

## **Earnings Forecast Accuracy**

- Are earnings forecasts more accurate in the post IFRS adoption period?

Master essay, 15 ECT points, FEKH95, Accounting and Management control.

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#### **Abstract**

Title: Earnings Forecast accuracy;

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**Key words:** earnings, forecasts, accuracy, analysts, IFRS

**Purpose:** The purpose of this thesis is to examine the

accuracy of earnings forecasts.

**Methodology:** Qualitative & Quantitative study, Wilcoxon Sign

Rank Test

**Theoretical perspectives:** The theoretical perspective reflects previous

researches that consider behavioral, information symmetry, psychological aspects and rational theories, examines the influence of accounting

standards

**Empirical foundation:** The study includes 6 interviews with analysts and

statistical tests of earnings forecasts compared to actual earnings. The sample consists of 40 corporations from NASDAQ OMX Stockholm, Large - and Mid Cap markets. The study includes

year 2000-2010.

**Conclusions:** We were able to conclude that there were

different factors, which contributed to accurate earnings forecasts. We can however not conclude that forecasts accuracy has improved post IFRS adoption hence our empirical and interview

results.

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## 1. Introduction

This chapter presents the background to the research and the focus of this paper in the form of research question, purpose and limitations.

#### 1.1 Background

Stock markets throughout the world during recent years proven to be extremely volatile hence the hardened macroeconomic climate. It is needless to say that the globalization has contributed to domestic markets being interdependent on each other where a single country's financial problem may send shockwaves implicating other financial markets. A vivid and contemporary example of this is how countries facing domestic financial difficulties within the European Union and are now being seen as threats to the entire European financial sector (Europaportalen.se). At the same time, companies are growing internationally thus, experiencing a greater need of capital to finance their operations. In order to attract "cheap" capital they are searching outside their domestic borders and are now operating on a, if not global, international scale. Before, country's had their own legislations for how organisations were supposed to prepare financial statements (ibid). However, investors who were interested of investing in a company which was located in another country often faced difficulties understanding foreign financial statements hence; accounting legislation appears different from one country to another. A demand for an accounting concept enabling investors to compare financial statements across different domestic markets and contributed one of the reasons behind the development of IFRS.

Fair value accounting is a generic term of rules and refers to IAS and IFRS. The purpose is to develop a single set of high quality standards, which are applicable on a global scale thus, creating "efficient and cost-effective capital markets". The decision to adopt the application of international accounting standards are binding to all EU member states and implies that all firms in these countries, which are listed on a regulated capital market, shall prepare their financial statements in compliance with IFRS. This in turn means that companies listed on NASDAQ OMX Stockholm shall comply with IFRS rules for financial years commencing after January 1, 2005. (icaew.com)

Prior research has shown that rational and behavioural implications must be considered when analysts are constructing forecasts. IFRS is developed to provide investors with relevant decision-making material, but how relevant are financial statements in the decision process is yet to be concluded. Has the compulsory adoption of IFRS increased the value of financial statements regarding producing forecasts?

"Collectively we are still at the stage of discovery, like a child who has just been given its first bicycle. We need time to adjust and take a long view. The job of an analyst is to put figures in perspective and for the time being we do not yet have that perspective: the change is still too close." // (Bertrand Allard and Jacques de Greling, p. 11)

#### 1.2 Problem discussion

We believe that forecasts have come to play an important role to investors and financial institutions as a result of increasingly internationalized, volatile and complex capital markets. Lang and Lundholm (1996) studied the relationship between forecast accuracy, the degree of information available on the market and the importance of involving the management in order to retrieve information. They stressed that forecast accuracy increased for companies, which supplied high-quality information to analysts. A problem analyst's are facing is that entities have different ways to allocate their earnings. It is important that analysts stay informed and are able to adapt to the changing environment they are currently facing. IFRS was implemented in 2005 for all listed companies in Europe (icaew.com). Prepares must be able to understand the substance of the transaction hence the principle-based framework, IFRS, in order select the accounting method, which is to most representative. (journalofaccountancy.com) It is obvious that prepares and auditors must be able to understand the IFRS framework and capable to apply the new rules that IFRS states. An implication that might have occurred is that analysts do not share the same interest for learning the new framework and the impact on their earnings forecasts might have been compromised due to their lack of knowledge.

Macroeconomic factors, such as, consumer price index, CPI, and the cycle in the economy affect corporate profits thus, creating an issue in the process of producing forecast. However, sectors are affected differently, the size of an entity is another variable that must be considered in analysts work. But how valuable is accounting information to an analyst? Does an analyst investigate future aspects and external factors more closely than financial reports? Has the implementation of IFRS impacted forecasts accuracy in a manner, which, results in more accurate predictions? The reliability of the forecasts should be relevant to investors and

companies alike. We believe that it is important for investors to have knowledge regarding which aspects analysts base their projections on and how reliable they are when they produce earnings forecasts.

#### 1.3 Research questions

- Has the implementation of IFRS, i.e. fair value accounting, in 2005 led to earnings forecasts being more accurate and if so, can the implementation of IFRS solely be credited for this?
  - i. How much influence do financial statements have on the reliability regarding earnings forecasts?
  - ii. How important are financial statements to an analyst when constructing earnings forecasts?
  - iii. What other sources of information and which aspects is an analyst valuing when producing forecasts?
  - iv. Do analysts consider size or industry differences in their forecasts projections?

#### 1.4 Purpose

Our purpose is to investigate *if* the implementation of IFRS has affected the accuracy of the projections made by analysts. We also intend to examine *why* differences might occur in the pre and – post adoption of IFRS thus, the reliability in earnings forecasts as a basis for investment decisions on financial markets in Sweden.

#### 1.5 Limitations

The companies we examine origins exclusively from NASDAQ OMX Stockholm Large - and Mid Cap markets. The scope of the thesis is limited to the time period 2000 - 2010.

#### 1.6 Targeted audience

The essay's primary audience are researchers and university students at graduate level who are studying within the field of business administration. Prior knowledge of statistics, basic understanding of generally accepted terminology and knowledge of IFRS is also expected of the reader.

### 1.7 Disposition

**Chapter 2:** In this chapter we will introduce the reader to research studies related to the topic.

**Chapter 3:** In this chapter we aim to explain to the reader how we proceeded in data collection, introduce the reader to Wilcoxon sign rank test by presenting our hypothesis. But nonetheless explain the reasons behind our interviews

**Chapter 4:** In this chapter we present our answers in the interview combined with empirical results from Wilcoxon sign rank test and conducting an analyse in the light of theories

**Chapter 5:** The final chapter presents our conclusions, reflections and provides suggestions for future research.

## 2. Theories

This chapter presents relevant theories that facilitate the analysis combined with in-depth interviews.

#### 2.1 Behavioural theories

Behavioural theories attempt to explain why actions, alternatively opinions might change due to certain events. These theories concern environmental, personal, and behavioural characteristics as factors in behavioural determination.

#### 2.1.1 Prognoses theory

Prognoses theory illustrates the complexity of predicting future events, e.g. future profitability using factors from past and - or current events. There are two different approaches analysts can apply when analysing a company through a technical or, - fundamental analysis. The fundamental analysis is based on a technical analysis i.e. how the general market or the particular branch a company is affiliating with is performing. A fundamental analysis also investigates the individual company's performance in a given time period. In addition to quantitative information, which fundamental and technical analyses are based on, analysts can access qualitative information e.g. directly from managers. Brown et al (2002) presents a research, which have shown that analyst are able to construct more accurate prognoses than a statistical model solely based on quantitative information could hence, analysts are also able to access qualitative information.

#### 2.1.2 Psychological factors which affects prognoses

Within the financial behavioural research, studies have been conducted to explore how different types of psychological phenomena e.g. prejudice or heuristics can affect the decision making process (Shefrin, 2007). In following paragraphs we will explore and account for theories, which can help explain how analyst's behaviour can be affected by psychological factors and in turn, how it could affect their prognoses.

#### 2.1.3 Herd behaviour and optimism

Studies have shown that there is a relationship between a company's projected profit and optimistic - pessimistic herd behaviour from analysts. Herd behaviour relates to the fact that others affect analysts within the profession and wants to avoid to "stand out from the group".

Andersson (2009) researched this behaviour and found that analysts tended to rely on a majority rather than on a minority regardless of how the majority was performing.

"Earlier research has proven that herd behaviour exists on stock-markets. This could be seen as an obstacle for an efficient stock-market, due to that investor could be tricked into making risky investments, which in turn leads to extreme fluctuations in stock price and instable markets." (Andersson, 2009, s.8)

De Bondt and Forbes (1999) studied herd behaviour within in the analyst profession and found that there is a general tendency for them to be overly optimistic when constructing forecasts. One reason, which contributed to this fact, was that they were affected by information originating from organisations. Analysts, which are employed by e.g. banks and investment brokerages firms, might have incentives to produce aggressive forecasts, which contribute to overly positive prognoses. Schipper (1991) concluded that analysts tended to produce more positive prognoses hence the fact that, if they were able convince clients to invest on the stock market they received brokerages and thus higher compensation. An optimistic forecast about a certain company would also maintain a strong relationship with company managers, from which analysts retrieves valuable information when conducting forecasts.

#### 2.1.4 Over and, - under reactions towards new information

An abundance of research has been conducted with the intention of examining how reliable analyst's prognoses can be deemed to be. The research has shown that analysts are displaying shortcomings in performing accurate prognoses. The theory indicates that analysts tend to be overly optimistic when constructing their forecast thus putting too much emphasis on positive information and to some extent disregarding negative information. Reactions towards positive information is stronger than to negative, is one of the main explanatory factors to why forecast often are overstated. De Bondt and Forbes (1999) researched consensus prognoses in Great Britain during a ten-year period and found evidence of over-optimism in the prognoses that analyst constructed.

Research performed by Amir and Ganzach (1998) examined reasons that contributed to over and under reactions. This resulted in the emergence of three different patterns which have an impact on analyst's performance when constructing forecasts; representativeness, reference

points and carefulness. Representativeness is when analysts have a tendency to assimilate the extremes in information that is presented to them thus, leading to an overreaction when making or adjusting prognoses. Reference points, leads to an under reaction when making adjustments to forecasts. Analysts are perceived to have their own view and reference points, and their forecasts are therefore produced in a subjective way. Consequently, reactions to new information will leave their adjustments inadequate. The research shows that analyst tend to adjust their prognoses and revaluate their reference points if they receive positive rather than negative information. This will result in forecasts, generally being overstated which represents the third behavioural pattern, namely carefulness.

#### 2.1.5 Consensus forecasts

Behavioural patterns like those who are described by Amir and Ganzach (1998) most likely result in individual forecast errors. Conroy and Harris (1987) investigated the benefits of using consensus prognoses instead of relying on one sole analyst's performance. They argued that consensus prognoses have a portfolio effect on individual errors and therefore has a diversification effect, which would reduce forecast errors. The use of consensus prognoses could result according Conroy and Harris (1987) in forecasts, which are more accurate hence, diversification effects.

#### **2.1.6 Information symmetry**

Lang and Lundholm (1996) discovered a link between information frequency and forecast creditability. A reasonable part of the information, which analysts use to construct their prognoses, origins directly from corporations through e.g. quarterly reports. Hence, if corporations control part of the information, they also control parts of the forecast creditability thus, they have an opportunity to choose what information to disclose. Through increased information symmetry analysts will be able to bridge the "information gap" which Lang and Lundholm (1996) argue is an issue when producing forecasts. They also claim that companies are reluctant to disclose to much information about the their operations thus, the effects of full disclosures are perceived to have more disadvantages than advantages. The variations in disclosures are perceived by Lang and Lundholm (1996) to further complicate analyst's ability to construct accurate forecasts.

#### 2.1.7 Organisational size and industry affiliation

A study conducted by Patz (1989); a linkage between the reliability of the prognoses and the size of an entity was discovered, which confirms Lang and Lundholms study regarding the importance of information frequency when producing accurate forecasts. Larger organisations are often perceived to be more stable and e.g. attract more attention from media. The additional attention put on larger companies is, according to Patz (1989), an explanatory factor why analyst's to a larger extent prepare more accurate forecast compared with smaller-sized entities. Patz also discovered another relevant factor, which affected the reliability of forecast, namely in which sector the company operates. He concluded that the industrial sector was the one that analysts had most trouble with when constructing forecasts. Bushman (1989) confirmed Patz results and acknowledge the relevance of disclosures when making prognoses but added that companies would generally benefit from increased disclosures of information.

#### 2.2 Rational theories

A rationale theory attempts to explain a framework for understanding social and economical behaviour. Individuals are assumed to be rationale and act in self-interest.

#### 2.2.1 Efficiency market-hypothesis

Contributing factors to price changes and severe fluctuations within financial markets value are something, which carefully have been studied by researchers. A significant reason to why market changes occur is that new information has reached the market and thus affects the value of assets (Elton et al., 2003).

A question that has been discussed is how quickly and to what degree markets react and adapt to new information. On an efficient market it is assumed that there is no significant delay between when the new information about e.g. an asset and the adjustment of the market value. This would result in a scenario where investors are lacking opportunities to find over- or undervalued assets or stocks hence there is no information asymmetry. Access to, and gathering of, information about a specific asset or stock would leave investors with little or no chance of finding undervalued items. If there is information, which could affect the market value it would already have occurred hence, there would be no "free meals" for investor to find. (Ross et al. 2003)

To what degree and pace a market adapts to new information can vary and is dependent on what type of information that is revealed from concerned parties. The efficiency market-hypothesis is therefore divided into three different categories, strong, semi-strong and weak form of efficiency. (Ross et al. 2003) The strong form of efficiency exists when all information, both public and private, are computed into e.g. a share's price. Hence, there will exist no opportunity for investors to find stocks who are incorrectly priced. The second type, semi-strong efficiency, makes a distinction between public and private information. It presumes that only public information e.g. annual reports, historical values and other publicly known disclosures comprise a stock's value. This would mean that there does not exist an opportunity for investors to find over- or undervalued shares through publicly known information. The third type of market efficiency, weak form, is characterised by that there is no way to generate access returns by investigating historical price development or visible patterns on a share's movement in value (Ross et al., 2003). However, it is possible, by using a fundamental analysis, generate access returns. (Elton et al. 2003)

#### 2.2.2 Accounting changes and earning predictability

Elliot and Phillbrick (1990) researched analyst's forecasts in the presence of changes in accounting policies. Their investigation was based on earlier research performed within this genre and found a significant correlation between errors in analyst's prognoses and the impact of an accounting change. The correlation was stronger if analysts did not know about the accounting change, if they could not in advance appreciate the impact of the change, or neglected to update their forecast methods.

All three factors mentioned above contributed to a loss in analyst's possibility to predict organisations net profit. The survey they conducted entailed 612 accounting changes and 500 companies during 1976 – 1984. They concluded that analysts had not been successful in their efforts to change or adapt the methods they use when producing forecasts to how the new accounting policy affected them. Differences between forecast and real outcomes were greater during years when accounting changes were made than years when no changes to accounting policies occurred. They also found the effects of accountings changes were larger when changes were made and there was a simultaneous lack of information of how certain accounting changes would affect analysts.

#### 2.2.3 Fair Value Accounting

The financial reporting standard IFRS has been developed to entail future values instead of historical values. One of the primary objectives with the implementation of IFRS and its development has been to increase investor usefulness. Toppe-Shortridge et .al (2006) argued that one of the main benefits with fair value accounting is that, unlike historical cost, it accomplishes this hence, market values are more beneficiary for investment decisions. They argue that historical values do not contribute useful information for investors while market values are able to add, to a lager extent, relevant information for investors to base their decisions on. They points to the fact that a company's market value widely exceeds its book value which high lightens the problem historical values shortcomings. At the same time, they are aware of the weaknesses that IFRS contribute regarding valuations. When assets are appreciated at market value, the valuations are often not based on real transaction but instead on managers own judgement about what an assets market value really is. This could in turn leave managers with incentives to manipulate numbers to shine a better light on the organisation. They put the two different ways of accounting, historical cost and fair value, into contrast with each other. If corporations decide to base their accounting on historical cost it will not contribute the same useful information to investors and analysts as fair value would. But on the other hand, if entities choose to account in accordance with IFRS analysts and investors are left with valuations, which may be biased and lack in reliability.

#### 2.2.4 The connection between accounting and corporate valuation

Accounting and corporate value are strongly linked and the accounting information which is produced is of importance to analysts hence, financial reports are a natural base for analysts when constructing forecasts. Antill and Lee (2005) describe numerous factors where accounting has a direct influence on corporate values. As an example they argue that certain multiples are solely based on accounting like EV/EBIT. If the accounting format changes, which are the base for these types of calculation, then the output of the calculation would differ, something that would contribute complications to investors and analysts. This means that they would need to change their valuation models for the data to once again become relevant. Disclosures of new information is also something that will affect a corporation's value, particularly if new information is introduced, which analysts did not possess before.

The markets way of reacting to accounting information which is perceived to be unbiased and systematically produced is an indication of how relevant the realised information was. This

however does not mean that accounting information is produced in an optimal way; neither does it say anything about how the market will react if the information was produced in a different way. This would imply that analysts and investors in general must be aware of in what way the information is provided to them, as it could be the result of management decisions. This would also imply that there is a contingent information asymmetry within the financial markets thus, management is perceived to possess more information than investors and analysts. Analysts and investor can never be certain about the information authenticity when it is provided from entities hence, managers incentives to manipulate figures in self interest. (Soffer & Soffer 2003) These facts highlight the importance of that analysts and investors always have to be critical when examining information they are provided with. There is a need for them to widen their knowledge in order to interpret the information. (Brealey et.al. 2001).

#### 2.2.5 Factors that is affecting accounting quality

In the article written by Söderström and Sun (2007) they stated that; one cannot derive the conclusion that the improvement of accounting, due to mandatory adoption of IFRS, can be generalized and be applied in times when IFRS is mandatory for all listed companies within EU. They argue that accounting quality is a function of three different factors. 1, a countries legal and political system, 2, the quality of accounting standards, 3, financial reporting incentives. After making a literary review they found that a countries legal and political system does not only have a direct affect on the accounting quality but also an indirect affect on the reporting incentives. The incentives were divided into four elements namely; capital structure, ownership structure, tax system and financial market development. They constructed a schematic picture over how the three factors contribute to accounting quality, both directly and indirectly.

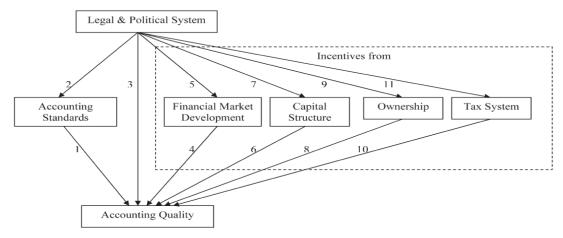


Figure 1. Determinants of accounting quality

A survey conducted by Barth et al (2006) examined if corporations, which are applying IAS in their financial statements are displaying an increased accounting quality. This led to the conclusion that, corporations which applied IAS exhibited, among other things; timely loss recognition and less earnings smoothing. However, they were not able to conclude if this solely could be credited to the implementation of IFRS or, if corporations experienced a change in market incentives.

## 2.3 Overview of the theories

Factor	Author (Year)	Explanation				
Prognoses theory	Brown et al(2002)	Shown that analyst is able to construct more accurate prognoses than another statistical analysis, which are solely based on quantitative information.				
Psycologic behaviour	Shefrin(2007)	Behaviour can be affected by psychological factors and in turn how this could affect their prognoses.				
Herd behaviour &	Schipper(1991)	Optimism and herd behaviour affects analysts ability to				
optimism	De Bondt&Forbes(1999)	produce forecasts				
	Andersson(2009)					
	Amir & Ganzach(1998)					
Information Symmetry	Lang&Lundholm (1976)	The volume of information published by entities,				
	Patz (1989)	depending on size and industry, affecting forecast reliability.				
	Bushnan (1989)					
Effiencymarket hypothesis	Elton et al (2003)	There are three major versions of the hypothesis: "weak"				
	Ross et al(2003)	"semi-strong", and "strong". Effiency market-hypothesis asserts that financial markets are "informationally efficient"				
Accounting change & earning predictability	Elliot & Philbrick (1990)	They researched analyst's prognoses in the presence of changes in accounting policies.				
Fair value accounting	Toppe-Shortridge et al(2006)	One of the primary objectives with IFRS and its development has been to increase its investor usefulness.				
The Connection between	Brealy et al(2001)	Accounting and corporate value are strongly linked to one another and the accounting information which is				
accounting and corporate valuation		produced is of great importance to analysts hence that the financial reports are a natural base to start form for				
	Antill & Lee(2005)	analyst when making their valuations.				
	Copeland et al(2005)					
	Soffer(2003)	Angue that accounting quality after IPPC - land - 1				
Factors that is affacting	Söderström & Sun (2007)	Argue that accounting quality after IFRS adoption hinges on three factors: (1) the quality of the standards; (2) a country's legal and political system; and (3) financial				
Factors that is affecting accounting quality	Barth et al(2006)	reporting incentives.				
1	( )					

### 3. Research Method

In this chapter we explain the research methods used to collect and analyse historical data, data selection and choice of sources. But also how we were conducting our interviews.

#### 3.1 Research approach

There are two different research approaches, therefore the authors of the thesis had two choices; either quantitative or a qualitative approach. A quantitative study is when answers derive from e.g. statistical data (see, 3.2). Qualitative research is often based on, e.g. interviews (see, 3.2.2.) and provides, to a greater extent, in-depth knowledge and examines "why is there a difference". (Bryman & Bell, 2005) In regards to our essay both methods will be used, hence the purpose of the thesis and how we chose to formulate our research questions. We will investigate, with help from our research questions and statistical test, *if* there is a difference in forecast accuracy after the implementation of IFRS but also examine, if differences did occur, *why* there was a discrepancy with help from our interviews.

We are confident that by combining these two research approaches we will provide further insight to readers, thus bring deeper understanding to which factors that affect forecast accuracy. Our original approach was only to use statistics as a base for the analysis, how the implementation of IFRS has affected the forecast accuracy. But after realising that there are several factors, which affects forecast accuracy that a statistical test could not explain, a decision was made to elaborate our approach and use statistics and interviews to deepen our understanding regarding the subject. Patel and Davidson (2011) differentiate to work in an inductive way from a deductive. Initially, in this essay, we worked in an inductive way in order to enable us to construct hypotheses. Further explanation regarding hypotheses, see section 3.6.1

We have chosen years between 2000 and 2010 as an investigative platform to examine the prior mentioned aims of the essay. There are several factors, which we believe make the time period representative. Firstly, it is chosen to include both a pre-adoption and a post-adoption period, which almost are equally long. Secondly, we chose to add one more year to the post-adoption period. We believe that financial crises can affect forecast accuracy, thus enabling us to investigate how financial crises are affecting forecast accuracy both in pre- (2001 IT-

bubble) and post- (2008 Financial crises) adoption of IFRS. By adding an extra year to our research this will be achievable.

#### 3.2 Data selection

#### 3.2.1 Selection of Entities

The companies that we have selected are, and have been, during the investigated time period, registered the NASDAQ OMX Stockholm. To add balance to the essay, all our forecasts derive from the first week of October of each investigated prior year. The motive origins from that information is available on the market, Q1 and Q2 - reports, while there is room for speculation about the Q4 report, and in some cases Q3 reports. We consider NASDAQ OMX Stockholm to be sufficiently liquid market and corporations are represented to a larger extent than e.g. Aktietorget and NGM, in order to add value to our study. As a point of reference we have chosen to use 40 different corporations to conduct our study on. These corporations are located on Large- and Mid Cap. For a detailed overview of chosen corporations, see appendix 1.

There are two reasons to why we are conducting this study on NASDAQ OMX Stockholm in general and to the Large - and Mid Cap markets in particular. Firstly, to our knowledge, no other research have been done to these stock markets in order to investigate what we are aiming accomplish. Secondly, Large - and Mid Cap are two marketplaces that are able to provide us with a reasonable possibility to make an informed sample of relevant companies, hence their general stature. We are confident that by including other markets we will not enhance the credibility of the thesis and other markets will not provide us with results that would alter our conclusions to a significant degree. Below are the criteria's regarding the selection process:

• To contribute balance of the essay, the selection of businesses has been done with regards to what industry a company operates within. Industries will be represented to the highest possible degree however, we have chosen to exclude the following industries; Real Estate companies, investment companies and banks. The investment sector was excluded on the grounds that their business idea is to invest in other companies, thus their income is derived from other entities dividends and changes in share value. Earnings per share are therefore misleading, as it includes changes in value, which leads to consideration for the dividend investment companies receive.

This reasoning also applies to banks where analysts will face almost the same issues when producing forecasts. Real Estate companies also have a similar problem, namely that changes in value of estates affects net profit. Therefore, the impact of property prices must be taken into consideration when producing forecast, even if the item is included in their financial statements in term of interest expense. The real estate sector will therefore not be investigated separately.

- Financial statements from the investigated companies derive from the same reporting period, namely a calendar year. The reason we excluded companies, which do not present their financial reports at 20XX-12-31 is that the forecast may either be more or less accurate, depending on when the company's fiscal year begin, due to the information dissimilarities.
- A company whose market capitalization is less than 150 million Euros has been excluded from our research due to the publicity from media, and attention from analysts.

#### 3.2.2 Primary data – Interviews

Our six interviews were conducted in a semi-structured way which enabled us, in advance, to prepare questions and also ask follow up question hence our thesis requiring in - depth reflections to attain elaborate answers. Our intention of adding an interview segment to our thesis is to explain our statistical results. Statistical result can only show *if* analysts were, or were not producing accurate forecasts but are not able to explain which internal or external factors that created these results. The interviews will answer and explain *why* there are or are not differences between the pre- and post IFRS adoption period. The analysts we have been interviewing will represent analyst in general, as they are employed by some the largest banks in Sweden. We believe that by completing the dissertation with interviews, we get a deeper insight into which factors analysts considered to be important in the forecast preparation process. However the analysts asserted to be anonymous and we have no intention of breaking that promise.

Our questions were sent to the analysts well in advance to give them an opportunity to reflect on their answers, giving us an chance to not only receive direct responses to the question but also a deeper reflection regarding our subject. The questions were documented on paper and are shown in appendix 10. Questions asked have been derived from both well-established research and from our statistical test results. Questions were constructed to facilitate discussions rather than direct answers to permit the participant to interpret, reflect and analyse, thus enabling us to widen our understanding and if possible, criticise what other researchers have concluded.

#### 3.2.3 Primary data - Statistical test

The data, which have been used to conduct our statistical research, was retrieved from each individual company's annual report and has enabled us to compute each company's profit from the eleven-year period we chose to examine. The Swedish magazine "Affărsvärlden" provided the authors with earnings forecasts; they have a segment in their magazine called "Aktieindekator" where prognoses are made for all companies registered to the NASDAQ OMX Stockholm. In turn, "SME Direkt" provides "Affărsvärlden" with forecasts, SME Direkt's primary function, among other things, is to construct forecasts on companies registered to the NASDAQ OMX Stockholm. The reason why we are only using one source for our prognoses is that the supply of these services is limited but it should be noted that, "SME Direkt" is the leading organisation in analysis services and producing prognoses in Scandinavia. (SME Direkt, 2012)

By using a statistical test we are able to answer the question; *if* there is a difference between forecasts and actual outcomes. Our target is to examine whether the implementation of IFRS has or has not improved earnings forecasts reliability. We also aim to investigate if there is a difference in forecast reliability when constructing prognoses for different market sectors and differences in company market capitalization. Further more; the test enables us to investigate forecast dispersion during the chosen time period, in regards to all the investigated companies and in particular market sectors. As the questions to whether IFRS has or has not improved forecast accuracy is in need of interpretation or reflection we strived to answer these questions in an unbiased fashion. A statistical test is a way to ensure that results are deduced with no possibility of being tainted by personal opinions on whether the implementation has or has not improved forecast accuracy. However, it does allow us to get unbiased answers and draw conclusions regarding internal and external factors.

#### 3.2.4 Secondary Data

To add reliability to the essay we used a variety of secondary data in form of theoretical articles and prior research studies, which are well recognized within the subject. This has given us a possibility to examine factors that may implicate prognoses reliability and has

provided us with different angles by which we can research how analysts are affected by both rational and behavioural factors. In our theoretical chapter we aim to use scientifically recognized research. We are aware of the fact that some articles used in the introductory chapter are not scientifically credible. However, we believe they will highlight the problems within this field and we do not consider this fact to implicate the reliability and/or relevance of the thesis. Our theoretical framework has foremost been retrieved from Lunds University's database "LibHub" and operates as a base in our research.

#### 3.3 Source criticism

Selected sources have been carefully selected and examined based on their origin but also in regards to what extent they appear in similar studies. Through this approach we have tried to uphold the chosen materials reliability and relevance in an effort to sustain the essays representativeness. A criticism, which is inevitable to acknowledge, is that the forecast only derives from one source but we do not see this as an issue, which dismisses the essay or threatens its reliability / relevance. Regarding our interviews it is hard to determine whether the analysts are giving us truthful answers or not, but we believe that they are reliable since they lacking incentives to lie.

#### 3.3.1 Validity

This study has a qualitative and quantitative approach due to the fact that our research questions are formulated in a way, which only allows them to be answered by professional individuals who have profound experience of constructing forecasts. The analyst's that are responding to our questions are considered reliable hence, their knowledge regarding this subject is considered to be credible due to; they have exclusive insight on how to produce forecasts and factors that implicate them. Regarding this particular area, analysts possess information and knowledge within is field that others do not thus, making analysts the sole group that can answer these specific questions, see appendix 10. With these questions we intend to examine key factors, which are important and can affect earnings forecasts. To do this in a valid way we base our questions on prior research material made by other rewound researchers but also on our observed results, which the statistical test provided us with. The actual earnings in our study are based on data from company's financial statements and the projections are collected from "Affärsvärldens Aktieindikator". Using established theories,

and our choice of research method; we are confidant that our empirical research material is tested in a valid way.

#### 3.3.2 Reliability

In this essay we chose to use a model that takes its starting point by examining paired observations; Wilcoxon Sign Rank Test. According to established literature and older essays, which conducted similar characteristics, Wilcoxon Sign Rank Test provides us with an opportunity to test our empirical material in a legitimate way. The retrieved data, which we partly base the essay, has been collected with care and in an effort to attain a high degree of reliability. Chosen articles are used as bases for further analysis of the data written by individuals with a high degree of knowledge within the relevant field and should substantiate the credibility of our research.

The retrieved financial statements have been examined and approved by each company's CEO, Board of Directors and an independent auditor. They are obligated to follow the basic rules of, ÅRL, (2000 – 2004), IFRS, (2005 – 2010) since companies are exclusively located on NASDAQ OMX Stockholm and monitored by Financial Supervisors, their function is to ensure that laws and regulations are followed on financial markets. (fi.se). Given the laws and regulations that must be followed, we are confident that the retrieved data is credible.

#### 3.3.3 Replicability

In order to assess the quality of a quantitative and / or qualitative essay, and deemed reliable it has to facilitate a possibility to replicate the study (Bryman & Bell, 2005). We strived to design a transparent way of presenting our results in order to facilitate the reader's ability to make a consistent performance. The reader should be able to follow a clear workflow starting from retrieved data and conducted interviews on which the thesis is based.

#### 3.4 Exclusion

Originally, we chose to examine 100 companies but had to reduce the number of companies due to the fact that a majority did not meet the criteria's described in 3.4. Consequently, 60 companies were excluded and we were not able to achieve our pre-assessed goal; however, we still considers the sample to be sufficient in volume to examine whether the

implementation of IFRS affects how reliable analysts earnings forecast are in conjunction with our interviews. No interviews were excluded from the thesis.

#### 3.5 Currency

Surveyed companies had differences in their reporting currency. The options that emerged were to either present the earnings and forecasts in EUR, USD or SEK, we chose to use the Swedish currency hence, a majority of the companies investigated used SEK. Exchange rate transformation occurred at closing date, 20XX-12-31. To avoid repetition, we will not highlight companies, which use foreign currencies in their annual reports, only acknowledge this fact and conclude that they can be compared equally in our essay. Spot rates derive from Oanda - Forex Trading and Exchange Rate Services (Oanda, 2013).

#### 3.6 Statistical test

#### 3.6.1 Hypothesis testing

We have, by performing a statistical test; been able to examine hypotheses aiming to investigate what degree earnings forecasts were coinciding with actual outcomes. The hypotheses we used were  $H_0$  and  $H_1$ . The meaning of  $H_0$ ; there is a correlation between forecasts and actual outcomes, thus there is correlation between the populations if  $H_0$  is accepted (Körner & Wahlgren, 2005). If we find that there is *no correlation between* earnings forecasts and actual outcomes we reject  $H_0$  and accept  $H_1$ . To determine whether  $H_0$  should be accepted or rejected, we use the Wilcoxon Sign Rank Test (detailed explanation see 3.7.3). The test provides a p-value, which determines the probability that the populations are correlating with each other (ibid). We have chosen to rate the outcome of the values in three different levels of significance:

- P < 0.01: The significant difference is greater than 99 percent
- P < 0.05: The significant difference is greater than 95 percent
- P < 0.10: The significant difference is greater than 90 percent

If we reject  $H_0$  with a probability greater than 99 percent, we believe that the validity of the test result is very strong. If we can reject  $H_0$  with a 95 percent probability, the tests validity is deemed as strong. If  $H_0$  is rejected with 90 percent probability, we think we can see a trend and therefore, test results do not attain the same validity as the other two categories, but we

still acknowledge that there are noticeable differences between populations and a trend can be derived.

We have chosen to use three different hypotheses where the forecasts are tested against the outcomes to see if it is possible to detect a difference in investigated areas. The hypotheses will not differ from each other and are tested in the same way, regardless if we investigate earnings forecasts in general or comparing different market sectors.

#### The zero hypothesis state:

• There is no significant difference between forecasts and actual outcomes.

Below is an explanation of the hypotheses we have used:

- Hypothesis 1: There are differences between forecasts and actual outcomes.
   The test will help answer a part of our main question namely, if there is a difference between earnings forecast and actual outcomes.
- Hypothesis 2: There are differences in the accuracy of the forecasts depending on the industry we investigated. Patz (1989) conducted a study in which he concluded that depending on the sector examined, the accuracy of the forecasts varies. Our hypothesis examines four industries: Industrial, Consumer Discretionary, Materials and Health Care.
- Hypothesis 3: The accuracy of the forecasts varies with the size of the company, Large Cap versus Mid Cap entities. Based on Patz (1989) and Bhushans (1989) theories, we have chosen to examine if the size of company's affects forecast accuracy. Lang and Lundholm (1996) studied how the level of information available on the market alters the accuracy of forecasts. The companies registered on Large Cap are examined to a higher degree of public and media thus, there is more information on the market about the companies (Patz, 1989).

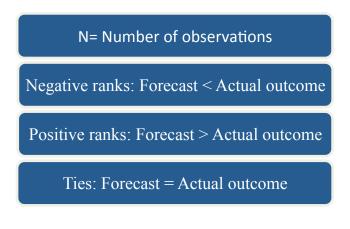
#### 3.6.2 Wilcoxon Sign Rank Test

In our study, we used Wilcoxon's Sign Rank Test. The test is based on viewing paired observations and if the sampled variables follow the same distribution to examine the zero hypothesis. The observation provides an indication of differences between populations, but also whether the observations are above or below the actual outcome. The advantage of using Wilcoxon Sign Rank Test instead of a usual t-test is that the quantitative material does not

have to be normally distributed; there is no evidence that our retrieved data should be distributed, hence the Wilcoxon Sign Rank Test provides the thesis with a relevant statistical base. (Körner & Wahlgren, 2005). The test was conducted by using the computer program SPSS, a well-established program in the field of statistics. The test computes observed results into p-values, which are the basis for whether the zero hypotheses can be accepted or rejected. Table 3.1 is an example of a shortened version of the tables in this paper, see appendix 2-9. The table illustrates the comparison between actual and forecasted earnings of 40 different companies over a two-year period. By examining negative and positive ranks we are also given information about the dispersion regarding if analysts forecasts are over or under the actual outcomes. If we for example look at year X, 22 forecasts estimated under the actual outcome and 15 projections were over the actual outcome. The table shows that there are three possible outcomes left of total 40 observations. These three were ties, i.e. the forecast and outcome is consistent to 100 percent.

Table 3:1 Example of test dispersion

		N
X	Negative Ranks	22a
	Positive Ranks	15b
	Ties	3c
	Total	40
	Negative Ranks	15d
	Positive Ranks	14e
	Ties	11f
Y	Total	40



In Table 3.2 the p-values are calculated. If the p-values are lower than our chosen significance level, we can statistically ensure that there is a difference between forecast and actual earnings, which means that the zero hypothesis is rejected. The asterisks explain how strong indication there are; more asterisks indicate a higher probability (Körner & Wahlgren, 2005).

Table 3:2 Example of P-values and significance levels

Year	U	V	X	Y	Z
P-value	,673	,387	,099*	,049**	,009***

<sup>\*\*\* =</sup> Significance <1 percent

The Wilcoxon Sing Rank Test, as mentioned earlier, made it possible to calculate if forecasts were over- or understated in relation to actual earnings. We take the number of forecasts that were above expectations divided by the total number of observations in the test which gives us an indication of the percentage of analysts tend to be positive in comparison to actual outcome. Analogously, we do the same with the forecasts below expectations. This has contributed another dimension to our essay and from these calculations we can derive differences in analysts dispersion and allows us to acquire greater understanding of drivers regarding forecast accuracy.

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

## 4. Empirics and Analysis

This chapter presents the empirical results from the interviews and the quantitative study then a subsequent analysis regarding the investigated areas.

#### 4.1 Forecast accuracy

In this chapter, we begin by presenting our results, in order to make an analysis with help of theories. We will pervade intrinsic and extrinsic factors that affect analysts forecasts and thereby exemplify to the reader, which factors that impacts forecasts. We chose to apply different theories on investigated areas in order to clarify if differences have occurred. We are aware of that any theory could be applied to give a detailed explanation of how; if possible, analysts could construct reliable forecasts. The presentation will commence with an overview of the investigated areas thus, give the reader an overview of our results. To add more reliability and value to the essay our interviews will complement our empirical result, by evaluating analysts' answer with theories we aim to bring further understanding and knowledge to the reader.

Our statistical test will answer the question; if forecast accuracy has improved since
IFRS was implemented. The interview segment is aimed to answer the question why
forecast accuracy has or has not improved.

# 4.2 Earnings forecast compared to actual results for all surveyed entities during year 2000-2005

Table 4.3 shows the results for all surveyed companies during year 2000 - 2005. For the years 2001, 2002, 2003 and 2004, the p-values were lower than 10 percent. P-values lower than 10 percent confirms that analysts, to a large extent, produced inaccurate forecasts. There is a strong indication during 2000 and 2003 and a weaker indication in 2002 and 2004. During 2000, analyst's prognoses were accurate to 67 percent probability in relation to actual outcome.

Table 4.3 Earnings forecast compared with actual outcom	'able 4.3 Earning	forecast compared	with actual outcomes
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Year	2000	2001	2002	2003	2004	2005
P-value	,672	,051*	,097*	,001***	,060*	,340

<sup>\*\*\*=</sup> Significance <1percent

To give further explanations how forecasts were dispersed, we constructed circle diagrams, which displays how analysts forecasts were divided between overly confident and sub confident in relation to the actual outcomes. In the first six investigated years, 2000-2005, or the pre-IFRS adoption period 57 percent or 137 out of 240 forecasts were above the actual outcomes. This stands in relation to 43 percent or 103 forecasts, which were below actual outcomes. (Diagram 4:3)

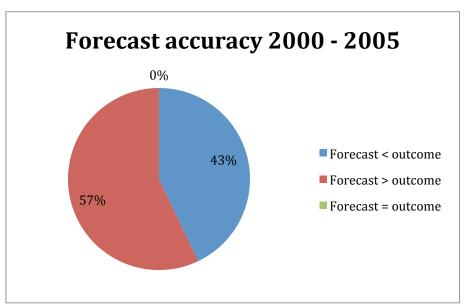


Diagram 4.3 - Dispersion of forecasts during 2000-2005

## 4.3 Earnings forecast compared to actual results for all surveyed entities during year 2006-2010

Table 4:4 shows the result of earnings forecasts compared to actual results for all 40 companies, for the years 2006 – 2010. During 2006 68 percent of the forecasts were within the level of significance and thus, should be seen as quite accurate. But during 2009 and 2010 we found clear differences between analysts forecast and the companies' actual earnings.

<sup>\*\*=</sup> Significance < 5 percent

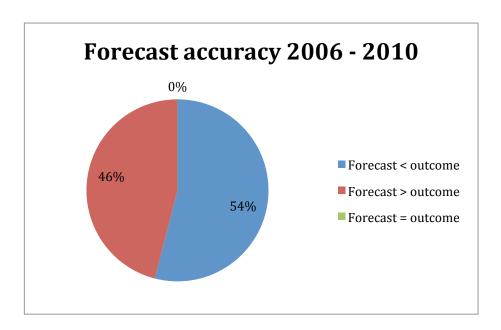
<sup>\*=</sup>Significance <10 percent

Table 4.4 Earnings forecast compared with actual outcomes

Year	2006	2007	2008	2009	2010
P-value	,677	,129	,181	,001***	,003***

<sup>\*\*\*=</sup> Significance <1percent

Diagram 4.4 shows that analysts in general were more pessimistic in their forecast projections during 2006 – 2010. 46 percent or 92 forecast out of the 200 observations were made in an overly confident way. Respectively, 54 percent or a total of 108 forecast were below the investigated companies actual outcomes.



**Diagram 4.4** – Dispersion of forecasts during 2006-2010

#### 4.3.1 Analysis of all investigated companies during 2000-2010

When we investigate the outcomes from the empirical test, we found interesting facts during year 2000-2005. Firstly, four of the years before IFRS was implemented analysts tended to produce forecasts that were less accurate than after the implementation of IFRS. Before IFRS were introduced to the market, Swedish companies used historical cost, and therefore not "affected" by the crisis that occurred in 2001 as today's ongoing crises does. Since no

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

revaluations of assets were allowed, their balance sheets were not as volatile as it could appear today. An exception to this statement could be retained earnings, where accumulated earnings are gathered. Earnings tended to be less volatile due to the opportunity to use earnings management with help of provisions and unrealized gains. Profits are affected to equal degrees, but when the balance sheet is more positively displayed, analysts tend to produce optimistic forecasts, where 57 percent were above the actual outcome. Analysts forecast is related to a delay compared to actual earnings but during these years analyst struggled with their accuracy not the pattern. Could it be possible that the balance sheet remained bloated? Was it more difficult for analysts to produce credible forecasts prior to the implementation of IFRS? Our empirical test suggests that this might be the fact, but for further information, see section (4.7)

There are examples where companies report a constant growth in earnings, which could reflect in an expansion where liquidity and growth are increasing at the same rate, assuming ceteris paribus. The reality is different where higher earnings necessary do not result in an increase in liquidity. In order to demonstrate the problem regarding earnings growth and cash flow, we are applying a fictitiously example which illustrates the complexity of the matter:

Assume that Company A increased its turnover by 100 percent between 2004 and 2006; they also exhibit an increase in earnings with the same percentage. Assuming that organic growth is the reason, or economies of scale, evidence suggests that the cash flow will increase in a similar fashion. However, expansion due to a company's desire to retain a larger percentage of the market, at the expense of, e.g. reduced profit margins, is an assessment problem for analysts. Analysts believe that this growth will increase company A's earnings but as the example demonstrates it might end up in an opposite way. If you combine this with an increase in accounts receivable it will result in a cash flow that is worse than before the expansion.

The example above results in two different cash flows, which should generate two different forecasts. A change in earnings does not always reflect a positive cash flow if a company find it difficult to convert sales into cash. What an analyst should take into consideration, in order to provide a reliable forecast, is therefore earnings versus the actual inflow of cash.

When looking at the statistical data numerous of interesting outcomes during the period 2006

– 2010 can be derived. Firstly, if changes in accounting policies are to affect the analysts forecast in a negative way we should detect a decrease in forecast accuracy in the years following the post – adoption period. However, no such findings were made in our investigation, instead, 2009 and 2010 were the years where we could conclude that there was a significant difference between analysts forecasts and earnings outcome. These findings appear quite contradictory in regards to Elliot and Phillbrick (1990) research, which showed that analysts had most trouble constructing forecast after a change in accounting methods. This could either mean that analysts were ready for a change towards IFRS and had no apparent problem interpreting the new information. Another way of arguing is that, analysts are basing their forecasts on other factors than financial statements and therefore had no problem adapting to the new accounting method during the transition period. However, analyst accuracy has increased during the post – adoption period could this mean that the implementations of IFRS has increased the value of financial statements for analysts?

It should be remembered that our investigated time period stretches over two different financial crises, the first one took place in 2001 were the so called "IT bubble" burst. The other one started in the fourth quarter of 2007 and is still affecting companies' earnings. If we look at figure 4.2 we can derive that analysts reacted slowly when the second crises struck against the financial markets. Research, which has been conducted by De Bondt and Forbes (1999) concluded that analysts were in general overly optimistic when producing their forecast. The figure showcases how analysts did not appreciate the severity of the financial situation which corporations were facing and were not able to predict the sudden downfall in profitability. Amir and Ganzach (1998) argue that analysts use, among other things, reference points when constructing their forecasts. The scenario that occurred were that analysts are under reacting which could mean that they struggle adapting to the new situation. Figure 4.2 demonstrates that analysts tended not to react to companies decreasing profitability; instead the "gap" between forecasts and actual earnings grew, leaving the forecast inaccurate. However, in 2009 analysts started to construct more conservative forecast at the same time companies profits increased. Even if this was the case, analysts did not seem to adapt to the new circumstance in 2010 as they were producing forecasts that were even lower than the prior year while companies' profits still increased. This led to forecasts missing their target to a degree were we could conclude that, forecast made in 2009 and 2010 were significantly different than the actual outcomes.

There is also a rather interesting discrepancy regarding how aggressive analysts were when constructing their forecast between the periods 2000 - 2005 (figure 4.1) and 2006 - 2010 (figure 4.2). While analysts were overly aggressive in the first period they were too careful in the second period. If this fact is due to the implementation of IFRS, or if it is linked to other factors, e.g. macro economic factors cannot be deducted from only looking at this survey. However, we aim to investigate this further in our interview segment.

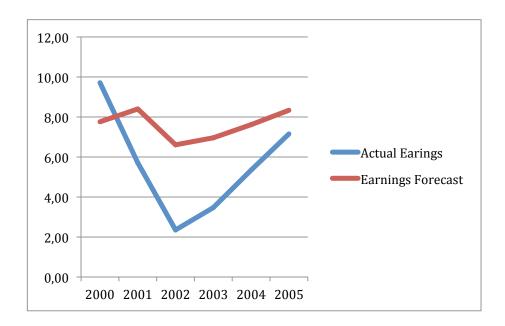


Figure 4.1 Overview of 2000-2005 of earnings forecasts and earnings per share in SEK

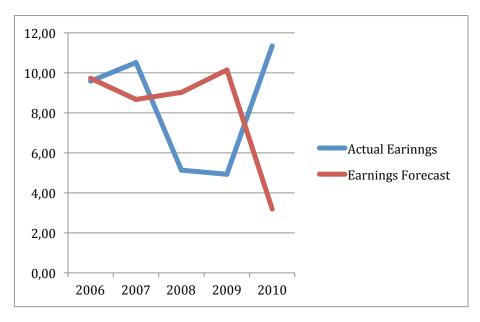


Figure 4.2 Overview of 2006-2010 of earnings forecasts and earnings per share in SEK.

## 4.4 Earnings compared with profit forecast for Large and Mid Cap

#### 4.4.1 Large Cap

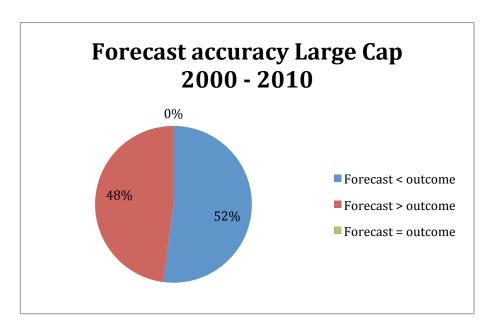
Table 4.5 shows the results for earnings per share, compared with forecasts investigated on Large Cap. During 2001, 2003, 2009 and 2010 we are able to identify significant differences between forecasts and actual outcomes. However, during seven of total 11 investigated years, we found that analysts forecasts is accurate and during 2006 almost 83 percent of the forecasts are considered reliable.

Table 4.5 Earnings compared with forecast for entities on Large Cap

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
P-Value	,367	,091*	,629	,002***	,248	,367	,829	,675	,367	,034**	,001***

<sup>\*\*\*=</sup> Significance <1percent

Diagram 4.5 shows how analysts were quite evenly distributed between being overly aggressive and too careful when constructing their forecasts for companies located on Large Cap during the years 2000 and 2010. 48 percent of the forecast were produced above and 52 percent were below the investigated companies actual outcomes.



**Diagram 4.5** – Dispersion of forecasts during 2000-2010 of Large Cap entities

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

#### **4.4.2 Mid Cap**

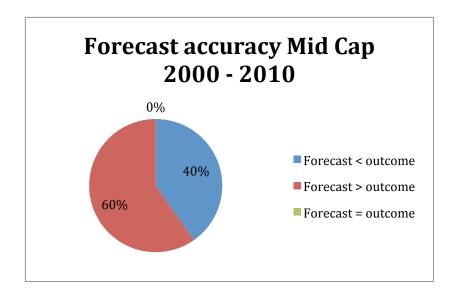
In Mid Cap entities which are demonstrated in Table 4.6, we found consistencies in forecasted earnings per share and actual outcomes in 2000, 2001 2005, 2008 and 2010 where the most accurate forecasts was produced during 2008. Five out of eleven years analysts produced forecasts inaccurate forecasts and thus rejected according to our level of significance.

Table 4.6 Earnings compared with forecast for entities on Mid Cap

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
P-Value	,594	,470	,035**	,016**	,084*	,638	,826	,035**	,331	,001***	,198

<sup>\*\*\*=</sup> Significance <1percent

A clear distinction between Mid Cap and Large Cap can be derived in regards to analysts forecast dispersion. 60 percent of the forecast projections were higher than the actual outcomes and 40 percent were lower following that none of the projections were entirely correct on Mid Cap. (See Diagram 4.6)



**Diagram 4.6** – Dispersion of forecasts during 2000-2010 of Large Cap entities

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

#### 4.4.3 Analysis – Differences between Large and Mid Cap entities

When comparing Large- and Mid Cap interesting facts appeared. If we consider that IFRS states that it is aimed to increase investor usefulness, no such claim can be made hence the statistical outcomes. On Large Cap, there are two years during the pre-adoption period; we are able to, with a statistical certainty, argue that analyst's forecasts and actual earnings do not coincide. In the post-adoption period there are also two years that analysts are incorrect regarding their forecasts. However, if we apply Elliot and Phillbrick (1990) theory, which states; forecast errors should increase when accounting changes are made, it would contradict our results. Forecast errors emerged in 2009 and 2010 after having three consecutive years of quite accurate prognoses. According to Elliot and Phillbrick (1990) this implies that analysts, who were producing forecasts for Large Cap companies were either quite well prepared for changes in accounting policy or, changes were not, to any greater significance, affecting the analysts work when constructing their forecast. A more in-depth analysis of implementations of IFRS and how it affected analyst's daily work will follow in section 4.7.

If we do the same comparison on Mid Cap we are able to apply the same reasoning as above. Therefore, there seems to be other instruments that analysts uses to construct accurate forecasts. This reasoning is aligned with the article that Söderström and Sun (2007) wrote where they argue that there are three different factors, which equally contribute to accounting quality. Hence, if IFRS is aimed to increase the value of accounting to investors and analysts alike it might not be as relevant as it claim to be. The question that arises is, to what extents do analysts use financial statements when preparing forecasts?

Another interesting finding is that analysts were almost evenly distributed in regards to their earnings forecasts on Large Cap. On Mid Cap, 60 percent of the forecast were made in an overly aggressive way. If this is due to analysts having less information due to minor e.g. media coverage on Mid Cap i.e. making the Mid Cap market less efficient than Large Cap or if they tend to prepare their forecast in a so called "herd behaviour" (De Bond & Forbes, 1999). It is hard to derive this from the statistical test but will be discussed in section 4.7 were analysts had their own say about these findings. However, there is one thing that can be concluded by investigating the statistics. The common denominator between Large – and Mid Cap companies are that they all have to prepare their financial statements in accordance with IFRS. And if the results were not the same it would also point at the fact that analysts are in need of other material to construct forecasts that coincide with each other. One more fact that

helped us contribute this conclusion is that analysts were making inaccurate forecast for companies on Large - and Mid Cap in different years. Lang and Lundholm (1996) discovered a link between information frequency and forecast creditability. We are confident that larger companies get more public attention and thus tend to inform the society with more information to a lager extent than smaller-sized entities. A reasonable part of the information, which analysts use to construct their prognoses derives directly from corporations through e.g. quarterly reports. Information symmetry between analysts and companies is of great importance for analysts in order to find an indication of actual earnings, they need to get hints or information how much provisions etc a company intends to deposit. We therefore believe that Large Cap companies directly or indirectly provides more information and thus, makes it easier for analysts to produce forecasts.

# 4.5 Profit Forecasts compared with actual results comparing different industries 4.5.1 Industrial Sector

Table 4.7 displays results of earnings per share for the industry sector. Year 2003, 2009 and 2010, analysts forecasts were not accurate enough and thus rejected. For the other years forecast are quite accurate and ended up between 20 percent to 55 percent accuracy. We are not able to see a strong indication of analysts constructing accurate forecasts during these years, but still feel comfortable to approve these years in analysts favour.

Table 4.7 Earnings compared with forecast for entities in Material sector

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
P-Value	,376	,147	,457	,001***	,227	,243	,421	,376	,546	,001***	,010**

<sup>\*\*\*=</sup> Significance <1percent

If we investigate how the forecasts have differed from the actual outcomes we see that 48 percent of the predictions were below the actual earnings, and 52 percent were optimistic in comparison to presented numbers by the entity. (See Diagram 4:7)

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

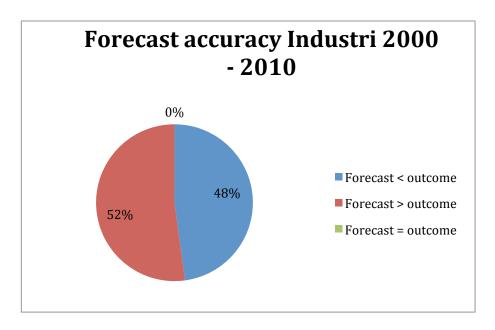


Diagram 4.7 - Dispersion of forecasts during 2000-2010 of the Industry sector

#### 4.5.2 Material Sector

Table 4.8 demonstrates the results for earnings per share for the sector Materials. We are able to identify a strong indication during 2006-2008 were analysts tend to be accurate in their forecasts. We will only reject year 2001 and 2004 but thus approve analyst's ability to produce truthful forecast in this particular sector.

Table 4.8 Earnings compared with forecast for entities in Material sector

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
P-Value	,112	,099*	,109	,110	,097*	,101	,900	,593	,598	,109	,105

<sup>\*\*\*=</sup> Significance <1percent

The analyst dispersion percentage during the period has been as follows: 39 percent of the forecasts were pessimistic in relation to actual outcome. 61 percent of the forecast was above the entities earnings. (See Diagram 4.8)

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

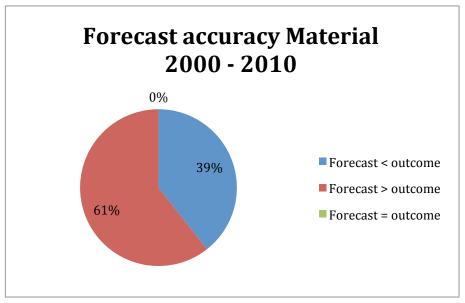


Diagram 4.8 - Dispersion of forecasts during 2000-2010 of the Material sector

#### 4.5.3 Consumer Good Sector

Table 4.9 illustrates our results for the Consumer Good sector. We will reject two years in this specific sector namely 2009 and 2010. But the others years give us a strong indication that analysts tend to be accurate within this particular segment. Hence, we are able to se a strong correlation between produced forecast and actual outcome.

Table 4.9 Earnings compared with forecast for entities in consumer good sector

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
P-Value	,612	,866	,237	,128	,176	,866	,735	,398	,237	,063*	,067*

<sup>\*\*\*=</sup> Significance <1percent

After reviewing analysts' forecasts we found that 40 percent of the forecasts were lower than the actual earnings the entities presented in their annual reports. 60 percent of the forecast was produced optimistically and thus resulted that the forecast were higher than the actual earnings. There were no accurate predictions. (See Diagram 4.9)

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

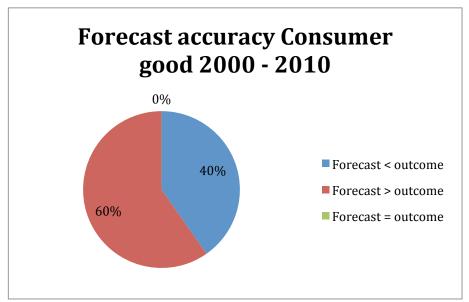


Diagram 4.9 - Dispersion of forecasts during 2000-2010 of the Consumer good sector

#### 4.5.4 Health Care Sector

Table 4.10 demonstrates our results for the Health Care sector. We are able to detect that analysts tend to be relatively accurate in their predictions and we will approve all surveyed years. There are two years that analyst were able to produce far better forecasts than other years, 2003 and 2007.

Table 4.10 Earnings compared with forecast for entities in Health Care sector

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
P-Value	,273	,715	,273	,973	,694	,275	,144	,715	,273	,279	,268

<sup>\*\*\*=</sup> Significance <1percent

If we study how the distribution of analyst projections have been during these years, 57 percent of the investigated eleven years were optimistic in relation to the actual outcome, 43 percent of the projections were lower than the actual earnings presented by the entities. (See Diagram 4.10)

<sup>\*\*=</sup> Significance < 5 percent

<sup>\*=</sup>Significance <10 percent

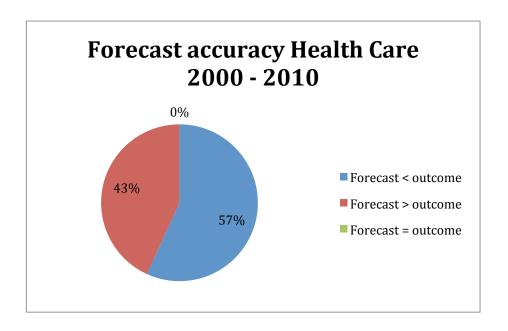


Diagram 4.10 - Dispersion of forecasts during 2000-2010 of the Health Care sector

#### 4.5.5 Analysis of different industry sectors

Different industry sectors investigated in the test displayed no consistency in the attained results and all examined industries tend to differ to some degree from each other. During the eleven-year period, we experienced changes in the economic climate, which affected sectors in various degrees. International and globalized markets are a factor that affected companies and makes them difficult to analyse. In order for analysts to produce satisfactory forecasts they must pay attention to these changes, which constantly appear, a task that has proven to be complex. There is no existing model of how projections regarding earnings should be produced, as the variables, which can affect them, are endless. For example, political decisions and financial crises which have occurred financially and geographically, makes it possible for us to conclude that the worlds markets are interlinked. Earnings forecasts therefore tend to get out-dated relatively fast and must be continuously revised to meet the reality, a reality that can be very different from yesterdays. Considering these aspects, external factors' influence various industry sectors differently. The analyst must be aware of these aspects in order for the forecast to not lose their relevance.

Patz (1989) and Bushman (1989) found a linkage between sector affiliation and forecast reliability. They concluded that the sector which analysts had most difficulties, when

constructing accurate forecasts, was the Industry sector. Our empirical test illustrates the same result, the Industrial segment was the most difficult sector, and one reason for this might be that the Industrial sector is one of the largest and therefore affected by more aspects than others. When comparing these sectors we found it hard to determine specific changes since the implementation of IFRS. A question that must be considered is to what extent and how quickly different sectors react to new information. In an efficient market it is assumed that there is no significant delay between the new information about e.g. a shares price and the adjustment of market value according to Elton et al, 2003. Our belief is that different sectors get more or less attention from investors, society and media and hence market efficiency is different in regards to which segment a corporation operates.

However one interesting aspect that occurred during the test was that analysts tended to be optimistic in the Industrial, Material and Consumer Good sector and pessimistic in Health Care. It is hard to determine the specific reason, but we are confident that the Health Care sector is quite stable and basically only volatile when introducing new pharmaceuticals or, when new pharmaceuticals are not approved. Hence, the industry does not expose themselves to market forces to the same extent which other industries do. Investors are affected by market forces, but analysts must be neutral in that aspect and instead consider the companies future cash flow and external factors.

### 4.6 Overview of the results

Table/Year	2000	2001	2002	2003	2004	2005
4.2 Earnings forecast compared to actual earning	,672	,051*	,097*	,001***	,060*	,340
4.4 Earnings forecast Large Cap	,367	,091*	,629	,002***	,248**	,367
4.4 Earnings forecast Mid Cap	,594	,470	,035**	,016**	,084*	,638
4.5.1 Earnings forecast Industry Sector	,376	,147	,457	,001***	,227	,243
4.5.2 Earnings forecast Material	,112	,099*	,109	,110	,097*	,101
4.5.3 Earnings Forecast Consumer Goods	,612	,866	,237	,128	,176	,866
4.5.4 Earnings forecast Helath Care	,273	,715	,273	,973	,694	,275

**Table 4.11**: Overview of the results for each area. A result with stars indicates difference between forecast and actual outcome during the years 2000-2005.

Table/Year	2006	2007	2008	2009	2010
4.2 Earnings forecast compared to actual earning	,677	,129	,181	,001***	,003***
4.4 Earnings forecast Large Cap	,829	,675	,367	,034**	,001***
4.4 Earnings forecast Mid Cap	,826	,035**	,331	,001***	,198
4.5.1 Earnings forecast Industry Sector	,421	,376	,546	,001***	,010**
4.5.2 Earnings forecast Material	,900	,593	,598	,109	,105
4.5.3 Earnings Forecast Consumer Goods	,735	,398	,237	,063*	,067*
4.5.4 Earnings forecast Helath Care	,144	,715	,273	,279	,268

**Table 4.12**: Overview of the results for each area. A result with stars indicates difference between forecast and actual outcome during the years 2006-2010

#### 4.7 Analyse of the interviews

There are several different users of financial reports, IFRS was implemented in order to increase transparency, relevance, understandability and nonetheless reliability to the accounting area. By creating a more investor friendly framework, the globalisation and internationalisation towards a single set of high quality standards commenced. But is IFRS equally useful to analysts and credit-rating agencies, to assist in investor related decisions? Our intention with these following paragraphs is to complement our empirical study, with the answers we received from analysts, to see our interview questions, see appendix 10. We are confident that this will provide a focus on the qualitative aspect and therefore create a more perspicuous essay. By revealing information regarding analysts own thoughts; of the implementation of IFRS, we are able to achieve deeper knowledge in order to understand some of the important aspects when producing accurate forecasts.

An analyst must be able to put numbers into perspective and for the time being they are not yet confident that they possesses this particular ability. The transition process is complicated and will therefore take time, but seven years is actually a quite long time. According to our interviews, analysts knowledge about the IFRS framework is quite acceptable, but can however not be compared to an auditors, which indicates that they find it difficult to understand "hidden numbers" behind items in the financial reports. An auditor shall review and approve financial statements, and analyst's task is to reveal what the future has to offer and then produce forecasts. According to our interviews, analysts believe that financial statements are a factor, which can obviously not be ignored, but if the new framework tends to encourage volatility, due to fair value accounting, it may inspire managers to take shortterm decisions and this fact does not facilitate analysts work. As an analyst, you have to be adaptable, and attentive to many factors at the same time thus, not solely rely on financial reports, ranging from market psychology to influences on the specific market. By reworking historical values, analysts tend to have a delay in their projections; we cannot ignore the question if the projections should be considered as guidelines instead of functioning as a base for investor related decisions. Our empirical work indicates that it is hard to determine if the implementation of IFRS created a better environment for investors in order to take decisions and thus, analysts ability to produce reliable forecasts.

IFRS states that it is aimed to increase the value and relevance of accounting in order for investors to base their decisions but analysts themselves are indicating that there are several factors, which contributes to an accurate forecast. Analysts argue that they consider financial statements when producing forecasts, but in order to make accurate predictions regarding future earnings they are using a model called; industrial analysis. This analysis has several dimensions but the common denominator is that an industrial analysis, considers and investigates a specific industry. The different components of the industrial analysis are; market size, both current and future, market trend, market growth rate, market profitability and industry structure. By investigating the dimensions it becomes seemingly clear that analysts are using old values to create multiples, which are used to create future scenarios about a hypothetical market development. However, this would also imply, if unexpected financial crises suddenly arises, analysts have no chance to take this into consideration, which is confirmed by analyst who answered our questionnaire. They emphasise on; if a crisis appear, like it did in 2008 they are lacking financial models / instruments which they can use to construct accurate forecasts. Our statistical findings confirms this to the extent that; in general, years when analysts had most difficulties constructing accurate forecasts seems to coincide irrelevant of whether a company was from a particular market segment or if it was registered to the Large Cap or Mid Cap sector. The final dimension of the analysis is different from the other four. This parameter investigates how the e.g. market power is divided between companies, consumers and suppliers. Differences in these types of structures are argued to be important when creating forecasts.

Even if other reports, by using statistical data, have concluded that forecast accuracy have improved after the adoption of IFRS, analysts that we interviewed cannot really say how much their forecast are affected by the implementation. They like to point out that their forecasts are based on more than a single company's financial statement and that it would be impossible to solely base a prognosis on their information. Markets tend to signal information and this fact cannot be disregarded. But, they also explain that analysts intermediate knowledge regarding IFRS, provides them with an ability to understand specific predicaments that can arise hence the large extent of professional judgement that IFRS is affiliated with. If subjective judgements interferes with the difficulties analysts face when constructing forecasts is hard to determine, but we are able to conclude that analysts struggle to predict future earnings if entities have volatile profits. However, it is also acknowledged that some companies prepare their statements to showcase better numbers thus, making it important for

analysts to remain critical of companies own judgements regarding accounting estimations. In the interviews, analysts acknowledged that they were approaching financial statements with caution. An interesting finding was that they were not equally caution towards all entities. Instead, they argued that there were other factors, which contributed to the degree of caution they approached towards business information. Factors they thought were important to keep in mind are which country a company origins from and to investigate the company's history, i.e. if a entity were known for making accurate judgements and accounting choices in their financial statements in the past. The information provided by the management of an entity is of great importance for analysts, but how do analysts decide if the information is reliable? What we can deduce from our interview questions that the reliance is based on respect and historical reliability. This means that analysts learn from history thus, a company that provided untruthful statements in previous years, gain less emphasis than companies that provide "honest" information to a larger extent. This is yet another aspect that must be taken into account and, according to Lang and Lundholm, (1996) affects forecasts accuracy. This coincides with Söderström and Sun, (2007) that accounting quality is affected of countries political and judicial system thus, affecting to what degree analysts can trust the truthfulness of financial statements.

Analysts acknowledge that there are different factors, which contribute forecasts accuracy. But, they cannot single out specific factors, which are more important than others. According to them, it is a question of the mixture of factors that will make forecasts accurate or not. But when questioning analysts about how the turbulent financial climate affects the financial reports importance they implied that the business environment is more important than entities reports. According to analysts they do not have the tools to predict a rapid depression in financial markets. Analysts uses models that contains historical values which are used to derive market specific trends and can not predict sudden depression and hence, it should imply that analysts search for new models who can keep up with today's financial markets are of considerable importance.

Analysts found it difficult to determine whether IFRS works better in any specific industry or not. Analysts are quite inflexible due to that they have different assignments in various industries, thus giving all the sectors equal attention. However, according to our empirical study is Health Care, for example, significantly more accurate than the industrial sector. What could this be due to? We are well aware of that we cannot completely rely on our statistical

tests because of the infinite factors that affect forecasts. But it is difficult for the authors to ignore the fact of such clear results. We believe that some market segments actually are easier to construct reliable forecasts for, based on that different sectors are not exposed to the same extent from media and international influences as others. For example a pharmaceutical company like, Active Biotech, influences by, acquisitions of entities, introduction of new drugs, or rejection in an introduction of a new drug. However, Stora Enso, which is a forestry product company, encounters inherent factors. A company that is exposed to market forces to a larger extent will face a rapid increase of obstacles thus, in our opinion, affecting the forecast preparation and the accuracy.

### 5. Conclusion

In chapter 5, we intend to present our conclusions from the discussions, reflections on the essay and give suggestions for future studies.

#### **5.1 Conclusion**

When analysts construct forecasts they state that financial statements are a natural starting point. But, financial statements do not provide the necessary information that an analyst need when producing forecasts. They also state that the relevance of financial statements have not increased since the implementation of IFRS in 2005 since there are endless amounts of factors which determine whether a forecast is or is not accurate. However, we are able to conclude a clear change in analysts forecasts since the implementation, not in how accurate they are but in the dispersion between over and under stated forecasts. Before IFRS was implemented analysts tended, in general, to be overoptimistic but after the implementation they began to construct forecasts which were under the actual outcomes. We believe this was due to the nature of the current financial crises. We believe that the combination of analysts not actually knowing how to interpret the new set of principles and the principles themselves allowing corporations to make own judgement contributed to this statement. Analysts are aware of that corporations are making these judgements and that managers might have incentives to create an appealing view of their business and they also interpret these valuations with a high degree of caution. The conclusion is that analysts are basing their forecasts with help of financial statements more than they like to admit but that does not necessarily mean that they are relying on them. Instead they try to make up their own minds on whether to except the valuations in the financial statements or alter them to create, what they believe is a more accurate view.

Analysts state that forecasts are based on other sources than financial statements. They are e.g. using an industrial analysis to get better predictions when constructing their forecasts. We are confident that forecast are more accurate hence. However, our statistical tests showcased that analysts were not able to predict sudden changes in the financial climate, i.e. financial crises. This however did not surprise us, as their analysis made predictions about the future based on statistics derived from past events. We believe that the economic climate has shifted towards changing more rapidly thus; old information is less useful to base a forecast on today than it was ten years ago. Companies increased demand of capital forced them to go outside

their own domestic borders in order to push earnings to a higher level, creating interlinked capital markets. If analysts wants to be successful in their strive to construct accurate forecast they have to move outside their own "zone" and realise that volatile environment affects companies and therefore there is a need for analysts to once again understand that the there are new key factors which are equally important as the once they are using today.

After reviewing our statistical tests and interviewing analysts we can conclude that there are countless of factors, which differs between market sectors. This means that analysts have to posses different skills in regards to which sector they are constructing forecast. The industrial sector is one, which we believe, and analysts confirmed, to be one of the most complicated to construct accurate predictions for. Our conclusion regarding this statement is that the industrial sector is dependent on other market segments. This would mean that analysts first have to pay attention to what is happening on other markets and then produce forecast for the industrial sector. In regards to if the size of a company we are able conclude, to some certainty, that there also are differences in forecast accuracy. We believe that this is due to that more attention is put on larger companies thus, giving analysts more information to work with when constructing prognoses.

We are confident that forecast accuracy has not improved after the implementation of IFRS hence two reasons. We cannot see a significant improvement in forecast accuracy between the pre-adoption and post adoption periods. Secondly, analysts are stating that even if financial statements are important to construct forecasts it is only a small part in the entire forecast construction process.

#### **5.2 Reflections**

After writing this essay we began to consider other ways of conducting this research to attain different results. The selection of theories, test sample and our won subjectivity might impact the outcome of the thesis. If we could have attained a larger sample of entities to conduct a larger statistical test or revised asked analysts to speak freely in order to sustain objectivity, results might differ from ours.

### **5.3 Future Research**

For future research within this field we would find it interesting if our strategy was applied to other financial markets and to base it on a lager quantity of research material to create a greater understand to which elements affect earnings forecasts. It would also be interesting to make a comparison with other financial markets who do not force companies to use IFRS in their consolidated statements.

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#### **6.3 Financial Statements**

2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 and 2010 financial statements derive from each individual company's web page:

- 1. ABB
- 2. Active Biotech
- 3. Assa Abloy
- 4. AstraZeneca
- 5. AtlasCopco
- 6. Autoliv
- 7. Bilia
- 8. Bure
- 9. Castellum
- 10. Electrolux
- 11. Ericsson
- 12. Fagerhult
- 13. Getinge
- 14. G&L Beijer

- 15. Gunnebo
- 16. Haldex
- 17. H&M
- 18. Höganäs
- 19. Itab
- 20. JM
- 21. Kinnevik
- 22. Meda
- 23. Itab
- 24. JM
- 25. Meda
- 26. Midway
- 27. MTG
- 28. NCC
- 29. NewWave
- 30. Peab
- 31. Poolia
- 32. Saab
- 33. Sandvik
- 34. Securitas
- 35. Skanska
- 36. SKF
- 37. SSAB
- 38. Swedish Match
- 39. Trelleborg
- 40. Volvo

# Appendix 1 - Overview over Company's, Industry and Market Sector

Company	Industry	Large or Small Cap	Company	Industry	Large or Small Cap
ABB	Industry	L	Midway	Industry	M
Active Biotech	Health Care	M	Nokia	Info Technology	M
AtlasCopco	Consumer Good	L	Poolia	Consumer Good	M
Autoliv	Consumer Good	L	H&M	Consumer Good	L
AssaAbloy	Industry	L	Höganäs	Material	M
Astra Zeneca	Health Care	L	Saab	Industry	L
Bilia	Consumer Good	M	MTG	Consumer Good	L
Bure	Material	M	NCC	Industry	L
Castellum	Consumer Good	L	New wave	Consumer Good	М
Electrolux	Consumer Good	L	NIBE Industries	Industry	L
Ericsson	Info Technology	L	Peab	Industry	L
Fagerhult	Industry	M	Sandvik	Material	L
Getinge	Health Care	L	Securitas	Industry	L
G&L Beijer	Industry	M	Skanska	Industry	L
Gunnebo	Industry	M	SKF	Industry	L
Haldex	Industry	M	SSAB	Material	L
Itab	Industry	M	Stora Enso	Material	L
JM	Consumer Good	L	Swedish Match	Consumer Good	L
Kinnevik	Info Technology	L	Trelleborg	Industry	L
Meda	Health Care	L	Volvo	Industry	L

# Appendix 2 - Earnings / share 2000-2005 vs Forecast 2000-2005

		N
	Negative Ranks	24 <sup>a</sup>
0000	Positive Ranks	16 <sup>b</sup>
2000	Ties	0°
	Total	40
	Negative Ranks	16 <sup>d</sup>
2001	Positive Ranks	24 <sup>e</sup>
2001	Ties	O <sup>f</sup>
	Total	40
	Negative Ranks	19 <sup>9</sup>
2002	Positive Ranks	21 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	40
	Negative Ranks	8 <sup>j</sup>
2003	Positive Ranks	32 <sup>k</sup>
2003	Ties	01
	Total	40
	Negative Ranks	17 <sup>m</sup>
2004	Positive Ranks	23 <sup>n</sup>
2004	Ties	0°
	Total	40
	Negative Ranks	19 <sup>p</sup>
2005	Positive Ranks	21 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	40

Test Statistics<sup>a</sup>

Years	2000	2001	2002	2003	2004	2005
Z	-,423 <sup>b</sup>	-1,949 <sup>c</sup>	-1,660 <sup>c</sup>	-3,750 <sup>c</sup>	-1,882 <sup>c</sup>	-,954 <sup>c</sup>
Asymp. Sig. (2-tailed)	,672	,051	,097	,000	,060	,340

# **Appendix 3 - Earnings / share 2006-2010 vs Forecast 2006-2010**

		N
	Negative Ranks	23 <sup>a</sup>
	Positive Ranks	17 <sup>b</sup>
2006	Ties	0°
	Total	40
	Negative Ranks	26 <sup>d</sup>
2007	Positive Ranks	14 <sup>e</sup>
2007	Ties	0 <sup>f</sup>
	Total	40
	Negative Ranks	17 <sup>9</sup>
2008	Positive Ranks	23 <sup>h</sup>
2000	Ties	0 <sup>i</sup>
	Total	40
	Negative Ranks	9 <sup>j</sup>
2009	Positive Ranks	31 <sup>k</sup>
	Ties	01
	Total	40
	Negative Ranks	33 <sup>m</sup>
2010	Positive Ranks	7 <sup>n</sup>
2010	Ties	0°
	Total	40

Test Statistics<sup>a</sup>

			-		
Years	2006	2007	2008	2009	2010
Z	-,417 <sup>b</sup>	-1,519 <sup>b</sup>	-1,337 <sup>c</sup>	-3,562 <sup>c</sup>	-4,006 <sup>b</sup>
Asymp. Sig. (2-tailed)	,677	,129	,181	,000	,000

# Appendix 4 – Overview of the results on Large Cap 2000-2010

		N
	Negative Ranks	18 <sup>a</sup>
0000	Positive Ranks	8 <sup>b</sup>
2000	Ties	0°
	Total	26
	Negative Ranks	11 <sup>d</sup>
2001	Positive Ranks	15 <sup>e</sup>
2001	Ties	O <sup>f</sup>
	Total	26
	Negative Ranks	14 <sup>9</sup>
2002	Positive Ranks	12 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	26
	Negative Ranks	6 <sup>j</sup>
2003	Positive Ranks	20 <sup>k</sup>
2003	Ties	01
	Total	26
	Negative Ranks	12 <sup>m</sup>
2004	Positive Ranks	14 <sup>n</sup>
2004	Ties	0°
	Total	26
	Negative Ranks	13 <sup>p</sup>
0005	Positive Ranks	13 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	26ª

		N
	Negative Ranks	15 <sup>s</sup>
0000	Positive Ranks	11 <sup>t</sup>
2006	Ties	0 <sup>u</sup>
	Total	26
	Negative Ranks	16 <sup>v</sup>
0007	Positive Ranks	10 <sup>w</sup>
2007	Ties	0 <sup>x</sup>
	Total	26
	Negative Ranks	11 <sup>y</sup>
2008	Positive Ranks	15 <sup>z</sup>
2006	Ties	0 <sup>aa</sup>
	Total	26
	Negative Ranks	8 <sup>ab</sup>
2009	Positive Ranks	18 <sup>ac</sup>
2009	Ties	0 <sup>ad</sup>
	Total	26
	Negative Ranks	25 <sup>ae</sup>
2040	Positive Ranks	1 <sup>af</sup>
2010	Ties	0 <sup>ag</sup>
	Total	26

**Test Statistics**<sup>a</sup>

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Z	-,902 <sup>b</sup>	-1,689 <sup>c</sup>	-,483 <sup>c</sup>	-3,086 <sup>c</sup>	-1,156 <sup>c</sup>	-,902 <sup>c</sup>	-,216 <sup>b</sup>	-,419 <sup>b</sup>	-,902 <sup>c</sup>	-2,121 <sup>c</sup>	-4,102 <sup>b</sup>
Asymp. Sig. (2-tailed)	,367	,091	,629	,002	,248	,367	,829	,675	,367	,034	,000

# Appendix 5 – Overview of the results on Mid Cap 2000-2010

		N
	Negative Ranks	6ª
	Positive Ranks	8 <sup>b</sup>
2000	Ties	0°
	Total	14
	Negative Ranks	5 <sup>d</sup>
2001	Positive Ranks	9 <sup>e</sup>
2001	Ties	O <sup>f</sup>
	Total	14
	Negative Ranks	5 <sup>9</sup>
2002	Positive Ranks	9 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	14
	Negative Ranks	2 <sup>j</sup>
2003	Positive Ranks	12 <sup>k</sup>
2000	Ties	01
	Total	14
	Negative Ranks	5 <sup>m</sup>
2004	Positive Ranks	9 <sup>n</sup>
2004	Ties	0°
	Total	14
	Negative Ranks	6 <sup>p</sup>
2005	Positive Ranks	8 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	14

		N
	Negative Ranks	8 <sup>s</sup>
2000	Positive Ranks	6 <sup>t</sup>
2006	Ties	0 <sup>u</sup>
	Total	14
	Negative Ranks	10 <sup>v</sup>
2007	Positive Ranks	4 <sup>w</sup>
2007	Ties	0 <sup>x</sup>
	Total	14
	Negative Ranks	6 <sup>y</sup>
2008	Positive Ranks	8 <sup>z</sup>
2008	Ties	0 <sup>aa</sup>
	Total	14
	Negative Ranks	1 <sup>ab</sup>
2009	Positive Ranks	13 <sup>ac</sup>
2003	Ties	0 <sup>ad</sup>
	Total	14
	Negative Ranks	8 <sup>ae</sup>
2010	Positive Ranks	6 <sup>af</sup>
2010	Ties	0 <sup>ag</sup>
	Total	14

Test Statistics<sup>a</sup>

Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Z	- ,534 <sup>b</sup>	- ,722 <sup>b</sup>	- 2,103 <sup>b</sup>	- 2,417 <sup>b</sup>	- 1,726 <sup>b</sup>	- ,471 <sup>b</sup>	- ,220 <sup>c</sup>	- 2,103 <sup>c</sup>	- ,973 <sup>b</sup>	- 3,234 <sup>b</sup>	- 1,287 <sup>c</sup>
Asymp. Sig. (2-tailed)	,594	,470	,035	,016	,084	,638	,826	,035	,331	,001	,198

# Appendix 6 – Overview of the results in the Industry Sector 2000-2010

		N
	Negative Ranks	12 <sup>a</sup>
	Positive Ranks	7 <sup>b</sup>
2000	Ties	0°
	Total	19
	Negative Ranks	8 <sup>d</sup>
2001	Positive Ranks	11 <sup>e</sup>
2001	Ties	O <sup>f</sup>
	Total	19
	Negative Ranks	12 <sup>g</sup>
2002	Positive Ranks	7 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	19
	Negative Ranks	3 <sup>j</sup>
2003	Positive Ranks	16 <sup>k</sup>
2003	Ties	0,
	Total	19
	Negative Ranks	9 <sup>m</sup>
2004	Positive Ranks	10 <sup>n</sup>
2004	Ties	0°
	Total	19
	Negative Ranks	9 <sup>p</sup>
2005	Positive Ranks	10 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	19

		N
	Negative Ranks	9 <sup>s</sup>
	Positive Ranks	10 <sup>t</sup>
2006	Ties	0 <sup>u</sup>
	Total	19
	Negative Ranks	13 <sup>v</sup>
2007	Positive Ranks	6 <sup>w</sup>
2007	Ties	0 <sup>x</sup>
	Total	19
	Negative Ranks	8 <sup>y</sup>
2008	Positive Ranks	11 <sup>z</sup>
2000	Ties	0 <sup>aa</sup>
	Total	19
	Negative Ranks	2 <sup>ab</sup>
2009	Positive Ranks	17 <sup>ac</sup>
2003	Ties	0 <sup>ad</sup>
	Total	19
	Negative Ranks	15 <sup>ae</sup>
2010	Positive Ranks	4 <sup>af</sup>
2010	Ties	0 <sup>ag</sup>
	Total	19

Test Statistics<sup>a</sup>

Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Z	- ,885 <sup>b</sup>	- 1,449 <sup>c</sup>	-,745 <sup>b</sup>	- 3,219 <sup>c</sup>	- 1,207 <sup>c</sup>	- 1,167 <sup>c</sup>	- ,805 <sup>c</sup>	- ,885 <sup>b</sup>	- ,604 <sup>c</sup>	- 3,340 <sup>c</sup>	- 2,575 <sup>b</sup>
Asymp. Sig. (2-tailed)	,376	,147	,457	,001	,227	,243	,421	,376	,546	,001	,010

# Appendix 7 – Overview of the results in the Consumer Good Sector 2000-2010

		N
	Negative Ranks	3ª
	Positive Ranks	4 <sup>b</sup>
2000	Ties	0°
	Total	7
	Negative Ranks	3 <sup>d</sup>
2004	Positive Ranks	4 <sup>e</sup>
2001	Ties	0 <sup>f</sup>
	Total	7
	Negative Ranks	3 <sup>g</sup>
0000	Positive Ranks	4 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	7
	Negative Ranks	2 <sup>j</sup>
2003	Positive Ranks	5 <sup>k</sup>
2003	Ties	01
	Total	7
	Negative Ranks	1 <sup>m</sup>
2004	Positive Ranks	6 <sup>n</sup>
2004	Ties	0°
	Total	7
	Negative Ranks	3 <sup>p</sup>
2005	Positive Ranks	4 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	7

		N
	Negative Ranks	3 <sup>s</sup>
2006	Positive Ranks	4 <sup>t</sup>
2006	Ties	0 <sup>u</sup>
	Total	7
	Negative Ranks	4 <sup>v</sup>
2007	Positive Ranks	3 <sup>w</sup>
2007	Ties	0 <sup>x</sup>
	Total	7
	Negative Ranks	1 <sup>y</sup>
2008	Positive Ranks	6 <sup>z</sup>
2008	Ties	0 <sup>aa</sup>
	Total	7
	Negative Ranks	2 <sup>ab</sup>
2009	Positive Ranks	5 <sup>ac</sup>
2009	Ties	0 <sup>ad</sup>
	Total	7
	Negative Ranks	6 <sup>ae</sup>
2040	Positive Ranks	1 <sup>af</sup>
2010	Ties	0 <sup>ag</sup>
	Total	7

Test Statistics<sup>a</sup>

Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	-	-	-	-	-	-	-	-	-	-	-
Z	,507 <sup>b</sup>	,169 <sup>b</sup>	1,183 <sup>b</sup>	1,521 <sup>b</sup>	1,352 <sup>b</sup>	,169 <sup>b</sup>	,338 <sup>c</sup>	,845 <sup>c</sup>	1,183 <sup>b</sup>	1,859 <sup>b</sup>	1,859 <sup>c</sup>
Asymp. Sig. (2-	,612	.866	,237	,128	,176	.866	,735	.398	,237	.063	,063
tailed)	,012	,000	,237	, 120	,170	,000	,733	,590	,231	,003	,003

# Appendix 8 – Overview of the results in the Material Sector 2000-2010

		N
	Negative Ranks	3ª
	Positive Ranks	Op
2000	Ties	0°
	Total	3
	Negative Ranks	$O_q$
2001	Positive Ranks	3 <sup>e</sup>
2001	Ties	O <sup>f</sup>
	Total	3
	Negative Ranks	O <sup>g</sup>
2002	Positive Ranks	3 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	3
	Negative Ranks	O <sup>j</sup>
2003	Positive Ranks	3 <sup>k</sup>
2003	Ties	01
	Total	3
	Negative Ranks	3 <sup>m</sup>
2004	Positive Ranks	0 <sup>n</sup>
2004	Ties	0°
	Total	3
	Negative Ranks	O <sup>p</sup>
2005	Positive Ranks	3 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	3

		N			
	Negative Ranks	2 <sup>s</sup>			
2006	Positive Ranks	1 <sup>t</sup>			
	Ties	0 <sup>u</sup>			
	Total	3			
	Negative Ranks	1 <sup>v</sup>			
2007	Positive Ranks	2 <sup>w</sup>			
2007	Ties	0 <sup>x</sup>			
	Total	3			
2008	Negative Ranks	1 <sup>y</sup>			
	Positive Ranks	2 <sup>z</sup>			
2000	Ties	0 <sup>aa</sup>			
	Total	3			
	Negative Ranks	0 <sup>ab</sup>			
2009	Positive Ranks	3 <sup>ac</sup>			
2003	Ties	0 <sup>ad</sup>			
	Total	3			
	Negative Ranks	3 <sup>ae</sup>			
2040	Positive Ranks	0 <sup>af</sup>			
2010	Ties	0 <sup>ag</sup>			
	Total	3			

#### **Test Statistics**

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Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
z	- 1,604 <sup>b</sup>	- 1,604 <sup>c</sup>	- 1,604 <sup>c</sup>	- 1,604 <sup>c</sup>	- 1,604 <sup>b</sup>	- 1,604 <sup>c</sup>	,000 <sup>d</sup>	,535 <sup>c</sup>	,535 <sup>c</sup>	- 1,604 <sup>c</sup>	- 1,604 <sup>b</sup>
Asymp. Sig. (2-tailed)	,109	,109	,109	,109	,109	,109	1,000	,593	,593	,109	,109

### Appendix 9 – Overview of the results in the Health Care Sector 2000-2010

		N
	Negative Ranks	1 <sup>a</sup>
2000	Positive Ranks	3 <sup>b</sup>
	Ties	0°
	Total	4
	Negative Ranks	2 <sup>d</sup>
2001	Positive Ranks	2 <sup>e</sup>
2001	Ties	0 <sup>f</sup>
	Total	4
	Negative Ranks	1 <sup>g</sup>
2002	Positive Ranks	3 <sup>h</sup>
2002	Ties	0 <sup>i</sup>
	Total	4
	Negative Ranks	2 <sup>j</sup>
2003	Positive Ranks	2 <sup>k</sup>
2003	Ties	0,
	Total	4
	Negative Ranks	2 <sup>m</sup>
2004	Positive Ranks	2 <sup>n</sup>
2004	Ties	0°
	Total	4
	Negative Ranks	3 <sup>p</sup>
	Positive Ranks	1 <sup>q</sup>
2005	Ties	O <sup>r</sup>
	Total	4

		N
	Negative Ranks	3 <sup>s</sup>
2006	Positive Ranks	1 <sup>t</sup>
	Ties	O <sup>u</sup>
	Total	4
	Negative Ranks	2 <sup>v</sup>
2007	Positive Ranks	2 <sup>w</sup>
2007	Ties	0 <sup>x</sup>
	Total	4
	Negative Ranks	3 <sup>y</sup>
2008	Positive Ranks	1 <sup>z</sup>
2000	Ties	0 <sup>aa</sup>
	Total	4
	Negative Ranks	3 <sup>ab</sup>
2009	Positive Ranks	1 <sup>ac</sup>
2000	Ties	0 <sup>ad</sup>
	Total	4
2010	Negative Ranks	3 <sup>ae</sup>
	Positive Ranks	1 <sup>af</sup>
	Ties	0 <sup>ag</sup>
	Total	4

#### Test Statistics<sup>a</sup>

Test Statistics											
Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Z	Z	- 1,095 <sup>b</sup>	,365 <sup>c</sup>	- 1,095 <sup>b</sup>	,000 <sup>d</sup>	,365 <sup>b</sup>	- 1,095 <sup>c</sup>	- 1,461 <sup>c</sup>	-,365 <sup>b</sup>	- 1,095 <sup>c</sup>	- 1,095 <sup>c</sup>
Asymp. Sig. (2-tailed)	,273	,715	,273	1,000	,715	,273	,144	,715	,273	,273	,273

### **Appendix 10 – interview questions**

- How much influence do financial statements have when producing earnings forecasts?
- Has the impact in earnings forecasts changed since the implementation of IFRS?
- Which do you believe creates a better base to constructs forecasts, Fair Value or Historical Cost?
- How is your knowledge regarding the IFRS framework? Can you see any incentives to extend your knowledge about fair value accounting?
- How much do you think the new economic climate influence financial statements when producing earnings forecasts?
- Which external factors do you think have the greatest impact regarding prediction accuracy?
- How critical are you towards information provided by executives?
- Do you believe IFRS is better suited companies considering differences in size or industry affiliation?