment horizon of two years, investors of stocks on mid cap can potentially expect the same recent winners to have recovered and begin to generate positive abnormal returns again. Although, one should be careful applying this finding into an investment strategy, as the findings are not argued to be adequately robust. Higher market-to-book has a negative effect on the abnormal return, statistically strongest in the half year and one year future. Larger firms in terms of market capitalisation are more likely to generate abnormal returns in the time horizon of half a year to two years.

All in all, the variables in the regressions contain more information of the abnormal return in the longer run of one and two years, which is supported by the rise in adjusted R-square. The complete test results can be found in Appendix A.5.2.

4.3.2. Table of summarised significant test results for mid cap stocks

4.3.2.1. Regression of analysts' recommendations

MID	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NBR	DSBA	DSSA	Adj. R ²
Analysts'	Quarterly	-	-	0.3843***	0.1003***	-	-	-	0.4338***
Recom.	Half year	-0.6124***	0.4670***	-	-	-	-	-	0.3746***
Alone	One year	-0.4831***	0.5621***	1.2219***	-0.1352***	-	-	-	0.8253***
	Two years	-	1.0343***	-	-	-	-	-	0.7335***

4.3.2.2. Regression of insider trading

MID	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB	SDVS	Adj. R ²
Insider	Quarterly	-	-	0,3731***	-	-	-	-	-	-	0.5916***
Trading	Half year	-0,5999***	0,5206***	-	-	-	-0,0387*	-	-	-	0.1673***
Alone	One year	-0,3832***	0,4944***	1,5222***	-0,1050***	-	-	-	0,1296*	-	0.8290***
	Two years	-0,3845**	0,9652***	0,5444***	0,3184***	0,1196***	-	-	-	-	0.7393***

4.3.2.3. Regression of analysts' recommendations and insider trading together

MID	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB
Analysts'	Quarterly	-	-	0.3042***	0.1046***	-	-	-	-
and	Half year	-0.6194***	0.4594***	0.1660**	-	-	-	-	-
Insiders	One year	-0.4516***	0.5831***	1.4344***	-	0.0620**	0.1191*	-	-
Together	Two years	-	0.9163***	0.7094***	0.2005**	0.1517***	-	-	-

Continuing...	Regression	SDVS	NBR	DSBA	DSSA	Adj. R ²
Analysts'	Quarterly	-	-	-	-	0.3794***
and	Half year	-	-	-	-	0.3625***
Insiders	One year	-	-	-	-	0.8468***
Together	Two years	-	-	0.1663*	-	0.8186***

*** = Significance at 1%

**= Significance at 5% *= Significance at 10% - = No significant results

Description of variables:

LMBR= Natural logarithm of market to book ratio, LSIZE = natural logarithm of market capitalisation, ABRMOM = abnormal momentum, ABRWL = abnormal winner-loser, NPR = Net Purchase Ratio, SDNIB = strong dummy number of insiders buying, SDNIS = strong dummy number of insiders selling, SDVB = strong dummy volume bought, SDVS = strong dummy volume sold, NBR = Net Buy Recommendations, DSBA = strong dummy buy recommendations, DSSA = strong dummy sell recommendations

4.4. Small Cap

4.4.1. Results of the informativeness of insider trading and analysts' recommendations on small cap stocks

The adjusted R-square implicates that the current variables in the regressions have a greater impact on the abnormal return in a longer time perspective, just as implicated on mid and large cap stocks. In a majority of the regressions, the control variables market-to-book and market capitalisation are significant at a one per cent level, which indicates that firm characteristics is an important factor to consider when investing in stocks on small cap.

No trace of informativeness of analysts' recommendations are detected when running analysts' recommendations alone, but when running the regressions including variables capturing informativeness of both insiders and analysts, net buy recommendations (NBR) is significant at a ten per cent level in the half year and one year horizon (see table 4.4.2.3.). Testing the informativeness of insider trading, however, show some significance both when run alone and together with variables capturing analysts' recommendations. The dummies SDNIB and SDVS are significant at a five per cents level in the one year horizon when running the regression of insider trading alone (see table 4.4.2.2.), indicating that investors should consider insider trading to a small extent. The results are not strengthened in the regression run on both insider trading and analysts' recommendations together however, which weakens the robustness. On the contrary, the regression run jointly shows significance in SDNIS and SDVB at a ten per cent level for two years, indicating that insider trading contain some information, but the high significance level imply a low validity in the results.

In total, significance is detected in all insider variables, but not within the same time horizon and hence not within the same regression. This could potentially be an indication that when investing in stocks listed on small cap, it could be useful to incorporate the signals of insider trading, but with cautiousness. Barely any signs of informativeness can be found of analysts' recommendations, concluding that analysts' recommendations are not informative when investing in small cap stocks. The complete test results can be found in Appendix A.5.3.

4.4.2. Table of summarised significant test results for small cap stocks

4.4.2.1. Regression of analysts' recommendations

SMALL	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NBR	DSBA	DSSA	Adj. R ²
Analysts'	Quarterly	0.1149***	-	0.4859***	-	-	-	-	0.6054***
Recom.	Half year	-0.1648**	0.3735***	-	-0.1791**	-	-	-	0.5082***
Alone	One year	-0.2511***	0.3625***	0.9030***	-0.1338**	-	-	-	0.7912***
	Two years	-	0.3623***	-	0.3802**	-	-	-	0.7889***

4.4.2.2. Regression of insider trading

SMALL	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB	SDVS	Adj. R ²
Insider	Quarterly	0,0863**	-	0,4705***	-	-	-	-	-	-	0.5089***
Trading	Half year	-0,2682***	0,3680***	-	-0,1583**	-	-	-	-	-	0.2642***
Alone	One year	-0,2854***	0,3543***	1,0954***	-0,1765**	-	0,0591**	-	-	-0,1072**	0.6667***
	Two years	-	0,3100***	-	0,4327***	-	-	-	-	-	0.7368***

4.4.2.3. Regression of analysts' recommendations and insider trading together

SMALL	Regression	LMBR	LSIZE	ABRMOM	ABRWL	NPR	SDNIB	SDNIS	SDVB
Analysts'	Quarterly	-	-	0.4673***	0.1097*	-	-	-	-
and	Half year	-0.5580***	0.5098***	-	-	0.0625*	-	-	-
Insiders	One year	-0.5880***	0.4108***	1.0038***	-	0.0503*	-	-	-
Together	Two years	-	0.2900***	-	-	-	-	0.3015*	0.1508**

Continuing...	Regression	SDVS	NBR	DSBA	DSSA	Adj. R ²
Analysts'	Quarterly	-	-	-	-	0.6842***
and	Half year	-	0.0699*	-	-	0.6716***
Insiders	One year	-	-	-	-	0.8437***
Together	Two years	-	-	-	-	0.8832***

*** = Significance at 1%

** = Significance at 5% * = Significance at 10% - = No significant results

Description of variables:

LMBR = Natural logarithm of market to book ratio, LSIZE = natural logarithm of market capitalisation, ABRMOM = abnormal momentum, ABRWL = abnormal winner-loser, NPR = Net Purchase Ratio, SDNIB = strong dummy number of insiders buying, SDNIS = strong dummy number of insiders selling, SDVB = strong dummy volume bought, SDVS = strong dummy volume sold, NBR = Net Buy Recommendations, DSBA = strong dummy buy recommendations, DSSA = strong dummy sell recommendations

4.5. Answers to survey

4.5.1 Results from questionnaire answered by analysts

The results from the questionnaire (Appendix A.3.1.) sent out to analysts reveal that quarterly reports constitute a large portion of the foundation analysts build their stock recommendations upon. As much as 40 per cent of the analysts report that quarterly reports provide a quite large foundation, whereas 31,43 per cent report it to provide a great foundation for the stock recommendations. Analysing the additional comments, it can be concluded that several sources of information together compose the foundation for analysts' recommendations. Apart from the quarterly reports, meetings with management and the general industry outlook seem to be most important to analysts (Appendix A.3.1. Q1). These findings are in line with the answers on the same question in the questionnaire sent out by Hallvarsson and Halvarson (2013).

When it comes to the new and eased regulation of quarterly reports, a majority of the analysts expect it will have a little to no impact at all on their ability of making accurate recommendations. The additional comments uncover that this is explained by them assuming that the firms they follow will continue to report quarterly just as before. One should not ignore the seven analysts reporting that they expect the eased regulation will impact their ability to make accurate recommendations negatively and that it will have a negative effect on the transparency (Appendix A.3.1. Q2).

On the question concerning whether analysts consider insider trading when forming their stock recommendation the answers are diverse. The conclusion is that some analysts consider insider trading slightly but most do not at all. The additional comments reveal that it could be informative depending on which insider that is *selling* and the volume traded. On the other hand, another comment point out the difficulty of interpreting insider trades (Appendix A.3.1. Q3).

The questionnaire indicates that analysts mainly base their stock recommendations on fundamental analyses. No analyst answers that they use technical analysis, but one analyst replies "multiples, relative valuation", which could possible indicate a technical analysis or ad hoc. Growth prospects, event triggers, earnings outlook and industry or macro economic outlook are also factors commonly mentioned (Appendix A.3.1. Q4).

Most analysts have a time horizon of around one year when forming recommendations, as a majority of respond that they recommend stocks with a horizon of three to 12 months (Appendix A.3.1. Q5). The answers also reveal that 54,29 per cent expect analysts to be unwilling to revise an already published stock recommendation within a near future of three months. The background to this seem to be a shortage of time and the complicity of revising, as one analyst put it, “You don’t want to change too often, although it will be done if the share price moves significantly in your estimated direction or the case changes completely” (Appendix A.3.1. Q6).

When asking for the analysts’ comments on the theory suggesting that analysts give more positive stock recommendations of companies that are also clients to the bank the analysts work for, the answers are very spread. At first glance, it appears there ought to be some truth in the theory, as a majority of the analysts are not denying the statement completely (Appendix A.3.1. Q7). Nevertheless, the additional comments reveal that although analysts respond that they expect it is the case to a small or great extent, they then commented “no”. This complicates the analysis of the answers to this question, but the conclusion is that there is no belief among analysts that the theory applies in reality.

A majority of the analysts see themselves as better or a lot better than the average analyst in giving accurate recommendations, indicating overconfidence. Some reinforce their answers with ratings and investor votes, whereas a few claim that if they do not think they are better, then they should not do their job (Appendix A.3.1. Q8). Important to acknowledge is the comment by one analyst asking whether the question aims to measure confirmation bias. It reveals that he or she answers the questions with a mind-set on what the answers will result in and what he or she think is a “suitable” answer. If plenty of analysts have this result-think in mind when answering the questions, the answers risk to be biased. However, the analysts have no reason to lie, as all answers are given anonymously. Therefore, it is argued that even though some might have an undesirable mind-set, they would still answer the questions honestly.

The questionnaire reveals that most analysts tend to favour stocks on large cap, 69,70 per cent, stocks within the same industry, 57,58 per cent and liquid stocks, 36,36 per cent (Appendix A.3.1. Q9). It also proves that a majority of the analysts assume a more risky stock in terms of the Fama French *Three Factor Model* to yield an abnormal return, although one analyst point out that model to be “old school”. Yet, 24,24 per cent of them use other ways to measure the risk of a stock (Appendix A.3.1. Q10). The behaviour of analysts on the Swedish market corresponds to previous observations that analysts favour

following large, liquid and so called “glamour stocks” (Gilbert, Tourani-Rad and Wisniewski, 2005; Jegadeesh et al., 2004; Lang and Lundholm, 1996).

4.5.2. Results from questionnaire answered by insiders

The questionnaire (Appendix A.4.1.) is primarily sent out to insiders within the management team, as it is very hard to find contact information to board members and large shareholders. Management team members are requested to forward the questionnaire to board members and large shareholders, but the results indicate the request to be ignored. Hence, insiders of the management team including Chief Executive Officers and Chief Financial Officers, are dominating participants in this part of the survey (Appendix A.4.1. Q1).

The questionnaire is answered by insiders of firms listed on all market caps with the distribution of 24,22 per cent of the insiders responding work for a firm listed on large cap, 38,51 per cent for a firm listed on mid cap and 37,27 per cent on a firm listed on small cap (Appendix A.4.1. Q2.). This spread matches the one of total firms listed on each market cap (table 4.5.2.1.), thus it is not likely to expect any bias in the answers due misrepresentative answer distribution.

Table. 4.5.2.1.

Number of listed firms (not stocks) on the respective market caps		
Large Cap	66	26%
Mid Cap	77	30%
Small Cap	113	44%
Sum	256	100%

The answers prove that a great majority, 70,08 per cent, of the insiders do not consider analysts’ stock recommendations at all in their decision to trade stocks of their firms, as they have better insight in their company than an external analyst (Appendix A.4.1. Q3.). Another insider point out that he or she has a longer investment horizon than the analysts’ stock recommendations cover, making it unreasonable to follow them. A majority, 57,83 per cent, of the insiders have an investment horizon of more than two years, much longer than the three to twelve months horizon of stock recommendations (Appendix A.4.1. Q8.).

Most insiders do not expect the new and eased regulations on the quarterly reports to affect analysts’ possibilities to make accurate recommendations very much (Appendix A.4.1. Q4.). In accordance with

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the analysts' responses, the comments reveal the background to this is a disbelief in that firms will adopt the new regulations, but continue reporting just as before. On the other hand, insiders do also expect the eased regulations to have a negative effect on the informativeness and transparency. The questionnaire further reveals that 58,39 per cent of the firms will continue to publish quarterly reports just as before and only 3,11 per cent that they will publish quarterly reports, but that they will be less informative. No insider answers that they will stop publishing quarterly reports from now on. Important to highlight is that 21,12 per cent answered that they do not know, as the question have not been discussed within the firm and 17,39 per cent that they are not in a position of such decision and thereby do not know (Appendix A.4.1. Q5.). Attention should be directed to the comments revealing that Nasdaq OMX Stockholm could face a future change in publicly available information, as the insiders are not unfamiliar to review an adoption to the regulation in the future.

The answers in the questionnaire sent out to analysts by Hallvarsson and Halvarson (2013) revealed that many analysts fear that smaller firms will utilise the new regulations to a greater extent than larger firms. The answers in this survey indicate that this may actually be the case. Even if only a few insiders respond that their firms will utilise the regulation, 80 per cent of those are firms listed on small cap and none on large cap (table 4.5.2.2.).

Table. 4.5.2.2.

Answers	Small Cap		Mid Cap		Large Cap		Total
We will continue publishing quarterly reports but they will be less informative	4	80%	1	20%	0	0%	5
We will continue publishing quarterly reports exactly as usual	30	32%	38	40%	26	28%	94
I don't know, we have not decided on this yet	18	53%	13	38%	3	9%	34
I don't know because I'm not in a position of such decision	8	29%	10	36%	10	36%	28

To investigate any potential problem with herding behaviour among insiders, they are asked to which extent they considered friends, family or colleagues when making a decision to buy or sell. The responses reveal that of those who do trade their company's stock, a majority do not consider others. Some seem to weight in the trading decisions of friends, family or colleagues, but not enough to prove a general herding behaviour in insider trading (Appendix A.4.1. Q6.). Instead, when the insiders were asked to freely describe what they base their trading decisions on, a majority trade on their own analyses and long-term expectations of the company. Numerous insiders comment that they do not trade, but invest in their firms. The dominating factors leading insiders to trade, or invest, is their personal financial situation and an urge to signal, and/or increase, their commitment to the firm (Appendix A.4.1. Q7.).

It is important to clarify insiders' opinion on the theory of analysts tending to give more favourable stock recommendations to firms who are also customers to the bank for which the analysts work for, as analysts are assumed not to be too willing to admit such bias. The insiders' answers support the analysts' responses in this question. Many insiders believe it has little to no impact at all on the stock recommendations and experience the different relations with a bank's departments as independent. However some insiders, just as some analysts, point out that it could be the case (Appendix A.4.1. Q9).

Finally, most insiders find analysts to be good or very good at forming accurate recommendations and only 16,27 per cent find them to be bad. Turning to the comments, they reveal that insiders believe analysts to accurately interpret the financials but that they do not access the most important inside information and might not always understand the company (Appendix A.4.1. Q10).

5. ANALYSIS

In this section, the results are analysed in the light of theories and earlier research within the area. The results are also discussed with regard to the eased regulation on quarterly reports in Sweden.

5.1. Fundamentals of the Swedish stock market

The Swedish market is in this study, as previously mentioned, assumed to be semi strong inefficient. The results show that professionals, such as insiders and analysts, do not seem able to beat the market in the short run, suggesting the Swedish stock market to be efficiently strong. The results also indicate that insider trading could possibly be somewhat informative to investors and that there is an opportunistic information gap, which could be exploited to make abnormal profits in the long run. This would not be possible if the market was efficient. It should also be acknowledged that the recommendations have already reached some investors when published by the magazine *Privata Affärer*, consequently the potential opportunistic news could already be reflected in the stock price if the market is efficiently strong. As some responding market reactions can be proved to the news of insider trading and analysts' recommendations, prices are not fully adjusted already, which support the assumption of a semi-strong inefficiency of the Swedish market.

Firm characteristics are important factors to consider when investing on Nasdaq OMX Stockholm. Recent winners tend to continue being winners in the short run but losers in the long run and vice versa for recent losers, reflecting the presence of momentum and winner-loser effects. Size and market-to-book are significant in most cases regardless of which size group that is considered. Size has a positive effect on the abnormal returns and market-to-book a negative effect in all regressions. The significance found in all control variables except size is in line with previous empirical findings, implying the additional findings of this study to be reliable.

Investigating the connection between insider trading and analysts' recommendations, little dependency is found. Factors that likely explain the independency are analysts' and insiders' different investment horizons, insiders' information advantage and their different expectations of risk and return. The findings support Shefrin's (2007) theory that analysts often expect the relationship between risk and return to be positive whereas insiders, just as ordinary investors, expect the relationship to be negative, as they are found to rely more on representativeness than analysts. The proved independency of insiders and analysts enables this study to reject the first hypothesis "*Insiders consider analysts' recommendations in*

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making their decision to trade” as the null hypothesis is accepted. Accepting the second null hypothesis also leads to a rejection of hypothesis two, stating “*Analysts consider how insiders trade in making their recommendations*”. Hence, insider trading and analysts’ recommendations can be seen as two independently public information sources that do not affect each other and therefore can be analysed and discussed individually as potential substitutes for quarterly reports.

5.2. The informativeness of insider trading

In line with the discoveries made by Lakonishok and Lee (2001), the market mostly seems ignorant of how insiders trade, although their trades contain some information. It is thus not possible to detect an overreaction causing post-earnings-announcement-drift to the news of insider trades. This study proves that insider trades are not informative for investors to consider when estimating stock movements in the near future of a quarter to half a year (see table 5.2.1.). As insiders per se hold important private information about their firm’s financial health, they play an important role in making such information public to the market through the signalling value of their trades. But the insignificant results suggest that insiders on the Swedish market do not to provide any useful information in a short time horizon. This implicates that investors and analysts are bound to search for other sources of information, such as financial reports, when aiming for short-term profits. This infers that in a short time horizon, there should be no risk of insiders crowding out analysts in the future, as insider trades contain no information about the short-term stock movements.

Table: 5.2.1. summarizes only the findings significant at five per cent or lower, argued to be significant enough to analyse and draw conclusions from.

Insider informativeness					
	Net Purchase Ratio	Strong Dummy Nr of Insiders Buying	Strong Dummy Nr of Insiders Selling	Strong Dummy Volume Bought	Strong Dummy Volume Sold
Large Cap		2Y** i,j.			
Mid Cap	2Y*** i,j. and 1Y** j.				
Small Cap		1Y** i.		2Y** j.	

i,j. = significant in regression run individually and jointly with variables of analysts’ recommendations

j. = only significant in regression where variables of insider trading are run jointly with analysts

i. = only significant in regression where variables of insider trading are run separate

Recalling that the background to the regulatory change is to relax the administrative burden on firms listed at Nasdaq OMX Stockholm, it can be questioned whether it really was necessary, when most firms seem to continue the publication of quarterly reports. But if firms do utilise the regulation, insider trading

might become a more important source of public information as it then would be harder for investors to attain information elsewhere. As it would also lengthen the open periods insiders are allowed to trade, the informativeness in insider trading may be expected to increase. That would be supported by Wu and Zhu's (2011) finding of insider trading in America being more informative in a less transparent situation.

In a longer time perspective of one to two years, the results show significance for informativeness in strong insider buy dummies on all market caps (see table 5.2.1.), implying that when more insiders buy, the transactions contain information about the long-term stock performance. The study also establishes that regular insider trades, measured through the net purchase ratio (NPR), contain valuable information in a longer time perspective. This indicates that investors should be attentive to large amount of stocks bought, or many insiders buying, within a quarter when investing with a time horizon of one to two years. The significance in insider buys and insignificance in insider sells are supported by previous research (Wu and Zhu, 2011; Hsieh, Ng and Wang, 2005; Lakonishok and Lee, 2001). The questionnaire answered by insiders provides answers to this phenomenon. In line with what both Lakonishok and Lee (2001) and Wu and Zhu (2011) suggest, the responses prove that insiders have different reasons to sell, but the major reason for a purchase is expectations of a future profit. The detected informativeness in a longer time horizon is supported by the survey, indicating that insiders have a longer time horizon when investing, bringing logic to the insignificance in the shorter time horizons of abnormal returns.

The informative long-term insider trades in combination with eased regulation could nevertheless potentially lead to insiders crowding out analysts in the long run, as insider trading is proved to function as a slight substitute to other sources of public information concerning the long-term performance of a firm. Arguing in line with Gilbert, Tourani-Rad and Wisniewski (2005), there is a risk that other market participants will stop looking at analysts' recommendations in favour of insider trading. Firms utilising the eased regulation of less quarterly reports would speed up such crowding out, as analysts would then be at an even greater information disadvantage compared to insiders.

In order for insiders to crowd out analysts, investors must trust insider trading and act in accordance to those. Conversely to previous findings (Wu and Zhu, 2011; Cohen, Malloy and Pomorski, 2010; Jeng, Metrick and Zeckhauser, 2003; Rozeff and Zaman, 1988; Seyhun, 1986; Lorie and Niederhoffer, 1968), this does not seem to be the case in Sweden, as no direct responding stock movement to news of insider trades are detected. Numerous of potential explanations exist to why the market does not trust insider trading enough to act on them. One could be the uncertainty of insiders motives to trade, causing a

hesitation among investors concerning whether they should follow insiders trading patterns or not (Cohen, Malloy & Pomorski, 2010). The survey in this study uncovers that some insiders buy shares in their company simply to show commitment to their firm, which could be seen as an indication that insiders on the Swedish market engage in signalling. If investors fear that insiders engage in signalling in accordance with Akerlof's (1970) lemon-cherry-theory to differentiate their firms' stocks from the "bad" stocks, they may be less willing to invest. As investors might then reason as Cohen, Malloy and Pomorski (2010), that it is hard to interpret the signals of insider trading because the market does not know if the insiders just want to boost the stock price by signalling trust in the financial state of the firm (even if such actions are illegal) or if they actually expect a bright future for the firm. None of the responding insiders replies that they trade in order to boost stock price and even though it is uncertain whether the answering insiders tell the truth or just are reluctant to admit an engagement in such manipulations, the answers are regarded sincere and honest. Their answers of basing their trades on expectations of long-term profits are strengthened by the significant regression results in the long run. It would be quite useless for an insider in Sweden to buy stocks with a motive to boost stock price, as the Swedish stock market seem ignorant to the news of insider trading, as no direct stock price reaction is found in the short-run. Hence, investors have no reason to distrust the signals of insider trading. Especially as Swedish insiders not even, as opposed to previous findings (Hsieh, Ng and Wang, 2005), trade to signal positive outlooks to compensate for negative analyst recommendation or engage in herding (Cipriani and Guarino, 2012). Insiders' buys are therefore more connected to insiders expecting the long-term future of the company to be bright rather than a wish to manipulate the market.

Another explanation to why investors in Sweden do not seem to trust insider trading could be associated with the corporate governance system and its effect on the informativeness of insider trades. All earlier studies finding evidence of insider trading being informative are conducted on the American market (Wu and Zhu, 2011; Cohen, Malloy and Pomorski, 2010; Jeng, Metrick and Zeckhauser, 2003; Lakonishok and Lee, 2001; Rozeff and Zaman, 1988; Seyhun, 1986; Lorie and Niederhoffer, 1968). Evidence of insider trading being informative in common law countries, but not in a civil law countries such as Sweden and Norway (Eckbo and Smith, 1998), supports the theory of differences in corporate governance systems and legal origins having an effect on how the market function and share information. One potential explanation could be that common law countries allow managers on the board and CEO duality, which increase the superior and private information insiders in those countries possess. This would logically enable them to yield a higher abnormal return, leading to their trades containing more information to the public. This argument would be supportive by the findings of Ravina

and Sapienza (2009) that insiders with more information yield higher returns than those with less. Thereby, investors in common law countries have more reasons to trust those insiders.

The reason why the results of insider informativeness are dominantly insignificant can be related to several behavioural theories. Rabin & Vayanos (2009), along with Shefrin (2007), find that insiders may be victims of the hot-hand-fallacy and the gambler's fallacy when trading, leading to irrational decision-making due to wrongly estimated probabilities. Further, the survey performed by Financial Executives International and Baruch College, The City University of New York in 2013, show that manager and executives (in essence insiders) often are overconfident and affected by representativeness. This entails insiders to have an excessive belief in their own knowledge and rules of thumb rather than relying on hard facts, leading to biased decisions.

The empirical findings in this study result in an acceptance of the null hypothesis and hence a rejection of the third hypothesis "*Insider buys are informative*" in the short-term horizon of one quarter to half a year but acceptance in the time horizon of one to two years. This incurs that insider buys of stocks listed on all market caps on Nasdaq OMX Stockholm are not informative when forecasting the short-term expected abnormal return in the short-term. Conversely, in the longer time horizon, insider buys contain some information about the future abnormal return. The fourth hypothesis "*Insider sells are informative*" is rejected as the null hypothesis is accepted and hence this study concludes that insider sells of stocks listed on all market caps of Nasdaq OMX Stockholm to be non-informative. The conclusions are thereby largely in line with prior research finding that insiders are unable to generate abnormal returns (Lorie and Niederhoffer, 1968; Seyhun, 1986; Rozeff and Zaman, 1988, Lin & Howe, 1990), but that insider buys contain more valuable information than insider sells (Wu and Zhu, 2011; Hsieh, Ng and Wang, 2005; Lakonishok and Lee, 2001).

Concerning market transparency, the results prove that insider trading is not a very good source of information to replace financial reports. Removing the quarterly reports could therefore potentially put the transparency of the Swedish stock market at risk. On the other hand, the informativeness of insider trades is slightly stronger in trades of small cap and mid cap stocks, implying that, in line with the theory of Wu and Zhu (2011), less transparency could make insider trading to become more informative.

5.3. The informativeness of analysts' recommendations

The only significant signs of informativeness of analyst recommendations are detected in stocks listed on large cap, corresponding to the high analyst coverage on large cap, inferred by the answers from this study's questionnaire (Appendix A.3.1.) as well as in previous empirical studies (Gilbert, Tourani-Rad & Wisniewski, 2005; Lang & Lundholm, 1996). High analyst coverage further implies a greater pressure on management to provide information concerning their performance and financial health, resulting in a larger amount of information being shared. As a consequence of all this, firms with higher analyst coverage are more transparent. In a traditional point of view, the insignificance seen in analysts' recommendations of stocks listed on mid and small cap could be explained by the fact that these are more risky investments than large cap stocks and therefore it is harder for analysts to predict precise earnings forecasts. This decreases the analyst coverage and thereby also the transparency of stocks listed on mid and small cap. If firms listed on mid cap and small cap do decide to utilise the new and eased regulation on quarterly reporting, this vicious cycle will perpetuate and the transparency of mid cap and small cap stocks worsen even more in relation to large cap stocks.

Table: 5.3.1. summarizes only the findings significant at five per cent or lower, argued to be significant enough to analyse and draw conclusions from.

Analysts' informativeness			
	Net Buy Recommendations	Dummy Strong Buy Analysts	Dummy Strong Sell Analysts
Large Cap		2Y*** j.	Q** i. and Q*** j.
Mid Cap			
Small Cap			

ij. = significant in regression run individually and jointly with variables of insider trading

j. = only significant in regression where variables of analysts' recommendations are run jointly with insider trading

i. = only significant in regression where variables of analysts' recommendations are run separate

On large cap, analysts' sell recommendations are often followed by a decrease in stock price in the quarterly time horizon, which is in line with Stanislawek's (2012) findings. It can either be explained by the stock market reacting stronger when several analysts recommend sell than when several analysts recommend buy or by analysts' sell recommendations containing more accurate information or a combination of them both. The low number of 17,53 per cent being sell recommendations of all recommendations found on large cap between 2011 and 2013 supports Stanislawek's (2012) findings. Therefore, it is not completely unreasonable to argue that analysts are somewhat unwilling to recommend sell. If an analyst against the odds decides to, it could be argued that the sell recommendation is based on a more elaborate analysis and thereby becomes more accurate. As opposed

to when studying insider trading, the market seems to react directly to analysts' sell, but not buy, recommendations, supporting Shefrin's theory (2007) that people tend to react stronger to negative news than positive news. However, the sell recommendations only show significance in the quarterly abnormal return and not in the longer time horizon of half a year to one year, which is the time horizon analysts report to have in their recommendations (Appendix A.3.1. Q5). This implies that the significance in the variable representing sell recommendations could be a result of the market being more sensitive to bad news rather than inferring a high accuracy in the recommendation. Sell recommendations hence seem to have self-fulfilling characteristics, leading up to significance and the news of less profitable returns in a longer time horizon is directly incorporated into the stock price. For these reasons, it is not possible to argue that analysts' sell recommendations reduce the information asymmetry or the information gap on the market.

Turning to the longer investment horizon of two years, the strong significance in the dummy capturing strong buy signals suggests that when four or more analysts recommend buy on a large cap stock, or it receives a strong buy recommendation, it contains information about the expected abnormal return in two years. It supports the findings of Barber et al. (2001) of strong recommendations being more informative, but as most analysts have a time horizon of six months to one year in their recommendations (Appendix A.3.1. Q5), this finding additionally implies a drift in reaction. It could be explained by the theory of Daniel, Hirshleifer and Subrahmanyam (1998), stating that investors underreact to public information, causing a drift in stock price reaction. Arguing in line with this, if a majority of investors on Nasdaq OMX Stockholm are overconfident²² in their investments and suffer from self-attribution biases, they will not react on analysts' recommendations unless they support the private information already received. This could imply that analyst recommendations do contain information about the future stock price of a firm, but that investors underreact to the recommendation, causing a drift in price movement.

If Swedish investors are overconfident and suffer from self-attribution biases, they would most likely also underreact to new quarterly reports, as these are also publicly available information. In the light of the new regulation, two reports per annum would in such case be enough, as investors do not incorporate new public information to a large extent. It would therefore actually be more beneficial for shareholders if management put time into business improvements instead of into quarterly reporting.

²² Daniel, Hirshleifer and Subrahmanyam (1998) define an overconfident investor as one who overestimates the precision of private information signals but not information signals publicly received by all. When additional public information supports the private information, overconfidence rises but disconfirming information only causes confidence to fall modestly, if at all.

The dominating insignificance in analysts' recommendations can be explained by several factors. Shefrin (2000) argues in his theory of the recommendation game that analysts do not always mean what they say and hence their recommendations can be biased. Some of the underlying factors to his theory find support in this study. Firstly, the findings of this study support his argument of analysts incorporating information from management in their recommendations and that insiders are selective when sharing information with the analysts (Appendix A.3.1. Q1; A.4.1. Q10). It can be assumed that most firms are more willing to share positive rather than negative information, thereby the picture the analysts receive from the firms is not always reflecting reality, resulting in biased recommendations. Secondly, Shefrin (2000), as well as Stanislawek (2012), states that although research departments should be independent from other bank departments, analysts working for banks could have an incentive to publish positive recommendations if doubtful because of the corporate relationships. The answers in the questionnaire (Appendix A.3.1. Q7; A.4.1. Q9) contradicts the reasoning of analysts' willingness to keep their corporate customers satisfied, hence this study do not support this reasoning. Thirdly, Shefrin (2000) highlight that it is hard for investors to know whether the recommendations are biased or not, and hence tend to listen to the recommendations anyways resulting in an effect on the stock price. This study finds no support for investors reacting on analysts, but agrees with Shefrin (2000) that it is hard to know whether the analysts' recommendations are biased or not. The main reason for analysts not being able to continuously publish accurate recommendations is although argued in this study to be the information disadvantage rather than analysts' conscious choice to signal positive outlooks.

Several researchers mean that analysts' recommendations are simply not informative because of their valuation methods are based on ad hoc heuristics rather than fundamental analyses (Shefrin, 2007; Bradshaw, 2004; Jegadeesh et al., 2004; Cornell, 2001). However, several analysts reply in the questionnaire that they use fundamental analysis (Appendix A.3.1. Q4) and it is therefore more likely that the insignificance is due to other factors than their valuation method. The insignificance of analysts' recommendations could potentially be explained by the arguments of Daniel, Hirshleifer and Subrahmanyam (1998), which are that not only investors suffer from overconfidence and self-attribution biases, but also analysts. The overconfidence a majority of analysts seem to have according to the survey could imply that analysts following Swedish stocks actually do rely more on private information and their own ability than on public information. Thereby they may underreact to new quarterly reports published, unless those support their already given recommendation. Arguing in line with Daniel, Hirshleifer and Subrahmanyam (1998), the overconfidence could also imply that analysts

following Swedish stocks are unlikely to acknowledge any potential forecast errors in their recommendations, which would also be supported by them being unwilling to revise an already published report (Appendix A.3.1. Q6 and Q8). These biases could result in analysts' recommendations containing less information about future stock prices, supported by the insignificance found in the tests. Overconfident analysts suffering from self-attribution biases would in this sense mean that analysts' recommendations is a bad substitute to quarterly reports.

To conclude, analysing the results do not allow rejecting the null hypothesis and hence the fifth hypothesis "*Analysts' buy recommendations are informative*" is rejected. Thereby this study finds that analysts' recommendations are not informative for any stock listed on Nasdaq OMX Stockholm. The sixth hypothesis "*Analysts' sell recommendations are informative*" is rejected when it comes to sell recommendations of stocks listed on mid and small cap as the null hypothesis in those tests cannot be rejected. However, the sixth hypothesis cannot be completely rejected on large cap, as some signs are found that analysts' sell recommendations do contain information about the abnormal return in a quarter.

Even though this study barely finds any evidence of analyst recommendations being informative, it does not mean they are useless. Analysts provide the market with professional analyses that gives indication of which direction investors can expect the stock prices to move. Analysts also push firms to reveal information and therefore they play an important role in the information sharing process and the market transparency. But all in all, analysts' recommendations are not suggested to be a good substitute to the public information source of quarterly reports. First of all, both insiders and analysts report that analysts' insight is limited and dependent on what information the management choose to share with them (Appendix A.3.1. Q1; A.4.1. Q10). Even if management can manipulate their numbers in their quarterly reports as well, the reports are bound to follow a certain standard of financial reporting, which makes it easier for investors to compare the different listed firms with each other, a great advantage of quarterly reports from a transparency point of view. Especially as the analyst coverage is significantly larger on firms listed on large cap, which already makes the transparency of mid and small cap stocks lower. In addition, public analysts' recommendations do not contain much valuable information about the future stock price and firms' performance and hence it would be irrational to base investment decisions solely on those.

6. CONCLUDING REMARKS

In the last section, the final conclusions from the analysis and the results are presented and discussed with regard to the purpose of this study. Proposals to further research are also given.

6.1. Conclusion

The main purpose of this study is to investigate what effects the new, eased regulation will have on information sharing on the Swedish stock market. The conclusion is that it will most likely have a negative effect on the transparency given that firms do utilise it and reduce their number of reports given annually. As neither insider trading nor analysts' recommendations are considered to be adequate substitutes to the quarterly reports, the market will be even more dependent on private information if quarterly reports are removed. This means that the information gap and information asymmetries will increase and more opportunistic mispricings will be available to those investors that can afford to pay for private information.

Although investors have no reason to fear that the regulation will have a large impact on their ability to gain public information in the near future, it is important to acknowledge that some insiders do admit that their firms will wait and see whether other firms choose to reduce their reporting and perhaps adapt as well. Firms are advised to consider an utilisation of the new regulation thoroughly, due to the uncertain investment climate and lack of public information this may cause. This advice especially concerns firms listed on mid cap and small cap. These firms are reported to be most likely to reduce their quarterly reporting but as the analyst coverage is low, the transparency here is already weaker. Since small and mid cap stocks additionally are considered riskier for investors, decreasing the public information will make investors less willing to invest in those stocks, particularly if they, just as insiders, view the relationship between risk and return to be negative. Hence, stocks listed on mid cap and small cap utilising the regulation risk facing illiquidity and an increased cost of capital.

The non-informativeness of insider trades and analysts' recommendations in the short run mean that investors will barely have any access to public information if a reduction in available reports become reality in the future. Originating from this could be a reluctance among investors to make shorter investments, as they do not know whether financial reports will be available or if there is any information in looking at how insiders trade or what analysts recommend. As the investor protection already is lower in Sweden due its civil law origin, quarterly reports are argued to be an important source of public

information and the market is advised to continue with their quarterly reports even though the regulation is eased.

6.2. Proposals to further research

As seen by the replies in the survey, many insiders and analysts are sceptical to that firms really will adapt to the new eased regulation on quarterly reports and hence do not think the regulation will effect the market. As it is yet too soon to study the effects fewer quarterly reports available have on the transparency, a proposal to further research is to perform a replicating study of this one in a few years. By doing so, it will be possible to state whether firms have utilised the regulation and if the informativeness in insider trading and analysts' recommendation has changed due to this.

Another proposal to further research is to investigate the differences in informativeness between public and private information on the Swedish stock market. This study investigates informativeness of analysts' recommendations having reached the whole market, defined as public information. Recommendations only given to private clients at a cost is expected to be more significant and opportunistic for investors, how much more is although yet uncertain. It might also have an effect on the information content in insider trades depending which insider that is trading. There is hence a research gap in investigating insider trades in Sweden by classifying the insiders into different groups.

Finally, this study includes recommendations from all analysts regardless if they work for investment banks or newspapers. In order to more properly define whether investment bank analysts are prone to publish positive recommendations, a proposal to further research is to replicate this study, but split analysts into groups with regards to the "independency" of their employer. That research gap could be important to fill, especially with regards to the eased regulation.

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A. APPENDIX

A.1. Legal briefing, Sweden vs. America

Legal question	Sweden	America
Who is an insider?	Member or alternative member of the board, managing director or deputy manager, auditor or deputy auditor, a general partner in parent company, holder or senior executive with non-public information (all concerns parent company too) and equity holder of 10% or more of share capital or voting rights	Officers and directors, brokers with insight and owners of 10% and more of the company's equity securities
Persons considered closely related to an insider:	Spouse or cohabitant of the notified, minor children, closely related parties, legal person etc.	Family members, friends, business associates, legal persons etc.
An insider reports to:	Swedish Financial Supervisory Authority	Securities and Exchange Commission (SEC)
Changes in holdings should be reported:	Within 5 calendar days	Within 2 business days
Trading is prohibited:	30 days before report becomes public, the report day included	No insider may trade during period of 2 weeks prior end of fiscal quarter until two trading days following public disclosure of financial results for quarter or year
Punishment if breaching insider trading laws:	Fees or prison of max 6 months if smaller crime, more serious prison 6 months to 4 years	Prison up to 20 years, criminal fines up to 5 million dollar, civil fines up to three times the profit gained or loss avoided.

A.2. Sample list of firms included in thesis

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
AarhusKarlshamn	Large cap	x	x	x
ABB Ltd	Large cap		Excluded because of lack of available data	
Alfa Laval	Large cap	x	x	x
ASSA ABLOY B	Large cap	x	x	x
AstraZeneca	Large cap		Excluded because of lack of available data	
Atlas Copco A	Large cap	x	x	x
Atlas Copco B	Large cap	x	x	x
Atrium Ljungberg B	Large cap	x	x	x
Autoliv SDB	Large cap		Excluded because of lack of available data	
Axfood	Large cap	x	x	x
Axis	Large cap	x	x	x
BillerudKorsnäs	Large cap	x	x	x
Boliden	Large cap	x	x	x
Castellum	Large cap	x	x	x
Electrolux A	Large cap		Excluded because of lack of available data	
Electrolux B	Large cap	x	x	x
Elekta B	Large cap	x	x	x
EnQuest PLC	Large cap		Excluded because of lack of available data	
Ericsson A	Large cap		Excluded because of lack of available data	
Ericsson B	Large cap	x	x	x
Fabege	Large cap	x	x	x
Getinge B	Large cap	x	x	x
Handelsbanken A	Large cap	x	Information missing	x
Handelsbanken B	Large cap	x	x	x
Hennes & Mauritz B	Large cap	x	x	x
Hexagon B	Large cap	x	x	x
HEXPOL B	Large cap	x	x	x
Holmen A	Large cap		Excluded because of lack of available data	
Holmen B	Large cap	x	x	x
Hufvudstaden A	Large cap	x	x	x
Hufvudstaden C	Large cap		Excluded because of lack of available data	
Husqvarna A	Large cap		Excluded because of lack of available data	
Husqvarna B	Large cap	x	x	x
ICA Gruppen	Large cap	x	x	x
Industrivärden A	Large cap	x	x	x
Industrivärden C	Large cap	x	x	x
Intrum Justitia	Large cap	x	x	x
Investor A	Large cap	x	Information missing	x
Investor B	Large cap	x	x	x
JM	Large cap	x	x	x

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
Kinnevik A	Large cap		Excluded because of lack of available data	
Kinnevik B	Large cap	x	x	x
Latour B	Large cap	x	x	x
Lundbergföretagen B	Large cap	x	x	x
Lundin Mining Corporation SDB	Large cap		Excluded because of lack of available data	
Lundin Petroleum	Large cap	x	x	x
Meda A	Large cap	x	x	x
Melker Schörling	Large cap	x	x	x
Millicom International Cellular SDB	Large cap	Information missing	x	x
Modern Times Group A	Large cap		Excluded because of lack of available data	
Modern Times Group B	Large cap	x	x	x
NCC A	Large cap		Excluded because of lack of available data	
NCC B	Large cap	x	x	x
NIBE Industrier B	Large cap	x	x	x
Nordea Bank	Large cap	x	x	x
Oriflame SDB	Large cap	Information missing	x	x
Peab B	Large cap	x	x	x
Ratos A	Large cap		Excluded because of lack of available data	
Ratos B	Large cap	x	x	x
Ratos pref	Large cap		Preference shares are excluded in this study	
SAAB B	Large cap	x	x	x
Sandvik	Large cap	x	x	x
SCA A	Large cap		Excluded because of lack of available data	
SCA B	Large cap	x	x	x
SCANIA A	Large cap		Excluded because of lack of available data	
SCANIA B	Large cap	x	x	x
SEB A	Large cap	x	x	x
SEB C	Large cap		Excluded because of lack of available data	
Securitas B	Large cap	x	x	x
Skanska B	Large cap	x	x	x
SKF A	Large cap		Excluded because of lack of available data	
SKF B	Large cap	x	x	x
SSAB A	Large cap	x	x	x
SSAB B	Large cap	x	x	x
Stora Enso A	Large cap		Excluded because of lack of available data	
Stora Enso R	Large cap		Excluded because of lack of available data	
Swedbank A	Large cap	x	x	x
Swedish Match	Large cap	x	x	x
Swedish Orphan Biovitrum	Large cap	x	x	x
Tele2 A	Large cap	x	x	x
Tele2 B	Large cap		Excluded because of lack of available data	
TeliaSonera	Large cap	x	x	x
Tieto Oyj	Large cap		Excluded because of lack of available data	
Trelleborg B	Large cap	x	x	x
Volvo A	Large cap	x	x	Information missing
Volvo B	Large cap	x	x	x
Wallenstam B	Large cap	x	x	x

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
Active Biotech	Mid Cap	x	x	x
Addtech B	Mid Cap	x	x	x
Aerocrine B	Mid Cap	x	x	x
Arcam	Mid Cap	Excluded because of lack of available data		
Avanza Bank Holding	Mid Cap	x	x	x
B&B TOOLS B	Mid Cap	x	x	x
Beijer Alma B	Mid Cap	x	x	x
Beijer B	Mid Cap	x	Information missing	Information missing
Betsson B	Mid Cap	x	x	x
Bilia A	Mid Cap	x	x	x
BioGaia B	Mid Cap	x	x	x
Black Earth Farming SDB	Mid Cap	x	x	x
BlackPearl Resources SDB	Mid Cap	Excluded because of lack of available data		
Bufab Holding	Mid Cap	Excluded because of lack of available data		
Bure Equity	Mid Cap	x	x	x
Byggmax Group	Mid Cap	x	x	x
Catena	Mid Cap	x	Information missing	x
Cavotec	Mid Cap	Excluded because of lack of available data		
CDON Group	Mid Cap	x	x	x
Clas Ohlson B	Mid Cap	x	x	x
Cloetta B	Mid Cap	x	x	x
Concentric	Mid Cap	Excluded because of lack of available data		
Corem Property Group	Mid Cap	x	x	x
Corem Property Group Pref	Mid Cap	Preference shares are excluded in this study		
Creates A	Mid Cap	Information missing	x	x
Diös Fastigheter	Mid Cap	x	x	x
Duni	Mid Cap	x	x	x
East Capital Explorer	Mid Cap	x	x	x
Eniro	Mid Cap	x	x	x
Eniro pref	Mid Cap	Preference shares are excluded in this study		
Fagerhult	Mid Cap	x	x	x
Fast Partner	Mid Cap	x	x	x
Fast Partner Pref	Mid Cap	Preference shares are excluded in this study		
Fast. Balder B	Mid Cap	x	Information missing	x
Fast. Balder pref	Mid Cap	Preference shares are excluded in this study		
Fenix Outdoor B	Mid Cap	x	x	x
Fingerprint Cards B	Mid Cap	x	x	x
Gunnebo	Mid Cap	x	x	x
Haldex	Mid Cap	x	x	x
HEBA B	Mid Cap	x	Information missing	x
Hemfosa Fastigheter	Mid Cap	Excluded because of lack of available data		
HiQ International	Mid Cap	x	x	x
Industrial & Financial systems A	Mid Cap	Excluded because of lack of available data		
Industrial & Financial systems B	Mid Cap	Excluded because of lack of available data		
Indutrade	Mid Cap	Information missing	x	x
ITAB Shop Concept B	Mid Cap	x	x	x
KappAhl	Mid Cap	75 x	x	x
Klövern	Mid Cap	x	x	x

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
Klövern pref	Mid Cap		Preference shares are excluded in this study	
Kungsleden	Mid Cap	x	x	x
Lagercrantz Group B	Mid Cap	x	x	x
Lindab International	Mid Cap	x	x	x
Loomis B	Mid Cap	x	x	x
Medivir B	Mid Cap	x	x	x
Mekonomen	Mid Cap	x	x	x
Nederman Holding	Mid Cap	x	x	x
Net Entertainment NE B	Mid Cap	x	x	x
New Wave B	Mid Cap	x	x	x
Nobia	Mid Cap	x	x	x
Nolato B	Mid Cap	x	x	x
Nordnet B	Mid Cap	x	x	x
OEM International B	Mid Cap	x	x	x
Opus Group	Mid Cap		Excluded because of lack of available data	
Orexo	Mid Cap	x	x	x
Platzer Fastigheter Holding B	Mid Cap		Excluded because of lack of available data	
Proffice B	Mid Cap	x	x	x
Recipharm	Mid Cap		Excluded because of lack of available data	
Rezidor Hotel Group	Mid Cap	x	x	x
Sagax A	Mid Cap	x	x	Information missing
Sagax B	Mid Cap		Excluded because of lack of available data	
Sagax pref	Mid Cap		Excluded because of lack of available data	
Sanitec Oyj	Mid Cap		Excluded because of lack of available data	
SAS	Mid Cap	x	x	x
SAS PREF	Mid Cap		Preference shares are excluded in this study	
SECTRA B	Mid Cap	x	x	x
Semafo	Mid Cap		Excluded because of lack of available data	
SkiStar B	Mid Cap	x	x	x
SWECO A	Mid Cap	x	Information missing	
SWECO B	Mid Cap	x	x	x
Swedol B	Mid Cap	x	x	x
Systemair	Mid Cap	x	x	x
Tethys Oil	Mid Cap		Excluded because of lack of available data	
Transmode	Mid Cap		Excluded because of lack of available data	
Tribona	Mid Cap		Excluded because of lack of available data	
Unibet Group	Mid Cap	Information missing		x
Victoria Park A	Mid Cap		Excluded because of lack of available data	
Victoria Park Pref	Mid Cap		Preference shares are excluded in this study	
Vostok Nafta Investment SDB	Mid Cap	Information missing		x
Wihlborgs Fastigheter	Mid Cap	x	x	x
ÅF B	Mid Cap	x	x	x
Öresund	Mid Cap	x	x	x

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
Acando B	Small Cap	x	x	x
ACAP Invest A	Small Cap		Excluded because of lack of available data	
ACAP Invest B	Small Cap	x	Information missing	x
Addnode Group B	Small Cap	x	x	x
Allenex	Small Cap	x	x	x
AllTele	Small Cap	x	x	x
Anoto Group	Small Cap	x	Information missing	x
Arctic Paper	Small Cap		Excluded because of lack of available data	
Arise	Small Cap	x	x	x
Aspiro	Small Cap	x	Information missing	x
Availo	Small Cap		Excluded because of lack of available data	
Avega Group B	Small Cap	x	x	x
BE Group	Small Cap	x	x	x
Beijer Electronics	Small Cap	x	x	x
Bergs Timber B	Small Cap	x	Information missing	x
BioInvent International	Small Cap	x	x	x
Biotage	Small Cap	x	x	x
Björn Borg	Small Cap	x	x	x
Bong	Small Cap	x	x	x
Boule Diagnostics	Small Cap		Excluded because of lack of available data	
BTS Group B	Small Cap	x	x	x
CellaVision	Small Cap	x	x	x
Cision	Small Cap	x	x	x
Concordia Maritime B	Small Cap	Information missing	x	x
Connecta	Small Cap	x	x	x
Consilium B	Small Cap		Excluded because of lack of available data	
CTT Systems	Small Cap	x	x	x
Cybercom Group	Small Cap	x	x	x
Dedicare B	Small Cap		Excluded because of lack of available data	
DGC One	Small Cap	x	x	x
DORO	Small Cap	x	x	x
Duroc B	Small Cap	x	x	x
Elanders B	Small Cap	x	x	x
Electra Gruppen	Small Cap	x	x	x
Elos B	Small Cap	x	x	x
Endomines	Small Cap		Excluded because of lack of available data	
Enea	Small Cap	x	x	x
Etrion	Small Cap		Excluded because of lack of available data	
eWork Scandinavia	Small Cap	x	x	x
Feelgood Svenska	Small Cap	x	x	x
FinnvedenBulten	Small Cap		Excluded because of lack of available data	
FormPipe Software	Small Cap	x	x	x
Geveko B	Small Cap	x	Information missing	x
Global Health Partner	Small Cap	x	x	x
Havsfrun Investment B	Small Cap	x	Information missing	x
Hemtex	Small Cap	x	x	x
HMS Networks	Small Cap	x	x	x
I.A.R Systems Group	Small Cap	x	Information missing	x

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
Image Systems	Small Cap	x	Information missing	x
Intellecta B	Small Cap	x	Information missing	x
KABE B	Small Cap	x	x	x
Karo Bio	Small Cap	x	x	x
Karolinska Development B	Small Cap		Excluded because of lack of available data	
KnowIT	Small Cap	x	x	x
Lammhults Design Group B	Small Cap	x	x	x
Malmbergs Elektriska B	Small Cap	Information missing	x	x
Micro Systemation B	Small Cap		Excluded because of lack of available data	
Micronic Mydata AB	Small Cap	x	x	x
Midsona A	Small Cap		Excluded because of lack of available data	
Midsona B	Small Cap	x	Information missing	x
Midway A	Small Cap		Excluded because of lack of available data	
Midway B	Small Cap	x	x	x
Moberg Pharma	Small Cap		Excluded because of lack of available data	
MQ Holding	Small Cap	x	x	x
MSC Konsult B	Small Cap		Excluded because of lack of available data	
MultiQ International	Small Cap		Excluded because of lack of available data	
NAXS Nordic Access Buyout Fund	Small Cap	x	Information missing	x
Net Insight B	Small Cap	x	x	x
NeuroVive Pharmaceutical	Small Cap		Excluded because of lack of available data	
Nordic Mines	Small Cap	x	x	x
Nordic Service Partners Holdings B	Small Cap	x	Information missing	x
NOTE	Small Cap	x	x	x
Novestra	Small Cap	x	Information missing	x
NOVOTEK B	Small Cap	x	x	x
Oasmia Pharmaceutical	Small Cap	x	x	x
Odd Molly International	Small Cap	x	x	x
Opcon	Small Cap		Excluded because of lack of available data	
Ortivus A	Small Cap		Excluded because of lack of available data	
Ortivus B	Small Cap	x	x	x
PA Resources	Small Cap	x	x	x
PartnerTech	Small Cap	x	x	x
Poolia B	Small Cap	x	x	x
Precise Biometrics	Small Cap	x	x	x
Prevas B	Small Cap	x	x	x
Pricer B	Small Cap	x	x	x
Proact IT Group	Small Cap	x	x	x
Probi	Small Cap	x	x	x
Profilgruppen B	Small Cap	x	Information missing	x
RaySearch Laboratories B	Small Cap	x	x	x
ReadSoft B	Small Cap	x	x	x
Rederi AB Transatlantic	Small Cap	x	Information missing	x
Rejlers	Small Cap		Excluded because of lack of available data	
RNB RETAIL AND BRANDS	Small Cap	x	x	x
Rottneros	Small Cap	x	x	x
Rörvik Timber B	Small Cap	x	Information missing	x
Seamless Distribution	Small Cap		Excluded because of lack of available data	

Company name	Market	Insider trading registered	Recommendations found on firm	Data retrieved from Datastream
Semcon	Small Cap	x	x	x
Sensys Traffic	Small Cap	x	x	x
Shelton Petroleum B	Small Cap	Excluded because of lack of available data		
SinterCast	Small Cap	x	Information missing	x
Softronic B	Small Cap	x	Information missing	x
Stockwik Förvaltning	Small Cap	x	Information missing	x
Studsvik	Small Cap	x	x	x
Svedbergs B	Small Cap	x	x	x
Svolder A	Small Cap	Information missing	x	x
Svolder B	Small Cap	x	Information missing	x
Traction B	Small Cap	x	Information missing	x
TradeDoubler	Small Cap	x	x	x
Transcom WorldWide SDB A	Small Cap	Excluded because of lack of available data		
Transcom WorldWide SDB B	Small Cap	Information missing	x	x
Trigon Agri	Small Cap	Information missing	x	x
Uniflex B	Small Cap	x	x	x
VBG GROUP B	Small Cap	x	x	x
Venue Retail Group B	Small Cap	x	x	x
Vitec Software Group B	Small Cap	Excluded because of lack of available data		
Vitrolife	Small Cap	x	x	x
XANO Industri B	Small Cap	x	x	x

A.2.1 List of all recommendations and insider trading included

Table 1 - Number of recommendations given by analysts presented in “Privata Affärer”, 2011-2013:

Large cap	Number of	Ratio of total
Buy recommendations	1 856	47,84%
Sell recommendations	680	17,53%
Hold recommendations	1 344	34,64%
Total	3 880	100,00%

Mid cap	Number of	Ratio of total
Buy recommendations	588	53,65%
Sell recommendations	188	17,15%
Hold recommendations	320	29,20%
Total	1 096	100,00%

Small cap	Number of	Ratio of total
Buy recommendations	243	57,31%
Sell recommendations	63	14,86%
Hold recommendations	118	27,83%
Total	424	100,00%

Total	Number of	Ratio of total
Buy recommendations	2 687	49,76%

Sell recommendations	931	17,24%
Hold recommendations	1 782	33,00%
Total	5 400	100,00%

Table 2 - Amount of insider trading recorded by the Swedish Financial Supervisory Authority, 2011-2013:

Large cap	Number of	Ratio of total
Number of insiders buying	1 011	66,21%
Number of insiders selling	516	33,79%
Total number of insiders trading	1 527	100,00%
Volume bought (number of stocks)	236 273 812	58,43%
Volume sold (number of stocks)	168 068 017	41,57%
Total volume traded (number of stocks)	404 341 829	100,00%
Mid cap	Number of	Ratio of total
Number of insiders buying	822	66,72%
Number of insiders selling	410	33,28%
Total number of insiders trading	1 232	100,00%
Volume bought (number of stocks)	70 965 741	52,61%
Volume sold (number of stocks)	63 927 741	47,39%
Total volume traded (number of stocks)	134 893 482	100,00%
Small cap	Number of	Ratio of total
Number of insiders buying	890	76,72%
Number of insiders selling	270	23,28%
Total number of insiders trading	1 160	100,00%
Volume bought (number of stocks)	194 969 758	60,30%
Volume sold (number of stocks)	128 347 841	39,70%
Total volume traded (number of stocks)	323 317 599	100,00%
Total		
Number of insiders buying	2 723	69,48%
Number of insiders selling	1 196	30,52%
Total number of insiders trading	3 919	100,00%
Volume bought (number of stocks)	502 209 311	58,22%
Volume sold (number of stocks)	360 343 599	41,78%
Total volume traded (number of stocks)	862 552 910	100,00%

A.2.2. Number of recommendations per analyst source

A.2.2.1. Large Cap

<u>Banks</u>		<u>Newspapers/Non-bank</u>	
ABG Sundal Collier	53	Affärsvärlden	82
Arctic Securities	3	Aktiespararen	16
Baird	8	Börsveckan	85
Bank of America/Merrill Lynch	144	Dagens Industri	19
Barclays	66	Placeringsguiden	6
Berenberg	70	Privata Affärer	10
Bernstein	12	Standard & Poor	52
Bryan Garnier	1	Veckans Affärer	21
Canaccord	2	Total recommendations from newspapers	291
Carnegie	68	Total recommendations large cap	3880
Citi Group	97	Percentage of newspaper sources large cap	7,50%
Collins Stewart	2		
Commerzbank	4		
Cowen	1		
Credit Suisse	130		
Danske Bank	160		
Deutsche Bank	183		
DNB	48		
Equita SIM	1		
Erik Penser Bankaktiebolag	6		
Espirito Santo	5		
Evli Bank	13		
Exane BNP Paribas	84		
GMP	1		
Goldmans Sachs	254		
Handelsbanken	308		
HSBC Investment Banking	93		
ING Financial Markets	3		
Jefferies	13		
JP Morgan Chase	140		
Keefe, Bruyette & Woods	6		
Kepler Cheuvreux	87		
Macquaire	24		
Mainfirst Bank	1		
Mediobanca	3		
Morgan Stanley	126		
Naxitis	13		
Nomura	91		
Nordea	393		

Oddo Securities	8
Pareto Öhman	80
Pohjola Bank	9
Redburn	1
Remium	1
Royal Bank of Canada	18
Royal Bank of Scotland	15
Sanford Bernstein	1
Santander	4
SEB	238
Société Générale	93
Swedbank	203
Sydbank	2
Transcom	1
UBS	190
Unicredit	2
WestLB	1
William Blair	1
Zacks Investment Research	1
Ålandsbanken	3
Total recommendations from banks	3589
Total recommendations large cap	3880
Percentage of bank sources large cap	92,50%

A.2.2.2. Mid Cap

Banks		Newspapers/Non-banks	
ABG Sundal Collier	19	Affärsvärlden	68
ABN	2	Aktiespararen	18
Avanza	1	Börsveckan	84
Barclays	1	Dagens Industri	19
Canaccord Genuity	4	Placeringsguiden	5
Carnegie	39	Privata Affärer	8
Citigroup	9	Veckans Affärer	18
Credit Suisse	4	Total recommendations from newspapers	220
Danske Markets	65	Total recommendations mid cap	1096
Deutsche Bank	12	Percentage of newspaper sources mid cap	20,07%
DNB	5		
Exane BNP Paribas	3		
Goldman Sachs	18		
Guggenheim Securities	1		
Handelsbanken Capital Markets	234		
HSBC	5		
Jefferies	4		

JP Morgan	2
Macquarie Research	2
Morgan Stanley	1
Natixis	2
Nomura	4
Nordea Markets	180
Oddo	1
Pareto Öhman	49
RBC Capital Markets	3
Remium	2
Royal Bank of Scotland	4
SEB Markets	127
Société Générale	1
Swedbank Markets	54
TD Securities	2
Terra Markets	1
UBS	14
Ålandsbanken	1
Total recommendations from banks	876
Total recommendations mid cap	1096
Percentage of bank sources mid cap	79,93%

A.2.2.3 Small Cap

<u>Banks</u>		<u>Newspapers/Non-banks</u>	
ABG Sundal Collier	8	Affärsvärlden	55
Carnegie	15	Aktiespararen	10
Credit Suisse	4	Börsveckan	84
Danske Markets	12	Dagens Industri	4
DNB Markets	4	Placeringsguiden	6
Goldman Sachs	1	Privata Affärer	4
Handelsbanken Capital Markets	46	Veckans Affärer	17
Helvea	1	Total recommendations from newspapers	180
Nordea Markets	76	Total recommendations small cap	424
Pareto Öhman	7	Percentage of newspaper sources small cap	42,45%
Remium	1		
SEB Markets	42		
Swedbank Markets	21		
Ålandsbanken	3		
Öhman	3		
Total recommendations from banks	244		
Total recommendations small cap	424		
Percentage of bank sources small cap	57,55%		

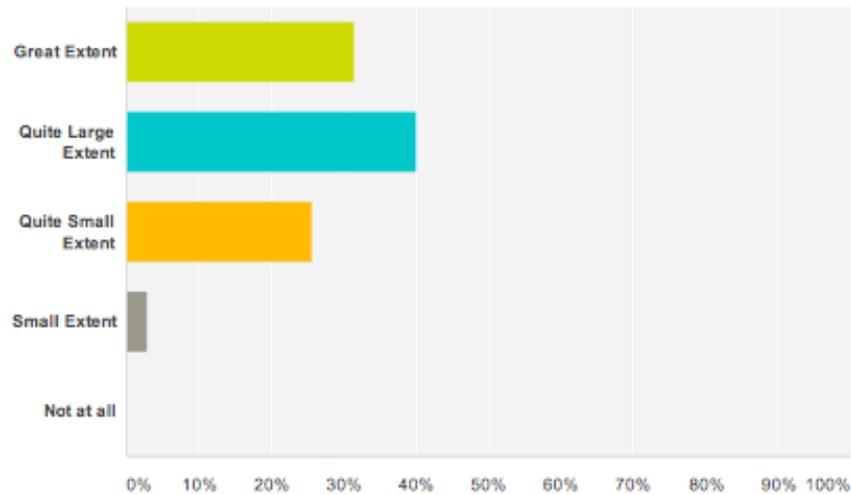
A.3. Questionnaire to analysts

1. To what extent do quarterly reports provide the foundation of the stock recommendations you make?
2. How much do you believe the new regulations imposed on the 1st of January on quarterly reports, meaning that firms on OMX Stockholm now only need to provide quarterly reports twice a year, will affect your possibility to make reliable recommendations?
3. To what extent do you consider the signals of insiders' trading when forming your stock recommendation?
4. What do you mainly base your stock recommendations on?
5. What time horizon do you apply when making your stock recommendations?
6. To what extent do you believe that analysts are unwilling to revise an already published stock recommendation within a near future of 3 months?
7. It is argued in several theories that analysts in general tend to publish significantly more positive recommendations on stocks of companies that are also corporate clients to the banks the analysts work for. This because a conflict of interest leads analysts to sometimes give biased recommendations in order to keep the client satisfied on behalf of a less truthful recommendation to the market. To what extent do you believe that this is actually the case?
8. In relation to the average analyst, how good do you consider yourself to be at valuing and predicting the future of a company and giving accurate stock recommendations?
9. What type of stocks do you tend to favour following?
10. Do you expect a riskier stock or security to yield higher abnormal return than a safer one?

A.3.1 Analysts' answers to questionnaire

Q1 To what extent do quarterly reports provide the foundation of the stock recommendations you make?

Svarade: 35 Hoppade över: 0

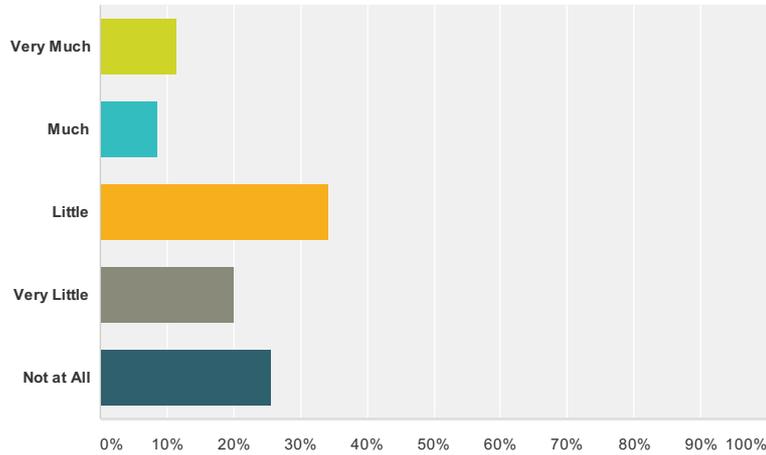


Svarsval	Svar	
Great Extent	31,43%	11
Quite Large Extent	40,00%	14
Quite Small Extent	25,71%	9
Small Extent	2,86%	1
Not at all	0,00%	0
Totalt		35

Answered:	What other sources of information do you consider valuable in order to form forecasts, analyses and recommendations?
Great Extent	annual report, company meetings, industry reports
Quite Small Extent	Annual reports, industry reports, other companies annual reports
Quite Large Extent	Annual reports, peers reports, talking with management.
Great Extent	Chanel checking, speaking to (unlisted) peers and pertinent sector organisations
Quite Large Extent	Direct management communication Direct and indirect market trends
Quite Small Extent	Industry growth trends, economic outlook, competitors, suppliers, customers.
Quite Small Extent	industry news, feedback from potential customers. When q report is released it is shortly old news
Quite Large Extent	macro/industry/independent organizations
Quite Large Extent	Market forecasts and analysis, official statistics
Quite Large Extent	Meetin management. Presentations from conferences. Market analysis.
Great Extent	Meeting company representatives Macroeconomic forecasts and discussions
Great Extent	meetings with management ad hoc presentations industry data
Quite Large Extent	Since I cover banks: central bank financial stability reports, reports from the FSA in each country etc, statistical reports on eg credit growth etc.
Quite Large Extent	talking to management, talking to peers etc
Quite Small Extent	Too many to list

Q2 How much do you believe the new regulations imposed on the 1st of January on quarterly reports, meaning that firms on OMX Stockholm now only need to provide quarterly reports twice a year, will affect your possibility to make reliable recommendations?

Svarade: 35 Hoppade över: 0

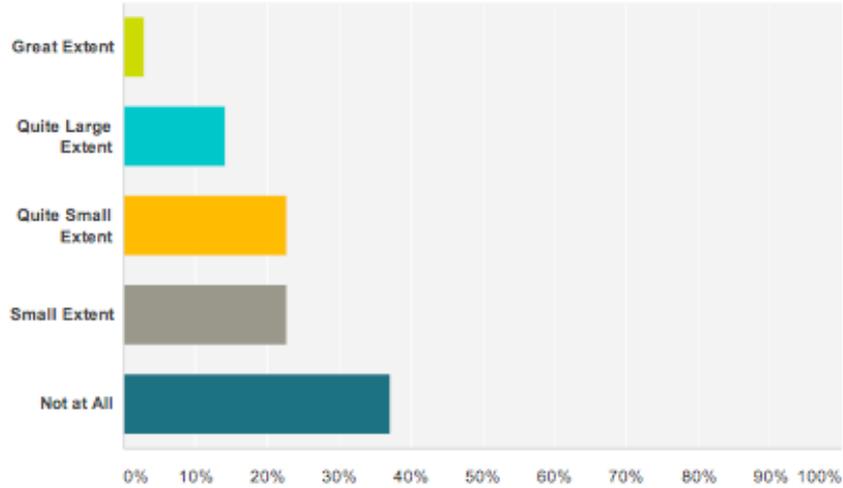


Svarsval	Svar	
Very Much	11,43%	4
Much	8,57%	3
Little	34,29%	12
Very Little	20,00%	7
Not at All	25,71%	9
Totalt		35

Answered:	Comments:
Very Little	All companies that I cover will continue to provide 4 quarterly reports (major swedish banks)
Very Much	Cet. par. decreased forecast accuracy and increased share price volatility (risk premium)
Very Much	having only reports twice a year, makes it a lot more difficult to follow short term trends
Not at All	I don't expect my companies to drop reporting.
Not at All	
	I doubt that any company will change the numbers of reports issued every years. I do only cover large companies
Very Little	I think the companies that I follow will not change its reporting pattern.
Very Much	It is strongly negative without exception.
Very Much	Its great for analysts and negative for disclosure and transparency
Little	Less information to base numerical forecasts and analysis on
Very Little	Near-term transparency
Little	Perhaps better recommendations, but less visibility on numbers.
Not at All	the companies I cover will continue issuing quarterly reports

Q3 To what extent do you consider the signals of insiders' trading when forming your stock recommendation?

Svarade: 35 Hoppade över: 0



Svarsval	Svar
Great Extent	2,86% 1
Quite Large Extent	14,29% 5
Quite Small Extent	22,86% 8
Small Extent	22,86% 8
Not at All	37,14% 13
Totalt	35

Answered:	Comments:
Quite Large Extent	A Chairman of the Board or CEO selling is often a signal to take profit
Quite Large Extent	For short-term tactical buying/Selling, not for long-term value calls
Small Extent	Hard to know all insider trading given the ISK accounts. Also need to distinguish between options that are given and real insider trading.
Not at All	Limited insider transaction in my stock universe. Smaller transaction do not matter, only major ones by the major/controlling shareholder.
Not at All	That would be illegal!
Not at All	Very difficult to read anything into this.

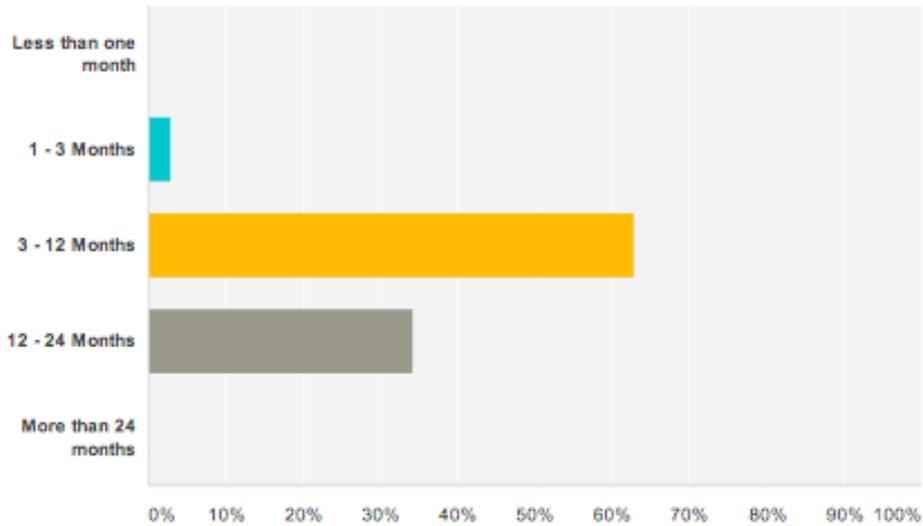
Q4 What do you mainly base your stock recommendations on?

Svarade: 35 Hoppade över: 0

Answer 1	How do you mean ?
Answer 2	Medium term value
Answer 3	Meetin management. Presentations from conferences. Market analysis.
Answer 4	Fundamental analysis and investor feedback.
Answer 5	Valuation, strategy, business and industry outlook
Answer 6	Growth prospects vs valuation.
Answer 7	valuation earnings momentum market sentiment
Answer 8	
Answer 9	Earnings forecasts and consensus expectations (identifying triggers that may not be full priced in the share price)
Answer 10	fundamental analysis, making valuations of the company and try to see where in the business cycle we are
Answer 11	fundamental forecast of tangible book value and a qualitative view on the company.
Answer 12	fundamental value of the share, operationall momentum.
Answer 13	It varies depending on the situation.
Answer 14	fundamental research, top down and bottom up
Answer 15	The company's outlook. In what direction are trends pointing and whether I believe it is likely to continue or not.
Answer 16	Multiples, relative valuation
Answer 17	Price potential in short-/mid term (6 months)
Answer 18	expected future underlying company performance, based on industry research and talk w clients, customers, end users etc
Answer 19	Valuation and market trends, potential share price triggers and how I deviate from market consensus
Answer 20	--
Answer 21	Valuation and my estimates compared to consensus estimates (i.e. are consensus estimates wrong)
Answer 22	valuation, scope for earnings growth, timing and share price triggers
Answer 23	valuation, scope for earnings growth, timing and share price triggers
Answer 24	upcoming events, hard and soft triggers
Answer 25	Estimated earnings for the company over the next 12-24 months.
Answer 26	Fundamentals Valuation Macro Risk
Answer 27	Valuation Growth in terms of sales and earnings
Answer 28	Competitive and demand analysis for the next 1-3 years
Answer 29	Analysis where the conclusion is that a stock is fundamentally undervalued, overvalued or fairly valued, meaning there is upside or downside to the share price.
Answer 30	own analysis - company, industry, market, valuation
Answer 31	Vinstpotential vs aktiekurs...
Answer 32	Earnings outlook and valuation
Answer 33	weighing in as many factors as possible
Answer 34	Long term views
Answer 35	Forecast profit and cash flow the coming 3 years
Answer 35	Fundamental analysis, relative valuation, etc.

Q5 What time horizon do you apply when making your stock recommendations?

Svarade: 35 Hoppade över: 0

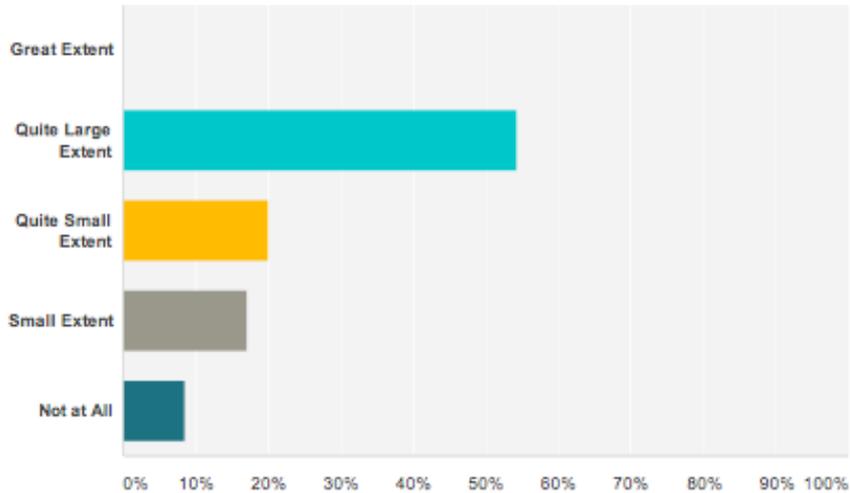


Svarsval	Svar
Less than one month	0,00% 0
1 - 3 Months	2,86% 1
3 - 12 Months	62,86% 22
12 - 24 Months	34,29% 12
More than 24 months	0,00% 0
Totalt	35

Answered:	Comments:
12 - 24 Months	12 months
3 - 12 Months	12 months
12 - 24 Months	12months
3 - 12 Months	6 months
3 - 12 Months	6-12 months
3 - 12 Months	6-12m
3 - 12 Months	Carnegie has a 6-12m recommendation view
12 - 24 Months	It depends on the specific case

Q6 To what extent do you believe that analysts are UNwilling do revise an already published stock recommendation within a near future of 3 months?

Svarade: 35 Hoppade över: 0

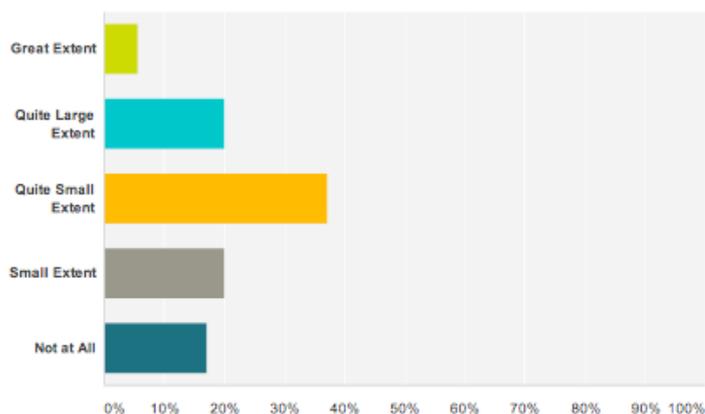


Svarsval	Svar
Great Extent	0,00% 0
Quite Large Extent	54,29% 19
Quite Small Extent	20,00% 7
Small Extent	17,14% 6
Not at All	8,57% 3
Totalt	35

Answered:	Comments:
Quite Small Extent	Analyst stock recommendations are published but can be changed relatively quickly. Additionally, the communication to clients can be changed to reflect if the near term outlook differs from the required 12 month recommendation time horizon.
Quite Small Extent	Depends on circumstances but an unexpected event or news could trigger a change in the long-term view.
Quite Large Extent	It is neither our key purpose nor is it practical to call every short term movement in the share price. Analyst recommendations will often be wrong - there are lead times needed to write reports to justify any recommendation change and many ratings are also sector relative. It is also not our overriding aim to get our recommendations right all the time - of course we try to but our main purpose is to add value to our clients so they pay us. Most clients value our knowledge and analysis to help them make their own investment decisions over our recommendations.
Not at All	Ratings are pragmatic and can change every week technically.
Small Extent	You dont want to change too often, although it will be done if the share price moves significantly in your estimated direction or the case changes completely.
Quite Large Extent	You need lots of new info to do this. Especially as the investment horizon is longer than 3m.

Q7 It is argued in several theories that analysts in general tend to publish significantly more positive recommendations on stocks of companies that are also corporate clients to the banks the analysts work for. This because a conflict of interest leads analysts to sometimes give biased recommendations in order to keep the client satisfied on behalf of a less truthful recommendation to the market. To what extent do you believe that this is actually the case?

Svarade: 35 Hoppade över: 0

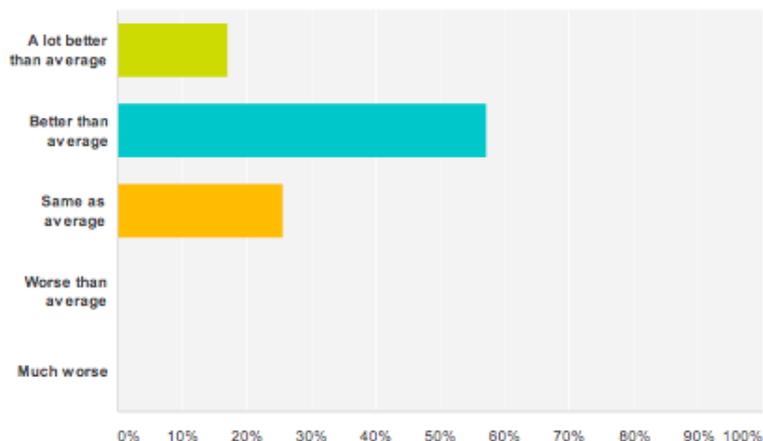


Svarsval	Svar	
Great Extent	5,71%	2
Quite Large Extent	20,00%	7
Quite Small Extent	37,14%	13
Small Extent	20,00%	7
Not at All	17,14%	6
Totalt		35

Answered:	Comments:
Quite Small Extent	bear in mind - there's more trading business on a Buy rating than a Sell! Equity markets are for positive people, pessimists trade bonds!
Not at All	Definitely not. The internal barriers between research and IBD are total.
Quite Small Extent	Large companies are very professional leading to small conflicts of interest. Smaller companies could see larger conflicts of interest.
Quite Small Extent	Maybe valid in some cases. Should be more common within smaller stocks than larger.
Quite Large Extent	no
Quite Large Extent	no
Small Extent	No
Small Extent	No
Small Extent	No
Quite Large Extent	No as I work for Redburn the largest independent broker in Europe
Small Extent	No, banking business is separate, Chinese wall. No pressure from this side at all at major banks... It's a myth!
Great Extent	No.
Small Extent	No. In all banks I have worked for there have been fully functioning chinese walls and therefore no pressure for any bias.
Small Extent	Only true for Goldman Sachs.
Quite Large Extent	Our company is an independent research house, which is very successful exactly because of this reason. No conflict of interest means more sincere recommendations for investors.
Not at All	Research and investment banking are completely separate. Research analysts work very independently from the bank that they work for, and tend to have worked at several banks.

Q8 In relation to the average analyst, how good do you consider yourself to be at valuing and predicting the future of a company and giving accurate stock recommendations?

Svarade: 35 Hoppade över: 0

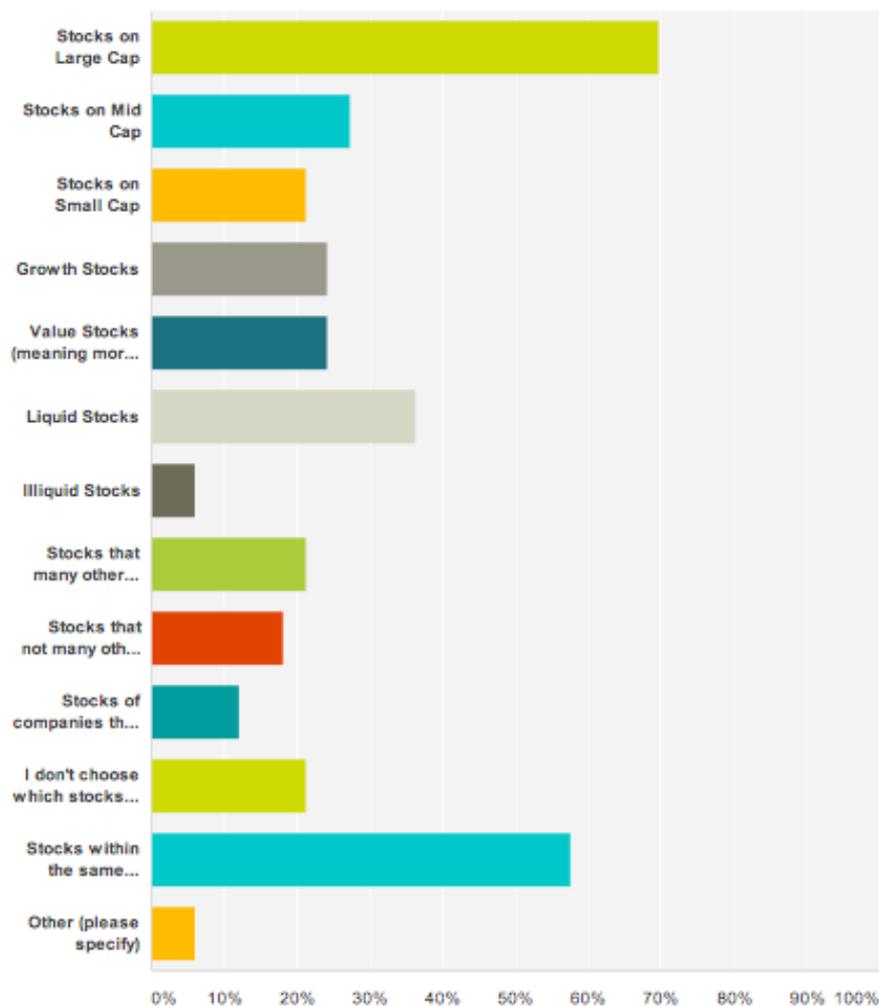


Svarsval	Svar	
A lot better than average	17,14%	6
Better than average	57,14%	20
Same as average	25,71%	9
Worse than average	0,00%	0
Much worse	0,00%	0
Totalt		35

Answered:	Comments:
Better than average	(based on statistics, e.g. Bloomberg ANR)
Better than average	Are you trying to measure confirmation bias? This question I find very odd.
Better than average	everybody believes he/she is better than average...otherwise no point in doing this...
A lot better than average	I was ranked No1 analyst in Nordic region in Global Survey.
Better than average	isn't everyone? ;)
Better than average	Nice question. The truth lies in investor votes I am top 5 out of 50 consistently with the largest. So I can back my claim.
A lot better than average	Of course, otherwise I should not be doing this job!
Better than average	Only slightly better than average!
Same as average	This is completely subjective and a bit irrelevant. Almost every analyst will tell you that his/her recommendations are better than average.
Better than average	You can track this in Bloomberg, where they rate your recommendations vs actual performance.

Q9 What type of stocks do you tend to favour following? Several alternatives can be chosen

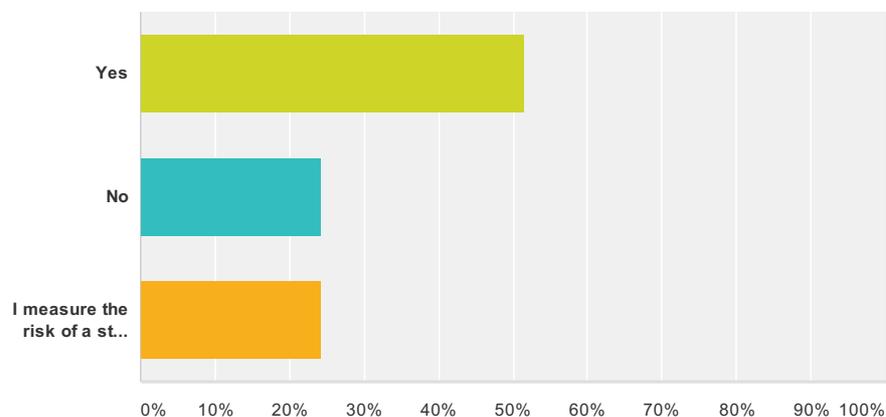
Svarade: 33 Hoppade över: 2



Svarsval	Svar	
Stocks on Large Cap	69,70%	23
Stocks on Mid Cap	27,27%	9
Stocks on Small Cap	21,21%	7
Growth Stocks	24,24%	8
Value Stocks (meaning more stable ones with less volatility)	24,24%	8
Liquid Stocks	36,36%	12
Illiquid Stocks	6,06%	2
Stocks that many other analysts follow	21,21%	7
Stocks that not many other analysts follow	18,18%	6
Stocks of companies that are clients to the bank I work for	12,12%	4
I don't choose which stocks to follow myself	21,21%	7
Stocks within the same industry	57,58%	19
Other (please specify)	6,06%	2
Totalt antal svarande: 33		

Q10 Do you expect a riskier stock or security to yield higher abnormal return than a safer one? (By riskier, we mean a stock that is more sensitive to market movements, is considered to be smaller in firm size in terms of market capitalization and/or having a higher book-to-market ratio than average)

Svarade: 33 Hoppade över: 2



Svarsval	Svar
Yes	51,52% 17
No	24,24% 8
I measure the risk of a stock in other ways (please specify in the window below)	24,24% 8
Totalt antal svarande: 33	

Comments:

Beta is a waste of time fama and French is old school. I consider, competitive intensity, indebtedness, brand, management, operational leverage, customer, channel and country mix to be the true indicators of risk. The share price is an output not an input.

Depends on the market appetite for risk and sentiment over a given time period.

Depends on the market appetite for risk and sentiment over a given time period.

It depends on industry, company and general market conditions

Not necessarily.

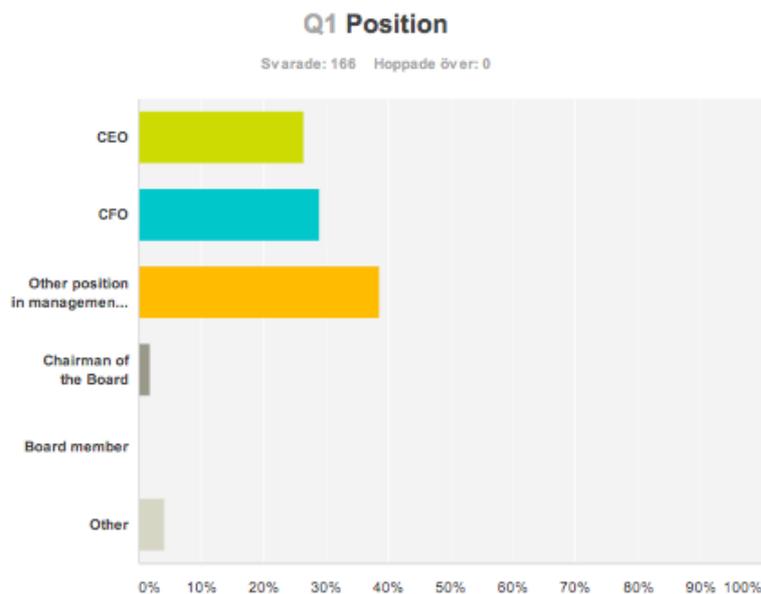
not possible to answer this one

This question is unclear. If it means do I need a higher absolute or relative return for a higher risk stock to recommend buying it then yes. It would be foolish to ignore risk.

A.4. Questionnaire to insiders

1. What is your position within the firm?
2. My company is listed on?
3. To what extent do stock recommendations provide the foundation for your decision to buy/sell stocks of your firm?
4. How much do you believe the new regulations imposed on the 1st of January on quarterly reports, meaning that firms on OMX Stockholm only have to provide quarterly reports twice a year instead of four times a year, will affect analysts possibilities to make reliable recommendations?
5. How does your company plan to adjust to the new, eased regulations of quarterly reports?
6. To what extent do you consider how friends/family/colleagues trade when making your decision to buy/sell stocks of your firm?
7. What do you mainly base your decision to trade on?
8. What time horizon do you apply when trading?
9. To what extent do you believe that it is common for analysts to favour giving positive recommendations on stocks of firms that are clients to the bank the analysts work for?
10. On average how good do you believe analysts are at giving proper and truthful recommendations?

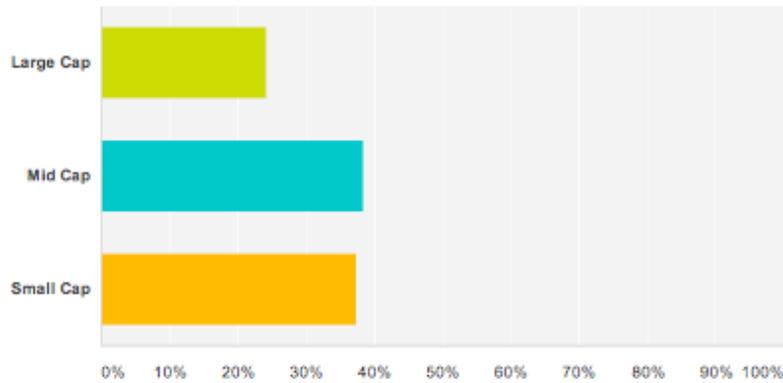
A.4.1 Insiders answers to questionnaire



Svarsval	Svar
CEO	26,51% 44
CFO	28,92% 48
Other position in management team	38,55% 64
Chairman of the Board	1,81% 3
Board member	0,00% 0
Other	4,22% 7
Totalt	166

Q2 My company is listed on:

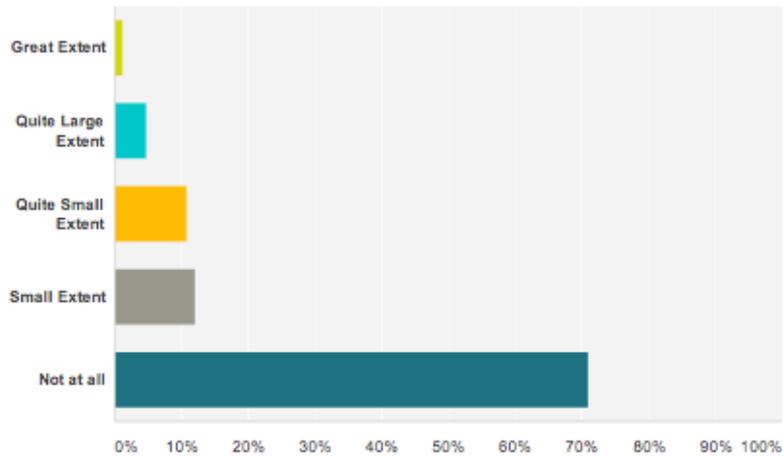
Svarade: 161 Hoppade över: 5



Svarsval	Svar	
Large Cap	24,22%	39
Mid Cap	38,51%	62
Small Cap	37,27%	60
Totalt		161

Q3 To what extent do stock recommendations provide the foundation for your decision to buy/sell stocks of your firm?

Svarade: 166 Hoppade över: 0

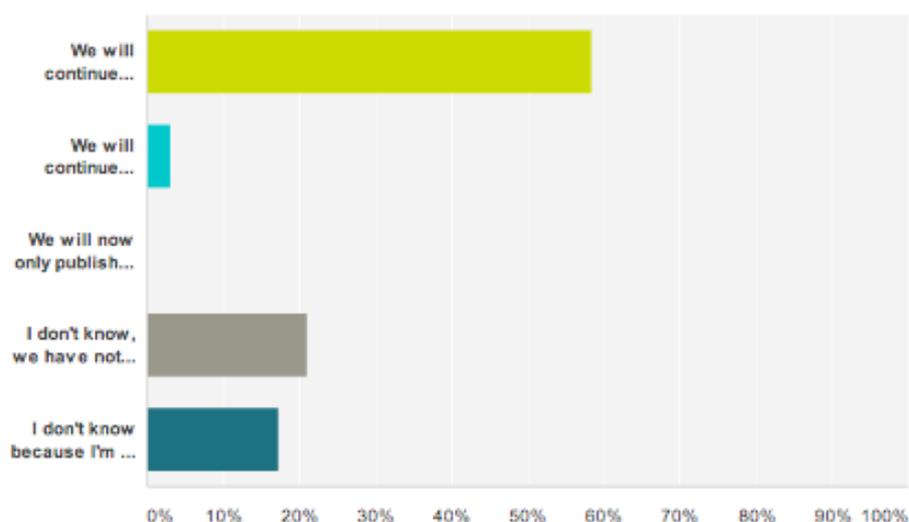


Svarsval	Svar	
Great Extent	1,20%	2
Quite Large Extent	4,82%	8
Quite Small Extent	10,84%	18
Small Extent	12,05%	20
Not at all	71,08%	118
Totalt		166

listed on:			
CFO	Large Cap	Little	Because I don't believe that the companies will change their reporting,
CFO	Mid Cap	Little	companies will continue the old way the new regulations are meaningless
Chairman of the Board	Mid Cap	Very little	Have you read the NASDAQ OMX guidelines on reporting? There will be very few changes in the Swedish market.
Other position in management team	Large Cap	Very little	I believe most companies will continue to report four times a year and also provide guidance to the investor community.
CFO	Large Cap	Little	I believe that most companies on large cap will continue to report as before.
CFO	Mid Cap	Little	I expect most companies to continue with 4 reports anyway.
CEO	Small Cap	Little	I think few companies will follow and if they would information is sufficient anyway. There are very few analysts for smaller companies
CFO	Small Cap	Not at all	I think very few companies will go for this
CEO	Small Cap	Much	If companies start to report less than each quarter, I think that insider problems will increase and accordingly harm the confidence in your company.
CEO	Mid Cap	Much	It is impossible to apply the answer across all companies, for companies with a stable business and other sources provide insights into their progress this will have little impact, for companies in a volatile business and in inflexion points in their business half year reports will be too infrequent.
Other	Large Cap	Not at all	Jag är övertygad om att aktiemarknaden kommer att även fortsättningsvis få relevant information om bolagen på kvartalsbasis.
Other position in management team	Mid Cap	Much	Lower liquidity, lower insight.
CEO	Large Cap	Not at all	Most companies will not change their reporting.
Other position in management team	Large Cap	Much	My perception is that very few insiders depend on analysts' report when picking stocks to invest in. If you are an insider, you would typically have as much - if not even higher - knowledge about the stock market than could be derived from an analyst report. Less frequent reporting is considered beneficial for all companies, as it will reduce the focus on delivering quarterly results, and instead shift focus to more long term results.
Other position in management team	Large Cap	Very little	no large caps will change to 6 month reporting
CFO	Mid Cap	Very little	Since our business is cyclical over the year and two quarters are more important, it may be regarded as more difficult to make estimations. However, since there is communication on a running basis I do not believe it will have any major impact.
Other position in management team	Mid Cap	Little	The analysts that follow us are very informed about our industry; however, they may lose insight into the current business status.
CFO	Mid Cap	Little	The companies will continue to publish quarterly reports
CFO	Small Cap	Much	The gap between insiders and the general public will increase. Less public info will have a negative effect on the transparency.
Other position in management team	Large Cap	Very little	The quarterly numbers say very little about the longterm prospects of any company. If the analysts use basic corporate finance tools as a basis for their valuations (cash flow NPV) you know that typically more than 80% of the value of any company is beyond the 5 year horizon.
CFO	Small Cap	Much	Över tid kommer kunskap och insikt att tunnna ut vilket medför trubbigare analyser

Q5 How does your company plan to adjust to the new, eased regulations of quarterly reports?

Svarade: 161 Hoppade över: 5

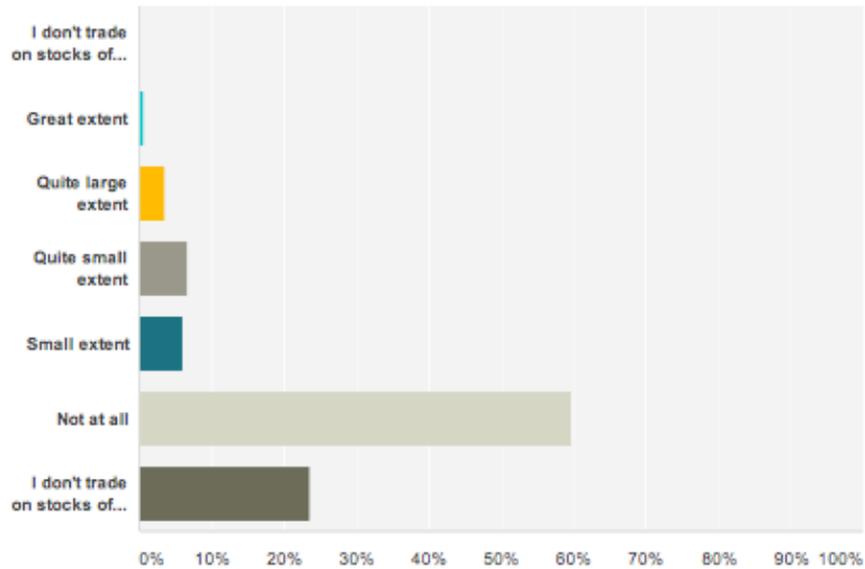


Svarsval	Svar
We will continue publishing quarterly reports exactly as usual	58,39% 94
We will continue publishing quarterly reports but they will be less informative	3,11% 5
We will now only publish quarterly reports twice a year	0,00% 0
I don't know, we have not decided on this yet	21,12% 34
I don't know because I'm not in a position of such decision	17,39% 28
Totalt	161

Position	Company listed on:	Answered:	Comments:
CEO	Large Cap	We will continue publishing quarterly reports exactly as usual	At present we have no change but we will review this as we go forward
CFO	Mid Cap	We will continue publishing quarterly reports but they will be less informative	At the beginning we will report the group as we have done before. But I think we will exclude the parent company for instance (so the report will be a little less informative but the most important things will be included).
Other	Small Cap	We will continue publishing quarterly reports exactly as usual	For now we will continue to publish reports as usual. but in the future it may change. we will of course see how the market react and how other companies do this in the future.
CEO	Small Cap	We will continue publishing quarterly reports exactly as usual	For Q1 2014 and after that we will look at it again
CEO	Small Cap	We will continue publishing quarterly reports exactly as usual	Important for confidence and we have all the numbers.

Q6 To what extent do you consider how friends/family/colleagues trade when making your decision to buy/sell stocks of your firm?

Svarade: 166 Hoppade över: 0



Svarsval	Svar
I don't trade on stocks of the company I work for	0,00% 0
Great extent	0,60% 1
Quite large extent	3,61% 6
Quite small extent	6,63% 11
Small extent	6,02% 10
Not at all	59,64% 99
I don't trade on stocks of the company I work for	23,49% 39
Totalt	166

Position	Company listed on:	Answered:	Comments:
CEO	Large Cap	I don't trade on stocks of the company I work for	As long as I work for the company I will be a buyer and not a seller of our stock.
CFO	Small Cap	I don't trade on stocks of the company I work for	Do not trade
Other position in management team	Large Cap	Not at all	Family is also considered insiders
Other position in management team	Large Cap	I don't trade on stocks of the company I work for	I cannot trade in my position. I can of course sell and buy, but very infrequently. Any move by any of us in the mgmt team would of course be seen as a signal by the stock market.
Other position in management team	Small Cap	Not at all	I trade very seldom in our company since I'm an insider.

Q7 What do you mainly base your decision to trade on?

Svarade: 166 Hoppade över: 0

Summary of all answers:

What do you mainly base your decision to trade on?	Number of answers	%
No answer	19	11,45%
Facts	2	1,20%
Feelings/Gutfeeling	5	3,01%
Personal financial situation	15	9,04%
I don't trade	12	7,23%
My own analysis	28	16,87%
I don't trade, I invest long-term	18	10,84%
To signal commitment to my company	4	2,41%
I don't trade	11	6,63%
My own long-term belief in the company	20	12,05%
I trade through incentive programmes	5	3,01%
Being in the same position as the shareholders adds commitment	7	4,22%
When the stock is undervalued	2	1,20%
Other	18	10,84%
SUM	166	

All answers:

Position	Company listed on:	What do you mainly base your decision to trade on?
Other position in management team	Large Cap	.
Other position in management team	Large Cap	Annual accumulation of shares in the company I work for.
Other position in management team	Large Cap	Cash need
Other	Large Cap	Depends on the time horizon of the trade. The shorter the time the more psychology.
Other	Large Cap	Det var flera år sedan jag gjorde några affärer i aktien senast - jag har köpt på mig aktier tidigare som jag valt att behålla - dvs ligga still med.
Other position in management team	Large Cap	Don't trade.
CEO	Large Cap	Feeling for company, business cycle, overall macro economic trends
CFO	Large Cap	General trends
CEO	Large Cap	How much the shares are worth in relation to my salary. I aim for having a certain percentage of my net worth in company stocks. Second criterion is incentive systems that we have.
Other position in management team	Large Cap	I buy when I perceive the market is undervaluing the shares
Other position in management team	Large Cap	I do not "trade" stocks in my company, I buy and sell stocks based on recommendations in our incentive programs. I buy or sell when I believe it is appropriate, generally soon after the publication of our quarterly reports.
CEO	Large Cap	I don't trade
Other position in management team	Large Cap	I don't trade, I own
Chairman of the Board	Large Cap	I dont trade in the companies I control
CFO	Large Cap	I have a senior position.
Other position in management team	Large Cap	I only do long term investments in the company since I have great trust in our future performance.

Other position in management team	Large Cap	I own some shares but I don't trade
CEO	Large Cap	I spend 10% of my gross annual salary on buying shares every year.
Other position in management team	Large Cap	I would only trade (=sell) if leaving the company.
Other position in management team	Large Cap	If I trade it is based on my own analysis
CEO	Large Cap	long term as, in principle, will not sell the stock I have bought
Other position in management team	Large Cap	Long term commitment to the company I work for.
Other position in management team	Large Cap	Lots of general information
Other position in management team	Large Cap	My own analysis of stocks
CFO	Large Cap	My own likvidity position
CFO	Large Cap	My own long-term belief in the company
Other position in management team	Large Cap	My own opinion
Other position in management team	Large Cap	N/a
Other position in management team	Large Cap	No answer
Other position in management team	Large Cap	Own analysis.
Other position in management team	Large Cap	Own beliefs and pilot school
Other	Large Cap	Own judgement with information from reports and PM's.
CEO	Large Cap	Personal view but fully aware of ALL insider requirements
CEO	Large Cap	Public information.
CFO	Large Cap	See *6
CFO	Large Cap	that I believe a greate future for the company
Other position in management team	Large Cap	To the extent personal money is available
Other position in management team	Large Cap	When our stock develops better than competition. We have an incentive system that triggers a payout that we buy stocks for and keep them > 3 years
CFO	Large Cap	xx
Other	Mid Cap	-
CFO	Mid Cap	.
Chairman of the Board	Mid Cap	A majority of individuals building/creating companies do not trade in equities, they invest long term. Naturally they will have to sell or buy at some point in time but that has nothing to do with trading.
CEO	Mid Cap	Allocation of assets
CEO	Mid Cap	Analysis
CEO	Mid Cap	assumption on value
CFO	Mid Cap	Being a shareholder for the company you work for creates involvement/engagement.
Other position in management team	Mid Cap	Broker recommendation
Other position in	Mid Cap	Company future

management team		
CEO	Mid Cap	Facts
CEO	Mid Cap	Future potentials which I like!
CFO	Mid Cap	Generally I do not trade in stock of the company I work for. Only in the case there is an incentive program that requires me to own shares
Other position in management team	Mid Cap	Gutfeeling
Other position in management team	Mid Cap	Hur jag ser på framtiden
CFO	Mid Cap	I buy only and shortly after reports are public. in addition, I buy in the share programme the AGM has issued.
CEO	Mid Cap	I do not trade in the company I work for under normal circumstances
CEO	Mid Cap	I don't trade, if then I buy and hold
CFO	Mid Cap	I don't "trade" and if I would sell it would be because I needed the money.
CEO	Mid Cap	I don't trade, if I buy I will keep the shares for years
Other position in management team	Mid Cap	I dont trade the stock other than throught the share program.
Other position in management team	Mid Cap	I have only purchased and retained shares through an LTI program. I have sold shares to pay taxes.
CFO	Mid Cap	I only accumulate stocks long term and time of purchase is based on remuneration from the company.
Other position in management team	Mid Cap	Information from the business
Other position in management team	Mid Cap	Judgement of long term business fundamentals
CFO	Mid Cap	Long term possibility
Other position in management team	Mid Cap	Long term potenital
CEO	Mid Cap	Long term potential
CFO	Mid Cap	Long term think. Private economy - do I have money to buy for. Do I need liquidity for something else etc...
CEO	Mid Cap	Long term value play
Other position in management team	Mid Cap	long term.
CFO	Mid Cap	Long-term industry and company performance.
Other position in management team	Mid Cap	longterm performance
CEO	Mid Cap	macro analyses and current development for our entities
CEO	Mid Cap	Management
CFO	Mid Cap	Market analysis
CEO	Mid Cap	My belief in the company future and I believe strongly that company executives needs to carry a sizeable part of their weathl in their own company- being the pilot i.e. I bought most of my shares whan appointed.
CEO	Mid Cap	My financial situation
CEO	Mid Cap	my own long term view of the company
Other position in management team	Mid Cap	My privat financial situation

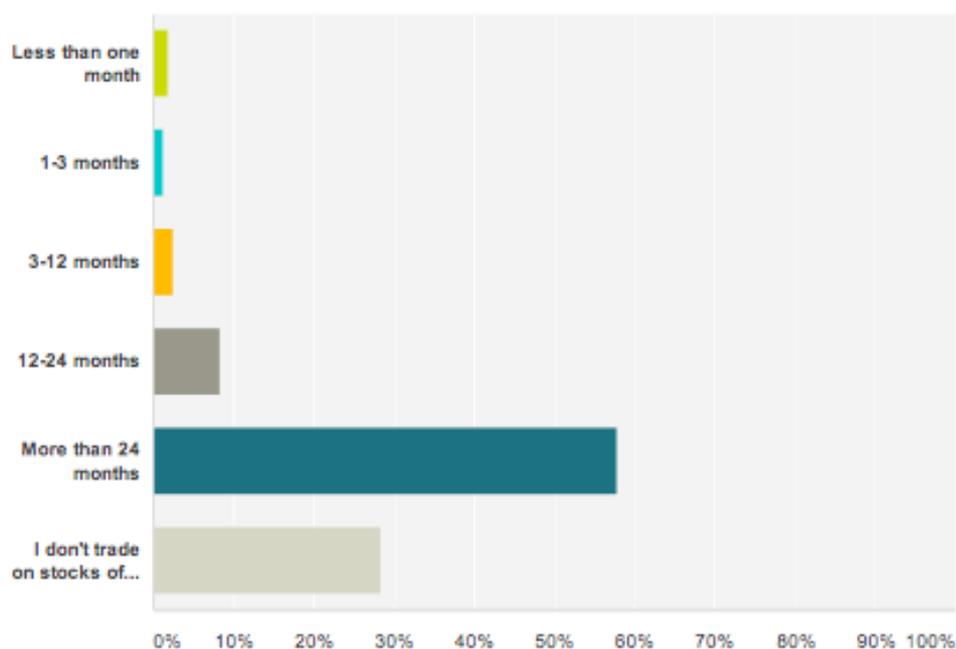
CFO	Mid Cap	My total financial exposure on my firm, my financial resources and my private needs.
Other position in management team	Mid Cap	N/A
CEO	Mid Cap	n/a
CFO	Mid Cap	no comment
CFO	Mid Cap	Not trading, just collecting shares in the company I work for.
Other position in management team	Mid Cap	Our own stock? I believe in the company long term and consider it to be a quality stock going forward. I invest each quarter.
CFO	Mid Cap	Overall opinion on the company's ability to create value.
CFO	Mid Cap	Own judgement
CEO	Mid Cap	Personal reasons
CFO	Mid Cap	Plotical. To show a belief in the company
CEO	Mid Cap	Private economy
CFO	Mid Cap	Private financial situation.
CFO	Mid Cap	Stock market being a good investment alternative compared to other investments
Other position in management team	Mid Cap	Stock recommendations and private economy
Other position in management team	Mid Cap	The performance of the company
Other position in management team	Mid Cap	To show commitment to my company.
Other position in management team	Mid Cap	Truly believe you should buy shares if you part of executive management team(pilot model) and basis always long term growth
Other position in management team	Mid Cap	Valuation multiples and profit outlook
Other	Mid Cap	Value
CFO	Mid Cap	We have a share savings plan where part of salary is invested in shares quarterly
Other position in management team	Mid Cap	Whether or not I need money for something else. Long term placement.
Other position in management team	Mid Cap	x
Other position in management team	Mid Cap	zzz
Other position in management team	Small Cap	-
Other position in management team	Small Cap	.
CFO	Small Cap	Ad hoc.
CFO	Small Cap	Alternative investments.
CFO	Small Cap	Basic strenght of compoany. Strategy and long term plans
CEO	Small Cap	Being a shareholder in my company adds to my commitment to the company. I don't plan on selling
CFO	Small Cap	bolaget felvärderat på börsen, stora åtgärder igångsatta i bolaget för att komma tillrätta med lönsamheten
CEO	Small Cap	Business usp and Market analysis
Other	Small Cap	combination of fundamental analysis, historical valuation and peer valuation

CEO	Small Cap	correct timing and profit
CFO	Small Cap	Do not trade
CEO	Small Cap	Employed or not
Other position in management team	Small Cap	Estimated value increase
CEO	Small Cap	facts
Other position in management team	Small Cap	Feelings about our own business
CEO	Small Cap	I am an insider so I do not trade
CEO	Small Cap	I base it on the business model and my colleagues ability to achive our goals.
CFO	Small Cap	I do not trade
CFO	Small Cap	I don't trade
CFO	Small Cap	I don't trade...
CEO	Small Cap	I have to adapt to thestock market regulations and can only trade in "silent" periods. As a CEO that's almost never.
CEO	Small Cap	I hold the shares long term
CEO	Small Cap	I invest in a company. I do not trade.
CEO	Small Cap	I work for a company I believe in and therefore I hold stock long-term without active trading
Other position in management team	Small Cap	if it is an reasonable investment or not
CFO	Small Cap	Jag vill ha ett aktivt ägande i det bolag jag arbetar
CEO	Small Cap	Knowledge and supply of Money.
Other position in management team	Small Cap	Long term aspects only.
Other position in management team	Small Cap	long term direction of company
Other position in management team	Small Cap	Long term interest
Other position in management team	Small Cap	Long term stability
CEO	Small Cap	Longterm investment outlook
Other position in management team	Small Cap	Market analysis & Financial reports
Other position in management team	Small Cap	Min egen bedömning av bolaget.
Other position in management team	Small Cap	My longtern feeling and trust for the company in it's marketplace
Other	Small Cap	My own analysis and of course a belief in the company I work for over time
CFO	Small Cap	My own analyze
Other position in management team	Small Cap	My own evaluation and opinion
Other position in management team	Small Cap	My own financial status, and the company business prospects.
Other position in management team	Small Cap	My own industry knowledge
CEO	Small Cap	My own judgement
CEO	Small Cap	my own view of the company and its strategic position.
CEO	Small Cap	N/A
CFO	Small Cap	N/A

CFO	Small Cap	n/a
Chairman of the Board	Small Cap	na
Other position in management team	Small Cap	no answer
CFO	Small Cap	Performance
Other position in management team	Small Cap	Personal cash-flow situation
CEO	Small Cap	Personal financial situation, insider regulations
CFO	Small Cap	Private financial situation, trading rules and with consideration of shareholders.
Other position in management team	Small Cap	rights issues
CFO	Small Cap	Same as all other investments
CFO	Small Cap	see above
Other position in management team	Small Cap	Show my dedication
CEO	Small Cap	Showing my thrust of the Company to the organisation
CFO	Small Cap	Thoughts about the company's future
CFO	Small Cap	to be in same position as our shareholders
Other position in management team	Small Cap	What I think about the CEOs I have met.
CEO	Small Cap	When business is stable and growing with our expectations
CFO		I do not trade in my own company
CFO		I shall understand the business and the valuation shall be right.
Other position in management team		My thoughts of the outcome of the ongoing and planned actions within the company
CFO		n/a
CFO		Potential upside

Q8 What time horizon do you apply when trading?

Svarade: 166 Hoppade över: 0

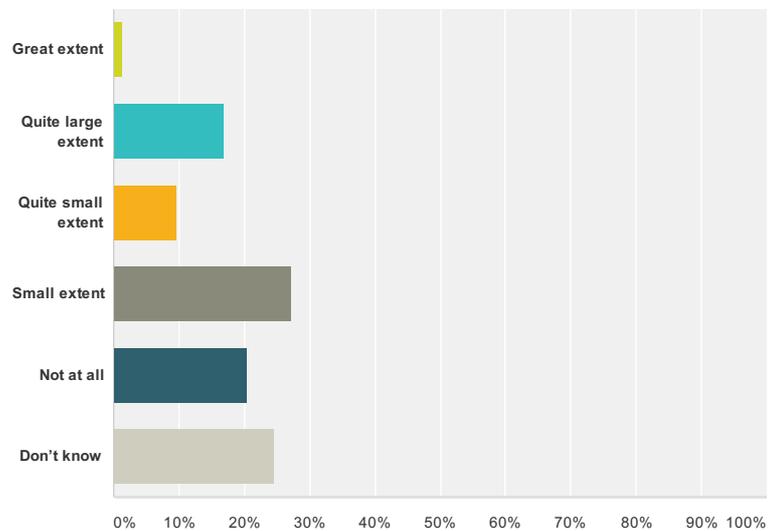


Svarsval	Svar
Less than one month	1,81% 3
1-3 months	1,20% 2
3-12 months	2,41% 4
12-24 months	8,43% 14
More than 24 months	57,83% 96
I don't trade on stocks of the company I work for	28,31% 47
Totalt	166

Position	Company listed on:	Answered:	Comments:
CFO	Mid Cap	I don't trade on stocks of the company I work for	As CFO I cannot sell unless specific circumstances occur.
CEO	Mid Cap	I don't trade on stocks of the company I work for	B-S question. You have to differentiate between buying and selling.
CEO	Small Cap	More than 24 months	How do you define trade. Trading could by many be perceived as short term!? This impact how to answer on this question. I have bought stocks one time, for roughly four years ago, based on that it is "more than 24 months", on the other hand, the answer could also be "I don't trade on stocks of the Company I work for"
CEO	Small Cap	I don't trade on stocks of the company I work for	I buy shares but don't sell as long as I work for the company
CFO	Small Cap	I don't trade on stocks of the company I work for	I do not trade. Current holdings is long term, not for trading
CEO	Small Cap	I don't trade on stocks of the company I work for	I don't make any changes in my holding, it there as long as I work for the company.
CFO	Mid Cap	More than 24 months	I have had my shares for more than 5 years.
CFO		More than 24 months	n/a but had to give an answer.
Other position in management team	Large Cap	More than 24 months	See above, I do not consider my transactions "trading" stocks in my company.
CFO	Mid Cap	I don't trade on stocks of the company I work for	See answer to question 7.
CFO		More than 24 months	Since I do not trade, the question is unapplicable
CEO	Mid Cap	More than 24 months	When buying, my intend is to keep the stocks while I have an executive position.
Other position in management team	Large Cap	More than 24 months	Will not sell until I leave the company. Too much signal effect to the market.

Q9 To what extent do you believe that it is common for analysts to favor giving positive recommendations on stocks of firms that are clients to the bank the analysts work for?

Svarade: 166 Hoppade över: 0

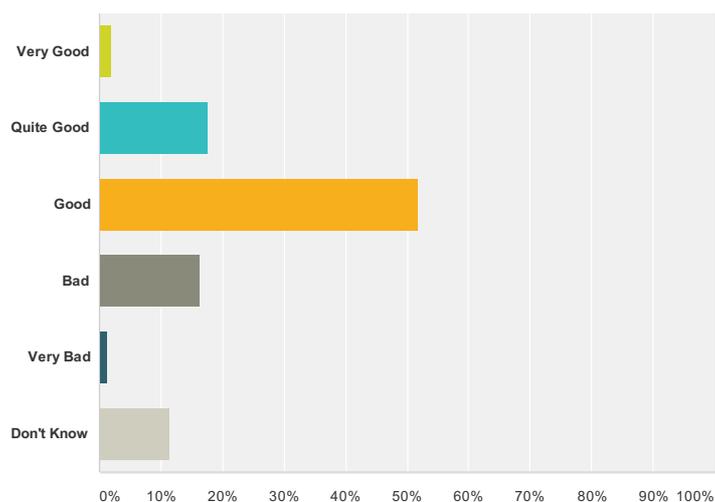


Svarsval	Svar
Great extent	1,20% 2
Quite large extent	16,87% 28
Quite small extent	9,64% 16
Small extent	27,11% 45
Not at all	20,48% 34
Don't know	24,70% 41
Totalt	166

Position	Company listed on:	Answered:	Comments:
CFO	Mid Cap	Quite small extent	I do not think that own customers are favored. More so volatile companies with a large amount of day-traders that generates brokerage fees.
CEO	Mid Cap	Not at all	I find the discussions with the banks analysts are disconnected to the discussion with our bank contacts. The main favor is probably a pressure on the analyst to make an analysis. You can turn the argument around and say, most companies tend to select banks with a positive recommendation for equity transactions.
Other	Small Cap	Small extent	It hugely depend on the relation.If the are going to IPO the company it will off course be a bullish buy analysis but otherwise the impact is very very small i would say.
Other position in management team	Mid Cap	Small extent	May dictate more just which stocks to cover.
Other position in management team	Large Cap	Quite large extent	The pressure is for sure there no matter how independent the analyst departments pretend to be.
CFO	Large Cap	Not at all	TRhey are supposed to be independent!

Q10 On average how good do you believe analysts are at giving proper and truthful recommendations?

Svarade: 166 Hoppade över: 0



Svarsval	Svar
Very Good	1,81% 3
Quite Good	17,47% 29
Good	51,81% 86
Bad	16,27% 27
Very Bad	1,20% 2
Don't Know	11,45% 19
Totalt	166

Position	Company listed on:	Answered:	Comments:
Other	Mid Cap	Bad	Analyst know the numbers but they don't know the stock market.
Other position in management team	Large Cap	Very Bad	Analysts try to assess the result, based on info from the companies. However in reality, they do not have access to the most important information, so their work is a pure guess. On the otehr hand, I myself also guess when I anlyse companies.
Other position in management team	Small Cap	Good	However not at all accurate for prediction of price
CFO	Small Cap	Good	I beleive they are truthful but I'm not sure they always understand the details of the companies the analyze
Other	Small Cap	Good	I can only make a statement from my own experience from the company I work in
Other position in management team	Large Cap	Bad	It depends on time perspective: - Very short term (weeks/months): Bad - Medium term (6-18 months): Quite good - Long term: Very bad
CEO	Large Cap	Good	Some spend a lot of time analyzing the company and get are very good. However a number do not spend enough time to understand the company
CEO	Mid Cap	Good	There are large swings in their knowledge, clearly sector specialists are better than generalists.
CEO	Small Cap	Quite Good	They do their job as best they can
Other position in management team	Large Cap	Good	To the best of their knowledge, which is not always correct...

A.5. Regressions

A.5.1. Large Cap

A.5.1.1. Analysts' recommendations alone

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 61

Total panel (unbalanced) observations: 581

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0,7157	0,4923	-1,4537	0,1466
NBR	-0,0073	0,0089	-0,8223	0,4113
ABRMOM	0,4127	0,0478	8,6416	0,0000
ABRWL	0,0326	0,0329	0,9909	0,3222
LSIZE	0,0410	0,0287	1,4254	0,1547
LMBR	0,0065	0,0230	0,2836	0,7768
DSSA	-0,0228	0,0115	-1,9771	0,0486
DSBA	0,0197	0,0105	1,8752	0,0613
R-squared	0,5234	Mean dependent var	0,0094	
Adjusted R-squared	0,4493	S.D. dependent var	0,1085	
F-statistic	7,0674	Durbin-Watson stat	2,9629	
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	ARR	ABRMOM	ABRWL	DSBA	DSSA	LMBR	LSIZE	NBR
Mean	0,0094	0,0253	0,0510	0,2513	0,1291	0,7230	17,3051	0,3273
Median	0,0124	0,0135	0,0218	0,0000	0,0000	0,7130	17,1293	0,3333
Maximum	0,9927	1,0389	1,7551	1,0000	1,0000	2,9317	19,9470	1,0000
Minimum	-0,3788	-0,4267	-0,5447	0,0000	0,0000	-0,9416	14,0294	-1,0000
Std, Dev,	0,1085	0,1661	0,2565	0,4341	0,3356	0,7050	1,1315	0,4854
Skewness	1,2713	1,2243	1,5425	1,1468	2,2124	0,3848	0,0167	-0,4601
Kurtosis	14,3106	7,8499	8,7836	2,3151	5,8949	2,9132	3,0627	2,8902
Jarque-Bera	3253,4780	714,5520	1040,1630	138,7004	676,8633	14,5219	0,1224	20,7915
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0007	0,9406	0,0000
Sum	5,4626	14,7180	29,6114	146,0000	75,0000	420,0348	10054,2600	190,1446
Sum Sq, Dev,	6,8238	15,9940	38,1628	109,3115	65,3184	288,2758	742,5988	136,6675
Observations	581	581	581	581	581	581	581	581

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 61

Total panel (unbalanced) observations: 542

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7,1370	0,9166	-7,7861	0,0000
NBR	0,0069	0,0139	0,4979	0,6188
ABRMOM	-0,2073	0,0510	-4,0617	0,0001
ABRWL	0,0498	0,0520	0,9574	0,3389
LSIZE	0,4337	0,0545	7,9554	0,0000
LMBR	-0,4804	0,0666	-7,2116	0,0000
DSSA	-0,0178	0,0157	-1,1353	0,2568
DSBA	0,0149	0,0149	0,9983	0,3187
R-squared	0,5632	Mean dependent var	0,0202	
Adjusted R-squared	0,4907	S.D. dependent var	0,1571	
F-statistic	7,7697	Durbin-Watson stat	1,5205	
Prob(F-statistic)	0,0000			

T2–Descriptive statistics, common sample

	ABRMOM	ABRWL	DSBA	DSSA	LMBR	LSIZE	NBR	ARHY
Mean	0,0252	0,0488	0,2491	0,1292	0,7093	17,2855	0,3263	0,0202
Median	0,0151	0,0162	0,0000	0,0000	0,6881	17,1293	0,3333	0,0073
Maximum	1,0389	1,7551	1,0000	1,0000	2,7259	19,9470	1,0000	1,0389
Minimum	-0,4267	-0,5447	0,0000	0,0000	-0,9416	14,0294	-1,0000	-0,3992
Std, Dev,	0,1669	0,2551	0,4329	0,3357	0,7016	1,1260	0,4901	0,1571
Skewness	1,2429	1,6299	1,1604	2,2116	0,3971	0,0280	-0,4687	1,1776
Kurtosis	8,0586	9,4004	2,3465	5,8912	2,8700	3,0393	2,8903	8,1654
Jarque-Bera	717,4435	1165,0900	131,2789	630,6050	14,6251	0,1059	20,1128	727,8221
Probability	0,0000	0,0000	0,0000	0,0000	0,0007	0,9484	0,0000	0,0000
Sum	13,6357	26,4383	135,0000	70,0000	384,4438	9368,7320	176,8338	10,9717
Sum Sq, Dev,	15,0759	35,2033	101,3745	60,9594	266,3125	685,8719	129,9550	13,3463
Observations	542	542	542	542	542	542	542	542

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 61

Total panel (unbalanced) observations: 542

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8,5066	1,0797	-7,8788	0,0000
NBR	0,0080	0,0151	0,5308	0,5958
ABRMOM	0,8264	0,0622	13,2875	0,0000
ABRWL	0,0473	0,0628	0,7540	0,4512
LSIZE	0,5139	0,0646	7,9509	0,0000
LMBR	-0,5007	0,0831	-6,0229	0,0000
DSSA	-0,0200	0,0159	-1,2552	0,2100
DSBA	0,0096	0,0166	0,5797	0,5624
R-squared	0,7953	Mean dependent var	0,0460	
Adjusted R-squared	0,7614	S.D. dependent var	0,2543	
F-statistic	23,4182	Durbin-Watson stat	1,6071	
Prob(F-statistic)	0,0000			

T3–Descriptive statistics, common sample

	ABRMOM	ABRWL	DSBA	DSSA	LMBR	LSIZE	NBR	AR1Y
Mean	0,0252	0,0488	0,2491	0,1292	0,7093	17,2855	0,3263	0,0460
Median	0,0151	0,0162	0,0000	0,0000	0,6881	17,1293	0,3333	0,0129
Maximum	1,0389	1,7551	1,0000	1,0000	2,7259	19,9470	1,0000	1,7551
Minimum	-0,4267	-0,5447	0,0000	0,0000	-0,9416	14,0294	-1,0000	-0,5447
Std, Dev,	0,1669	0,2551	0,4329	0,3357	0,7016	1,1260	0,4901	0,2543
Skewness	1,2429	1,6299	1,1604	2,2116	0,3971	0,0280	-0,4687	1,6424
Kurtosis	8,0586	9,4004	2,3465	5,8912	2,8700	3,0393	2,8903	9,3143
Jarque-Bera	717,4435	1165,0900	131,2789	630,6050	14,6251	0,1059	20,1128	1144,0680
Probability	0,0000	0,0000	0,0000	0,0000	0,0007	0,9484	0,0000	0,0000
Sum	13,6357	26,4383	135,0000	70,0000	384,4438	9368,7320	176,8338	24,9174
Sum Sq, Dev,	15,0759	35,2033	101,3745	60,9594	266,3125	685,8719	129,9550	34,9793
Observations	542	542	542	542	542	542	542	542

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 9

Cross-sections included: 61

Total panel (unbalanced) observations: 445

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9,5347	2,2688	-4,2025	0,0000
NBR	0,0027	0,0352	0,0764	0,9392
ABRMOM	-0,1642	0,2101	-0,7813	0,4351
ABRWL	0,8205	0,1646	4,9856	0,0000
LSIZE	0,5593	0,1304	4,2900	0,0000
LMBR	-0,1158	0,2002	-0,5786	0,5632
DSSA	-0,0043	0,0320	-0,1354	0,8923
DSBA	0,0449	0,0365	1,2296	0,2196
R-squared	0,7718	Mean dependent var	0,1119	
Adjusted R-squared	0,7254	S.D. dependent var	0,4715	
F-statistic	16,6397	Durbin-Watson stat	1,1777	
Prob(F-statistic)	0,0000			

T4–Descriptive statistics, common sample

	ABRMOM	ABRWL	DSBA	DSSA	LMBR	LSIZE	NBR	AR2Y
Mean	0,0150	0,0405	0,2584	0,1438	0,6922	17,3165	0,2745	0,1119
Median	0,0060	0,0086	0,0000	0,0000	0,6627	17,1657	0,2857	0,0457
Maximum	1,0389	1,7551	1,0000	1,0000	2,7259	19,9470	1,0000	3,7171
Minimum	-0,3992	-0,5447	0,0000	0,0000	-0,9416	14,0294	-1,0000	-0,6882
Std, Dev,	0,1577	0,2462	0,4383	0,3513	0,7119	1,1230	0,4799	0,4715
Skewness	1,2619	1,7973	1,1037	2,0301	0,3757	0,0322	-0,4627	2,8411
Kurtosis	8,8019	10,7322	2,2181	5,1211	2,8659	3,0785	3,0453	17,0493
Jarque-Bera	742,2634	1348,1220	101,6759	389,0690	10,8009	0,1912	15,9196	4258,4780
Probability	0,0000	0,0000	0,0000	0,0000	0,0045	0,9088	0,0003	0,0000
Sum	6,6530	18,0190	115,0000	64,0000	308,0292	7705,8350	122,1617	49,7801
Sum Sq, Dev,	11,0375	26,9209	85,2809	54,7955	225,0099	559,9740	102,2420	98,7150
Observations	445	445	445	445	445	445	445	445

A.5.1.2. Insider trading alone

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 59

Total panel (unbalanced) observations: 386

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,0345	0,6344	0,0543	0,9567
LMBR	0,0405	0,0364	1,1139	0,2662
LSIZE	-0,0041	0,0367	-0,1110	0,9117
NPR	-0,0080	0,0068	-1,1804	0,2388
ABRWL	0,0999	0,0380	2,6255	0,0091
ABRMOM	0,4299	0,0514	8,3630	0,0000
SDNIB	-0,0131	0,0112	-1,1652	0,2448
SDNIS	-0,0033	0,0150	-0,2216	0,8248
SDVB	0,0194	0,0121	1,6001	0,1106
SDVS	0,0218	0,0139	1,5685	0,1178
R-squared	0,6643	Mean dependent var	0,0082	
Adjusted R-squared	0,5789	S.D. dependent var	0,1108	
F-statistic	7,7868	Durbin-Watson stat	2,8468	
Prob(F-statistic)	0,0000			

T1-Descriptive statistics, common sample

	ARR	ABRMOM	ABRWL	LMBR	LSIZE	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0083	0,0262	0,0530	0,6647	17,5108	0,3279	0,1705	0,1189	0,2145	0,1214
Median	0,0038	0,0147	0,0356	0,6152	17,4148	1,0000	0,0000	0,0000	0,0000	0,0000
Maximum	0,9927	1,0389	1,7551	2,6885	19,9470	1,0000	1,0000	1,0000	2,0000	1,0000
Minimum	-0,3788	-0,4267	-0,5164	-0,6539	15,2030	-1,0000	0,0000	0,0000	0,0000	0,0000
Std, Dev,	0,1107	0,1571	0,2456	0,7085	1,0996	0,8612	0,3766	0,3240	0,4172	0,3271
Skewness	1,8053	1,1445	1,5822	0,5009	0,2838	-0,6775	1,7519	2,3554	1,4980	2,3178
Kurtosis	18,6620	8,3233	10,1696	2,9296	2,0274	1,6301	4,0692	6,5479	3,5695	6,3723
Jarque-Bera	4165,6750	541,4344	990,3444	16,2661	20,4462	59,8683	216,4017	560,8218	149,9597	529,8896
Probability	0,0000	0,0000	0,0000	0,0003	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	3,1963	10,1472	20,5279	257,2260	6776,6630	126,8783	66,0000	46,0000	83,0000	47,0000
Sum Sq, Dev,	4,7302	9,5322	23,2759	193,7549	466,7378	286,3012	54,7442	40,5323	67,1990	41,2920
Observations	387	387	387	387	387	387	387	387	387	387

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 59

Total panel (unbalanced) observations: 366

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8,4234	0,7633	-11,0352	0,0000
LMBR	-0,5032	0,0489	-10,2933	0,0000
LSIZE	0,5011	0,0441	11,3718	0,0000
NPR	-0,0010	0,0099	-0,0971	0,9227
ABRWL	0,0472	0,0473	0,9983	0,3190
ABRMOM	-0,1530	0,0592	-2,5853	0,0102
SDNIB	0,0157	0,0188	0,8361	0,4038
SDNIS	-0,0078	0,0235	-0,3335	0,7390
SDVB	-0,0046	0,0196	-0,2374	0,8125
SDVS	0,0075	0,0243	0,3108	0,7562
R-squared	0,5981	Mean dependent var	0,0138	
Adjusted R-squared	0,4907	S.D. dependent var	0,1510	
F-statistic	5,5663	Durbin-Watson stat	1,4276	
Prob(F-statistic)	0,0000			

T2–Descriptive statistics, common sample

	ARHY	ABRMOM	ABRWL	LMBR	LSIZE	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0262	0,0500	0,6549	17,4946	0,3529	0,1749	0,1093	0,2213	0,1175	0,0138
Median	0,0174	0,0303	0,6043	17,4065	1,0000	0,0000	0,0000	0,0000	0,0000	0,0066
Maximum	1,0389	1,7551	2,6885	19,9470	1,0000	1,0000	1,0000	2,0000	1,0000	1,0389
Minimum	-0,4267	-0,5164	-0,6539	15,2030	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,3992
Std, Dev,	0,1571	0,2446	0,7107	1,0998	0,8519	0,3804	0,3124	0,4222	0,3224	0,1510
Skewness	1,1376	1,6563	0,5226	0,2736	-0,7387	1,7119	2,5045	1,4515	2,3759	1,2202
Kurtosis	8,5475	10,7864	2,9506	2,0035	1,7219	3,9307	7,2727	3,4349	6,6448	9,3760
Jarque-Bera	548,2431	1091,9230	16,6952	19,7095	58,1937	191,9797	661,0381	131,4035	546,9147	710,7820
Probability	0,0000	0,0000	0,0002	0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	9,5993	18,2998	239,6927	6403,0110	129,1696	64,0000	40,0000	81,0000	43,0000	5,0625
Sum Sq, Dev,	9,0092	21,8320	184,3753	441,4709	264,8920	52,8087	35,6284	65,0738	37,9481	8,3174
Observations	366	366	366	366	366	366	366	366	366	366

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 59

Total panel (unbalanced) observations: 366

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9,4854	1,5989	-5,9324	0,0000
LMBR	-0,5677	0,1329	-4,2702	0,0000
LSIZE	0,5641	0,0949	5,9438	0,0000
NPR	-0,0010	0,0112	-0,0911	0,9274
ABRWL	0,0690	0,0806	0,8558	0,3928
ABRMOM	0,8971	0,1033	8,6839	0,0000
SDNIB	0,0165	0,0201	0,8206	0,4126
SDNIS	-0,0120	0,0234	-0,5128	0,6085
SDVB	-0,0004	0,0186	-0,0191	0,9848
SDVS	0,0072	0,0234	0,3100	0,7568
R-squared	0,7999	Mean dependent var	0,0396	
Adjusted R-squared	0,7464	S.D. dependent var	0,2437	
F-statistic	14,9516	Durbin-Watson stat	1,2808	
Prob(F-statistic)	0,0000			

T3–Descriptive statistics, common sample

	AR1Y	ABRMOM	ABRWL	LMBR	LSIZE	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0262	0,0500	0,6549	17,4946	0,3529	0,1749	0,1093	0,2213	0,1175	0,0396
Median	0,0174	0,0303	0,6043	17,4065	1,0000	0,0000	0,0000	0,0000	0,0000	0,0186
Maximum	1,0389	1,7551	2,6885	19,9470	1,0000	1,0000	1,0000	2,0000	1,0000	1,7551
Minimum	-0,4267	-0,5164	-0,6539	15,2030	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,5022
Std. Dev,	0,1571	0,2446	0,7107	1,0998	0,8519	0,3804	0,3124	0,4222	0,3224	0,2437
Skewness	1,1376	1,6563	0,5226	0,2736	-0,7387	1,7119	2,5045	1,4515	2,3759	1,9065
Kurtosis	8,5475	10,7864	2,9506	2,0035	1,7219	3,9307	7,2727	3,4349	6,6448	12,0943
Jarque-Bera	548,2431	1091,9230	16,6952	19,7095	58,1937	191,9797	661,0381	131,4035	546,9147	1482,9770
Probability	0,0000	0,0000	0,0002	0,0001	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	9,5993	18,2998	239,6927	6403,0110	129,1696	64,0000	40,0000	81,0000	43,0000	14,5084
Sum Sq, Dev,	9,0092	21,8320	184,3753	441,4709	264,8920	52,8087	35,6284	65,0738	37,9481	21,6774
Observations	366	366	366	366	366	366	366	366	366	366

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 9

Cross-sections included: 58

Total panel (unbalanced) observations: 288

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12,5949	3,3405	-3,7704	0,0002
LMBR	0,0852	0,1962	0,4343	0,6645
LSIZE	0,7187	0,1896	3,7907	0,0002
NPR	-0,0422	0,0301	-1,4011	0,1626
ABRWL	0,9360	0,2105	4,4474	0,0000
ABRMOM	-0,3654	0,2440	-1,4972	0,1358
SDNIB	0,1067	0,0449	2,3779	0,0183
SDNIS	-0,0193	0,0574	-0,3369	0,7366
SDVB	0,0751	0,0419	1,7926	0,0745
SDVS	-0,0511	0,0409	-1,2495	0,2129
R-squared	0,7917	Mean dependent var	0,1038	
Adjusted R-squared	0,7193	S.D. dependent var	0,4530	
F-statistic	10,9405	Durbin-Watson stat	1,4052	
Prob(F-statistic)	0,0000			

T4–Descriptive statistics, common sample

	AR2Y	ABRMOM	ABRWL	LMBR	LSIZE	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0099	0,0366	0,6413	17,5311	0,2737	0,1597	0,1076	0,2153	0,1285	0,1038
Median	0,0019	0,0107	0,6016	17,4148	0,9995	0,0000	0,0000	0,0000	0,0000	0,0547
Maximum	1,0389	1,7551	2,6885	19,9470	1,0000	1,0000	1,0000	2,0000	1,0000	3,7171
Minimum	-0,3992	-0,5022	-0,6539	15,2030	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,6360
Std. Dev,	0,1515	0,2399	0,7225	1,1086	0,8756	0,3670	0,3105	0,4201	0,3352	0,4530
Skewness	1,3735	1,9111	0,4958	0,2730	-0,5525	1,8577	2,5320	1,5259	2,2206	3,1440
Kurtosis	10,4025	12,8572	2,9039	1,9490	1,4751	4,4510	7,4109	3,7475	5,9312	21,7935
Jarque-Bera	748,1171	1341,2870	11,9119	16,8314	42,5560	190,9089	541,2026	118,4610	339,8001	4712,7840
Probability	0,0000	0,0000	0,0026	0,0002	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	2,8498	10,5510	184,6806	5048,9570	78,8352	46,0000	31,0000	62,0000	37,0000	29,8913
Sum Sq, Dev,	6,5887	16,5119	149,8356	352,7339	220,0308	38,6528	27,6632	50,6528	32,2465	58,9017
Observations	288	288	288	288	288	288	288	288	288	288

A.5.1.3. Insider trading and analysts' recommendations together

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 56

Total panel (unbalanced) observations: 330

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0,3688	0,6504	-0,5670	0,5712
LMBR	0,0245	0,0374	0,6555	0,5128
LSIZE	0,0196	0,0377	0,5195	0,6039
ABRMOM	0,4402	0,0550	8,0087	0,0000
ABRWL	0,1051	0,0372	2,8248	0,0051
NPR	-0,0032	0,0077	-0,4207	0,6743
SDNIB	-0,0078	0,0126	-0,6146	0,5394
SDNIS	-0,0030	0,0159	-0,1914	0,8484
SDVB	0,0210	0,0157	1,3414	0,1810
SDVS	0,0337	0,0160	2,1135	0,0355
NBR	-0,0103	0,0120	-0,8595	0,3909
DSBA	0,0097	0,0139	0,6961	0,4870
DSSA	-0,0408	0,0150	-2,7199	0,0070
R-squared	0,6956	Mean dependent var	0,0074	
Adjusted R-squared	0,6009	S.D. dependent var	0,1151	
F-statistic	7,3519	Durbin-Watson stat	2,8330	
Prob(F-statistic)	0,0000			

T1-Descriptive statistics, common sample

	ARR	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0074	0,0582	0,0254	0,2758	0,1424	0,7179	17,4840	0,3465	0,3045	0,1758	0,1273	0,2000	0,1182
Median	0,0032	0,0320	0,0141	0,0000	0,0000	0,7130	17,2981	0,3750	1,0000	0,0000	0,0000	0,0000	0,0000
Maximum	0,9927	1,7551	1,0389	1,0000	1,0000	2,6885	19,9470	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000
Minimum	-0,3788	-0,5164	-0,4267	0,0000	0,0000	-0,6539	15,2030	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000
Std, Dev,	0,1151	0,2551	0,1622	0,4476	0,3500	0,6996	1,1034	0,4734	0,8687	0,3812	0,3338	0,4081	0,3233
Skewness	1,9200	1,6343	1,2319	1,0036	2,0463	0,4670	0,3789	-0,5554	-0,6200	1,7038	2,2367	1,6336	2,3655
Kurtosis	18,6515	9,9364	8,4548	2,0071	5,1874	2,9521	2,1193	3,0738	1,5493	3,9029	6,0030	4,0808	6,5956
Jarque-Bera	3571,063 0	808,453 7	492,5907	68,946 7	296,091 6	12,0241	18,5633	17,0380	50,0796	170,868 1	399,159 3	162,835 0	485,516 4
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0024	0,0001	0,0002	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	2,4313	19,2221	8,3720	91,000 0	47,0000	236,907 9	5769,720 0	114,351 8	100,471 8	58,0000	42,0000	66,0000	39,0000
Sum Sq, Dev,	4,3579	21,4141	8,6568	65,906 1	40,3061	161,038 4	400,5849	73,7254	248,279 1	47,8061	36,6546	54,8000	34,3909
Observation s	330	330	330	330	330	330	330	330	330	330	330	330	330

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 55

Total panel (unbalanced) observations: 310

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8,1523	0,8253	-9,8785	0,0000
LMBR	-0,4961	0,0536	-9,2609	0,0000
LSIZE	0,4874	0,0477	10,2121	0,0000
ABRMOM	-0,1281	0,0660	-1,9423	0,0533
ABRWL	0,0103	0,0531	0,1946	0,8459
NPR	-0,0038	0,0112	-0,3386	0,7352
SDNIB	0,0115	0,0211	0,5462	0,5854
SDNIS	-0,0003	0,0263	-0,0101	0,9919
SDVB	-0,0023	0,0238	-0,0948	0,9246
SDVS	-0,0131	0,0282	-0,4641	0,6430
NBR	0,0405	0,0189	2,1409	0,0333
DSBA	0,0112	0,0205	0,5454	0,5860
DSSA	-0,0076	0,0234	-0,3236	0,7466
R-squared	0,6191	Mean dependent var	0,0209	
Adjusted R-squared	0,4949	S.D. dependent var	0,1556	
F-statistic	4,9829	Durbin-Watson stat	1,4179	
Prob(F-statistic)	0,0000			

T2–Descriptive statistics, common sample

	ARHY	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0551	0,0251	0,2710	0,1484	0,7070	17,4637	0,3337	0,3347	0,1806	0,1161	0,2065	0,1129	0,0209
Median	0,0288	0,0158	0,0000	0,0000	0,6881	17,2525	0,3333	1,0000	0,0000	0,0000	0,0000	0,0000	0,0153
Maximum	1,7551	1,0389	1,0000	1,0000	2,6885	19,9470	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0389
Minimum	-0,5164	-0,4267	0,0000	0,0000	-0,6539	15,2030	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,3992
Std, Dev,	0,2543	0,1623	0,4452	0,3561	0,7032	1,1016	0,4812	0,8585	0,3853	0,3209	0,4133	0,3170	0,1556
Skewness	1,7198	1,2347	1,0306	1,9782	0,4895	0,3729	-0,5132	-0,6918	1,6602	2,3964	1,5874	2,4463	1,2930
Kurtosis	10,5799	8,7179	2,0622	4,9134	2,9633	2,1076	2,9687	1,6483	3,7562	6,7425	3,9364	6,9844	9,3263
Jarque-Bera	894,940 6	501,058 7	66,2390	249,478 8	12,3965	17,4709	13,6186	48,3292	149,789 0	477,610 3	141,519 9	514,254 2	603,331 0
Probability	0,0000	0,0000	0,0000	0,0000	0,0020	0,0002	0,0011	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	17,0858	7,7779	84,0000	46,0000	219,176 1	5413,754 0	103,460 7	103,763 1	56,0000	36,0000	64,0000	35,0000	6,4822
Sum Sq, Dev,	19,9826	8,1389	61,2387	39,1742	152,817 9	374,9948	71,5424	227,717 7	45,8839	31,8194	52,7871	31,0484	7,4844
Observations	310	310	310	310	310	310	310	310	310	310	310	310	310

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 55

Total panel (unbalanced) observations: 310

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9,3241	1,6811	-5,5466	0,0000
LMBR	-0,5691	0,1471	-3,8694	0,0001
LSIZE	0,5575	0,1006	5,5402	0,0000
ABRMOM	0,9326	0,1062	8,7843	0,0000
ABRWL	0,0275	0,0873	0,3155	0,7526
NPR	-0,0060	0,0117	-0,5149	0,6071
SDNIB	0,0169	0,0230	0,7326	0,4645
SDNIS	-0,0070	0,0260	-0,2701	0,7873
SDVB	-0,0083	0,0224	-0,3724	0,7099
SDVS	-0,0137	0,0274	-0,5005	0,6172
NBR	0,0524	0,0217	2,4189	0,0163
DSBA	-0,0068	0,0254	-0,2661	0,7904
DSSA	-0,0030	0,0222	-0,1330	0,8943
R-squared	0,8129	Mean dependent var	0,0465	
Adjusted R-squared	0,7518	S.D. dependent var	0,2539	
F-statistic	13,3176	Durbin-Watson stat	1,2841	
Prob(F-statistic)	0,0000			

T3–Descriptive statistics, common sample

	AR1Y	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0551	0,0251	0,2710	0,1484	0,7070	17,4637	0,3337	0,3347	0,1806	0,1161	0,2065	0,1129	0,0465
Median	0,0288	0,0158	0,0000	0,0000	0,6881	17,2525	0,3333	1,0000	0,0000	0,0000	0,0000	0,0000	0,0152
Maximum	1,7551	1,0389	1,0000	1,0000	2,6885	19,9470	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,7551
Minimum	-0,5164	-0,4267	0,0000	0,0000	-0,6539	15,2030	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,5022
Std, Dev,	0,2543	0,1623	0,4452	0,3561	0,7032	1,1016	0,4812	0,8585	0,3853	0,3209	0,4133	0,3170	0,2539
Skewness	1,7198	1,2347	1,0306	1,9782	0,4895	0,3729	-0,5132	-0,6918	1,6602	2,3964	1,5874	2,4463	1,9743
Kurtosis	10,5799	8,7179	2,0622	4,9134	2,9633	2,1076	2,9687	1,6483	3,7562	6,7425	3,9364	6,9844	11,7791
Jarque-Bera	894,940 6	501,058 7	66,2390	249,478 8	12,3965	17,4709	13,6186	48,3292	149,789 0	477,610 3	141,519 9	514,254 2	1196,909 0
Probability	0,0000	0,0000	0,0000	0,0000	0,0020	0,0002	0,0011	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	17,0858	7,7779	84,0000	46,0000	219,176 1	5413,754 0	103,460 7	103,763 1	56,0000	36,0000	64,0000	35,0000	14,4151
Sum Sq, Dev,	19,9826	8,1389	61,2387	39,1742	152,817 9	374,9948	71,5424	227,717 7	45,8839	31,8194	52,7871	31,0484	19,9150
Observations	310	310	310	310	310	310	310	310	310	310	310	310	310

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 9

Cross-sections included: 54

Total panel (unbalanced) observations: 251

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-12,0228	3,1884	-3,7708	0,0002
LMBR	0,1864	0,2106	0,8849	0,3774
LSIZE	0,6809	0,1807	3,7680	0,0002
ABRMOM	-0,3076	0,2356	-1,3059	0,1933
ABRWL	0,8087	0,2017	4,0086	0,0001
NPR	-0,0341	0,0296	-1,1528	0,2506
SDNIB	0,1241	0,0510	2,4360	0,0158
SDNIS	0,0176	0,0579	0,3044	0,7612
SDVB	0,0614	0,0463	1,3246	0,1870
SDVS	-0,0637	0,0495	-1,2870	0,1998
NBR	0,0416	0,0488	0,8530	0,3948
DSBA	0,1359	0,0504	2,6956	0,0077
DSSA	0,0248	0,0431	0,5753	0,5658
R-squared	0,8084	Mean dependent var	0,1213	
Adjusted R-squared	0,7294	S.D. dependent var	0,4714	
F-statistic	10,2327	Durbin-Watson stat	1,5382	
Prob(F-statistic)	0,0000			

T4–Descriptive statistics, common sample

	AR2Y	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0432	0,0114	0,2789	0,1594	0,6915	17,4938	0,3024	0,2746	0,1633	0,1076	0,1992	0,1195	0,1213
Median	0,0068	0,0042	0,0000	0,0000	0,6575	17,3239	0,3333	1,0000	0,0000	0,0000	0,0000	0,0000	0,0567
Maximum	1,7551	1,0389	1,0000	1,0000	2,6885	19,9470	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	3,7171
Minimum	-0,5022	-0,3992	0,0000	0,0000	-0,6539	15,2030	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,6161
Std, Dev,	0,2483	0,1555	0,4493	0,3667	0,7159	1,1068	0,4709	0,8766	0,3704	0,3105	0,4101	0,3251	0,4714
Skewness	1,9772	1,4536	0,9861	1,8613	0,4781	0,3814	-0,5610	-0,5514	1,8213	2,5331	1,6793	2,3457	3,1575
Kurtosis	12,5168	10,5521	1,9725	4,4646	2,9621	2,0438	3,1941	1,4688	4,3172	7,4168	4,3421	6,5024	20,7830
Jarque-Bera	1110,750 0	684,880 8	51,7234	167,367 5	9,5759	15,6495	13,561 7	37,2419	156,914 2	472,462 9	136,810 3	358,475 6	3724,364 0
Probability	0,0000	0,0000	0,0000	0,0000	0,0083	0,0004	0,0011	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	10,8439	2,8528	70,0000	40,0000	173,553 9	4390,950 0	75,895 8	68,9234	41,0000	27,0000	50,0000	30,0000	30,4576
Sum Sq, Dev,	15,4079	6,0424	50,4781	33,6255	128,111 0	306,2445	55,430 9	192,086 6	34,3028	24,0956	42,0398	26,4143	55,5498
Observation s	251	251	251	251	251	251	251	251	251	251	251	251	251

A.5.1.4. Insider trading depending analysts' recommendations

R1

Dependent Variable: NPR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 56

Total panel (unbalanced) observations: 330

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3,8246	5,1545	0,7420	0,4588
LMBR	-0,6915	0,2983	-2,3184	0,0212
LSIZE	-0,1712	0,2973	-0,5760	0,5652
NBR	0,1618	0,1156	1,3997	0,1628
ABRMOM	-0,7955	0,4007	-1,9853	0,0482
ABRWL	-0,0266	0,3058	-0,0870	0,9307
DSSA	0,1199	0,1583	0,7577	0,4493
DSBA	-0,2951	0,1238	-2,3840	0,0179
R-squared	0,4527	Mean dependent var	0,3045	
Adjusted R-squared	0,2966	S.D. dependent var	0,8687	
F-statistic	2,9007	Durbin-Watson stat	2,4421	
Prob(F-statistic)	0,0000			

T1-Descriptive statistics, common sample

	ABRMOM	ABRWL	DSBA	DSSA	LMBR	LSIZE	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0254	0,0582	0,2758	0,1424	0,7179	17,4840	0,3465	0,3045	0,1758	0,1273	0,2000	0,1182
Median	0,0141	0,0320	0,0000	0,0000	0,7130	17,2981	0,3750	1,0000	0,0000	0,0000	0,0000	0,0000
Maximum	1,0389	1,7551	1,0000	1,0000	2,6885	19,9470	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000
Minimum	-0,4267	-0,5164	0,0000	0,0000	-0,6539	15,2030	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000
Std, Dev,	0,1622	0,2551	0,4476	0,3500	0,6996	1,1034	0,4734	0,8687	0,3812	0,3338	0,4081	0,3233
Skewness	1,2319	1,6343	1,0036	2,0463	0,4670	0,3789	-0,5554	-0,6200	1,7038	2,2367	1,6336	2,3655
Kurtosis	8,4548	9,9364	2,0071	5,1874	2,9521	2,1193	3,0738	1,5493	3,9029	6,0030	4,0808	6,5956
Jarque-Bera	492,5907	808,4537	68,9467	296,0916	12,0241	18,5633	17,0380	50,0796	170,8681	399,1593	162,8350	485,5164
Probability	0,0000	0,0000	0,0000	0,0000	0,0024	0,0001	0,0002	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	8,3720	19,2221	91,0000	47,0000	236,9079	5769,7200	114,3518	100,4718	58,0000	42,0000	66,0000	39,0000
Sum Sq, Dev,	8,6568	21,4141	65,9061	40,3061	161,0384	400,5849	73,7254	248,2791	47,8061	36,6546	54,8000	34,3909
Observations	330	330	330	330	330	330	330	330	330	330	330	330

A.5.1.5. Analysts' recommendations depending on insider trading

R1

Dependent Variable: NBR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 56

Total panel (unbalanced) observations: 330

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1,5089	2,6584	0,5676	0,5708
LMBR	0,0440	0,1732	0,2542	0,7996
LSIZE	-0,0678	0,1537	-0,4409	0,6597
NPR	0,0172	0,0381	0,4500	0,6531
ABRMOM	0,4141	0,2106	1,9659	0,0504
ABRWL	-0,0435	0,1893	-0,2301	0,8182
SDNIB	-0,0370	0,0829	-0,4455	0,6564
SDNIS	-0,0793	0,0797	-0,9947	0,3208
SDVB	-0,0296	0,1062	-0,2789	0,7806
SDVS	0,0017	0,0881	0,0196	0,9844
R-squared	0,4052	Mean dependent var	0,3465	
Adjusted R-squared	0,2296	S.D. dependent var	0,4734	
F-statistic	2,3075	Durbin-Watson stat	2,4269	
Prob(F-statistic)	0,0000			

T1-Descriptive statistics, common sample

	ABRMOM	ABRWL	DSBA	DSSA	LMBR	LSIZE	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	0,0254	0,0582	0,2758	0,1424	0,7179	17,4840	0,3465	0,3045	0,1758	0,1273	0,2000	0,1182
Median	0,0141	0,0320	0,0000	0,0000	0,7130	17,2981	0,3750	1,0000	0,0000	0,0000	0,0000	0,0000
Maximum	1,0389	1,7551	1,0000	1,0000	2,6885	19,9470	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000
Minimum	-0,4267	-0,5164	0,0000	0,0000	-0,6539	15,2030	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000
Std, Dev,	0,1622	0,2551	0,4476	0,3500	0,6996	1,1034	0,4734	0,8687	0,3812	0,3338	0,4081	0,3233
Skewness	1,2319	1,6343	1,0036	2,0463	0,4670	0,3789	-0,5554	-0,6200	1,7038	2,2367	1,6336	2,3655
Kurtosis	8,4548	9,9364	2,0071	5,1874	2,9521	2,1193	3,0738	1,5493	3,9029	6,0030	4,0808	6,5956
Jarque-Bera	492,5907	808,4537	68,9467	296,0916	12,0241	18,5633	17,0380	50,0796	170,8681	399,1593	162,8350	485,5164
Probability	0,0000	0,0000	0,0000	0,0000	0,0024	0,0001	0,0002	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	8,3720	19,2221	91,0000	47,0000	236,9079	5769,7200	114,3518	100,4718	58,0000	42,0000	66,0000	39,0000
Sum Sq, Dev,	8,6568	21,4141	65,9061	40,3061	161,0384	400,5849	73,7254	248,2791	47,8061	36,6546	54,8000	34,3909
Observations	330	330	330	330	330	330	330	330	330	330	330	330

A.5.1.6. Correlation matrix

	NBR	LMBR	LSIZE	NPR	ABRMOM	ABRWL	SDNIB	SDNIS	SDVB	SDVS	DSBA	DSSA
NBR	1,0000	0,0308	-0,0319	0,0225	0,2543	0,2503	0,0224	0,0008	-0,0024	-0,0143	0,2440	-0,2990
LMBR	0,0308	1,0000	0,1799	-0,2080	0,1883	0,2283	-0,1690	0,0599	-0,1043	-0,0132	0,1381	0,1761
LSIZE	-0,0319	0,1799	1,0000	-0,1362	-0,0268	-0,0446	-0,0303	0,0453	0,0582	0,0658	0,3907	0,2365
NPR	0,0225	-0,2080	-0,1362	1,0000	-0,1798	-0,1311	0,1708	-0,3768	0,2057	-0,3734	-0,2070	-0,0657
ABRMOM	0,2543	0,1883	-0,0268	-0,1798	1,0000	0,7434	-0,0633	0,1075	-0,0800	-0,0104	0,0529	-0,0483
ABRWL	0,2503	0,2283	-0,0446	-0,1311	0,7434	1,0000	0,0145	0,0796	-0,0607	-0,0003	0,1013	-0,0775
SDNIB	0,0224	-0,1690	-0,0303	0,1708	-0,0633	0,0145	1,0000	0,0625	0,2227	0,0282	-0,0533	-0,0971
SDNIS	0,0008	0,0599	0,0453	-0,3768	0,1075	0,0796	0,0625	1,0000	-0,0089	0,2263	0,0492	0,0265
SDVB	-0,0024	-0,1043	0,0582	0,2057	-0,0800	-0,0607	0,2227	-0,0089	1,0000	0,2350	-0,0532	-0,0511
SDVS	-0,0143	-0,0132	0,0658	-0,3734	-0,0104	-0,0003	0,0282	0,2263	0,2350	1,0000	0,0472	0,0388
DSBA	0,2440	0,1381	0,3907	-0,2070	0,0529	0,1013	-0,0533	0,0492	-0,0532	0,0472	1,0000	0,1948
DSSA	-0,2990	0,1761	0,2365	-0,0657	-0,0483	-0,0775	-0,0971	0,0265	-0,0511	0,0388	0,1948	1,0000

A.6.1. Mid Cap

A.6.1.1. Analysts' recommendations alone

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 59

Total panel (unbalanced) observations: 425

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,0633	0,6058	0,1045	0,9168
NBR	0,0144	0,0122	1,1842	0,2372
ABRMOM	0,3843	0,0547	7,0217	0,0000
ABRWL	0,1003	0,0314	3,1970	0,0015
LSIZE	-0,0077	0,0416	-0,1838	0,8543
LMBR	0,0446	0,0421	1,0608	0,2895
DSSA	0,0577	0,0457	1,2621	0,2078
DSBA	0,0091	0,0200	0,4516	0,6518
R-squared	0,5353	Mean dependent var	0,0111	
Adjusted R-squared	0,4338	S.D. dependent var	0,1730	
F-statistic	5,2746	Durbin-Watson stat	2,7578	
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	DSBA	DSSA	ABRMOM	ABRWL	NBR	LMBR	LSIZE	ARHY
Mean	0,0111	0,2094	0,0729	0,0219	0,0714	0,4121	0,7745	14,9466
Median	0,0065	0,0000	0,0000	0,0005	0,0148	0,5000	0,8109	14,9230
Maximum	1,2553	1,0000	1,0000	4,6907	13,2588	3,0000	3,0856	16,2545
Minimum	-0,6877	0,0000	0,0000	-0,8849	-1,0368	-1,0000	-1,6094	12,9436
Std. Dev.	0,1730	0,4074	0,2603	0,3369	0,7680	0,6797	0,7737	0,6726
Skewness	1,2439	1,4283	3,2846	6,8714	12,5714	-0,2576	0,0918	-0,2220
Kurtosis	11,5033	3,0402	11,7884	90,5236	209,1893	3,3894	3,7080	2,6023
Jarque-Bera	1390,0190	144,5400	2131,8830	138997,2000	764046,8000	7,3870	9,4729	6,2907
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0249	0,0088	0,0431
Sum	4,7297	89,0000	31,0000	9,3210	30,3598	175,1449	329,1833	6352,3170
Sum Sq. Dev.	12,6836	70,3624	28,7388	48,1360	250,1101	195,8656	253,8307	191,7910
Observations	425	425	425	425	425	425	425	425

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 59

Total panel (unbalanced) observations: 397

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6,5070	1,4075	-4,6231	0,0000
NBR	-0,0107	0,0224	-0,4784	0,6327
ABRMOM	0,0344	0,0553	0,6215	0,5347
ABRWL	-0,0045	0,0306	-0,1480	0,8825
LSIZE	0,4670	0,0949	4,9190	0,0000
LMBR	-0,6124	0,0995	-6,1573	0,0000
DSSA	-0,0307	0,0496	-0,6192	0,5362
DSBA	0,0190	0,0313	0,6066	0,5445
R-squared	0,4946	Mean dependent var	0,0050	
Adjusted R-squared	0,3746	S.D. dependent var	0,2626	
F-statistic	4,1209	Durbin-Watson stat	1,6085	
Prob(F-statistic)	0,0000			

T2 –Descriptive statistics, common sample

	DSBA	DSSA	ABRMOM	ABRWL	NBR	LMBR	LSIZE	ARHY
Mean	0,2141	0,0781	0,0206	0,0720	0,4109	0,7482	14,9306	0,0050
Median	0,0000	0,0000	-0,0009	0,0128	0,5000	0,7885	14,8942	-0,0277
Maximum	1,0000	1,0000	4,6907	13,2588	3,0000	3,0856	16,2545	1,8061
Minimum	0,0000	0,0000	-0,8849	-1,0368	-1,0000	-1,6094	12,9436	-0,6301
Std, Dev,	0,4107	0,2686	0,3402	0,7868	0,6871	0,7696	0,6729	0,2626
Skewness	1,3939	3,1450	7,0607	12,5170	-0,2231	0,0883	-0,2062	2,0802
Kurtosis	2,9430	10,8912	92,9392	203,3246	3,3623	3,7159	2,5934	13,5200
Jarque-Bera	128,6171	1684,5180	137105,0000	674182,6000	5,4638	8,9929	5,5492	2117,0030
Probability	0,0000	0,0000	0,0000	0,0000	0,0651	0,0111	0,0624	0,0000
Sum	85,0000	31,0000	8,1940	28,6020	163,1449	297,0395	5927,4420	1,9678
Sum Sq, Dev,	66,8010	28,5794	45,8370	245,1534	186,9586	234,5628	179,3199	27,3162
Observations	397	397	397	397	397	397	397	397

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 59

Total panel (unbalanced) observations: 397

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8,0028	0,9142	-8,7539	0,0000
NBR	0,0016	0,0227	0,0704	0,9439
ABRMOM	1,2219	0,0460	26,5538	0,0000
ABRWL	-0,1352	0,0296	-4,5660	0,0000
LSIZE	0,5621	0,0615	9,1340	0,0000
LMBR	-0,4831	0,0635	-7,6107	0,0000
DSSA	-0,0739	0,0562	-1,3141	0,1897
DSBA	0,0214	0,0345	0,6205	0,5354
R-squared	0,8589	Mean dependent var	0,0433	
Adjusted R-squared	0,8253	S.D. dependent var	0,5465	
F-statistic	25,6207	Durbin-Watson stat	1,8938	
Prob(F-statistic)	0,0000			

T3 –Descriptive statistics, common sample

	DSBA	DSSA	ABRMOM	ABRWL	NBR	LMBR	LSIZE	AR1Y
Mean	0,2141	0,0781	0,0206	0,0720	0,4109	0,7482	14,9306	0,0433
Median	0,0000	0,0000	-0,0009	0,0128	0,5000	0,7885	14,8942	0,0076
Maximum	1,0000	1,0000	4,6907	13,2588	3,0000	3,0856	16,2545	7,4087
Minimum	0,0000	0,0000	-0,8849	-1,0368	-1,0000	-1,6094	12,9436	-0,9814
Std, Dev,	0,4107	0,2686	0,3402	0,7868	0,6871	0,7696	0,6729	0,5465
Skewness	1,3939	3,1450	7,0607	12,5170	-0,2231	0,0883	-0,2062	6,9713
Kurtosis	2,9430	10,8912	92,9392	203,3246	3,3623	3,7159	2,5934	87,5594
Jarque-Bera	128,6171	1684,5180	137105,0000	674182,6000	5,4638	8,9929	5,5492	121493,3000
Probability	0,0000	0,0000	0,0000	0,0000	0,0651	0,0111	0,0624	0,0000
Sum	85,0000	31,0000	8,1940	28,6020	163,1449	297,0395	5927,4420	17,1848
Sum Sq, Dev,	66,8010	28,5794	45,8370	245,1534	186,9586	234,5628	179,3199	118,2725
Observations	397	397	397	397	397	397	397	397

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 10

Cross-sections included: 58

Total panel (unbalanced) observations: 340

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-15,2216	4,4972	-3,3847	0,0008
NBR	0,0083	0,0411	0,2028	0,8394
ABRMOM	0,2626	0,1598	1,6431	0,1015
ABRWL	0,1441	0,1055	1,3655	0,1732
LSIZE	1,0343	0,3019	3,4257	0,0007
LMBR	-0,2879	0,1839	-1,5653	0,1187
DSSA	-0,0667	0,0890	-0,7491	0,4544
DSBA	0,0428	0,0844	0,5073	0,6123
R-squared	0,7909	Mean dependent var	0,0776	
Adjusted R-squared	0,7335	S.D. dependent var	0,7516	
F-statistic	13,7799	Durbin-Watson stat	1,0470	
Prob(F-statistic)	0,0000			

T4 –Descriptive statistics, common sample

	DSBA	DSSA	ABRMOM	ABRWL	NBR	LMBR	LSIZE	AR2Y
Mean	0,2235	0,0794	0,0253	0,0693	0,4073	0,7233	14,9694	0,0776
Median	0,0000	0,0000	-0,0106	0,0064	0,5000	0,7816	14,9612	-0,0037
Maximum	1,0000	1,0000	4,6907	13,2588	3,0000	3,0856	16,2545	7,1969
Minimum	0,0000	0,0000	-0,5816	-0,8225	-1,0000	-1,6094	12,9436	-1,2558
Std. Dev,	0,4172	0,2708	0,3521	0,8352	0,6630	0,7723	0,6583	0,7516
Skewness	1,3272	3,1111	7,4913	12,2427	-0,2834	0,0202	-0,2322	5,1497
Kurtosis	2,7616	10,6789	94,0254	187,2992	3,1759	3,6452	2,7129	42,2983
Jarque-Bera	100,6273	1383,8030	120559,7000	489681,0000	4,9905	5,9201	4,2239	23381,1800
Probability	0,0000	0,0000	0,0000	0,0000	0,0825	0,0518	0,1210	0,0000
Sum	76,0000	27,0000	8,5894	23,5686	138,4783	245,9338	5089,6040	26,3978
Sum Sq, Dev,	59,0118	24,8559	42,0193	236,4597	149,0320	202,1910	146,9139	191,5144
Observations	340	340	340	340	340	340	340	340

A.6.1.2. Insider trading alone

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 60

Total panel (unbalanced) observations: 416

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0,4571	0,4614	-0,9907	0,3225
LMBR	-0,0201	0,0490	-0,4110	0,6813
LSIZE	0,0320	0,0318	1,0070	0,3146
NPR	-0,0131	0,0100	-1,3153	0,1893
ABRWL	-0,0165	0,0206	-0,8015	0,4234
ABRMOM	0,3731	0,0685	5,4426	0,0000
SDNIB	-0,0387	0,0234	-1,6523	0,0994
SDNIS	-0,0626	0,0563	-1,1116	0,2671
SDVB	0,0384	0,0363	1,0574	0,2911
SDVS	0,0021	0,0290	0,0723	0,9424
R-squared	0,6694	Mean dependent var	0,0101	
Adjusted R-squared	0,5916	S.D. dependent var	0,2260	
F-statistic	8,6112	Durbin-Watson stat	2,9970	
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	ARR
Mean	0,0364	0,0917	14,8861	0,7276	0,2708	0,1370	0,0793	0,1827	0,1034	0,0101
Median	0,0029	0,0298	14,8938	0,7839	1,0000	0,0000	0,0000	0,0000	0,0000	-0,0078
Maximum	7,6612	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	3,3181
Minimum	-0,5816	-0,8225	12,9131	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,4960
Std, Dev,	0,4868	0,7781	0,6507	0,7610	0,8958	0,3443	0,2706	0,3869	0,3048	0,2260
Skewness	11,4191	12,3662	-0,3215	0,0932	-0,5481	2,1112	3,1132	1,6423	2,6057	7,8741
Kurtosis	165,8488	201,7842	2,8251	3,4724	1,4212	5,4570	10,6922	3,6972	7,7897	112,8439
Jarque-Bera	468716,3000	695531,9000	7,6959	4,4706	64,0337	413,6605	1697,6120	195,4327	868,4005	213437,1000
Probability	0,0000	0,0000	0,0213	0,1070	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	15,1219	38,1264	6192,5960	302,6871	112,6601	57,0000	33,0000	76,0000	43,0000	4,2066
Sum Sq, Dev,	98,3263	251,2665	175,7388	240,3085	333,0069	49,1899	30,3822	62,1154	38,5553	21,1905
Observations	416	416	416	416	416	416	416	416	416	416

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 60

Total panel (unbalanced) observations: 393

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7,2779	2,6254	-2,7721	0,0059
LMBR	-0,5999	0,2067	-2,9024	0,0040
LSIZE	0,5206	0,1832	2,8424	0,0048
NPR	0,0031	0,0303	0,1016	0,9192
ABRWL	-0,0772	0,0697	-1,1080	0,2687
ABRMOM	-0,0776	0,1130	-0,6868	0,4927
SDNIB	-0,0278	0,0949	-0,2931	0,7697
SDNIS	-0,0357	0,0761	-0,4695	0,6390
SDVB	0,2159	0,1575	1,3704	0,1716
SDVS	-0,1105	0,0686	-1,6125	0,1079
R-squared	0,3351	Mean dependent var	0,0465	
Adjusted R-squared	0,1673	S.D. dependent var	0,5141	
F-statistic	1,9968	Durbin-Watson stat	1,6827	
Prob(F-statistic)	0,0000			

T2 – Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	ARHY
Mean	0,0359	0,0916	14,8674	0,7189	0,2890	0,1399	0,0763	0,1908	0,0941	0,0465
Median	0,0020	0,0305	14,8933	0,7655	1,0000	0,0000	0,0000	0,0000	0,0000	-0,0009
Maximum	7,6612	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	7,6612
Minimum	-0,5816	-0,8225	12,9131	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,5816
Std. Dev,	0,4957	0,7954	0,6509	0,7681	0,8901	0,3474	0,2659	0,3935	0,2924	0,5141
Skewness	11,4163	12,2500	-0,3251	0,1300	-0,5913	2,0756	3,1910	1,5735	2,7795	10,4110
Kurtosis	163,2302	195,6654	2,8098	3,4674	1,4728	5,3082	11,1826	3,4758	8,7256	140,8707
Jarque-Bera	428943,7000	617668,5000	7,5172	4,6842	61,0975	369,4263	1763,3620	165,8759	1042,8290	318360,8000
Probability	0,0000	0,0000	0,0233	0,0961	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	14,1255	36,0005	5842,9030	282,5186	113,5896	55,0000	30,0000	75,0000	37,0000	18,2701
Sum Sq. Dev,	96,3189	248,0039	166,0994	231,2900	310,5486	47,3028	27,7099	60,6870	33,5165	103,6155
Observations	393	393	393	393	393	393	393	393	393	393

R3

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 60

Total panel (unbalanced) observations: 393

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7,2779	2,6254	-2,7721	0,0059
LMBR	-0,5999	0,2067	-2,9024	0,0040
LSIZE	0,5206	0,1832	2,8424	0,0048
NPR	0,0031	0,0303	0,1016	0,9192
ABRWL	-0,0772	0,0697	-1,1080	0,2687
ABRMOM	-0,0776	0,1130	-0,6868	0,4927
SDNIB	-0,0278	0,0949	-0,2931	0,7697
SDNIS	-0,0357	0,0761	-0,4695	0,6390
SDVB	0,2159	0,1575	1,3704	0,1716
SDVS	-0,1105	0,0686	-1,6125	0,1079
R-squared	0,3351	Mean dependent var	0,0465	
Adjusted R-squared	0,1673	S.D. dependent var	0,5141	
F-statistic	1,9968	Durbin-Watson stat	1,6827	
Prob(F-statistic)	0,0000			

T3 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	AR1Y
Mean	0,0359	0,0916	14,8674	0,7189	0,2890	0,1399	0,0763	0,1908	0,0941	0,0940
Median	0,0020	0,0305	14,8933	0,7655	1,0000	0,0000	0,0000	0,0000	0,0000	0,0094
Maximum	7,6612	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	13,2588
Minimum	-0,5816	-0,8225	12,9131	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,8168
Std, Dev,	0,4957	0,7954	0,6509	0,7681	0,8901	0,3474	0,2659	0,3935	0,2924	0,8825
Skewness	11,4163	12,2500	-0,3251	0,1300	-0,5913	2,0756	3,1910	1,5735	2,7795	10,4942
Kurtosis	163,2302	195,6654	2,8098	3,4674	1,4728	5,3082	11,1826	3,4758	8,7256	141,4032
Jarque-Bera	428943,7000	617668,5000	7,5172	4,6842	61,0975	369,4263	1763,3620	165,8759	1042,8290	320883,7000
Probability	0,0000	0,0000	0,0233	0,0961	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	14,1255	36,0005	5842,9030	282,5186	113,5896	55,0000	30,0000	75,0000	37,0000	36,9449
Sum Sq, Dev,	96,3189	248,0039	166,0994	231,2900	310,5486	47,3028	27,7099	60,6870	33,5165	305,2578
Observations	393	393	393	393	393	393	393	393	393	393

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 10

Cross-sections included: 59

Total panel (unbalanced) observations: 315

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14,1225	2,2441	-6,2933	0,0000
LMBR	-0,3845	0,1567	-2,4535	0,0149
LSIZE	0,9652	0,1506	6,4082	0,0000
NPR	0,1196	0,0442	2,7043	0,0073
ABRWL	0,3184	0,0466	6,8375	0,0000
ABRMOM	0,5444	0,0682	7,9854	0,0000
SDNIB	0,0312	0,1037	0,3005	0,7640
SDNIS	0,0911	0,1422	0,6409	0,5222
SDVB	-0,0111	0,0943	-0,1182	0,9060
SDVS	0,0505	0,1184	0,4267	0,6700
R-squared	0,8024	Mean dependent var	0,1283	
Adjusted R-squared	0,7393	S.D. dependent var	0,8866	
F-statistic	12,7136	Durbin-Watson stat	1,7028	
Prob(F-statistic)	0,0000			

T4 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	AR2Y
Mean	0,0099	0,0366	0,6413	17,5311	0,2737	0,1597	0,1076	0,2153	0,1285	0,1038
Median	0,0019	0,0107	0,6016	17,4148	0,9995	0,0000	0,0000	0,0000	0,0000	0,0547
Maximum	1,0389	1,7551	2,6885	19,9470	1,0000	1,0000	1,0000	2,0000	1,0000	3,7171
Minimum	-0,3992	-0,5022	-0,6539	15,2030	-1,0000	0,0000	0,0000	0,0000	0,0000	-0,6360
Std, Dev,	0,1515	0,2399	0,7225	1,1086	0,8756	0,3670	0,3105	0,4201	0,3352	0,4530
Skewness	1,3735	1,9111	0,4958	0,2730	-0,5525	1,8577	2,5320	1,5259	2,2206	3,1440
Kurtosis	10,4025	12,8572	2,9039	1,9490	1,4751	4,4510	7,4109	3,7475	5,9312	21,7935
Jarque-Bera	748,1171	1341,2870	11,9119	16,8314	42,5560	190,9089	541,2026	118,4610	339,8001	4712,7840
Probability	0,0000	0,0000	0,0026	0,0002	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	2,8498	10,5510	184,6806	5048,9570	78,8352	46,0000	31,0000	62,0000	37,0000	29,8913
Sum Sq, Dev,	6,5887	16,5119	149,8356	352,7339	220,0308	38,6528	27,6632	50,6528	32,2465	58,9017
Observations	288	288	288	288	288	288	288	288	288	288

A.6.1.3. Insider trading and analysts' recommendations together

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 54

Total panel (unbalanced) observations: 256

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,1311	0,7477	0,1753	0,8610
LMBR	0,0414	0,0586	0,7061	0,4810
LSIZE	-0,0125	0,0510	-0,2444	0,8072
ABRMOM	0,3042	0,0533	5,7110	0,0000
ABRWL	0,1046	0,0276	3,7919	0,0002
NPR	-0,0200	0,0132	-1,5190	0,1305
SDNIB	-0,0071	0,0322	-0,2200	0,8261
SDNIS	-0,0199	0,0427	-0,4653	0,6423
SDVB	0,0150	0,0389	0,3855	0,7003
SDVS	0,0378	0,0315	1,2009	0,2314
NBR	0,0271	0,0171	1,5835	0,1151
DSBA	-0,0130	0,0284	-0,4574	0,6480
DSSA	0,0579	0,0641	0,9037	0,3674
R-squared	0,5644	Mean dependent var	0,0077	
Adjusted R-squared	0,3794	S.D. dependent var	0,1548	
F-statistic	3,0514	Durbin-Watson stat	2,3242	
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	NBR	DSSA	DSBA	ARR
Mean	0,0288	0,1125	15,0308	0,7661	0,2574	0,1328	0,1016	0,1758	0,1211	0,3987	0,0703	0,1875	0,0077
Median	-0,0022	0,0130	15,0041	0,8020	0,9984	0,0000	0,0000	0,0000	0,0000	0,5000	0,0000	0,0000	-0,0062
Maximum	4,6907	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0000	0,7583
Minimum	-0,5816	-0,8225	13,6259	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-1,0000	0,0000	0,0000	-0,4960
Std, Dev,	0,3628	0,9495	0,6081	0,7916	0,8940	0,3400	0,3027	0,3814	0,3269	0,6564	0,2562	0,3911	0,1548
Skewness	8,5508	10,9531	-0,1325	0,1784	-0,5191	2,1639	2,6380	1,7036	2,3229	-0,5672	3,3612	1,6013	0,8042
Kurtosis	108,2889	147,1704	2,1363	3,3846	1,4017	5,6826	7,9592	3,9022	6,3958	2,6533	12,2979	3,5641	6,2835
Jarque-Bera	121367,7000	226826,4000	8,7054	2,9358	38,7456	276,5484	559,2579	132,5070	353,2279	15,0086	1404,1760	112,7960	142,5957
Probability	0,0000	0,0000	0,0129	0,2304	0,0000	0,0000	0,0000	0,0000	0,0000	0,0006	0,0000	0,0000	0,0000
Sum	7,3685	28,7924	3847,8820	196,1176	65,8903	34,0000	26,0000	45,0000	31,0000	102,0699	18,0000	48,0000	1,9656
Sum Sq, Dev,	33,5583	229,8995	94,2915	159,8084	203,8009	29,4844	23,3594	37,0898	27,2461	109,8847	16,7344	39,0000	6,1095
Observations	256	256	256	256	256	256	256	256	256	256	256	256	256

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 53

Total panel (unbalanced) observations: 239

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6,4367	1,1629	-5,5348	0,0000
LMBR	-0,6194	0,0866	-7,1534	0,0000
LSIZE	0,4594	0,0775	5,9292	0,0000
ABRMOM	0,1660	0,0689	2,4110	0,0170
ABRWL	0,0392	0,0388	1,0109	0,3136
NPR	0,0398	0,0258	1,5441	0,1245
SDNIB	0,0958	0,0608	1,5752	0,1171
SDNIS	-0,0306	0,0721	-0,4252	0,6712
SDVB	-0,0047	0,0571	-0,0817	0,9350
SDVS	-0,0344	0,0641	-0,5367	0,5922
NBR	-0,0191	0,0313	-0,6097	0,5429
DSBA	0,0522	0,0463	1,1265	0,2616
DSSA	-0,0268	0,0809	-0,3307	0,7413
R-squared	0,5634	Mean dependent var	0,0175	
Adjusted R-squared	0,3625	S.D. dependent var	0,2771	
F-statistic	2,8044	Durbin-Watson stat	1,9050	
Prob(F-statistic)	0,0000			

T2 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	NBR	DSSA	DSBA	ARHY
Mean	0,0239	0,1065	15,0130	0,7561	0,2963	0,1339	0,0962	0,1883	0,1046	0,3891	0,0753	0,1925	0,0175
Median	-0,0088	0,0075	14,9737	0,7793	1,0000	0,0000	0,0000	0,0000	0,0000	0,5000	0,0000	0,0000	-0,0191
Maximum	4,6907	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0000	1,8061
Minimum	-0,5816	-0,8225	13,6259	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-1,0000	0,0000	0,0000	-0,5816
Std, Dev,	0,3656	0,9775	0,6081	0,8071	0,8832	0,3413	0,2955	0,3918	0,3067	0,6600	0,2645	0,3951	0,2771
Skewness	8,8421	10,7680	-0,1383	0,2304	-0,6106	2,1502	2,7382	1,5947	2,5840	-0,5279	3,2186	1,5601	2,6770
Kurtosis	112,4663	140,6707	2,1032	3,3125	1,5084	5,6233	8,4978	3,5431	7,6768	2,6261	11,3592	3,4340	15,3771
Jarque-Bera	122443,6000	193361,2000	8,7698	3,0866	37,0085	252,6954	599,6589	104,2359	483,7754	12,4932	1108,4980	98,8298	1810,9850
Probability	0,0000	0,0000	0,0125	0,2137	0,0000	0,0000	0,0000	0,0000	0,0000	0,0019	0,0000	0,0000	0,0000
Sum	5,7068	25,4540	3588,1080	180,7114	70,8198	32,0000	23,0000	45,0000	25,0000	92,9866	18,0000	46,0000	4,1833
Sum Sq, Dev,	31,8156	227,4148	88,0063	155,0314	185,6373	27,7155	20,7866	36,5272	22,3849	103,6740	16,6444	37,1464	18,2764
Observations	239	239	239	239	239	239	239	239	239	239	239	239	239

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 53

Total panel (unbalanced) observations: 239

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8,4113	1,2848	-6,5468	0,0000
LMBR	-0,4516	0,0957	-4,7212	0,0000
LSIZE	0,5831	0,0856	6,8124	0,0000
ABRMOM	1,4344	0,0761	18,8575	0,0000
ABRWL	-0,0690	0,0428	-1,6097	0,1094
NPR	0,0620	0,0285	2,1745	0,0311
SDNIB	0,1191	0,0672	1,7724	0,0782
SDNIS	0,0184	0,0796	0,2314	0,8173
SDVB	-0,0428	0,0631	-0,6791	0,4981
SDVS	-0,0267	0,0708	-0,3776	0,7062
NBR	0,0035	0,0346	0,1014	0,9194
DSBA	0,0683	0,0512	1,3344	0,1839
DSSA	-0,0629	0,0894	-0,7038	0,4826
R-squared	0,8951	Mean dependent var	0,0633	
Adjusted R-squared	0,8468	S.D. dependent var	0,6244	
F-statistic	18,5350	Durbin-Watson stat	2,3515	
Prob(F-statistic)	0,0000			

T3 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	NBR	DSSA	DSBA	AR1Y
Mean	0,0239	0,1065	15,0130	0,7561	0,2963	0,1339	0,0962	0,1883	0,1046	0,3891	0,0753	0,1925	0,0633
Median	-0,0088	0,0075	14,9737	0,7793	1,0000	0,0000	0,0000	0,0000	0,0000	0,5000	0,0000	0,0000	0,0075
Maximum	4,6907	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0000	7,4087
Minimum	-0,5816	-0,8225	13,6259	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-1,0000	0,0000	0,0000	-0,7315
Std, Dev,	0,3656	0,9775	0,6081	0,8071	0,8832	0,3413	0,2955	0,3918	0,3067	0,6600	0,2645	0,3951	0,6244
Skewness	8,8421	10,7680	-0,1383	0,2304	-0,6106	2,1502	2,7382	1,5947	2,5840	-0,5279	3,2186	1,5601	7,5045
Kurtosis	112,4663	140,6707	2,1032	3,3125	1,5084	5,6233	8,4978	3,5431	7,6768	2,6261	11,3592	3,4340	83,6799
Jarque-Bera	122443,6000	193361,2000	8,7698	3,0866	37,0085	252,6954	599,6589	104,2359	483,7754	12,4932	1108,4980	98,8298	67064,5800
Probability	0,0000	0,0000	0,0125	0,2137	0,0000	0,0000	0,0000	0,0000	0,0000	0,0019	0,0000	0,0000	0,0000
Sum	5,7068	25,4540	3588,1080	180,7114	70,8198	32,0000	23,0000	45,0000	25,0000	92,9866	18,0000	46,0000	15,1209
Sum Sq, Dev,	31,8156	227,4148	88,0063	155,0314	185,6373	27,7155	20,7866	36,5272	22,3849	103,6740	16,6444	37,1464	92,8002
Observations	239	239	239	239	239	239	239	239	239	239	239	239	239

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 10

Cross-sections included: 53

Total panel (unbalanced) observations: 208

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13,6007	2,4269	-5,6042	0,0000
LMBR	-0,2852	0,1848	-1,5434	0,1251
LSIZE	0,9163	0,1611	5,6884	0,0000
ABRMOM	0,7094	0,1458	4,8661	0,0000
ABRWL	0,2005	0,0795	2,5228	0,0128
NPR	0,1517	0,0494	3,0727	0,0026
SDNIB	0,1099	0,1187	0,9252	0,3565
SDNIS	0,0176	0,1494	0,1178	0,9064
SDVB	-0,0898	0,1143	-0,7856	0,4335
SDVS	0,1199	0,1284	0,9337	0,3521
NBR	-0,0104	0,0611	-0,1704	0,8649
DSBA	0,1663	0,0869	1,9149	0,0576
DSSA	-0,0718	0,1499	-0,4790	0,6327
R-squared	0,8826	Mean dependent var	0,1051	
Adjusted R-squared	0,8186	S.D. dependent var	0,9037	
F-statistic	13,7953	Durbin-Watson stat	1,4900	
Prob(F-statistic)	0,0000			

T4 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	NBR	DSSA	DSBA	AR2Y
Mean	0,0221	0,0956	15,0508	0,7125	0,3062	0,1346	0,0865	0,1779	0,0962	0,3801	0,0769	0,2019	0,1051
Median	-0,0249	-0,0081	15,0041	0,7514	1,0000	0,0000	0,0000	0,0000	0,0000	0,5000	0,0000	0,0000	-0,0744
Maximum	4,6907	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0000	7,1969
Minimum	-0,5816	-0,8225	13,6259	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-	0,0000	0,0000	-0,9666
Std, Dev,	0,3833	1,0385	0,5940	0,8108	0,8795	0,3421	0,2818	0,3833	0,2955	0,6447	0,2671	0,4024	0,9037
Skewness	8,8205	10,3535	-0,1264	0,2365	-0,6312	2,1411	2,9411	1,6846	2,7398	-	3,1754	1,4851	4,7954
Kurtosis	107,2047	127,4855	2,0747	3,3122	1,5422	5,5841	9,6503	3,8380	8,5064	2,5974	11,0833	3,2054	32,5173
Jarque-Bera	96805,0700	138020,3000	7,9740	2,7836	32,2277	216,7899	683,1722	104,4699	522,9968	11,0118	915,8380	76,8192	8348,2190
Probability	0,0000	0,0000	0,0186	0,2486	0,0000	0,0000	0,0000	0,0000	0,0000	0,0041	0,0000	0,0000	0,0000
Sum	4,6071	19,8755	3130,5560	148,1898	63,6842	28,0000	18,0000	37,0000	20,0000	79,0700	16,0000	42,0000	21,8645
Sum Sq, Dev,	30,4152	223,2316	73,0446	136,0909	160,1219	24,2308	16,4423	30,4183	18,0769	86,0370	14,7692	33,5192	169,0427
Observations	208	208	208	208	208	208	208	208	208	208	208	208	208

A.6.1.4. Insider trading depending analysts' recommendations

R1

Dependent Variable: NPR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 54

Total panel (unbalanced) observations: 256

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6,3014	3,6837	1,7106	0,0888
LMBR	-0,5370	0,2700	-1,9886	0,0482
LSIZE	-0,3813	0,2461	-1,5494	0,1230
NBR	0,1855	0,0947	1,9575	0,0518
ABRMOM	0,0146	0,2083	0,0701	0,9442
ABRWL	0,2894	0,1176	2,4601	0,0148
DSSA	0,1537	0,2605	0,5900	0,5559
DSBA	-0,1025	0,1468	-0,6986	0,4857
R-squared	0,5132	Mean dependent var	0,2574	
Adjusted R-squared	0,3254	S.D. dependent var	0,8940	
F-statistic	2,7323	Durbin-Watson stat	2,2969	
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	NBR	DSSA	DSBA
Mean	0,0288	0,1125	15,0308	0,7661	0,2574	0,1328	0,1016	0,1758	0,1211	0,3987	0,0703	0,1875
Median	-0,0022	0,0130	15,0041	0,8020	0,9984	0,0000	0,0000	0,0000	0,0000	0,5000	0,0000	0,0000
Maximum	4,6907	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0000
Minimum	-0,5816	-0,8225	13,6259	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-1,0000	0,0000	0,0000
Std, Dev,	0,3628	0,9495	0,6081	0,7916	0,8940	0,3400	0,3027	0,3814	0,3269	0,6564	0,2562	0,3911
Skewness	8,5508	10,9531	-0,1325	0,1784	-0,5191	2,1639	2,6380	1,7036	2,3229	-0,5672	3,3612	1,6013
Kurtosis	108,2889	147,1704	2,1363	3,3846	1,4017	5,6826	7,9592	3,9022	6,3958	2,6533	12,2979	3,5641
Jarque-Bera	121367,700 0	226826,400 0	8,7054	2,9358	38,7456	276,548 4	559,257 9	132,507 0	353,227 9	15,0086	1404,176 0	112,796 0
Probability	0,0000	0,0000	0,0129	0,2304	0,0000	0,0000	0,0000	0,0000	0,0000	0,0006	0,0000	0,0000
Sum	7,3685	28,7924	3847,882 0	196,117 6	65,8903	34,0000	26,0000	45,0000	31,0000	102,069 9	18,0000	48,0000
Sum Sq, Dev,	33,5583	229,8995	94,2915	159,808 4	203,800 9	29,4844	23,3594	37,0898	27,2461	109,884 7	16,7344	39,0000
Observations	256	256	256	256	256	256	256	256	256	256	256	256

A.6.1.5. Analysts' recommendations depending on insider trading

R1

Dependent Variable: NBR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 54

Total panel (unbalanced) observations: 256

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2,1341	3,0979	0,6889	0,4918
LMBR	-0,0434	0,2251	-0,1929	0,8473
LSIZE	-0,1149	0,2063	-0,5568	0,5783
NPR	0,0628	0,0725	0,8666	0,3873
ABRMOM	0,2121	0,1446	1,4671	0,1441
ABRWL	0,0354	0,0765	0,4631	0,6438
SDNIB	0,0959	0,1244	0,7714	0,4415
SDNIS	0,2871	0,1578	1,8192	0,0705
SDVB	0,0702	0,1084	0,6483	0,5176
SDVS	-0,4651	0,1642	-2,8328	0,0051
R-squared	0,4390	Mean dependent var	0,3987	
Adjusted R-squared	0,2139	S.D. dependent var	0,6564	
F-statistic	1,9507	Durbin-Watson stat	1,9461	
Prob(F-statistic)	0,0002			

T1 –Descriptive statistics, common sample

	ABRMOM	ABRWL	LSIZE	LMBR	NPR	SDNIB	SDNIS	SDVB	SDVS	NBR	DSSA	DSBA
Mean	0,0288	0,1125	15,0308	0,7661	0,2574	0,1328	0,1016	0,1758	0,1211	0,3987	0,0703	0,1875
Median	-0,0022	0,0130	15,0041	0,8020	0,9984	0,0000	0,0000	0,0000	0,0000	0,5000	0,0000	0,0000
Maximum	4,6907	13,2588	16,2545	3,0856	1,0000	1,0000	1,0000	1,0000	1,0000	2,0000	1,0000	1,0000
Minimum	-0,5816	-0,8225	13,6259	-1,6094	-1,0000	0,0000	0,0000	0,0000	0,0000	-1,0000	0,0000	0,0000
Std, Dev,	0,3628	0,9495	0,6081	0,7916	0,8940	0,3400	0,3027	0,3814	0,3269	0,6564	0,2562	0,3911
Skewness	8,5508	10,9531	-0,1325	0,1784	-0,5191	2,1639	2,6380	1,7036	2,3229	-0,5672	3,3612	1,6013
Kurtosis	108,2889	147,1704	2,1363	3,3846	1,4017	5,6826	7,9592	3,9022	6,3958	2,6533	12,2979	3,5641
Jarque-Bera	121367,700 0	226826,400 0	8,7054	2,9358	38,7456	276,548 4	559,257 9	132,507 0	353,227 9	15,0086	1404,176 0	112,796 0
Probability	0,0000	0,0000	0,0129	0,2304	0,0000	0,0000	0,0000	0,0000	0,0000	0,0006	0,0000	0,0000
Sum	7,3685	28,7924	3847,882 0	196,117 6	65,8903	34,0000	26,0000	45,0000	31,0000	102,069 9	18,0000	48,0000
Sum Sq, Dev,	33,5583	229,8995	94,2915	159,808 4	203,800 9	29,4844	23,3594	37,0898	27,2461	109,884 7	16,7344	39,0000
Observations	256	256	256	256	256	256	256	256	256	256	256	256

A.6.1.6. Correlation matrix

	NBR	LMBR	LSIZE	NPR	ABRMOM	ABRWL	SDNIB	SDNIS	SDVB	SDVS	DSSA	DSBA
NBR	1,0000	0,1458	0,0226	0,0520	-0,0432	-0,1071	0,0486	0,0459	0,0401	-0,0990	-0,2972	0,2172
LMBR	0,1458	1,0000	0,1384	-0,1783	0,2181	0,3273	-0,0185	0,1314	-0,0996	0,0636	-0,2561	0,1158
LSIZE	0,0226	0,1384	1,0000	-0,0044	0,0747	0,0403	0,0172	0,0394	-0,0714	-0,0616	-0,0519	0,0584
NPR	0,0520	-0,1783	-0,0044	1,0000	-0,1186	-0,0113	0,2393	-0,3652	0,2796	-0,4417	0,0750	0,0266
ABRMOM	-0,0432	0,2181	0,0747	-0,1186	1,0000	0,4751	-0,0669	0,1482	-0,0388	0,1525	-0,1138	-0,0580
ABRWL	-0,1071	0,3273	0,0403	-0,0113	0,4751	1,0000	-0,0910	0,0558	0,0979	0,0429	-0,0938	-0,0658
SDNIB	0,0486	-0,0185	0,0172	0,2393	-0,0669	-0,0910	1,0000	-0,0935	0,3031	-0,0747	-0,0176	0,0479
SDNIS	0,0459	0,1314	0,0394	-0,3652	0,1482	0,0558	-0,0935	1,0000	-0,0873	0,2319	0,0593	0,0704
SDVB	0,0401	-0,0996	-0,0714	0,2796	-0,0388	0,0979	0,3031	-0,0873	1,0000	0,0173	-0,0066	-0,0115
SDVS	-0,0990	0,0636	-0,0616	-0,4417	0,1525	0,0429	-0,0747	0,2319	0,0173	1,0000	0,0384	-0,0863
DSSA	-0,2972	-0,2561	-0,0519	0,0750	-0,1138	-0,0938	-0,0176	0,0593	-0,0066	0,0384	1,0000	0,0245
DSBA	0,2172	0,1158	0,0584	0,0266	-0,0580	-0,0658	0,0479	0,0704	-0,0115	-0,0863	0,0245	1,0000

A.7.1. Small Cap

A.7.1.1. Analysts' recommendations alone

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 65

Total panel (unbalanced) observations: 265

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,0766	0,4285	0,1788	0,8583
NBR	-0,0103	0,0146	-0,7038	0,4824
ABRMOM	0,4859	0,0521	9,3249	0,0000
ABRWL	0,0360	0,0423	0,8504	0,3962
LSIZE	-0,0109	0,0326	-0,3336	0,7390
LMBR	0,1149	0,0364	3,1613	0,0018
DSSA	-0,0122	0,0452	-0,2695	0,7879
DSBA	-0,0174	0,0247	-0,7027	0,4831
R-squared	0,7280	Mean dependent var		-0,0370
Adjusted R-squared	0,6054	S.D. dependent var		0,1801
F-statistic	5,9391	Durbin-Watson stat		3,9473
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	DSBA	DSSA	NBR	ARR
Mean	-0,1036	-0,0495	0,5743	13,2189	0,1660	0,0377	0,4686	-0,0370
Median	-0,1258	-0,0700	0,5423	13,3146	0,0000	0,0000	1,0000	-0,0409
Maximum	1,2938	1,4103	4,3630	14,6314	1,0000	1,0000	3,0000	0,6271
Minimum	-0,9412	-0,8041	-2,3026	11,1115	0,0000	0,0000	-3,0000	-0,7469
Std. Dev,	0,3518	0,2605	0,8837	0,6671	0,3728	0,1909	0,7472	0,1801
Skewness	0,7036	0,6493	0,5798	-0,6652	1,7949	4,8517	-1,0284	-0,2583
Kurtosis	4,1351	6,5779	5,0806	3,3990	4,2218	24,5392	4,5821	5,0012
Jarque-Bera	36,0923	159,9641	62,6430	21,3017	158,7807	6162,2950	74,3506	47,1659
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-27,4418	-13,1202	152,1886	3503,0160	44,0000	10,0000	124,1667	-9,8051
Sum Sq, Dev,	32,6803	17,9103	206,1586	117,4792	36,6943	9,6226	147,4024	8,5665
Observations	265	265	265	265	265	265	265	265

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 64

Total panel (unbalanced) observations: 249

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4,9473	0,7858	-6,2957	0,0000
NBR	0,0227	0,0270	0,8420	0,4010
ABRMOM	-0,0241	0,0977	-0,2466	0,8055
ABRWL	-0,1791	0,0786	-2,2792	0,0239
LSIZE	0,3735	0,0597	6,2603	0,0000
LMBR	-0,1648	0,0678	-2,4318	0,0161
DSSA	-0,0099	0,0826	-0,1204	0,9043
DSBA	-0,0221	0,0454	-0,4853	0,6281
R-squared	0,6669	Mean dependent var	-0,0767	
Adjusted R-squared	0,5082	S.D. dependent var	0,2934	
F-statistic	4,2036	Durbin-Watson stat	1,3736	
Prob(F-statistic)	0,0000			

T2 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	DSBA	DSSA	NBR	ARHY
Mean	-0,1082	-0,0507	0,5624	13,2166	0,1767	0,0402	0,4572	-0,0767
Median	-0,1258	-0,0733	0,5188	13,2933	0,0000	0,0000	1,0000	-0,0879
Maximum	1,2938	1,4103	4,3630	14,6314	1,0000	1,0000	3,0000	1,4686
Minimum	-0,9412	-0,8041	-2,3026	11,1115	0,0000	0,0000	-3,0000	-0,9370
Std, Dev,	0,3502	0,2623	0,8859	0,6691	0,3822	0,1967	0,7605	0,2934
Skewness	0,7138	0,6831	0,6440	-0,6665	1,6952	4,6842	-1,0026	0,4749
Kurtosis	4,3051	6,7427	5,2573	3,4442	3,8737	22,9418	4,4731	6,0849
Jarque-Bera	38,8139	164,7001	70,0727	20,4847	127,1798	5036,4860	64,2313	108,0938
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-26,9512	-12,6174	140,0266	3290,9210	44,0000	10,0000	113,8333	-19,1076
Sum Sq, Dev,	30,4158	17,0645	194,6301	111,0170	36,2249	9,5984	143,4297	21,3490
Observations	249	249	249	249	249	249	249	249

R3

Dependent Variable: ARIY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 64

Total panel (unbalanced) observations: 249

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4,7416	0,6576	-7,2103	0,0000
NBR	0,0075	0,0226	0,3332	0,7394
ABRMOM	0,9030	0,0818	11,0458	0,0000
ABRWL	-0,1338	0,0658	-2,0348	0,0434
LSIZE	0,3625	0,0499	7,2609	0,0000
LMBR	-0,2511	0,0567	-4,4279	0,0000
DSSA	-0,0242	0,0691	-0,3499	0,7268
DSBA	0,0252	0,0380	0,6635	0,5079
R-squared	0,8586	Mean dependent var	-0,1157	
Adjusted R-squared	0,7912	S.D. dependent var	0,3769	
F-statistic	12,7499	Durbin-Watson stat	1,4956	
Prob(F-statistic)	0,0000			

T3 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	DSBA	DSSA	NBR	ARIY
Mean	-0,1082	-0,0507	0,5624	13,2166	0,1767	0,0402	0,4572	-0,1157
Median	-0,1258	-0,0733	0,5188	13,2933	0,0000	0,0000	1,0000	-0,1419
Maximum	1,2938	1,4103	4,3630	14,6314	1,0000	1,0000	3,0000	1,1498
Minimum	-0,9412	-0,8041	-2,3026	11,1115	0,0000	0,0000	-3,0000	-1,0453
Std. Dev,	0,3502	0,2623	0,8859	0,6691	0,3822	0,1967	0,7605	0,3769
Skewness	0,7138	0,6831	0,6440	-0,6665	1,6952	4,6842	-1,0026	0,4267
Kurtosis	4,3051	6,7427	5,2573	3,4442	3,8737	22,9418	4,4731	3,6875
Jarque-Bera	38,8139	164,7001	70,0727	20,4847	127,1798	5036,4860	64,2313	12,4577
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0020
Sum	-26,9512	-12,6174	140,0266	3290,9210	44,0000	10,0000	113,8333	-28,8130
Sum Sq. Dev,	30,4158	17,0645	194,6301	111,0170	36,2249	9,5984	143,4297	35,2215
Observations	249	249	249	249	249	249	249	249

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 9

Cross-sections included: 64

Total panel (unbalanced) observations: 221

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4,939938	1,293079	-3,820292	0,0002
NBR	0,009641	0,028732	0,335566	0,7377
ABRMOM	-0,169885	0,149078	-1,139572	0,2564
ABRWL	0,380206	0,167555	2,269143	0,0248
LSIZE	0,36231	0,096916	3,738372	0,0003
LMBR	0,039568	0,09565	0,413675	0,6797
DSSA	-0,052124	0,061485	-0,847745	0,398
DSBA	-0,093727	0,05751	-1,629757	0,1054
R-squared	0,86375	Mean dependent var	-0,177723	
Adjusted R-squared	0,788909	S.D. dependent var	0,4955	
F-statistic	11,54108	Durbin-Watson stat	1,441701	
Prob(F-statistic)	0			

T4 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	DSBA	DSSA	NBR	AR2Y
Mean	-0,1127	-0,0569	0,4944	13,2233	0,1810	0,0452	0,4397	-0,1777
Median	-0,1238	-0,0747	0,4762	13,3146	0,0000	0,0000	1,0000	-0,2552
Maximum	1,0557	1,4103	4,1738	14,6314	1,0000	1,0000	3,0000	1,4424
Minimum	-0,9412	-0,8041	-2,3026	11,1115	0,0000	0,0000	-3,0000	-1,2412
Std. Dev,	0,3271	0,2560	0,8455	0,6504	0,3859	0,2083	0,7696	0,4955
Skewness	0,4815	0,8441	0,4608	-0,5805	1,6571	4,3758	-0,9554	0,8650
Kurtosis	3,7777	7,8115	4,9722	3,1614	3,7460	20,1474	4,5196	3,7647
Jarque-Bera	14,1099	239,4217	43,6362	12,6513	106,2686	3412,8170	54,8836	32,9413
Probability	0,0009	0,0000	0,0000	0,0018	0,0000	0,0000	0,0000	0,0000
Sum	-24,9061	-12,5666	109,2532	2922,3460	40,0000	10,0000	97,1667	-39,2768
Sum Sq, Dev,	23,5402	14,4171	157,2777	93,0526	32,7602	9,5475	130,3045	54,0145
Observations	221	221	221	221	221	221	221	221

A.7.1.2. Insider trading alone

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 86

Total panel (unbalanced) observations: 506

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0,362685	0,402627	-0,900795	0,3682
LMBR	0,086267	0,036238	2,380565	0,0178
LSIZE	0,025493	0,031432	0,811054	0,4178
NPR	-0,007186	0,011061	-0,649677	0,5163
ABRWL	-0,066414	0,041333	-1,606803	0,1089
ABRMOM	0,470514	0,065658	7,16611	0
SDNIB	-0,007094	0,018544	-0,38257	0,7022
SDNIS	1,36E-06	0,0424	3,20E-05	1
SDVB	-0,011446	0,025095	-0,456079	0,6486
SDVS	-0,005941	0,032815	-0,18106	0,8564
R-squared	0,61102	Mean dependent var	-0,02082	
Adjusted R-squared	0,508912	S.D. dependent var	0,205495	
F-statistic	5,98409	Durbin-Watson stat	2,836023	
Prob(F-statistic)	0			

T1 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNIB	NPR	ARR
Mean	-0,0932	-0,0437	0,4247	12,8485	0,0889	0,2233	0,0316	0,2095	0,4666	-0,0208
Median	-0,1288	-0,0672	0,3111	12,8979	0,0000	0,0000	0,0000	0,0000	1,0000	-0,0378
Maximum	3,0382	2,1570	4,3439	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	1,3285
Minimum	-1,1415	-0,9088	-2,3026	10,1297	0,0000	0,0000	0,0000	0,0000	-1,0000	-0,7469
Std, Dev,	0,4066	0,3048	0,8643	0,8448	0,2849	0,4169	0,1752	0,4073	0,8303	0,2055
Skewness	1,3408	1,3658	0,8645	-0,3962	2,8883	1,3287	5,3533	1,4278	-1,0523	1,0762
Kurtosis	10,1225	10,9920	5,2848	2,6110	9,3421	2,7654	29,6577	3,0386	2,2473	9,5233
Jarque-Bera	1221,1680	1503,9440	173,0861	16,4301	1551,5210	150,0430	17399,2500	171,9520	105,3263	994,8391
Probability	0,0000	0,0000	0,0000	0,0003	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-47,1654	-22,1340	214,8830	6501,3130	45,0000	113,0000	16,0000	106,0000	236,1172	-10,5348
Sum Sq, Dev,	83,5077	46,9072	377,2555	360,4379	40,9980	87,7648	15,4941	83,7945	348,1346	21,3252
Observations	506	506	506	506	506	506	506	506	506	506

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 86

Total panel (unbalanced) observations: 476

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4,6920	0,6406	-7,3238	0,0000
LMBR	-0,2682	0,0647	-4,1435	0,0000
LSIZE	0,3680	0,0504	7,3049	0,0000
NPR	0,0182	0,0213	0,8557	0,3927
ABRWL	-0,1583	0,0652	-2,4261	0,0157
ABRMOM	0,1083	0,0727	1,4885	0,1375
SDNIB	0,0484	0,0381	1,2714	0,2044
SDNIS	-0,0086	0,0946	-0,0913	0,9273
SDVB	0,0628	0,0415	1,5133	0,1310
SDVS	-0,0856	0,0622	-1,3763	0,1696
R-squared	0,4253	Mean dependent var	-0,0467	
Adjusted R-squared	0,2642	S.D. dependent var	0,3119	
F-statistic	2,6401	Durbin-Watson stat	1,0550	
Prob(F-statistic)	0,0000			

T2 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNIB	NPR	ARHY
Mean	-0,0890	-0,0381	0,4381	12,8431	0,0777	0,2290	0,0336	0,2164	0,4782	-0,0467
Median	-0,1239	-0,0634	0,3329	12,8950	0,0000	0,0000	0,0000	0,0000	1,0000	-0,0683
Maximum	3,0382	2,1570	4,3439	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	2,1570
Minimum	-0,9912	-0,8722	-2,3026	10,1297	0,0000	0,0000	0,0000	0,0000	-1,0000	-0,9628
Std, Dev,	0,3994	0,3026	0,8640	0,8559	0,2680	0,4206	0,1804	0,4122	0,8250	0,3119
Skewness	1,4689	1,4398	0,8627	-0,3932	3,1542	1,2900	5,1754	1,3775	-1,0871	1,6944
Kurtosis	11,0193	11,3805	5,3933	2,5850	10,9492	2,6640	27,7848	2,8975	2,3231	12,3373
Jarque-Bera	1446,6450	1557,4300	172,6443	15,6789	2042,5460	134,2481	14308,2500	150,7433	102,8365	1956,9460
Probability	0,0000	0,0000	0,0000	0,0004	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-42,3488	-18,1413	208,5509	6113,3140	37,0000	109,0000	16,0000	103,0000	227,6455	-22,2244
Sum Sq, Dev,	75,7871	43,5068	354,6250	347,9354	34,1240	84,0399	15,4622	80,7122	323,2971	46,2190
Observations	476	476	476	476	476	476	476	476	476	476

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 86

Total panel (unbalanced) observations: 476

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4,4951	0,7543	-5,9594	0,0000
LMBR	-0,2854	0,0735	-3,8850	0,0001
LSIZE	0,3543	0,0601	5,8919	0,0000
NPR	0,0142	0,0193	0,7366	0,4618
ABRWL	-0,1765	0,0763	-2,3140	0,0212
ABRMOM	1,0954	0,1013	10,8157	0,0000
SDNIB	0,0591	0,0299	1,9737	0,0492
SDNIS	-0,0383	0,0764	-0,5008	0,6168
SDVB	0,0434	0,0374	1,1586	0,2474
SDVS	-0,1072	0,0456	-2,3495	0,0193
R-squared	0,7397	Mean dependent var	-0,0756	
Adjusted R-squared	0,6667	S.D. dependent var	0,4259	
F-statistic	10,1352	Durbin-Watson stat	0,9857	
Prob(F-statistic)	0,0000			

T3 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNIB	NPR	AR1Y
Mean	-0,0890	-0,0381	0,4381	12,8431	0,0777	0,2290	0,0336	0,2164	0,4782	-0,0756
Median	-0,1239	-0,0634	0,3329	12,8950	0,0000	0,0000	0,0000	0,0000	1,0000	-0,1054
Maximum	3,0382	2,1570	4,3439	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	3,0382
Minimum	-0,9912	-0,8722	-2,3026	10,1297	0,0000	0,0000	0,0000	0,0000	-1,0000	-1,3024
Std. Dev,	0,3994	0,3026	0,8640	0,8559	0,2680	0,4206	0,1804	0,4122	0,8250	0,4259
Skewness	1,4689	1,4398	0,8627	-0,3932	3,1542	1,2900	5,1754	1,3775	-1,0871	1,4916
Kurtosis	11,0193	11,3805	5,3933	2,5850	10,9492	2,6640	27,7848	2,8975	2,3231	10,4544
Jarque-Bera	1446,6450	1557,4300	172,6443	15,6789	2042,5460	134,2481	14308,2500	150,7433	102,8365	1278,6100
Probability	0,0000	0,0000	0,0000	0,0004	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-42,3488	-18,1413	208,5509	6113,3140	37,0000	109,0000	16,0000	103,0000	227,6455	-35,9731
Sum Sq, Dev,	75,7871	43,5068	354,6250	347,9354	34,1240	84,0399	15,4622	80,7122	323,2971	86,1548
Observations	476	476	476	476	476	476	476	476	476	476

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 9

Cross-sections included: 85

Total panel (unbalanced) observations: 383

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-4,1200	0,8242	-4,9990	0,0000
LMBR	0,0002	0,0685	0,0035	0,9972
LSIZE	0,3100	0,0654	4,7434	0,0000
NPR	-0,0145	0,0256	-0,5653	0,5723
ABRWL	0,4327	0,0824	5,2492	0,0000
ABRMOM	0,1035	0,0861	1,2019	0,2304
SDNIB	-0,0058	0,0365	-0,1589	0,8738
SDNIS	-0,0257	0,1447	-0,1773	0,8594
SDVB	0,0528	0,0472	1,1197	0,2638
SDVS	-0,1058	0,0653	-1,6201	0,1063
R-squared	0,8064	Mean dependent var	-0,1925	
Adjusted R-squared	0,7368	S.D. dependent var	0,4794	
F-statistic	11,5861	Durbin-Watson stat	1,0814	
Prob(F-statistic)	0,0000			

T4 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNIB	NPR	AR2Y
Mean	-0,0948	-0,0420	0,3683	12,8336	0,0809	0,2350	0,0313	0,2272	0,5069	-0,1925
Median	-0,1163	-0,0639	0,2624	12,8920	0,0000	0,0000	0,0000	0,0000	1,0000	-0,2701
Maximum	3,0382	2,1570	4,3439	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	1,7550
Minimum	-0,9912	-0,8066	-2,3026	10,1297	0,0000	0,0000	0,0000	0,0000	-1,0000	-1,3388
Std. Dev,	0,3886	0,3021	0,8728	0,8440	0,2731	0,4245	0,1744	0,4195	0,8122	0,4794
Skewness	1,6918	1,8033	0,8839	-0,4314	3,0729	1,2501	5,3804	1,3024	-1,1792	0,7078
Kurtosis	13,8368	13,5615	5,3807	2,6727	10,4429	2,5627	29,9490	2,6962	2,5329	3,8365
Jarque-Bera	2056,7760	1987,6450	140,3216	13,5901	1486,8140	102,8052	13437,6400	109,7479	92,2397	43,1429
Probability	0,0000	0,0000	0,0000	0,0011	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-36,2987	-16,0760	141,0429	4915,2580	31,0000	90,0000	12,0000	87,0000	194,1359	-73,7308
Sum Sq, Dev,	57,6841	34,8713	290,9765	272,1025	28,4909	68,8512	11,6240	67,2376	251,9683	87,7990
Observations	383	383	383	383	383	383	383	383	383	383

A.7.1.3. Insider trading and analysts' recommendations together

R1

Dependent Variable: ARR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 52

Total panel (unbalanced) observations: 134

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,4019	0,6986	0,5753	0,5673
LMBR	0,0568	0,0886	0,6410	0,5240
LSIZE	-0,0320	0,0541	-0,5906	0,5570
ABRMOM	0,4673	0,0868	5,3841	0,0000
ABRWL	0,1097	0,0638	1,7196	0,0908
NPR	-0,0240	0,0195	-1,2258	0,2251
SDNIB	0,0242	0,0345	0,7019	0,4855
SDNIS	-0,0510	0,0879	-0,5795	0,5645
SDVB	0,0049	0,0501	0,0985	0,9219
SDVS	-0,0857	0,0617	-1,3897	0,1698
NBR	0,0234	0,0225	1,0395	0,3028
DSBA	-0,0477	0,0359	-1,3300	0,1886
DSSA	-0,0274	0,0968	-0,2831	0,7781
R-squared	0,8599	Mean dependent var	-0,0369	
Adjusted R-squared	0,6842	S.D. dependent var	0,1879	
F-statistic	4,8931	Durbin-Watson stat	4,6337	
Prob(F-statistic)	0,0000			

T1 –Descriptive statistics, common sample

	ABRW L	ABRMO M	ARR	DSBA	DSSA	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNI B	NPR	NBR
Mean	-0,0864	-0,0474	-0,0369	0,1940	0,0149	0,5176	13,2754	0,1269	0,2090	0,0522	0,2090	0,2795	0,5037
Median	-0,1144	-0,0716	-0,0503	0,0000	0,0000	0,4606	13,3183	0,0000	0,0000	0,0000	0,0000	1,0000	1,0000
Maximum	1,2938	1,4103	0,6271	1,0000	1,0000	3,2185	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	3,0000
Minimum	-0,8819	-0,7436	-0,7469	0,0000	0,0000	-2,3026	11,7906	0,0000	0,0000	0,0000	0,0000	-1,0000	-1,0000
Std, Dev,	0,3676	0,2797	0,1879	0,3969	0,1217	0,8070	0,5924	0,3341	0,4081	0,2233	0,4081	0,9160	0,6938
Skewness	0,9322	0,9836	-0,1659	1,5474	8,0009	0,3045	-0,3863	2,2422	1,4317	4,0247	1,4317	-0,5726	-0,3979
Kurtosis	4,8814	7,9970	5,9294	3,3946	65,0152	4,7336	2,7717	6,0277	3,0499	17,1980	3,0499	1,4187	3,6055
Jarque-Bera	39,1686	161,0211	48,528 8	54,348 4	22902,500 0	18,850 6	3,6242	163,464 8	45,794 2	1487,257 0	45,794 2	21,2820	5,5824
Probability	0,0000	0,0000	0,0000	0,0000	0,0000	0,0001	0,1633	0,0000	0,0000	0,0000	0,0000	0,0000	0,0613
Sum	- 11,5770	-6,3560	-4,9432	26,000 0	2,0000	69,364 1	1778,904 0	17,0000	28,000 0	7,0000	28,000 0	37,4578	67,500 0
Sum Sq, Dev,	17,9696	10,4052	4,6949	20,955 2	1,9701	86,626 1	46,6799	14,8433	22,149 3	6,6343	22,149 3	111,604 9	64,012 0
Observation s	134	134	134	134	134	134	134	134	134	134	134	134	134

R2

Dependent Variable: ARHY

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 50

Total panel (unbalanced) observations: 128

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6,6052	1,1565	-5,7114	0,0000
LMBR	-0,5580	0,1490	-3,7445	0,0004
LSIZE	0,5098	0,0898	5,6778	0,0000
ABRMOM	0,0144	0,1434	0,1004	0,9204
ABRWL	-0,0171	0,1075	-0,1592	0,8741
NPR	0,0625	0,0325	1,9209	0,0598
SDNIB	0,0386	0,0579	0,6664	0,5079
SDNIS	0,0966	0,1479	0,6528	0,5165
SDVB	0,0263	0,0831	0,3167	0,7526
SDVS	-0,0665	0,1059	-0,6281	0,5325
NBR	0,0699	0,0383	1,8269	0,0730
DSBA	-0,0951	0,0593	-1,6028	0,1146
DSSA	0,0388	0,1603	0,2421	0,8096
R-squared	0,8552	Mean dependent var	-0,0859	
Adjusted R-squared	0,6716	S.D. dependent var	0,3034	
F-statistic	4,6583	Durbin-Watson stat	2,0271	
Prob(F-statistic)	0,0000			

T2 –Descriptive statistics, common sample

	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNI B	NPR	NBR	ARHY
Mean	-0,0800	-0,0402	0,2031	0,0156	0,5323	13,2744	0,1016	0,2109	0,0547	0,2031	0,3062	0,5117	-0,0859
Median	-0,0983	-0,0655	0,0000	0,0000	0,4700	13,3183	0,0000	0,0000	0,0000	0,0000	1,0000	1,0000	-0,0891
Maximum	1,2938	1,4103	1,0000	1,0000	3,2185	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	3,0000	1,4686
Minimum	-0,8819	-0,7436	0,0000	0,0000	-2,3026	11,7906	0,0000	0,0000	0,0000	0,0000	-1,0000	-1,0000	-0,8285
Std. Dev,	0,3688	0,2828	0,4039	0,1245	0,8100	0,5890	0,3033	0,4096	0,2283	0,4039	0,9073	0,7015	0,3034
Skewness	0,9264	0,9444	1,4758	7,8113	0,3251	-0,3654	2,6380	1,4171	3,9171	1,4758	-0,6368	-0,4313	0,8268
Kurtosis	4,9251	7,8967	3,1780	62,0159	4,7317	2,8408	7,9592	3,0081	16,3436	3,1780	1,5032	3,6197	7,8971
Jarque-Bera	38,0733	146,9068	46,632 5	19877,000 0	18,247 0	2,9843	279,628 9	42,839 1	1276,933 0	46,632 5	20,5999	6,0159	142,485 2
Probability	0,0000	0,0000	0,0000	0,0000	0,0001	0,2249	0,0000	0,0000	0,0000	0,0000	0,0000	0,0494	0,0000
Sum	- 10,2434	-5,1468	26,000 0	2,0000	68,129 2	1699,117 0	13,0000	27,000 0	7,0000	26,000 0	39,1947	65,500 0	- 10,9973
Sum Sq, Dev,	17,2771	10,1537	20,718 8	1,9688	83,318 6	44,0623	11,6797	21,304 7	6,6172	20,718 8	104,553 1	62,496 3	11,6912
Observation s	128	128	128	128	128	128	128	128	128	128	128	128	128

R3

Dependent Variable: AR1Y

Method: Panel Least Squares

Periods included: 11

Cross-sections included: 50

Total panel (unbalanced) observations: 128

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5,2784	0,9985	-5,2865	0,0000
LMBR	-0,5880	0,1287	-4,5702	0,0000
LSIZE	0,4108	0,0775	5,2995	0,0000
ABRMOM	1,0038	0,1238	8,1071	0,0000
ABRWL	-0,0544	0,0928	-0,5856	0,5605
NPR	0,0503	0,0281	1,7898	0,0789
SDNIB	0,0587	0,0500	1,1734	0,2456
SDNIS	0,1382	0,1277	1,0821	0,2839
SDVB	0,0483	0,0717	0,6731	0,5036
SDVS	-0,0786	0,0914	-0,8596	0,3937
NBR	0,0414	0,0330	1,2514	0,2160
DSBA	-0,0015	0,0512	-0,0286	0,9773
DSSA	-0,0355	0,1384	-0,2563	0,7987
R-squared	0,9311	Mean dependent var	-0,1166	
Adjusted R-squared	0,8437	S.D. dependent var	0,3796	
F-statistic	10,6528	Durbin-Watson stat	1,8456	
Prob(F-statistic)	0,0000			

T3 –Descriptive statistics, common sample

	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNI B	NPR	NBR	AR1Y
Mean	-0,0800	-0,0402	0,2031	0,0156	0,5323	13,2744	0,1016	0,2109	0,0547	0,2031	0,3062	0,5117	-0,1166
Median	-0,0983	-0,0655	0,0000	0,0000	0,4700	13,3183	0,0000	0,0000	0,0000	0,0000	1,0000	1,0000	-0,1201
Maximum	1,2938	1,4103	1,0000	1,0000	3,2185	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	3,0000	1,1498
Minimum	-0,8819	-0,7436	0,0000	0,0000	-2,3026	11,7906	0,0000	0,0000	0,0000	0,0000	-1,0000	-1,0000	-0,9912
Std. Dev,	0,3688	0,2828	0,4039	0,1245	0,8100	0,5890	0,3033	0,4096	0,2283	0,4039	0,9073	0,7015	0,3796
Skewness	0,9264	0,9444	1,4758	7,8113	0,3251	-0,3654	2,6380	1,4171	3,9171	1,4758	-0,6368	-0,4313	0,3855
Kurtosis	4,9251	7,8967	3,1780	62,0159	4,7317	2,8408	7,9592	3,0081	16,3436	3,1780	1,5032	3,6197	3,7534
Jarque-Bera	38,0733	146,9068	46,632 5	19877,000 0	18,247 0	2,9843	279,628 9	42,839 1	1276,933 0	46,632 5	20,5999	6,0159	6,1975
Probability	0,0000	0,0000	0,0000	0,0000	0,0001	0,2249	0,0000	0,0000	0,0000	0,0000	0,0000	0,0494	0,0451
Sum	- 10,2434	-5,1468	26,000 0	2,0000	68,129 2	1699,117 0	13,0000	27,000 0	7,0000	26,000 0	39,1947	65,500 0	- 14,9244
Sum Sq, Dev,	17,2771	10,1537	20,718 8	1,9688	83,318 6	44,0623	11,6797	21,304 7	6,6172	20,718 8	104,553 1	62,496 3	18,3049
Observations	128	128	128	128	128	128	128	128	128	128	128	128	128

R4

Dependent Variable: AR2Y

Method: Panel Least Squares

Periods included: 9

Cross-sections included: 48

Total panel (unbalanced) observations: 113

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3,9696	0,8036	-4,9395	0,0000
LMBR	-0,1682	0,1899	-0,8854	0,3806
LSIZE	0,2900	0,0633	4,5838	0,0000
ABRMOM	0,1755	0,1271	1,3801	0,1744
ABRWL	0,1883	0,1697	1,1094	0,2732
NPR	-0,0131	0,0398	-0,3295	0,7433
SDNIB	0,0741	0,0476	1,5562	0,1267
SDNIS	0,3015	0,1646	1,8319	0,0736
SDVB	0,1508	0,0701	2,1503	0,0369
SDVS	-0,1439	0,1568	-0,9179	0,3636
NBR	0,0056	0,0309	0,1817	0,8566
DSBA	-0,1012	0,0629	-1,6094	0,1145
DSSA	0,0732	0,1407	0,5205	0,6053
R-squared	0,9531	Mean dependent var	-0,2011	
Adjusted R-squared	0,8832	S.D. dependent var	0,4444	
F-statistic	13,6374	Durbin-Watson stat	1,5518	
Prob(F-statistic)	0,0000			

T4 –Descriptive statistics, common sample

	ABRW L	ABRMO M	DSBA	DSSA	LMBR	LSIZE	SDVS	SDVB	SDNIS	SDNI B	NPR	NBR	AR2Y
Mean	-0,1012	-0,0532	0,2212	0,0177	0,4634	13,2573	0,0973	0,2301	0,0531	0,2212	0,3256	0,5118	-0,2011
Median	-0,1048	-0,0733	0,0000	0,0000	0,3853	13,3183	0,0000	0,0000	0,0000	0,0000	1,0000	1,0000	-0,2786
Maximum	1,0557	1,4103	1,0000	1,0000	3,2185	14,6314	1,0000	1,0000	1,0000	1,0000	1,0000	3,0000	1,2838
Minimum	-0,8819	-0,7436	0,0000	0,0000	-2,3026	11,7906	0,0000	0,0000	0,0000	0,0000	-1,0000	-1,0000	-0,9480
Std, Dev,	0,3317	0,2762	0,4169	0,1324	0,8087	0,5914	0,2977	0,4228	0,2252	0,4169	0,9087	0,7006	0,4444
Skewness	0,6036	1,2510	1,3432	7,3156	0,4467	-0,4312	2,7167	1,2826	3,9862	1,3432	-0,6814	-0,3283	0,6720
Kurtosis	4,4497	9,3436	2,8041	54,5180	5,2294	2,7685	8,3806	2,6450	16,8894	2,8041	1,5457	3,7131	3,2845
Jarque-Bera	16,7569	218,9428	34,157 8	13504,340 0	27,158 7	3,7545	275,309 5	31,574 3	1207,562 0	34,157 8	18,701 9	4,4239	8,8853
Probability	0,0002	0,0000	0,0000	0,0000	0,0000	0,1530	0,0000	0,0000	0,0000	0,0000	0,0001	0,1095	0,0118
Sum	- 11,4314	-6,0101	25,000 0	2,0000	52,366 4	1498,073 0	11,0000	26,000 0	6,0000	25,000 0	36,790 3	57,833 3	- 22,7290
Sum Sq, Dev,	12,3241	8,5430	19,469 0	1,9646	73,246 6	39,1754	9,9292	20,017 7	5,6814	19,469 0	92,480 1	54,970 4	22,1181
Observation s	113	113	113	113	113	113	113	113	113	113	113	113	113

A.7.1.4. Insider trading depending analysts' recommendations

R1

Dependent Variable: NPR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 52

Total panel (unbalanced) observations: 134

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3,905774	4,902564	-0,79668	0,4286
LMBR	-1,221057	0,602285	-2,027376	0,0468
LSIZE	0,367531	0,379113	0,969451	0,336
NBR	-0,093101	0,163052	-0,570991	0,57
ABRMOM	0,497955	0,601799	0,827444	0,4111
ABRWL	-0,196469	0,453231	-0,433486	0,6661
DSSA	-1,102887	0,669223	-1,648011	0,1043
DSBA	0,04258	0,262502	0,162207	0,8717
R-squared	0,646811	Mean dependent var	0,279536	
Adjusted R-squared	0,266029	S.D. dependent var	0,916043	
F-statistic	1,698639	Durbin-Watson stat	2,959271	
Prob(F-statistic)	0,016655			

T1 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	DSBA	DSSA	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	-0,0864	-0,0474	0,5176	13,2754	0,1940	0,0149	0,5037	0,2795	0,2090	0,0522	0,2090	0,1269
Median	-0,1144	-0,0716	0,4606	13,3183	0,0000	0,0000	1,0000	1,0000	0,0000	0,0000	0,0000	0,0000
Maximum	1,2938	1,4103	3,2185	14,6314	1,0000	1,0000	3,0000	1,0000	1,0000	1,0000	1,0000	1,0000
Minimum	-0,8819	-0,7436	-2,3026	11,7906	0,0000	0,0000	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000
Std, Dev,	0,3676	0,2797	0,8070	0,5924	0,3969	0,1217	0,6938	0,9160	0,4081	0,2233	0,4081	0,3341
Skewness	0,9322	0,9836	0,3045	-0,3863	1,5474	8,0009	-0,3979	-0,5726	1,4317	4,0247	1,4317	2,2422
Kurtosis	4,8814	7,9970	4,7336	2,7717	3,3946	65,0152	3,6055	1,4187	3,0499	17,1980	3,0499	6,0277
Jarque-Bera	39,1686	161,0211	18,8506	3,6242	54,3484	22902,5000	5,5824	21,2820	45,7942	1487,2570	45,7942	163,4648
Probability	0,0000	0,0000	0,0001	0,1633	0,0000	0,0000	0,0613	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-11,5770	-6,3560	69,3641	1778,9040	26,0000	2,0000	67,5000	37,4578	28,0000	7,0000	28,0000	17,0000
Sum Sq, Dev,	17,9696	10,4052	86,6261	46,6799	20,9552	1,9701	64,0120	111,6049	22,1493	6,6343	22,1493	14,8433
Observations	134	134	134	134	134	134	134	134	134	134	134	134

A.7.1.5. Analysts' recommendations depending on insider trading

R1

Dependent Variable: NBR

Method: Panel Least Squares

Periods included: 12

Cross-sections included: 52

Total panel (unbalanced) observations: 134

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5,853848	4,170425	-1,403657	0,1654
LMBR	-0,038369	0,538176	-0,071295	0,9434
LSIZE	0,475029	0,322815	1,471524	0,1462
NPR	-0,056087	0,115629	-0,485063	0,6293
ABRMOM	-0,211531	0,526615	-0,40168	0,6893
ABRWL	0,180217	0,387543	0,465025	0,6435
SDNIB	-0,010117	0,207908	-0,04866	0,9613
SDNIS	0,393915	0,516377	0,762843	0,4484
SDVB	0,521817	0,295306	1,767035	0,0821
SDVS	-0,276291	0,373835	-0,739071	0,4627
R-squared	0,59896	Mean dependent var	0,503731	
Adjusted R-squared	0,139704	S.D. dependent var	0,693753	
F-statistic	1,304197	Durbin-Watson stat	3,658816	
Prob(F-statistic)	0,143202			

T1 –Descriptive statistics, common sample

	ABRWL	ABRMOM	LMBR	LSIZE	DSBA	DSSA	NBR	NPR	SDNIB	SDNIS	SDVB	SDVS
Mean	-0,0864	-0,0474	0,5176	13,2754	0,1940	0,0149	0,5037	0,2795	0,2090	0,0522	0,2090	0,1269
Median	-0,1144	-0,0716	0,4606	13,3183	0,0000	0,0000	1,0000	1,0000	0,0000	0,0000	0,0000	0,0000
Maximum	1,2938	1,4103	3,2185	14,6314	1,0000	1,0000	3,0000	1,0000	1,0000	1,0000	1,0000	1,0000
Minimum	-0,8819	-0,7436	-2,3026	11,7906	0,0000	0,0000	-1,0000	-1,0000	0,0000	0,0000	0,0000	0,0000
Std, Dev,	0,3676	0,2797	0,8070	0,5924	0,3969	0,1217	0,6938	0,9160	0,4081	0,2233	0,4081	0,3341
Skewness	0,9322	0,9836	0,3045	-0,3863	1,5474	8,0009	-0,3979	-0,5726	1,4317	4,0247	1,4317	2,2422
Kurtosis	4,8814	7,9970	4,7336	2,7717	3,3946	65,0152	3,6055	1,4187	3,0499	17,1980	3,0499	6,0277
Jarque-Bera	39,1686	161,0211	18,8506	3,6242	54,3484	22902,5000	5,5824	21,2820	45,7942	1487,2570	45,7942	163,4648
Probability	0,0000	0,0000	0,0001	0,1633	0,0000	0,0000	0,0613	0,0000	0,0000	0,0000	0,0000	0,0000
Sum	-11,5770	-6,3560	69,3641	1778,9040	26,0000	2,0000	67,5000	37,4578	28,0000	7,0000	28,0000	17,0000
Sum Sq, Dev,	17,9696	10,4052	86,6261	46,6799	20,9552	1,9701	64,0120	111,6049	22,1493	6,6343	22,1493	14,8433
Observations	134	134	134	134	134	134	134	134	134	134	134	134

A.7.1.6. Correlation matrix

	NBR	LMBR	LSIZE	NPR	ABRMOM	ABRWL	SDNIB	SDNIS	SDVB	SDVS	DSSA	DSBA
NBR	1	0,1511	0,2443	-0,0725	0,1899	0,2029	0,068	-0,0255	-0,0072	-0,0183	-0,1491	0,3751
LMBR	0,1511	1	0,1357	-0,1922	0,3719	0,4147	-0,0893	0,2454	-0,3044	0,1694	0,0048	0,0479
LSIZE	0,2443	0,1357	1	-0,0588	0,2593	0,3282	0,075	0,059	-0,1656	-0,0547	-0,0214	0,2366
NPR	-0,0725	-0,1922	-0,0588	1	-0,2252	-0,2971	0,2992	-0,324	0,2615	-0,4563	-0,1051	-0,0286
ABRMOM	0,1899	0,3719	0,2593	-0,2252	1	0,7476	-0,1513	0,3251	-0,1454	0,1285	-0,0447	0,1563
ABRWL	0,2029	0,4147	0,3282	-0,2971	0,7476	1	-0,1522	0,3541	-0,2477	0,1607	-0,0084	0,126
SDNIB	0,068	-0,0893	0,075	0,2992	-0,1513	-0,1522	1	-0,1207	0,2325	-0,0305	-0,0633	0,0727
SDNIS	-0,0255	0,2454	0,059	-0,324	0,3251	0,3541	-0,1207	1	-0,1207	0,5151	-0,0289	-0,1152
SDVB	-0,0072	-0,3044	-0,1656	0,2615	-0,1454	-0,2477	0,2325	-0,1207	1	0,0798	-0,0633	-0,0201
SDVS	-0,0183	0,1694	-0,0547	-0,4563	0,1285	0,1607	-0,0305	0,5151	0,0798	1	-0,0469	-0,1303
DSSA	-0,1491	0,0048	-0,0214	-0,1051	-0,0447	-0,0084	-0,0633	-0,0289	-0,0633	-0,0469	1	0,0952
DSBA	0,3751	0,0479	0,2366	-0,0286	0,1563	0,126	0,0727	-0,1152	-0,0201	-0,1303	0,0952	1

Det kan stå företag noterade på börsen dyrt att utnyttja de nya rapporteringsreglerna

LUND

En ny studie från Lunds Universitet visar på att de nya, flexibla reglerna kring kvartalsrapportering som trädde i kraft den 1:a januari 2014 möjligtvis inte kommer att ge eftersträvad effekt, utan istället leda till en minskad transparens på aktiemarknaden. Detta riskerar i sin tur leda till en mer illikvid marknad och högre kapitalkostnader för företagen.

Regleringen som innebär att företag noterade på Stockholmsbörsen numera inte är tvungna att publicera kvartalsrapporter i enlighet med IAS34 har debatterats flitigt i media på senaste. En masteruppsats inom Corporate Finance på Lunds Universitet har undersökt den potentiella risken de nya reglerna kan ha på marknadstransparensen för privata investerare.

Uppsatsen studerar alternativa publika informationskällor som den generella marknaden har tillgång till vid en avsaknad av kvartalsrapporter. Insiderhandel registrerad hos Finansinspektionen och analytikens rekommendationer som "läckt ut" till marknaden motiveras vara två sådana alternativ. Studien finner att varken insiderhandel eller analytikens rekommendationer innehåller tillräckligt mycket

information för att ses som substitut till kvartalsrapporterna.

Problematiken kring denna upptäckt innebär att om investerare inte finner ett informationsvärde i alternativa informationskällor och kvartalsrapporterna hädanefter blir mindre informativa, kan investerare komma att bli mindre villiga att investera i de bolag som inte offentliggör tillräckligt med information. Detta leder till en minskad likviditet på marknaden, vilket kan stå de nuvarande aktieägarna dyrt.

Den nya regleringen ämnar uppmuntra långsiktighet, minska den administrativa bördan för ledningen och locka fler bolag till börsen. Problematiken med de nuvarande reglerna motiveras av Magnus Billing, Sverigechef på Nasdaq OMX, till Nyhetsbyrån Direkt på följande vis.

"Det här vår tolkning av vad aktörerna tycker och tänker. Det är tydligt att de noterade bolaget upplever det som administrativ börda ta fram kvartalsrapporten och allt som följer med den i form presentationer och roadshows. Det har utvecklats en praxis som innebär mer och mer information"

De företag som planerar att dra nytta av de nya reglerna uppmuntras att vara aktsamma med att fortsätta förse marknaden med tillräcklig information. Om de

inte gör detta, måste valet att utnyttja reglerna motiveras av att ledningen spenderar den vunna tiden så pass effektivt att det kompenserar för den ökade kostnad som följs av en ovilja på marknaden att investera i bolagen.

Studiens enkätundersökning visar, i enlighet med den som gjorts av Hallvarsson & Halvarsson i november 2013, att framförallt företag på Mid Cap och Small Cap förväntas dra nytta av regleringen. Dessa företag har redan idag färre antal analytiker som följer dem och studien visar att vid en minskning av kvartalsrapporter kan fler analytiker välja att flytta sin bevakning till större företag i en ännu större utsträckning än idag. Detta kan få som konsekvens att investerare får ännu svårare att få tag på information om Mid och Small Cap företagens utsikter, vilket i sin tur kan leda till en ännu större ovilja att investera här.

Som följd av detta kan marknaden komma att bli mer beroende av privat information vilket ökar informationsgapet och informationsasymmetrin på marknaden vilket ger upphov till fler opportunistiska investeringsmöjligheter för de som har råd eller möjlighet att få tag på privat information. Transparensen är därmed i riskzonen. □



Bild från Bästasparretnan.net

Här hittar investerare värdefull information

LUND

Studien finner ytterligare resultat av intresse för investerare på Nasdaq OMX Stockholm. Beroende på tidshorisont finns information att hämta i insiderhandel och analytikers rekommendationer.

Inom den närmsta framtiden har investerare ingen anledning att frukta någon markant negativ effekt utav den nya regleringen, eftersom varken insiders eller analytiker förväntar sig att företag på börsen kommer att förändra sina rapporteringsrutiner inom den närmsta framtiden. Däremot anger ett fåtal företag att de skall vänta och se huruvida andra företag på börsen kommer reducera sin kvartalsrapportering och därefter möjligen följa i deras fotspår.

Studien visar att de analytiker rekommendationer som "läckt" till marknaden enbart är av värde när de avser aktier på Large Cap. Marknaden reagerar när analytiker

rekommenderar sälj, men inga större spår av reaktion i aktiepriset har noterats för rekommendationer för behåll eller köp. Studien finner även indikationer på att köprekommendationer innehåller viss information om aktiepriset två år framåt. Investerare kan därmed förvänta sig ett direkt aktieprisfall vid negativa rekommendationer, men utgången är delvis oviss för positiva rekommendationer.

Däremot finns det starka tecken på att om flera insiders handlar eller köper en större mängd aktier inom ett kvartal kan investerare rimligen förvänta sig positiv framtida avkastning som överstiger marknadsindex om två år. Detta förklaras av att de flesta insiders investerar med en tidshorisont om två år eller mer. Därmed finns en del information att hämta genom att studera insider handel.

Investerare med en kortsiktigare investeringshorisont kan förvänta sig att aktier som genererat hög

avkastning det senaste halvåret sannolikt kommer att generera hög avkastning inom det närmsta kvartalet. Dock tenderar denna trend att vända efter ett tag igen och är därmed ingen hållbar investeringsstrategi. □

FAKTA

Studien baseras på insamlad data från Finansinspektionen och Privata Affärer från 2011-2013 och den kompletterande enkätundersökningen är utskickad till 198 analytiker och 918 insiders på stockholmsbörsen.

Studien heter "Is the transparency of the Swedish stock market at risk? A study on insider trading and analysts' recommendations" och är skriven av Rebecka Birgersson och Malin Nilstoft. Studien samt svaren från enkätundersökningen finns på <http://www.lu.se/studera/examen-och-karriar/examensarbete-och-uppsats>