

HELSINKI SCHOOL OF ECONOMICS (HSE)
Department of Accounting and Finance



AN EMPIRICAL INVESTIGATION OF
MANAGEMENT FORECASTS IN FINLAND

HELSINGIN
KAUPPAKORKEAKOULUN
KIRJASTO

10198

Accounting
Master's thesis
Riku Sauso
Autumn 2006

Approved by the Council of the Department 6 / 9 2006 and awarded
the grade _____

Tarkastajat:

KTT Juhani Kimmunen ja KTT Harri Seppänen

AN EMPIRICAL INVESTIGATION OF MANAGEMENT FORECASTS IN FINLAND

Research objectives

The objective of the of theoretical part of this study is to review the existing literature and empirical evidence on management forecasts and voluntary disclosure. Drawing on the literature review, several hypotheses are proposed and subsequently tested with statistical methods in the empirical part of this thesis. This study aims to test the geographical and institutional generalisability of the extant empirical research on management forecasts.

Literature and Data

The literature study extensively reviews the existing literature on voluntary financial disclosure. The main empirical data of this study are management forecasts disclosed in the financial statements for the year 2004 of 114 companies listed in the Helsinki Stock Exchange.

Research methods

Management forecasts and their determinants are examined with logistic regression analysis. The management forecasts collected from the financial statements for the year 2004 are processed for statistical analysis according to the guidelines found in existing empirical research. The objective is to find the factors affecting management's choices when disclosing forecasts.

Results

The descriptive data show that Finnish firms are somewhat cautious in disclosing management forecasts. The proportion of qualitative forecasts over more precise quantitative forecasts is overwhelming.

The results from the logistic regression analyses are mostly consistent with prior voluntary disclosure research and provide support for the generalisability of existing results into alternative institutional environments. Most importantly, the data indicate that larger firms are more likely to provide management forecast information, good news forecasts tend to be given in more precise form, and litigation risk gives firms incentives for increased forecast precision. The capital market incentive is, however, not supported, and the results involving the effect of firm size on forecast disclosure are inconsistent.

Keywords

Financial disclosure, Management forecasts, Finland, Logistic regression

EMPIIRINEN TUTKIMUS JOHDON ENNUSTEISTA SUOMESSA

Tutkimuksen tavoitteet

Tutkimuksen teoreettisen osan tavoitteena on tehdä katsaus olemassa olevaan johdon ennusteita ja vapaaehtoista tiedottamista koskevaan teoreettiseen ja empiiriseen kirjallisuuteen. Tämän kirjallisuuskatsauksen pohjalta rakennetaan hypoteesit, joita testataan tilastollisin menetelmin tutkimuksen empiirisessä osassa. Tutkimuksen tavoitteena on arvioida aikaisempien empiiristen tutkimustulosten maantieteellistä ja institutionaalista yleistettävyyttä.

Lähdeaineisto

Kirjallisuuskatsauksessa käydään läpi varsin laajasti vapaaehtoisen tiedottamiseen liittyvää keskeistä lähdekirjallisuutta. Pääasiallisena empiirisenä testiaineistona tutkimuksessa käytetään suomalaisten pörssiyritysten antamia tulevaisuuden ennusteita vuoden 2004 tilinpäätöksissä.

Aineiston käsittely

Johdon ennusteita ja niihin vaikuttavia tekijöitä tarkastellaan logistisen regressioanalyysin avulla. Tilastollista aineiston käsittelyä varten vuoden 2004 tilinpäätöksissä annetut johdon ennusteet luokitellaan aikaisemmista empiirisistä tutkimuksista saatavien menetelmien avulla. Pyrkimyksenä on löytää ne tekijät, jotka vaikuttavat yrityksen johdon valintoihin ennusteita annettaessa.

Tulokset

Tutkimuksen aineisto selvästi osoittaa, että suomalaiset yritykset ovat varovaisia johdon ennusteissaan. Annetut ennusteet ovat useimmiten yleisluontoisia ja täsmällisten numeroennusteiden määrä on todella vähäinen.

Logistisesta regressiosta saadut tulokset ovat suurimmaksi osaksi aikaisempien tutkimustulosten mukaisia antaen näin vahvoja viitteitä olemassa olevan tutkimustiedon maantieteellisestä ja institutionaalista yleistettävyydestä. Keskeisimpiä havaintoja ovat, että suuret yritykset antavat ennusteita useammin kuin pienet yritykset, hyvät tulevaisuutta koskevat ennusteet ovat täsmällisempiä kuin huonot uutiset, ja että pelko mahdollisista rangaistuksista kannustaa tiedottamaan täsmällisempää ennusteinformaatiota. Pääomamarkkinahypoteesi ei kuitenkaan saa tukea aineistosta. Lisäksi yrityskoon vaikutuksesta ennusteiden täsmällisyyteen löydetään epäjohdonmukaisia viitteitä.

Avainsanat

Taloudellinen tiedottaminen, Johdon ennusteet, Suomi, Logistinen regressio

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Background.....	1
1.2	Research Problem.....	2
1.3	Scope and Limitations.....	3
1.4	Research Approach and Methods	4
1.5	Structure of the Thesis.....	4
2	INSTITUTIONAL BACKGROUND	6
3	LITERATURE REVIEW	8
3.1	Motivation for Research on Management Forecasts.....	8
3.2	Disclosure and Resource Allocation	9
3.2.1	Information Problem.....	9
3.2.2	Agency Problem	11
3.3	Determinants of Management Forecasts.....	12
3.3.1	Overview.....	12
3.3.2	Drivers of Management Forecasts.....	13
3.3.2.1	Information Asymmetry	13
3.3.2.2	Capital Markets Transactions Hypothesis.....	14
3.3.2.3	Stock Compensation Hypothesis	15
3.3.2.4	Other Motives	16
3.3.3	Constraints of Management Forecasts.....	16
3.3.3.1	Fear of Litigation	16
3.3.3.2	Proprietary Costs	18
3.3.4	Forecasting Resources and Methods.....	19
3.4	Properties of Management Forecasts.....	20
3.4.1	Precision	21
3.4.2	Accuracy	22
3.4.3	Credibility	24
3.5	Capital Market Effects of Management Forecasts.....	26
3.5.1	Stock Market Effects	26
3.5.2	Analyst Coverage.....	28

4	HYPOTHESES.....	30
5	METHODS	35
5.1	Sample and Data Collection.....	35
5.2	Statistical Methods.....	35
5.3	Construct Operationalisation and Measurement.....	36
5.3.1	Propensity to Forecast.....	36
5.3.2	Management Forecast Precision	36
5.3.3	External Financing.....	38
5.3.4	Litigation risk	38
5.3.5	Size.....	38
5.3.6	Forecast Horizon Length.....	38
5.3.7	Good/Bad News Forecast.....	38
5.3.8	Forecast Type Indicator	38
6	RESULTS.....	39
7	DISCUSSION AND CONCLUSIONS	46
7.1	Discussion of the Results.....	46
7.2	Contributions of the Thesis.....	48
7.3	Limitations of the Thesis	48
7.4	Directions for Future Research	49
	REFERENCES	51
	APPENDIX: LIST OF SAMPLE COMPANIES.....	55

1 INTRODUCTION

1.1 Background

Forecasts of firm performance are critical for the functioning of efficient capital markets because they are the basic building blocks in nearly all valuation models, and therefore influence resource allocation decisions and ultimately the distribution of wealth across firms and individuals (Healy & Palepu, 2001; Kothari, 2001). These forecasts are most often issued by firms themselves or alternatively by capital market analysts. Management forecasts as a form of corporate financial disclosure are of special importance because they are believed to represent superior information and to reduce the perceived information asymmetry between the managers and outside investors.

The empirical and theoretical research on management forecasts has focused on three main themes: properties of management forecasts, economic incentives surrounding management forecasts, and the capital market effects of management forecasts (Healy & Palepu, 2001; Verrecchia, 2001). The extant research on management forecasts and voluntary disclosure appears nevertheless somewhat scarce compared to the huge theoretical and empirical interest in analysts' forecasts (Healy & Palepu, 2001; Kothari, 2001).

The extant research on management forecasts has at least three limitations which create an interesting gap in the received research. First, the amount of extant empirical research is somewhat limited which seems rather puzzling given the importance of forecasts, and especially management forecasts over other forecasts. It is widely believed that more research is still needed on management forecasts for theory development (e.g. Healy & Palepu, 2001). Second, the extant research and evidence rely heavily on data from the U.S.. This creates a need for research with a different geographical scope. Third, the extant research on management forecasts is based on the premise of full voluntary disclosure. That is, management forecasts have not been examined in settings where they are compulsory. This makes Finland an unique candidate for management forecast theory development because the local legislation requires firms to assess their probable future developments in the form of management forecasts (Accounting Act 3:1.4). Although management forecasts are compulsory, there remains a lot of room for discretion, and therefore it is important for investors' decision-making process to identify the key variables having an effect on the disclosure.

This thesis attempts to fill the gap in the extant knowledge by presenting an empirical research examining management forecasts in a research setting with a geographical scope other than the U.S., and in a disclosure environment where management forecast are regulated to a larger extent compared to many other countries. This study aims to test the geographic and institutional generalisability of current theories on voluntary disclosure. To do this, first, relevant literature is reviewed. Second, a set of hypotheses are developed. Third, the hypotheses are tested with data collected from financial statements for the year 2004 of 114 companies listed in the Helsinki Stock Exchange.

1.2 Research Problem

The research problem of this thesis is to explore the determinants of management forecasts in Finland. Management forecasts are defined here as qualitative or quantitative assessments issued before the end of the fiscal period to which the forecast relates to in conjunction with financial statements by the management regarding the forecasted future development of the firm. The extant research often uses the term management earnings forecasts interchangeably with management forecast but the definition adopted here acknowledges that measures other than earnings (e.g. sales) may be forecasted by the management. In addition, this definition excludes earnings warnings and other announcements that precede financial statement announcements on the basis that management forecasts are fundamentally different from preliminary earnings announcements because management makes these statements with differing degree of certainty. The general research problem of this thesis can be expressed as

What are the determinants of management forecasts in Finland?

This research problem is divided into five research questions; the first focuses on the propensity of firms to forecast while the others examine properties of management forecasts. Although the legislation requires all publicly traded firms in Finland to provide a management forecast (Accounting Act 3:1.4), there remains a lot of room for discretion; some firms even fail to provide a unambiguous forecast. Hence, the first research question can be expressed as

What determines the firm propensity to forecast?

The first management forecast property under investigation will be management forecast disclosure quality and its determinants. The extant research has used several alternative measures for voluntary disclosure quality such as analyst ratings (e.g. Lang & Lundholm, 1993), frequency

of management forecasts (e.g. Miller, 2002) and forecast precision (Baginski & Hassell, 1997; Bamber & Cheon, 1998). Of the many measures of voluntary disclosure quality, management forecast precision is chosen here to proxy disclosure quality. Management forecast precision is the degree to which the management forecast is specified in terms of a point forecast as opposed to range, maximum, minimum or general expression forecast. Point forecasts are considered as the most precise form of forecast whereas qualitative or general expressions are the most imprecise forecasts. In the extant research, management forecast precision appears to be one of the most popular measures for disclosure quality. There are potentially several reasons for the popularity. For example, it has been argued that the precision of management forecast affects significantly the beliefs of investors and analysts which makes the determinants of management forecast precision an interesting research topic with practical relevance (Kim & Verrecchia, 1991). Also, management forecasts do vary across firms, and hence, there is a possibility to isolate the determinants of forecast precision (e.g. Pownall, Wasley & Waymire, 1993). Therefore, the second research question is

What are the determinants of management forecast precision?

The other three properties of interest are the length of the forecast horizon, the choices related to the forecasted measure, and the degree to which the forecast is perceived as good or bad news forecast. Hence, the last three research questions are expressed as

What are the determinants of forecast horizon length?

What are the determinants of forecast measure choice?

What are the determinants of good/bad news forecasts?

1.3 Scope and Limitations

This thesis focuses on the determinants of management forecasts. The data for the study is collected from financial statements for the year 2004 of 114 companies listed in the Helsinki Stock Exchange. This makes the study inherently a cross-sectional one.

The geographical focus was chosen so that the perceived heavy reliance on U.S. data in management forecast research could be avoided, and so that the current empirical evidence could be complemented. In addition, management forecasts have not been examined in settings where they are compulsory. This makes Finland a unique candidate for management forecast theory

development because the local legislation requires firms to assess their probable future development in the form of forecasts. Furthermore, Finland is an interesting arena for this type of research because The Finnish Financial Supervision Authority has only begun its efforts to monitor firms' management forecasts and compliance to management forecast legislation (Rahoitustarkastus, 2005). Also, capital markets are becoming more and more global as result of technological advancement and deregulation. Therefore, to test the current knowledge in all possible geographical and institutional settings is important. The globalisation of capital markets calls for global theories and empirical evidence.

The main unit of analysis in this study is a management forecast. Management forecasts are defined here as qualitative or quantitative assessments issued before the end of the fiscal period to which the forecast relates to in conjunction with financial statements by the management regarding the forecasted future development of the firm. The extant research often uses the term management earnings forecasts interchangeably with management forecast but the definition adopted here acknowledges that measures other than earnings (e.g. sales) may be forecasted by the management. In addition, this definition excludes earnings warnings and other announcements that precede financial statement announcements on the basis that management forecasts are fundamentally different from preliminary earnings announcements because management makes these statements with differing degree of certainty.

1.4 Research Approach and Methods

This study reviews the relevant literature addressing voluntary disclosure and management forecasts. By building on the existing empirical and theoretical research on voluntary disclosure, this study attempts to shed light on the research questions posed earlier. By reviewing the literature, developing a set of hypotheses, and testing them statistically with financial statement data collected from 114 Finnish firms listed in the Helsinki Stock Exchange, this study attempts to contribute to the extant research on voluntary disclosure. The main statistical method used in hypothesis testing is logistic regression.

1.5 Structure of the Thesis

The rest of this thesis comprises 6 chapters. Chapter 2 provides a short description of the relevant institutional background. Chapter 3 reviews the extant literature on voluntary disclosure and management forecasts. Chapter 4 presents the hypotheses. Chapter 5 describes the methods

including descriptions of the sample, data collection, statistical methods, construct operationalisation and measurement. Chapter 6 presents the empirical results. Chapter 7 presents the conclusions of the results, proposes contributions of this thesis, assesses the limitations of the study, and suggests directions for future research based on the limitations and insights accrued from this thesis. The structure of the thesis is illustrated in Figure 1.

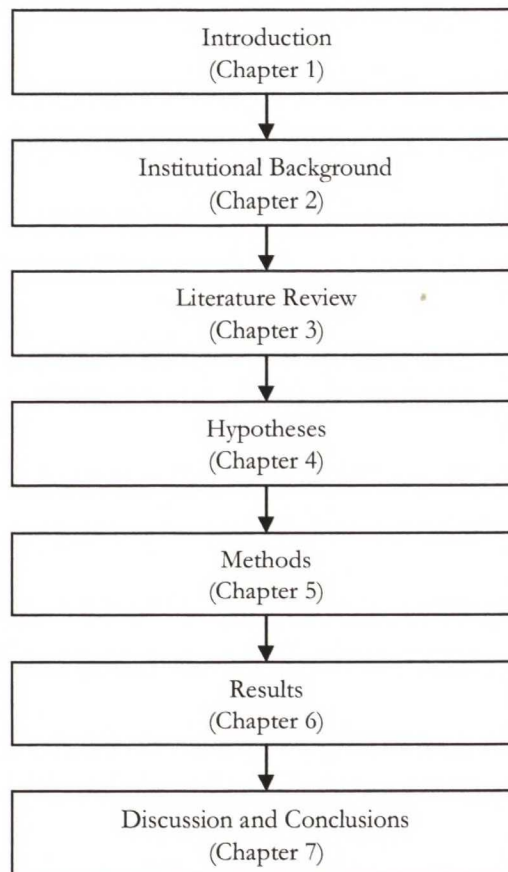


Figure 1 Structure of the thesis

2 INSTITUTIONAL BACKGROUND

The structure of corporate disclosure regulation in Finland is built on accounting and capital market legislation. This framework is to some extent complemented by rules and regulations determined by self-regulatory bodies formed by companies themselves. The principal contents of the corporate disclosure legislation comprise the Accounting Act (1336/1997), the Accounting Ordinance (1339/1997), the Securities Market Act (495/1989), and accounting provisions included in a number of special acts. The legislation also includes obliging references to decisions given by government authorities.

Section 1 in Chapter 3 of the Accounting Act defines the contents of the annual accounts and the report of operations. The first paragraph states that:

For each financial year, annual accounts must be prepared, consisting of:

- 1) a *balance sheet* disclosing the financial position as of the balance sheet date;
- 2) a *profit and loss account* disclosing how the profit or loss has risen;
- 3) a *cash flow statement* detailing funds acquired and the application thereof during the financial year; and
- 4) *notes* to the balance sheet, the profit and loss statement and the cash flow statement.

The fourth paragraph makes the report of operations mandatory under certain conditions as it states that:

A report of operation must be attached to the annual accounts, presenting information relation to the development of the reporting entity's operations, if:

- 1) securities issued by the reporting entity are traded publicly as referred to in the Securities Market Act (495/1989) or admitted trading on a regulated market in a Stock Exchange operating under the legislation of any European Economic Area member state; or
- 2) at least two of the limits referred to in Section 9 paragraph 2 have been exceeded during the financial year and the one immediately preceding it (turnover or comparable figure 7 300 000 euros; total assets 3 650 000 euros; average number of employees 50).

The fifth and sixth paragraphs define the explicit contents of the report of operations:

In its report of operations, the reporting entity must disclose an assessment, unbiased and complete when taking into consideration the extent and structure of its operations, of significant risks and uncertainties and

other conditions affecting the development of its operations, as well as of its financial position and result of operations. The assessment must include the key ratios necessary to understand the operations and financial position as well as the result of the operation of the reporting entity. For this purpose, also ratios and other information on personnel and environmental factors and other possibly significant matters impacting the operations of the reporting entity, need to be disclosed. Where necessary, the assessment must include supplementary detail and further analyses of the figures disclosed in the financial statements.

In additions to what is provided in paragraph 5, the report of operations must include information on significant developments during the financial year and subsequent to it and estimate of probable future developments.

In addition to the forecasts required and defined by the Accounting Act, the Securities Market Act (2:5.5) requires entities with publicly traded securities to assess, to the extent possible, the likely development of the issuer in the present financial period.

The Finnish Financial Supervision Authority has also issued several recommendations for management forecasts. First, the forecasts need to be justified and their reasoning need to be disclosed. Second, if earnings forecasts are presented, they should be calculated by using the same accounting choices and policies as in financial statements at the balance sheet date. Third, the assumptions also need to be explicitly stated along with an assessment of the management's possibility to influence these assumptions. Fourth, the effect of the probable future development on earnings per share (EPS) should also be disclosed.

All in all, the Finnish legislation on corporate disclosure is unique in terms of its regulations regarding management forecasts (Leppiniemi & Leppiniemi, 2000). As described above, the Accounting Act requires reporting entities to prepare a report of operations as a part of annual accounts, and as a part of the report of operations, the entities must provide a forward-looking statement. The content of this forward-looking statement is to include an estimate of probable future developments. The difference compared to, for example The Securities Act in the U.S., is that firms are required rather than prohibited to provide such a forward-looking statement as part of financial statements. The reason for the prohibition in the U.S. Securities Market Act is the fact that forecasts of any sort cannot be audited. IFRS states nothing in specific about management forecasts. In addition to disclosing a forecast, the Finnish Securities Market Act requires the issuers to assess and update the original forecast if necessary. Although these norms pose the requirement for management forecasts, the contents of the forecasts are not explicitly specified which leaves room for discretion.

3 LITERATURE REVIEW

3.1 Motivation for Research on Management Forecasts

Voluntary disclosure and management forecasts as a form of corporate disclosure have been and continue to be extremely popular topics for a wide range of research. This highlights the importance of these issues and indicates a demand for research on these topic areas. There are at least four principal sources of demand for corporate disclosure and management forecast research (Kothari, 2001)

- fundamental analysis and valuation
- tests of market efficiency
- the role of accounting numbers in contracting
- disclosure regulation

Fundamental analysis and valuation comprise the processes to determine the intrinsic value of a firm by using the information on a firm from current and past financial statements, in conjunction with industry and macroeconomic data. The value of a firm is defined as the present value of expected future net cash flows discounted at the appropriate risk-adjusted rate of return. A firm's current performance and financial status as summarised in its financial statements is an important, but not the only input to the assessment of the firm's future net cash flows and into the firm's valuation. Almost all models of valuation either directly or indirectly use earnings forecasts, which makes management forecasts of special importance because they provide with information for the evaluation of future net cash flows. In sum, fundamental analysis and valuation create a strong demand for management forecasts and related research.

An efficient market is one in which security prices fully reflect all available information (Fama, 1970). The level of efficiency in security markets is of great interest because security prices determine the allocation of wealth among firms and individuals. Market efficiency tests in capital market research correlate financial statement and other disclosure information with security returns using a model of expected earnings to isolate the surprise component of earnings from the anticipated component (Kothari, 2001). And because security prices are potentially influenced

by management forecasts, it creates a natural interest in management forecasts and related research from academic and business communities as well as from government authorities.

The positive accounting theory (e.g. Watts & Zimmerman, 1986) predicts that the use of accounting numbers in contracts affects a firm's accounting and disclosure choices. This theory hypothesises opportunistic earnings management and seeks to explain managers' accounting procedure choices. Management forecasts and their relation to contracting context is of special importance, for example, in stock-based remuneration schemes (e.g. are managers' forecasts biased if their compensation is dependent on stock performance?), financing decisions (e.g. do firms increase their disclosure when issuing capital?), meeting covenants (e.g. do financially distressed firms make forecasting errors?), and ultimately in understanding managerial choices.

The disclosure of financial information by publicly traded firms is regulated by accounting standards and as well as by stock exchange rules. Corporate disclosure regulations usually only prescribe the minimum requirements but do not restrict managers from voluntarily providing additional disclosure. Therefore, it is essential for standard-setters and regulators to understand the antecedents and outcomes of voluntary corporate disclosure so that the objectives of standards and regulations can be achieved. Management forecast research is a key input in the process of creating disclosure regulation (Holthausen & Watts, 2001).

3.2 Disclosure and Resource Allocation

Corporate disclosure is essential for the functioning of capital markets. The demand for financial disclosure arises from information asymmetry and agency conflicts between managers and outside investors (Healy & Palepu, 2001). Information and agency problems impede the efficient allocation of resources in the market economy. Managers typically have better information than investors about the value of their business investment opportunities and incentives to overstate them. Therefore, investors face an information problem when investing their resources. Once investors have made the investments in the business opportunities, managers have an incentive to expropriate their investments, which creates the agency problem.

3.2.1 Information Problem

A major determinant for the demand for corporate disclosure arises from the information asymmetry between managers and outside investors (e.g. Healy & Palepu, 2001). Financial

reporting and disclosure are potentially important means for management to communicate firm performance to outside investors. Firms provide disclosure through regulated financial reports, including the financial statements, footnotes, management discussion and analysis, and other regulatory filings. In addition, some firms engage in voluntary communication such as management forecasts, analyst presentations, conference calls, press releases, internet sites and other corporate reports.

The ideas of information asymmetry and signalling are built the seminal papers by Akerlof (1970) and Spence (1973). Akerlof noted that if a buyer of a good is not able to observe the true quality of a single product at the time of purchase, then products of different quality levels are sold at a single price in the markets. This leads to incentives for the sellers of high-quality products to withdraw from the market, and thus leave only low-quality “lemons” on the supply side. This is a market failure called adverse selection. Spence proposes that in order to avoid adverse selection, the sellers of higher quality have an incentive to somehow distinguish themselves from the low-quality sellers by making some information observable (i.e. signalling) upon which buyers make inferences. Signals are activities or attributes of the subject which alter the beliefs of, or convey information to, other individuals in the market. The signaller tries to create a favourable impression or, more precisely, to affect the receiver’s subjective probabilistic beliefs.

Information asymmetry is present in capital markets, and it is believed that the firms and their management hold the superior knowledge. The unobservable information that interests the investors is the actual productivity and value of companies. The goal of the investor is to distinguish between the high and low quality investment opportunities. This information problem impedes the efficient allocation of resources in a capital market economy. Voluntary disclosure plays an important role in mitigating these problems because management may reduce the asymmetry through forecasts with the information that the management possesses. Additional solutions for mitigating the information problem comprise contracts between the managers and investors that provide the managers with incentives for full disclosure of private information, and disclosure regulation that requires managers to fully disclose their private information. The problem with defining contracts for managers that link manager compensation directly to their disclosure activity is that such an compensation contract would have to specify in advance the appropriate disclosures for all possible future contingencies. And since the number of possible future contingencies is unlimited, such a contract would be incomplete and potentially ineffective.

The role of regulation has, however, been questioned by the signalling or screening rationales for voluntary disclosure (Verrecchia, 1983). These models propose that managers with information implying firm values greater than those assessed by the market will disclose it so that their stock prices will be revised upward, while managers with information implying values below market will withhold the information. In this scenario, the silent firms will be identified by investors as “lemons” and their shares will be re-valued downward. That is, no news is bad news. The downward price revision of the silent firms will encourage the firms with good news to screen themselves by disclosing their information. Given this background, the argument is that, there is actually no need for disclosure regulation legislation, since managers have incentives to reveal all information in any case. These theoretical arguments have received empirical attention with inconsistent findings. For example, Lev and Penman (1990) conclude that while there is some evidence of release of bad news by forecasts, on average, firms with good news do voluntarily disclose forecasts in order to distinguish themselves from firms with worse news. However, the results are inconsistent with the negative price reaction implication of the disclosure scenario for the non-disclosing firms. Specifically, they do not find that the stock prices of non-disclosing firms in the same industry as forecasting firms are negatively affected by non-disclosure.

3.2.2 Agency Problem

The agency problem may arise between the shareholders and the management or between the firm and debt holders. The former arises because the investors do not intend to play an active role in the management of the firm but delegate that role to the operating management. There is a danger of conflict of interest between the stockholders and the management. For example, the management can use the funds invested by the investors for excessive management compensation or for investment decisions wise from the management perspective, but not from the investors' perspective. There are several known solutions to this agency problem; contracts between the management and investors (e.g. compensation agreements) and the use of board of directors, whose role is to monitor and control the management, are the most cited solutions. Similarly in the agency problem between the firm and debt holders, the management may decide to pay out excessive dividends and thus deteriorate the firm's ability to follow its debt obligations. This conflict of interest is usually resolved with contract covenants that give discretion on the firm decisions for the debtors.

3.3 Determinants of Management Forecasts

3.3.1 Overview

Corporate financial disclosure is driven by complex economic incentives (Healy & Palepu, 2001; Verrecchia, 2001). In short, because management forecasts are voluntary, there are economic motivations for issuing them. Research on these motives addresses the incentives facing management and their effects on the properties of forecasts. Research has addressed the systematic differences in the properties of management forecasts across firms or groups of firms which might be related to differential economic incentives facing the firms or to differential organisational characteristics. There are two main theoretical perspectives that have been used to explore the economic determinants of voluntary disclosure and management forecasts:

- The positive accounting theory asserts that accounting decisions are influenced by compensation and lending contracts. The central focus of this stream of research is to study the role of contracting and political considerations in explaining management accounting choices when there are agency costs and information asymmetry. Two types of contracts are usually examined; debt contracts (between the firm and its creditors) and management compensation contracts (between the shareholders and management).
- The research from a capital market perspective documents that voluntary disclosure decisions are related to capital market transactions, stock-based compensation, shareholder litigation, and proprietary costs. This research supplements the positive accounting literature by focusing on the stock market motives for accounting and disclosure decisions. This research is built on the premises of superior knowledge held by the management, and management discretion in making disclosure choices in communicating their superior knowledge of firm performance for contracting, political or corporate governance reasons.

Gibbins, Richardson and Waterhouse (1990) provide an interesting analysis of the determinants of financial disclosure using a grounded theory method. They propose five categories of variables that influence disclosure. This perspective is a unique one but deals with many of the same issues as Healy and Palepu (2001) but derives them in completely different way. The variables are:

- Firms disclosure position which is the relatively stable set of preferences for the way disclosure is managed. Gibbins, Richardson and Waterhouse (1990) argue that there are

two archetypes for this. First, a ritualistic approach which is the propensity towards adherence to existing and prescribed norms for the measurement and disclosure of financial information. Firms behaving ritualistically use largely passive, routinised and bureaucratised procedures. This way of working is arises from the internal organisational way of working. Second, in contract to ritualism, the opportunistic position is the propensity to seek firm-specific advantage in the disclosure of financial information.

- Antecedent of the firm's disclosure position. There are both internal and external antecedents for disclosure position. Internal factors include the historical way of working, traditions and taken-for-granted ways of doing things. This forms the basic internal norms and beliefs about financial disclosure. Corporate strategy and management attitudes also play a role. External institutional factors include legislation, standards and regulation. Also, interorganisational networks and obligation resulting from that may influence the position (e.g. there may be industry norms for disclosure). Market related external factors include the frequency of the use of financial markets for capital and competitive considerations.
- Other factors include the specific disclosure issues faced by the firm, the role of external consultants and advisors, and structure.

To summarise the above, literature has identified information asymmetry, capital market motives and stock-based compensation as the main drivers of voluntary disclosure decisions. The main constraints on voluntary disclosure are the fear of litigation and proprietary costs. In addition to examining the determinants of voluntary disclosure, descriptive studies have documented the properties of individual firms' forecasts and cross-sectional variation in the properties of management forecasts across firms. The third main area of voluntary disclosure research is the study of capital market effects of management forecasts. The main contents and empirical evidence of these three main streams of voluntary disclosure research are discussed below.

3.3.2 Drivers of Management Forecasts

3.3.2.1 Information Asymmetry

Information asymmetry arises from the superior knowledge possessed by the management relative to outside investors. Information asymmetry is influenced by mandatory and voluntary

disclosure. Mandatory disclosure and auditing are regulatory means to reduce information asymmetry whereas voluntary disclosure results from economic considerations. If auditing and accounting regulations work perfectly, managers' accounting decisions and disclosures communicate changes in their firm's business economics to outside investors. Alternatively, managers trade off their superior knowledge for economic reasons.

In a theoretical account, Core (2001) argues that management optimise disclosure policy in order to maximise firm value. This assumes that management and shareholder interests are congruent. The choice involves trading off the reduction in the information asymmetry component of the cost of capital that results from increased disclosure quality against the costs of reduced incentives, litigation costs and proprietary costs. For example, for a firm without growth opportunities, mandated disclosure might be of sufficiently high quality to produce low information asymmetry. Because this firm has no need for external finance and has low litigation, incentive and proprietary costs, it has little need for voluntary disclosure. For firms with high growth opportunities, mandated disclosure is low quality and information asymmetry is high. For these firms, some reduction in information asymmetry through voluntary disclosure is optimal and the optimum is determined as function of the quality of mandated disclosure and a trade-off of lower capital and litigation costs against higher proprietary and incentive costs.

3.3.2.2 Capital Markets Transactions Hypothesis

Theoretical studies argue that investors' perceptions of a firm are important to corporate managers expecting to issue public equity or debt or to acquire another company in a stock transaction because when managers have more information than do outsiders, investors demand an information risk premium. The reason is that uncertainty about the firm's future prospects transfers into valuation calculations as higher discounting factors. Consequently, managers who anticipate making capital market transactions have incentives to provide voluntary disclosure to reduce the information asymmetry problems, thereby reducing the firm's cost of external financing. In essence, eliminating information risk tightens the distribution of perceived cash flows, leaving only inherent risk to affect stock prices, potentially reducing the risk premium investors demand to hold the company's stock.

Empirical studies have documented that the reduction of uncertainty about the firm's prospects is the most important motivation for making voluntary disclosure (Graham, Harvey & Rajgopal, 2005). Managers believe that voluntary disclosure reduces the information risk of the company by

making the company performance more predictable. There is also strong evidence to support the theory of voluntary disclosure and external financing (e.g. Healy, Hutton & Palepu, 1999; Lang & Lundholm, 1993). Lang & Lundholm (1993) document that analysts' rating of disclosures are higher for firms issuing securities in the current or future periods. Subsequently, Lang and Lundholm (1997) found out that firms making equity offerings start making increased disclosure prior to the offering in the categories of disclosure they have most discretion over. Healy, Hutton and Palepu (1999) found similar results for firms that eventually made public debt offers. Frankel, McNichols and Wilson (1995) also found out a positive association between firms' tendencies to access capital markets and to disclose earnings forecasts, suggesting that firms attempt to mitigate potential consequences of differential information through disclosure. These forecasts are nevertheless not systematically greater than analysts' existing expectations or subsequently realised earnings. They conclude that to the extent firms benefit from issuing favourable earnings forecasts when offering securities, competing forces such as potential legal liability and reputation costs deter them from issuing optimistic forecasts.

3.3.2.3 Stock Compensation Hypothesis

Theoretical accounts argue that stock-based compensation schemes provide managers with incentives to issue voluntary disclosures (Healy & Palepu, 2001). For example, managers involved in active trading of their stock holdings have incentives to disclose private information to meet insider trading rules and to increase the liquidity of their stock. Further, managers acting in the interests of existing shareholders have a motive to provide voluntary disclosure in order to reduce contacting costs related to stock compensation for new employees. Stock compensation is more likely to be an efficient form of remuneration if the underlying stock is fairly priced; demand for additional compensation for bearing any risk of undervaluation can thus be avoided. Firms using stock-based compensation are therefore more likely to provide voluntary disclosure to reduce the risk of undervaluation. On the other hand, managers are privy to information that investors demand and are reluctant to publicly disseminate it unless provided with appropriate incentives. This leads to agency problems.

These hypotheses have been supported by empirical evidence. Nagar, Nanda and Wysocki (2003) show that incentives in the form of stock-based compensation and share ownership mitigate the disclosure agency problem. They find evidence that firm's disclosures measured both by management earnings forecast frequency and analysts' subjective ratings of disclosure practices are positively related to the proportion of CEO compensation affected by stock price and the

value of shares held by the CEO. Noe (1999) concludes that the incidence of management forecasts is positively associated with insider trading. Further, Aboody and Kasznik (2000) found out that managers determine the timing of good and bad news so that their stock-based compensation is maximised; managers with stock-based incentives mislead investors by accelerating bad news disclosures to maximize the value of upcoming scheduled stock options grants.

3.3.2.4 Other Motives

Other motives that have been mentioned in the literature include political considerations, corporate control arguments, management talent signalling and the limitations of mandatory disclosure. These issues have received relatively little empirical attention.

Political perspective hypothesises that managers' concerns about attracting explicit or implicit taxes or regulatory actions gives them incentives to disclose information voluntarily. Corporate control hypothesis proposes that managers make corporate disclosures to reduce the likelihood of undervaluation and to explain away poor earnings performance in order to avoid job loss resulting from poor stock and earnings performance. Management talent signalling hypothesis argues that managers' worry about corporate and personal reputation may also influence their disclosure decisions (Healy & Palepu, 2001). Trueman (1986) argues that managers have an incentive to make voluntary earnings forecasts to reveal their ability. Harvey, Graham and Rajgopal (2005) argue that the limitations of mandatory disclosures to capture the economic reality may give incentives for managers to engage in voluntary disclosure.

3.3.3 Constraints of Management Forecasts

3.3.3.1 Fear of Litigation

The threat of litigation can have two effects on managers' voluntary disclosure choices (Healy & Palepu, 2001). First, legal actions for inadequate or untimely disclosures can encourage firms to increase voluntary disclosure. Second, litigation can reduce managers' incentives to provide disclosure, particularly of forward-looking statements. The second effect is likely if managers believe that the legal systems penalises them for forecasts made in good faith because it cannot distinguish between unexpected forecasts errors and those due to deliberate management bias.

The expected legal costs associated with a management earnings forecast error are a function of the probability of being sued and the costs associated with litigation if it occurs (e.g. legal expenses, management time and effort). The probability of a lawsuit can be assumed to be higher for firms with reported earnings falling below the management forecast than for firms with earnings exceeding the forecast. Expected legal costs are also likely to increase with the magnitude of the forecast error; the larger the error, the higher the probability of being sued and the greater the costs of resolving the lawsuit if it occurs (the share price movement subsequent to forecast issuance may be used as an input in damage calculation).

These hypotheses have been supported by empirical studies (e.g. Francis, Philbrick & Schipper, 1994; Kasznik & Lev, 1995; Skinner, 1994). For example, Skinner (1994) concluded that firms with bad earnings news have an incentive to pre-disclose that information to reduce the cost of litigation. Kasznik and Lev (1995) and Skinner (1994) propose two rationale why firms voluntarily disclose bad news; to reduce expected litigation costs and to mitigate reputation costs associated with surprising analysts and institutional investors with bad news. Managers are likely to be sensitive to the indirect costs they would bear in the event of a lawsuit. Managers incur substantial reputation, job security, and opportunity costs when their firms are sued. Since managers personally bear these costs, they are likely to be more sensitive to litigation risk than the firms' expected costs alone might suggest. Philbrick & Schipper (1994) discuss the mechanism why the release of a bad news forecast reduces firm's expected litigation costs. This reduction operates through two channels. First, a publicly issued forecast reduces the probability of litigation because it provides a defence against the claims that management withheld material information that they were legally required to disclose. Second, a forecast reduces the expected settlement amount or damage award if the firm is ultimately sued. This reduction occurs because the information release often marks the end of the class period which determines the eligibility of shareholders to recover damages.

Brown, Hillegeist and Lo (2005) examine the influence of the ex ante risk of class action securities litigation on firms' decision to issue management earnings forecast as well as the characteristics of those forecasts. They find that litigation risk is positively associated with the likelihood of issuing a forecast for both good and bad news firms. They also find that higher litigation risk is associated with higher proportion of news being released when firms have bad news, forecasts being released earlier, and being more precise.

Bamber and Cheon (1998) investigate the effects of disclosure related costs on managers decisions about how and where to disclose management forecasts. They provide with evidence that these costs do in fact affect venue and specificity choices; when the exposure to legal liability is high, managers are more likely to issue forecasts in special press releases (thereby reducing the any exposure for failure to disclose material developments as required under certain circumstances) but the disclosures are likely to be less specific (thereby reducing their liability for issuing misleading information). The SEC rules not only require timely disclosures but also make it illegal to issue misleading statements. The first requirement increases the incentives for disclosures while the second decreases the incentives to make specific disclosures. Managers can balance these opposing incentives by taking the initiative to voluntarily issue timely forecast that are also qualitative or open-ended, and hence less likely to be inaccurate ex post. This may also explain why there are so many non point or range forecasts. The legal exposure gives reason to believe that firms with declining earnings will give more imprecise forecasts.

3.3.3.2 Proprietary Costs

Proprietary costs are major indirect costs involved in disclosure which result from the benefits gained from informing the capital markets and disadvantages of giving competitors the same information. The fundamental dilemma of corporate disclosure from the perspective of competition is; should investors be given significant information in the form management forecasts if the disclosure can simultaneously harm the prospects of the firm as competitors are able to use this information? The firms' decisions to disclose information to investors is influenced by concern that such disclosures can damage their competitive position in product markets (Verrecchia, 2001). Firms may even have an incentive not to disclose information that will reduce their competitive position even if it makes capital market transactions more costly. The proprietary cost hypothesis has nevertheless received scanty empirical attention. The incentive for non disclosure is likely to be dependent on the nature of competition, threat of entry and competitive strategies of industry participants (Healy & Palepu, 2001; Porter, 1980). Hayes & Lundholm (1996) argue that proprietary costs induce firms to provide disaggregated data only when they have similarly performing business segments because firms with widely varying performance across business segments have incentives to conceal these performance differences from competitors by only reporting aggregate performance.

Research and evidence from related fields of enquiry nevertheless give indications of the possible influence of competitive business environment on corporate disclosure choices such as

management forecasts. Harris (1998) studied the association competition and management segment reporting choices. The study concluded that the willingness of the management to disclose segment information does depend on competition. Competitive signalling literature drawing from the macroeconomic theory also asserts that the competitive behaviour of companies may be influenced by signals sent by its competitors (e.g. Heil & Robertson, 1991; Moore, 1992).

Bamber and Cheon (1998) also provide evidence that the higher the proprietary information costs, the less likely managers are to disclose forecasts in special press releases. Their conclusions were that assuming that earnings forecasts contain some proprietary information, and conditional on the issuance of an earnings forecast, managers facing higher proprietary costs are more likely to disclose the forecast in response to pressure from analysts as opposed to taking the initiative to issue the forecast in a special press release. Managers facing higher proprietary information costs also prefer a more limited immediate audience, particularly if they do not believe the market is informationally efficient.

3.3.4 Forecasting Resources and Methods

The effects of differential organisational characteristics and resources on management forecasts are a somewhat unexplored area in accounting research. The effects of availability of and access to accurate and relevant data on management has been found to be a significant factor in forecast accuracy in related research settings. For example, Baldwin (1984) looked at analysts' forecasts of the earnings per share of US companies after they first started to disclose line of business segment data. He found that these disclosures appeared to help analysts to make more accurate forecasts. Similar results were also found in later study by Lobo, Kwon and Ndubizu (1998) who also looked at line of business segment disclosures, and by Nichols, Tunnell and Seipel (1995), who instead looked at the impact of geographical segment disclosures on analysts' earnings forecasts. In sum, if analysts make more accurate forecasts when given more accurate and disaggregated information, the same can be hypothesised to apply to management. Therefore it may be proposed that management provided with rich and multi-faceted information will be able to give more accurate forecasts. This in turn indicates the importance of information systems, because availability of and access to relevant data depends very much on various information systems. Hence, it may be further hypothesised that the higher information systems capabilities, the better forecasting capabilities.

It can also be expected that the methods or the processes used to derive the forecast may have effects on their accuracy. This can be deduced from analyst forecast research has addressed the effects of analysts' skills, capabilities and available resources on the accuracy of their forecasts (e.g. Clement, 1999; Jacob, Lys & Neale, 1999; Mikhail, Walther & Willis, 1997). Similar studies are still missing in management forecast literature. Also issues such cognitive bias, low predictability or preferences to withhold unfavourable forecasts have been examined with analyst data (Kothari, 2001), but not with management forecast data.

Research on other fields of enquiry also have interesting links and indications for management forecast research. A central observation has been that forecasting ability is an organisational core competence with economic value and performance effects such as accelerated growth (Durand, 2003; Makadok & Walker, 2000). These studies concluded that the forecasting capability is primarily dependent on the organisation-specific network of information and resources, not individual forecasters. Stated differently, there is a strong link between organisational attributes and the forecasting competence and the forecasting competence of the organisation is determined to a significant degree by the structure and processes of the organisation itself. A corollary of this is that firms differ significantly in terms of their forecasting ability even though the average forecasting ability in an industry is zero. The economic benefits of the forecasting competence result from knowing more accurately the resources that are likely to grow in value and should therefore be acquired, and the resources are likely to diminish in value and should therefore be avoided. To examine these findings (inter-firm differences in forecasting ability and the resulting economic benefits) in the context of voluntary disclosure is an interesting empirical and theoretical question.

3.4 Properties of Management Forecasts

Research in this area almost invariably has a descriptive component that aims to document the properties of individual firms' forecasts. This research can be divided into three streams (Kothari, 2001). First, there is research on cross-sectional variation in management forecasts. Second, research examines whether firms are efficient in using all the information available at the time of their forecast. Third, there is research on systematic differences in the properties of management forecasts across firms or groups. This thesis discusses three interrelated properties of management forecasts that have received attention in the extant literature: precision, accuracy and credibility. Precision is the degree of using quantitative point estimates in forecasts. Accuracy is the difference between the forecasts and actual outcomes. Credibility describes the

trustworthiness of management forecasts in relation to other disclosure information with credibility gained through other means such as auditing.

3.4.1 Precision

Penno (1996) developed a theoretical model according to which the precision of disclosure is determined by the effect the disclosure would have on the firm value. He showed that the precision varies across disclosure items; bad news are disclosed more precisely than good news. This type of discretion optimises the firm value as result of minimising the costs of bad news and maximising the benefits of good news. When bad news are disclosed precisely, the firm will avoid a possible negative overreaction by the investors. Good news, however, benefit from impreciseness because it leaves upside potential for the investors to overreact positively. Managers wishing to minimize the price effect of bad news while avoiding the nondisclosure of bad news may find an imprecise news forecast an viable option. One of the implications of the this model is price nonlinearity; on average prices are more responsive to bad news than to good news.

Inconsistent with Penno's (1996) propositions, Hutton, Miller and Skinner (2000) discovered that the explanations varied across different types of news. Positive management forecasts were issued together with precise explanations (e.g. in quantitative terms) which were verifiable by outside investor whereas negative forecasts were associated unverifiable imprecise explanations. They concluded that investors need to be convinced in the case of positive forecasts. In addition, positive forecasts were issued with reasoning based on internal factors whereas negative forecasts were associated with external factors (e.g. macroeconomic factors); this way the management can keep the reasons behind negative forecast separate from the discretion of the management.

Baginski and Hassell (1997) document that the precision of management forecast in differing information environments. They conclude that the precision of management forecasts of annual earnings per share is decreasing in the length of forecast horizon and variability of security returns, increasing in analyst following, and decreasing in firms size. They, however, fail to establish a connection between management forecast precision and the positivistic nature of the forecasts; bad news forecasts were found not to be less precise than good news forecasts. Their hypothesis is that bad news forecasts might be more precise due to incentives to clearly convey information in an attempt to avoid legal liability. Alternatively, bad news forecasts might be less precise in an attempt to dampen price reactions.

Pownall, Wasley and Waymire (1993), and Baginski, Conrad and Hassell (1994) conclude that both precise and imprecise forecasts are informative for security prices. In addition, Baginski, Conrad and Hassell (1994) document associations between forecast precision and both earnings response coefficients and changes in the dispersion of financial analyst earnings forecasts.

3.4.2 Accuracy

McNichols' (1989) study is widely regarded as the seminal paper on management forecast accuracy. The conclusion is the study was that management forecasts are on average unbiased. Similar results have been found in subsequent studies using various research designs and data sets from different time periods. Although the extant research document that the bias in management is insignificant, it is likely to result from the fact that prior studies have investigated bias by examining the average forecast error of their entire forecast sample. Finding a forecast error statistically insignificant from zero does not necessarily imply lack of bias because in the presence of alternative disclosure incentives, it is possible for optimistic forecasts by some firms to offset pessimistic by others. For example, McNichols (1989) suggest that better understanding of forecast bias may be obtained if the forecast sample is segregated based on the circumstances where managers issue these forecasts.

Indeed, Choi (2000) discovered that short-term forecasts (three months or less forecast horizon) are pessimistically biased whereas long-term forecasts (eight months or longer forecast horizon) are optimistically biased in terms of magnitude and frequency. That is, there exists a temporal trend in management forecast bias; managers start optimistic I their forecasts and then move to pessimism as the end of the year approaches. Choi reflects that the previous claims that management forecasts are unbiased could be driven by the cancellation effect that may occur between long-term optimistic bias and short-term pessimistic bias. For example, McNichols (1989) did not differentiate between long-term and short-term forecasts in her seminal study. When Choi pools her observations into a single sample, her results are inconclusive which gives a strong indication in favour of the cancellation explanation.

The reason for the temporal trend in management forecast accuracy may be that, in the short term, managers try to lower the market's expectations prior to earnings announcements so that they can beat the market's expectations (Ajinkya & Gift, 1984). In the long run, managers distribute optimistic information to lower the cost of capital and increase the liquidity of the firm stock. By releasing pessimistic management forecasts near the time of earnings announcement,

managers can lower both investors' and analysts' expectations directly. This would enable firms to report higher-than-expected earnings in their earnings announcements. However, in the long run, management has an incentive to lower the cost of capital by issuing management forecasts that are optimistically biased.

Earnings forecast accuracy is an important issue for management as forecasting errors can impose costs by impairing management's reputation for accuracy. For example, managers' compensation depends to some extent on investors perception of their ability to anticipate changes in the economic environment (Trueman, 1986). Inaccuracy may also lead to a perception by the investors that the firm is higher risk and therefore lowers the share price. Prior research has suggested that the fear of shareholder litigation, reputation concerns for accuracy, and concerns about adverse price movements provide strong incentives for managers to issue attainable forecasts, or to manage reported earnings to meet or beat their forecasts.

In an empirical account, Chen (2004) explained successfully the reasons why managers fail to meet their own forecast or to achieve poor accuracy. The study showed that the firms that eventually fail present poor forecasting accuracy (i) have less accounting flexibility to manage earnings upward, (ii) are more likely to be less experienced in forecasting, and (iii) are more likely to have experienced significant exogenous changes after making their forecasts.

Similarly, Kasznik (1999) found evidence that managers make income-increasing accounting decisions when earnings would otherwise be below management forecasts. He also found out that earnings management activity is increasing in expected forecast error costs. These costs are higher for overestimates than for underestimates and increasing in the magnitude of the forecast error. He also discovered that managers having more accounting flexibility reduce their forecast errors more than do managers of firms with less flexibility. They do this in order to avoid litigation costs and to keep up reputation. Contrary to the findings for firms whose managers have overestimated earnings, he finds no evidence that underestimated earnings are associated with income-decreasing accruals. However, managers who underestimate earnings are twice as likely to revise their forecasts as are managers who overestimate earnings, suggesting that these managers favour forecast revision as a way to reduce their forecast errors.

Further, Irani (2001) investigated the determinants of bias in management forecasts, and concluded that on average management forecasts are optimistic, abnormal earnings growth is associated with forecast pessimism, and external financing is associated with optimism. The

results of the study imply that firms experiencing earnings growth over and above the industry average seem to downplay their superior performance as reflected in their pessimistic earnings forecasts. Such behaviour could potentially be the result of attempts by the firm's management to protect their competitive advantage as long as possible. Also, since the level of financial distress is found to be positively related to with the degree of forecast optimism, it is possible that job security and equity contingent wealth creates incentives for managers of distressed firms to disclose optimistic earnings forecasts.

3.4.3 Credibility

Research on credibility of management forecasts has suffered from poor definition of credibility. In many cases, credibility is used and operationalised interchangeably with accuracy. The main distinction between the two is that accuracy can only be measured against actual outcomes whereas credibility arises from the potential effects of management forecasts have on security prices, and not from actual outcomes per se.

Jennings (1987) uses analyst forecast revisions as a surrogate for forecast credibility. Jennings views analyst forecast revisions as being composed of two elements: the surprise element (the forecast deviation) and the credibility of the forecast. Analysts revisions following an earnings forecast by management reflect the magnitude and direction of the surprise. Any revision is also influenced by the credibility of the manager issuing the forecast. At one extreme, if management's forecast is completely credible, there will be perfect association in sign and magnitude between forecast deviation and the analyst's forecast revision. As the level of believability decreases, the surprise element will have less effect on analysts' revisions. Jennings proposes that the credibility element may be as important as the surprise element in measuring the information content of management forecasts. The other extreme is when management lacks credibility, there will be no forecast revision by analysts following an earnings projection by management.

King, Pownall and Waymire (1990) argue that credibility has many dimensions such as prior forecast accuracy, management competence and trustworthiness. While prior forecast accuracy could be one of the aspects of credibility, it can also be a function of the underlying predictability of the business, and thus relatively independent of management's motives or credibility. In this respect, accuracy refers to the extent to which forecast is free of intentional bias. Nevertheless, all these dimensions are key elements of management credibility which in turn is of considerable significance to analysts and investors.

Investors view that management forecasts are credible information (Healy & Palepu, 2001). This is by no means evident because managers have incentives to make self-serving voluntary disclosures. There are two mechanisms for increasing the credibility of voluntary disclosures. First, third-party financial intermediaries, such as analysts, can provide assurance about the quality of management disclosures. Second, there can be validation of prior voluntary disclosures through required financial reporting itself. This can be done, for example, by verifying managers' forecasts of revenues and earnings against actual realisations. This is an effective mechanism if there are adequate penalties for managers that knowingly make disclosures that subsequently prove false.

The evidence on the credibility of voluntary disclosures focuses on the accuracy and stock price effects of management forecasts (Healy & Palepu; Verrecchia, 2001). Several studies indicate that management forecasts have comparable credibility to audited financial information (e.g. Ajinkya & Gift, 1984; Pownall & Waymire, 1989; Waymire, 1984). There is also evidence that investors are justified in viewing management forecasts as credible. For example, the accuracy of management forecasts have been found to exceed analysts' forecast accuracy (e.g. Hassell & Jennings, 1986) and management forecasts lack bias on average (McNichols, 1989). The fact that stock prices react to management forecasts suggests that overall investors regard this information credible (Kothari, 2001). But little known whether this credibility arise from assurance provided by auditors, analysts or from other sources (e.g. managers potential legal liability or loss of reputation).

The credibility may nevertheless decline for financially distressed firms; managers of distressed firms perceive a greater incentive to release upwardly biased forecasts because the firm or their position within the firm may not last long enough for them to face institutional penalties for inaccurate disclosures (Frost, 1997; Koch, 2002). Koch (2002) shows that management earnings forecasts issued by distressed firms exhibit greater upward bias, and in fact are viewed as less credible than similar forecasts issued by non-distressed firms. For management earnings forecasts in excess of analysts' existing expectations, he finds that the degree of over-optimism in management earnings forecasts increases as financial distress intensifies. In addition, an examination of revisions in analysts forecasts suggests that financial community views forecasts made by financial distress with scepticism. Analysts essentially ignore good news forecasts made by distressed firms, while there is an exaggerated negative analyst reaction to bad news forecasts made by distressed firms.

The credibility of management forecasts is also dependent on the management's prior forecasting accuracy. Williams (1996) examined the relationship between an earnings forecast by management for a previous fiscal period and forecasts revisions by financial analysts following a subsequent forecast by management for the current fiscal period. She found evidence that management establishes a forecasting reputation based on prior earnings forecasts meaning that analysts revisions are significantly affected by prior forecast accuracy.

3.5 Capital Market Effects of Management Forecasts

3.5.1 Stock Market Effects

As argued above, management forecasts are a source of information in the capital markets. Management forecast research evidence corroborate that management forecasts have information content and that the information content positively correlates with a number of determinants of the quality of the management forecasts (Kothari, 2001). More specifically, management forecast releases are associated with increases in return variability (e.g. Patell, 1976) and there is a positive association between the unexpected component of the management forecast and the security returns around the forecast date (e.g. Ajinkya & Gift, 1984). Or stated differently; management forecasts affect the information environment and influence the level and variability of security prices (Healy & Palepu, 2001). Recent research examines issues like the relation between various types, precision, and credibility of management forecasts and security price changes (e.g. Baginski, Conrad & Hassell, 1993; Bamber & Cheon, 1998; Pownall, Wasley & Waymire, 1993; Pownall & Waymire, 1989). In addition, empirical research provide evidence that strong corporate disclosure policies reduce analyst forecast errors and dispersion (Lang & Lundholm, 1996), increase analyst following (Healy, Hutton & Palepu, 1999), reduce bid-ask spreads (Welker, 1995) and lower the disclosing firms cost of capital (Botosan, 1997; Sengupta, 1998). Hence, it can be concluded that, management forecasts have value relevance which results from the predictive nature of forecasts as they help investors to assess future cash flows.

Capital market responses to management forecasts are conditioned by the content of the management forecast. For example, Skinner (1994) provides evidence that the unconditional stock price response to bad news forecast is greater than the response to good news forecast. Similarly, Rogers and Stocken (2004) argue that investors and analysts are more responsive to bad news forecast than to good news forecasts. Chen's (2004) examination of stock prices from management forecast date to earnings announcement date reveals that the market's treatment of

missing and beating forecasts is asymmetric; for the same deviation of actual earnings from forecasted earnings, the magnitude of the price drop in response to failed forecasts is greater than the magnitude of the price increase corresponding to exceeded forecasts.

The effects of qualitative management forecasts are documented in Mensah, Nguyen and Ryan (1996). Their results show association between qualitative management forecasts and analyst forecast revisions. This relationship is found to be stronger for firms predicting decreases (i.e. bad news forecasts) rather than increases (i.e. good news forecasts) in earnings. Also, the disclosure of qualitative management forecasts are associated with abnormal returns. These results also appear to be stronger for negative rather than positive forecasts. They propose that this consistent lack of symmetry in tests between negative and positive forecasts may result from a potential credibility problem with positive forecasts disclosed qualitatively. In short, their evidence show that qualitative management forecasts are useful. The lack of precision (by definition) of qualitative forecasts reduces the predictive ability and feedback value of management forecasts since it is neither possible to infer the exact percentage change in earnings predicted by management, nor is it easy to determine the extent to which management was able to meet its own forecast. Similarly, Lacina, Cheng and Dontoh (2000) examine the differential market effects of various forms of management earnings forecasts. Their results show that the market responses to point and qualitative forecasts are generally different from those of other types of forecasts (range, maximum and minimum). The signed cumulative abnormal returns are relatively higher for point forecasts and relatively lower for qualitative forecasts. A plausible explanation for all this is that investor uncertainty. One can conjecture that point forecasts provide investors with more information while qualitative forecasts provide investors with less information.

Piotroski (2002) examined the impact of management forecasts on short-term stock return volatility. He found that management forecasts, on average, are followed by heightened volatility. The magnitude and persistence of the heightened volatility are positively related to forecast's information content and inversely related to forecast's precision (imprecise forward-looking disclosures can create more uncertainty than they resolve). The reason for this is that the public release of information (as opposed to just to analysts and institutional investors) can lead to excess price swings as diverse investors struggle to interpret the news. The reason why managers are concerned is that volatility is a manifestation of underlying investor uncertainty about future outcomes. Although a forecast may reduce the information asymmetry, it may also reveal information that increases uncertainty about future payoffs, and this uncertainty may result in

volatility. And this volatility may have pricing implications because volatility is usually mapped directly to CAPM model.

Clement, Frankel and Miller (2003) examine the association among confirming management forecasts (i.e. management forecasts that corroborate existing market expectations about future earnings), stock prices, and analyst expectations. Their study provides evidence that these disclosures affect stock prices and the dispersion of analysts expectations. Specifically, they find that the market's reaction to confirming forecasts is significantly positive indicating that benefits accrue to firms that disclose such forecasts. Overall they find support that confirming forecasts reduce uncertainty about future earnings and that investors price this reduction of uncertainty.

Baginski, Hassell and Kimbrough (2004) investigate why managers choose to provide attributions with their forecasts and whether the attributions are related to security price reactions to management earnings forecasts. They find that attributions are associated with greater absolute price reactions to management forecasts, more negative price reactions to management forecasts, and a greater price reaction per dollar of unexpected earnings.

Hutton, Miller and Skinner (2003) examined managers' decisions to supplement their firms' management earnings forecasts. They classify these supplementary disclosures as qualitative soft talk disclosures or verifiable forward-looking statements. They find that managers provide soft talk disclosures with similar frequency for good and bad news forecasts but are more likely to supplement good news forecasts with verifiable forward-looking statements. They also examine the market response to these forecasts and find that bad news forecasts are always more informative but that good news forecasts are informative only when supplemented by verifiable forward-looking statements, supporting their argument that these statements bolster the credibility of good news forecasts. In other words, their evidence suggests that managers supplement good and bad news earnings in different ways, that bad news forecasts are always credible, and that managers can increase the credibility of good news forecasts by supplementing them with verifiable forward-looking statements about earnings components.

3.5.2 Analyst Coverage

Lang and Lundholm (1993) argue that management voluntary disclosure lowers the cost of information acquisition for analysts and hence increases their supply. However, the effect of voluntary disclosure on the demand for analysts' services is ambiguous. Expanded disclosure

potentially enables analysts to create new valuable information (e.g. superior forecasts) thereby increasing demand for their services. But public voluntary disclosure also pre-empts analysts' ability to distribute managers' private information to investors, thus leading to a decline in the demand for their services. They find that firms with more informative disclosures have larger analyst following, less dispersion in analyst forecast and less volatility in forecast revisions. Their conclusion suggests that disclosure attracts larger analyst following. This is based on the premise that firm disclosure is a determinant of analyst following and not vice versa (firm-provided information is not a substitute for analyst services). They conclude that analysts are not in direct competition with firm disclosures provided directly to investors, or that, if analysts possess both firm-provided and privately acquired information, then quality management disclosure reduces the weight placed on the private information and enhances the analysts' forecast revision process by reducing uncertainty. The net effects are attraction of analyst following and the resulting benefits.

4 HYPOTHESES

Several hypotheses are proposed below. The hypotheses can be divided into following groups:

1. Capital market transaction incentive as a driver of management forecasts
2. Litigation risk as a constraint of management forecasts
3. Firm size as a structural determinant of management forecasts
4. Forecast horizon length as an additional determinant of management forecasts
5. Good news nature of forecast as an additional determinant of management forecasts

As discussed above, investors' perceptions of a firm are important for the firm when managers are planning to obtain external financing. Managers who anticipate making capital market transactions have incentives to provide voluntary disclosure to reduce the information asymmetry problems, thereby reducing the firm's cost of external financing. Empirical studies have documented that the reduction of uncertainty about the firm's prospects is the most important motivation for making voluntary disclosure (Graham, Harvey & Rajgopal, 2005). Managers believe that voluntary disclosure reduces the information risk of the company by making the company performance more predictable. There is also strong evidence to support the theory of voluntary disclosure and external financing (e.g. Healy, Hutton & Palepu, 1999; Lang & Lundholm, 1993). Therefore, firms with external financing needs, voluntary disclosure is a relevant option. Therefore, the following two hypotheses is proposed

Hypothesis 1a: The need to obtain external financing is positively related to the propensity to forecast

Hypothesis 1b: The need to obtain external financing is positively related to management forecast precision

Prior research has shown that management forecasts are on average unbiased (McNichols, 1989). Choi (2000) nevertheless discovered that short-term forecasts (three months or less forecast horizon) are pessimistically biased whereas long-term forecasts (eight months or longer forecast horizon) are optimistically biased in terms of magnitude and frequency. There exists a temporal trend in management forecast bias; managers start optimistic in their forecasts and then move to pessimism as the end of the year approaches. Choi reflects that the previous claims that management forecasts are unbiased could be driven by the cancellation effect that may occur between long-term optimistic bias and short-term pessimistic bias.

The reason for the temporal trend in management forecast accuracy may be that, in the short term, managers try to lower the market's expectations prior to earnings announcements so that they can beat the market's expectations (Ajinkya & Gift, 1984). In the long run, managers distribute optimistic information to lower the cost of capital and increase the liquidity of the firm. By releasing pessimistic management forecasts near the time of earnings announcement, managers can lower both investors' expectations and analysts' expectations directly. This would enable firms to report higher-than-expected earnings in their earnings announcements. However, in the long run, management has an incentive to lower the cost of capital by issuing management forecasts that are optimistically biased. Therefore it is hypothesised

Hypothesis 1c: The need to obtain external financing is positively related to forecast horizon length

Hypothesis 1d: The need to obtain external financing is positively related to good news forecasts

The threat of litigation can reduce or increase managers' incentives to provide voluntary disclosure and particularly forward-looking statements (Healy & Palepu, 2001). First, legal actions for inadequate or untimely disclosures can encourage firms to increase voluntary disclosure. Second, litigation can reduce managers' incentives to provide disclosure, particularly of forward-looking statements. The second effect is likely if managers believe that the legal systems penalises them for forecasts made in good faith because it cannot distinguish between unexpected forecasts errors and those due to deliberate management bias. This two-way effect have been supported with empirical data (e.g. Francis, Philbrick & Schipper, 1994; Kasznik & Lev, 1995; Skinner, 1994).

Further, Brown, Hillegeist and Lo (2005) examine the influence of the ex ante risk of class action securities litigation on firms' decision to issue management earnings forecast as well as the characteristics of those forecasts. They find that litigation risk is positively associated with the likelihood of issuing a forecast for both good and bad news firms. They also find that higher litigation risk is associated with higher proportion of news being released when firms have bad news, forecasts being released earlier, and being more precise. These empirical results give the basis for the next two hypotheses proposing that litigation risk encourages rather than discourages managers to issue forecast disclosures

Hypothesis 2a: Litigation risk is positively related to the propensity to forecast

Hypothesis 2b: Litigation risk is positively related to management forecast precision

Litigation risk can also be hypothesised to be associated with shorter forecast horizons as the near future is easier to predict and therefore it poses a smaller risk of disclosing unintentionally misleading information. Therefore it is proposed that

Hypothesis 2c: Litigation risk is negatively related to forecast horizon length

Diamond and Verrecchia (1991) demonstrate that large firms disclose more than relatively smaller firms. This occurs because increased disclosure reduces information asymmetry and as a result attracts institutional investors. Large firms benefit more from increase in demand from institutional investors due to large number of shares and equity base (Dahlquist & Robertson, 2001; Healy & Palepu, 2001). Increased demand increases share price and, hence, reduces the cost of capital. Further, Lang & Lundholm (1993) found evidence that firm disclosures are increasing in firm size. Hence, the following two hypotheses are proposed

Hypothesis 3a: Firm size is positively related to the propensity to forecast

Hypothesis 3b: Firm size is positively related to forecast precision

Earlier research has shown that forecast recency affects the precision of the forecast (e.g. Baginski & Hassell, 1997). Put simply; the near future is easier to forecast. Bamber and Cheon (1998) predicted with corroborating empirical evidence that longer-horizon forecasts to be less specific, reflecting the greater uncertainty generally associated with longer-term predictions. Because uncertainty about earnings is resolved over time, management is likely more willing and more able to issue a more specific forecast later in the year. Issuing more specific forecasts as the forecast horizon shrinks also helps to align the precision of the market's expectation with the precision of management's expectations as predicted by the expectations adjustment hypothesis (Ajinkya & Gift, 1984). In sum, the following hypothesis is proposed

Hypothesis 4: The length of the forecasting horizon is negatively related to forecast precision

Penno (1996) proposes that bad news will be disclosed more precisely than good news. When bad news are disclosed precisely, the firm will avoid a possible negative overreaction by the investors. Good news, however, benefit from impreciseness because it leaves upside potential for the investors to overreact positively.

Inconsistent with Penno (1996), Hutton, Miller and Skinner (2000) asserted that investors need to be convinced in the case of positive forecasts and more precise forecasts may be expected.

Further, Baginski and Hassell (1997) fail to establish a connection between management forecast precisions and the positive nature of the forecasts; bad news forecasts were found not to be less precise than good news forecasts. Their hypothesis is that bad news forecasts might be more precise due to incentives to clearly convey information in an attempt to avoid legal liability. Alternatively, bad news forecasts might be less precise in an attempt to dampen price reactions.

Hutton, Miller and Skinner (2003) discovered that qualitative disclosures are equally likely for both bad and good news forecasts but more verifiable forward-looking statements are issued for good news forecasts. Skinner (1994) found out that managerial forecasts of bad earnings news are less likely to be quantitative, are made over shorter horizons, and have larger effects on stock prices. Good news disclosures tend to be point or range estimates of annual EPS while bad news disclosures tend to qualitative statements about the current quarter's earnings.

Miller (2002) examines discretionary disclosure choices among a sample of firms experiencing an extended period of seasonally adjusted earnings increases. He studies how the firms adjust their disclosure in response to earnings increases, how disclosure changes as the period of strong earnings performance nears an end and how firms disclose during subsequent period of earnings decline. His results were that firms increase their disclosure during the period of increased earnings; firms continue to disclose at high levels as they approach earnings declines. However, they shift to disclosures that focus on the positive short-term results and do not discuss the impending results. While this behaviour is systematic, the market does not appear to anticipate the subsequent earnings decline. Once the firms announce earnings declines, the magnitude of disclosure returns to the level provided prior to the increased earnings. Lang and Lundholm (1993) document similar results; analyst perceive that overall firm disclosure is greater in years with a positive annual earnings surprise.

Although the extant research provides an inconsistent picture of the association between the forecast precision and the good/bad news conveyed by the forecast, the following hypothesis is proposed in a directional form

Hypothesis 5: Good news forecasts are more precise than bad news forecasts

In sum, I consider 5 explanatory variables (and 11 hypotheses) for propensity to forecast and management forecast precision. These variables can be divided into three groups representing incentives for disclosure (capital market incentive and fear of litigation), a structural variable that

is assumed to stay relatively stable over time (firm size), and time-specific forecast related variables (forecast horizon length and good/bad news nature of forecasts).

5 METHODS

5.1 Sample and Data Collection

The sample companies were identified from the Helsinki Stock Exchange lists. There were 137 companies listed on the exchange in December 2004 with a total market capitalisation of 159 billion euros. All financial institutions were excluded from the sample because their financial statement information are somewhat different compared to other firms. In addition, one Swedish company listed in the Helsinki Stock Exchange (TeliaSonera AB) was excluded because the foreign ownership (proxy for litigation risk) of TeliaSonera AB could not be determined using the operationalisation scheme adopted in this thesis.

In total, 114 companies fulfilling the sample criteria were identified. The sample covers 83% of the listed companies. In terms of market value, the sample coverage is 75%. The exclusion of the 23 companies is not likely to have any significant effect on the representativeness of the results in Finland. The main sources of data were the financial statements of 2004 disclosed by the sample companies, the stock exchange news releases made the companies during 2005, The Finnish Central Securities Depository's database and The Finnish Financial Supervision Authority's database. The sample companies are listed in the Appendix.

5.2 Statistical Methods

Logistic regression analysis was used as the main statistical method in testing the relationships between the variables. It is a statistical method used to explain the variation in one dichotomous dependent variable by estimating the influence of one or several independent variables on the dependent variable. Logistic regression model can be used to describe, predict and control a dependent variable on the basis of independent variables and to determine the percent of variance in the dependent variable explained by the independent variables.

The procedure that calculates the logistic coefficients (b_0, b_1, \dots, b_n) for the independent variables (x_1, x_2, \dots, x_n) compares the probability of an event occurring with the probability of its not occurring. This odds ratio can be expressed as

$$\frac{\text{prob}(\text{event})}{\text{prob}(\text{noevent})} = e^{b_0 + b_1x_1 + \dots + b_nx_n}$$

The estimated coefficients (b_0, b_1, \dots, b_n) are measures of the changes in the odds ratio. In order to determine their relative effects on the probabilities more easily, they need to be transformed back from logarithm form. The coefficients are interpreted so that positive coefficients increase the probability whereas negative values decrease the predicted probability. Logistic regression applies maximum likelihood estimation after transforming the dependent into a logit variable (the natural log of the odds of the dependent occurring or not). In this way, logistic regression estimates the probability of a certain event occurring.

The statistical significance of each coefficient (b_0, b_1, \dots, b_n) is examined whether the coefficient is significantly different from zero. A common threshold for the regression coefficients to be considered a significant is 0.05. The coefficients of determination R^2 (so called pseudo R^2) are used to summarise the overall ability of the independent variables to explain the variation of the dependent variable. The statistical significance of a regression model is given by the χ^2 measure. The overall model can be considered significant when the significance level of the χ^2 measure is below 0.05.

5.3 Construct Operationalisation and Measurement

5.3.1 Propensity to Forecast

The propensity to forecast is treated as a dichotomous variable which is set to 1 if the firm issued a forecast and 0 otherwise.

5.3.2 Management Forecast Precision

Management forecasts are defined here as qualitative or quantitative assessments issued before the end of the fiscal period to which the forecast relates to in conjunction with financial statements by the management regarding the forecasted future development of the firm. The extant research often uses the term management earnings forecasts interchangeably with management forecast but the definition adopted here acknowledges that measures other than earnings (e.g. sales) may be forecasted by the management. In addition, this definition excludes earnings warnings and other announcements that precede financial statement announcements on the basis that management forecasts are fundamentally different from preliminary earnings announcements because management makes these statements with differing degree of certainty.

In this study, each management forecast is treated as a disclosure bundle which can include multiple information items (Miller, 2002). To treat two or more forecast items issued at the same time as separate observations is justified because many of the independent and dependent variables measurements are different for each information item.

Management forecast precision is the degree to which the management forecast is specified in terms of a point forecast as opposed to range, maximum, minimum or general expression forecast. Point forecasts are considered as the most precise form of forecast whereas qualitative or general expressions are the most imprecise forecasts. Management forecast precision is measured here using a nominal scale of 4 categories. The categories are; 4=quantitative forecasts (i.e. point, range and interval forecasts), 3=qualitative forecasts in which the direction of the forecasted measure and the strength of the change is indicated, 2=qualitative forecasts in which only the direction of the forecasted measure is given, and 1=others which includes general impressions and implicit forecasts. Table 1 below illustrates the measurement scheme for management forecast precision.

Table 1 Management forecast precision measurement scheme

Management forecast precision	Example forecast excerpts	Analysis
1	Outokumpu: Given the higher volumes and lower unit conversion costs, but also slightly softening base price of stainless steel, Outokumpu management estimates that the Group's operating profit excluding non recurring items, during the first half of 2005 will be at least at the level of the corresponding period in 2004	The forecast includes a single information item (operating profit excluding non-recurring items). The forecast does not explicitly state the direction; it either stays the same or improves.
2	Alma Media: The comparable net sales and operating profit of the new Alma Media are expected to be higher than in 2004.	The forecast includes two information items (net sales and operating profit). The forecast includes only the directions for the forecasted measures.
3	SysOpen Digia: SysOpen expects to report clearly higher H1/2005 consolidated turnover and EBITA than in H1/2004.	The forecast includes two information items (turnover and EBITA). In addition to explicitly stating the direction of the forecast, the magnitude of the direction is also disclosed.
4	TietoEnator: In the first quarter sales are forecast to grow 6-8% compared with the first quarter of 2004. Full-year sales growth is expected to range between 8-12%. The first-quarter EBITA margin is expected to range between 9-11%. The full-year EBITA margin is expected to exceed 10%.	The forecast includes four information items. All items are point estimates.

5.3.3 External Financing

External financing is treated as a dichotomous variable which is set to 1 if the firm acquired external financing during 2005 and 0 otherwise. Stock exchange news releases and The Finnish Financial Supervision Authority's database for prospectuses were used as the main data sources.

5.3.4 Litigation risk

Litigation risk is measured as the percentage of foreign ownership in the firm. The data for this variable was obtained from The Finnish Central Securities Depository's database.

5.3.5 Size

Size is measured as the log of sales at the time of the forecast (sales in 2004). I use the log of sales in my analysis in order to avoid any skewness problems. The logarithm also captures any decreasing marginal affect of size on disclosures.

5.3.6 Forecast Horizon Length

Forecast horizon length is a dichotomous variable which is set to 1 if the forecast is an annual statement and 0 otherwise (i.e. quarterly or semi-annual forecast).

5.3.7 Good/Bad News Forecast

Good/bad news forecast variable reflects the nature of the forecast in terms of whether it is regarded as good or bad forecast. This is a dichotomous variable and it is set to good (1) if the numerical measure forecasted indicates a better result as compared to the actual results achieved in 2004 and 0 otherwise. If the forecast is quantitative, the categorization is based on the wording of the forecast.

5.3.8 Forecast Type Indicator

The forecasted measure is controlled by including a dummy control variable. Forecast type variable is set to 1 if the forecasted measures is sales and 0 otherwise.

6 RESULTS

First, a descriptive analysis is given to describe the sample firms and management forecasts. The sample included 114 firms from 8 industries. Industrial and technology industries represented over 50% of the sample firms. Table 2 shows the industry distribution of the sample firms.

Table 2 Industry classifications of the sample firms

Industry classification	Number of firms	%
Industrial	34	29.8
Technology	33	28.9
Consumer discretionary	20	17.5
Material	11	9.6
Consumer staples	8	7.0
Healthcare	4	3.5
Telecommunications services	2	1.8
Utilities	2	1.8
Total	114	100.0

Table 3 below describes the sample firms in terms of their sales, personnel, total assets, market capitalisation and foreign ownership

Table 3 Descriptive statistics of the sample firms

Statistic	Mean	Std.Dev.	Min	Max	N
Sales (M€)	1 197	3 417	4.5	29 267	114
Personnel	4 482	8 834	39	55 505	114
Assets (M€)	1 116	3 385	3.0	22 046	114
Market capitalisation (M€)	1 078	5 099	3.8	52 138	114
Foreign ownership (%)	16.8	21.4	0.0	92.0	114

Of the 114 firms included in the sample, 94 (82.6%) provided a management forecast. The other 23 firms (17.4%) did discuss their future outlook but did it without giving a forecast. No statistical significant difference was found between forecasters and non-forecasters. These results are consistent with the findings in the study by The Finnish Financial Supervision Authority (Rahoitustarkastus, 2005). They analysed quality of interim reports in Q1-Q2/2004 of 134 companies listed in Helsinki Stock Exchange and concluded that about 80% of firms provided an earnings or sales forecast. The forecasts by these 94 firms were treated as disclosure bundles

which included one or multiple information items. In this study there were 169 items or an average of 1.8 items per forecast. The distribution of forecasts per each precision category is described in Table 4 below.

Table 4 Management forecast precision distribution

Industry classification	Number of items	%
4=Quantitative forecast	26	15.4
3=Qualitative directional forecast and strength of change	25	14.8
2=Qualitative directional forecast with only the direction	94	55.6
1=Other forecasts	24	14.2
Total	169	100.0

The distribution of management forecasts in terms of precision is very different from the results documented in studies with U.S. data. Most notably, only 15.4% of forecasts are quantitative. This includes point, range and open interval forecasts. It is clear that while the accounting and capital market legislation and mandatory requirements provide the basic framework and minimum standard for management forecast disclosures, considerable latitude remains in determining what information is actually provided. Although publicly traded firms must meet minimum disclosure requirements set by the legislation, firms vary substantially in the amount of additional information they provide to the capital markets. The descriptive data show that Finnish firms are somewhat cautious in disclosing management forecasts. The proportion of qualitative forecasts over more precise quantitative forecasts is surprisingly overwhelming as compared to almost any study conducted with U.S. data.

Of the 169 forecasts, 127 (75.1%) were annual forecasts and 42 (24.9%) were quarterly or semi-annual forecasts, 116 were good forecasts (68.6%) and 53 were bad news forecasts (31.4%), 73 (43.2%) were sales forecasts and 96 (56.8%) were other measures, and 37 (21.9%) were related to external financing later during the year and 132 (78.1%) were not preceding any capital market transactions. In total there were 28 firms identified with capital market transaction in 2005; 13 of these were public debt issues, 21 were directed stock issues, 2 concerned divestment actions, and 2 were general stock issues.

Table 5 provides the distribution of management forecasts across the independent and control variables. The distributions differ significantly across the independent variable good/bad news forecast and the control variable forecast type.

Table 5 Management forecast precision across independent and control variables

Statistic	Forecast precision 1	Forecast precision 2	Forecast precision 3	Forecast precision 4	Total	χ^2 df=3 (Sig.)
Annual forecasts	14	73	20	20	127	4.301
Quarterly and semi-annual forecasts	10	21	5	6	42	(0.23)
Good forecasts	2	69	21	24	116	51.046
Bad forecasts	22	25	4	2	53	(0.001)
Sales forecasts	7	35	12	19	73	12.983
Non-sales forecasts	17	59	13	7	96	(0.01)
External financing acquired	3	26	3	5	37	4.605
No external financing acquired	21	68	22	21	132	(0.20)
Total	24	94	25	26	169	

Table 6 presents the results of the logistic regression analysis for the three proposed hypotheses on the firm propensity to forecast. For the hypothesised relationships, the significance tests are one-tailed. All variables were entered simultaneously.

Table 6 Logistic regression tests for propensity to update

	Predicted direction	<i>Dependent variable</i> Propensity to update
<i>Independent variables</i>		
Hypothesis 1a: External financing	+	-0.393
Hypothesis 2a: Litigation risk	+	-0.007
Hypothesis 3a: Firm size	+	0.198***
<i>Model indices</i>		
Cox & Snell R ²		0.331
Nagelkerke R ²		0.441
χ^2		45.766***
N		114

*** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$ (Hypothesised relationships one-tailed tests)

Hypothesis 1a predicted a positive relationship between external financing and the propensity to forecast. Hypothesis 1a was not supported by the data.

Hypothesis 2a predicted a positive relationship between litigation risk and the propensity to forecast. This hypothesis was not supported by the data.

Hypothesis 3a predicted a positive relationship between firm size and the propensity to forecast. Hypothesis 3a received support from the data. Firm size is significantly and positively related to the firm's propensity to forecast ($\beta = 0.198, p \leq 0.001$).

Table 7 presents the results of the logistic regression analysis for the four proposed hypotheses on management forecast precision. For the hypothesised relationships, the significance tests are one-tailed. For the control variable, the significance tests are two-tailed. All variables were entered simultaneously.

Table 7 Logistics regression tests for management forecast precision

	Predicted direction	<i>Dependent variable</i>			
		Forecast precision 1	Forecast precision 2	Forecast precision 3	Forecast precision 4
<i>Independent variables</i>					
Hypothesis 1b: External financing	+	0.289	0.729	-0.886	-0.549
Hypothesis 2b: Litigation risk	+	-0.021	-0.004	-0.029	0.039***
Hypothesis 3b: Firm size	+	-0.004	0.005	-0.250**	-0.499***
Hypothesis 4: Forecast horizon length	-	-0.129	0.141	0.222	-0.189
Hypothesis 5: Good/bad news forecast	+	-3.676***	0.507	1.271*	1.346*
<i>Control variable</i>					
Forecast type		-0.039	-0.746*	0.015	1.433**
<i>Model indices</i>					
Cox & Snell R ²		0.573	0.073	0.464	0.505
Nagelkerke R ²		0.764	0.097	0.618	0.674
χ^2		143.762***	12.733*	105.236***	118.924***
N		169	169	169	169

*** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$ (Hypothesised relationships one-tailed tests, two-tailed tests for the control)

Hypothesis 1b predicted a positive relationship between external and the management forecast precision. This hypothesis was not supported by the data. The observed relationship between external financing and management forecast precision is again surprisingly to the opposite direction; it appears that external financing leads to less precise management forecast information rather than to precise forecasts.

Hypothesis 2b predicted a positive relationship between litigation risk and management forecast precision. Hypothesis 2b received support from the data. Litigation risk is significantly and

positively related to management forecast precision category 3 ($\beta = 0.039, p \leq 0.001$). The other categories of management forecast precision are negatively related to litigation risk.

Hypothesis 3 predicted a positive relationship between firm size and management forecast precision. Hypothesis 3 did not receive support from the data. In contrast, firm size is significantly and negatively related to management forecast precision categories 3 ($\beta = -0.250, p \leq 0.01$) and 4 ($\beta = -0.499, p \leq 0.001$). This result is inconsistent with the results obtained for hypothesis 3a investigated above. Possible explanations for this surprising inconsistency are discussed below.

Hypothesis 4 predicted a negative relationship between forecast horizon length and management forecast precision. The hypothesis was not supported by the data.

Hypothesis 5 predicted a positive relationship between good news forecasts and management forecast precision. This hypothesis was supported by the data as good news forecasts are negatively and significantly related to management forecast precision category 1 ($\beta = -3.676, p \leq 0.001$), and positively and significantly related to precision categories 3 ($\beta = 1.271, p \leq 0.05$) and 4 ($\beta = 1.346, p \leq 0.05$).

The dummy control variable indicates that sales forecasts appear to be more precise than other types of forecasts (e.g. earnings or operating profit).

Table 8 presents the results of the logistic regression analysis for the three proposed hypotheses on forecast horizon length and good/bad news forecasts. A logistic regression model is also presented for forecast type indicator. For the hypothesised relationships, the significance tests are one-tailed. For the control variable, the significance tests are two-tailed. All variables were entered simultaneously.

Table 8 Logistic regression tests for forecast horizon length, forecast type and good/bad news forecast

	<i>Dependent variables</i>		
	Forecast horizon length	Forecast type	Good/bad news forecast
<i>Independent variables</i>			
External financing	-0.105	-0.142	1.122*
Litigation risk	-0.020*	-0.003	0.020*
Firm size	0.051	-0.128**	-0.152**
Forecast horizon length	-	0.192	1.546***
Good/bad news forecast	1.535***	1.019**	-
<i>Control variable</i>			
Forecast type	0.228	-	1.070**
<i>Model indices</i>			
Cox & Snell R ²	0.313	0.078	0.282
Nagelkerke R ²	0.417	0.103	0.376
χ^2	63.323***	13.633*	55.951***
N	169	169	169

*** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$ (Hypothesised relationships one-tailed tests, two-tailed tests for the control)

Hypothesis 1c predicted a positive relationship between external financing and forecast horizon length. This hypothesis was not supported by the data and was rejected.

Hypothesis 2c predicted a negative relationship between litigation risk and forecast horizon length. This hypothesis was supported by the data as litigation risk is negatively and significantly related to forecast horizon length ($\beta = -0.020$, $p \leq 0.01$).

Hypothesis 1d predicted a positive relationship between external financing and good news forecast. This hypothesis was supported by the data as external financing is positively and significantly related to good news forecasts ($\beta = -0.128$, $p \leq 0.05$).

Other relationships in Table 8 are not hypothesised. Good news appear to be positively and significantly related to forecast horizon length ($\beta = 1.535$, $p \leq 0.001$), and large firms tend to favour other forecasted measures than sales ($\beta = -3.676$, $p \leq 0.001$), and good news forecasts are usually sales forecasts ($\beta = 1.070$, $p \leq 0.01$).

Table 9 presents summary of hypothesis testing. All in all, 5 of the 11 proposed hypotheses were supported by the data.

Table 9 Summary of the results

Hypothesis	Result
<i>Dependent variable: Propensity to forecast</i>	
1a External financing positively related to propensity to forecast	Not supported
2a Litigation risk positively related to propensity to forecast	Not supported
3a Firm size positively related to propensity to forecast	Supported
<i>Dependent variable: Management forecast precision</i>	
1b External financing positively related to management forecast precision	Not supported
2b Litigation risk positively related to management forecast precision	Supported
3b Firm size positively related to management forecast precision	Not supported
4 Forecast horizon length negatively related to management forecast precision	Not supported
5 Good news forecasts positively related to management forecast precision	Supported
<i>Dependent variable: Forecast horizon length</i>	
1c External financing positively related to forecast horizon length	Not supported
2c Litigation risk negatively related to forecast horizon length	Supported
<i>Dependent variable: Good/ bad news forecasts</i>	
1d External financing positively related to good news forecasts	Supported

7 DISCUSSION AND CONCLUSIONS

7.1 Discussion of the Results

This study set out to investigate voluntary disclosure and management forecasts in particular in Finland. The main thrust behind this study was to empirically explore management forecasts in a novel research setting with non U.S. data. Finland was chosen because the local legislation requires (rather than prohibits) firms to assess their probable future development in the form of management forecasts. Although management forecasts are compulsory, there remains a lot of room for discretion, and therefore it is important for investors' decision-making process to identify the key variables having an effect on the disclosure. The objective was to address three limitations found in the extant research on management forecasts: limited attention to management forecasts as compared to analyst forecasts, heavy reliance on U.S. data, and the premise on full voluntary disclosure.

In order to address the perceived gaps in the existing literature, earlier empirical and theoretical research on voluntary disclosure and management forecasts was reviewed. This review included discussion on the drivers and constraints on the disclosure of management forecasts, on management forecast precision, and on the capital market effects of management forecasts.

By building on the existing literature, 11 hypotheses were proposed which addressed the propensity of firms to issue forecasts, management forecast precision, and their determinants. These hypotheses were tested using financial statement data from year 2004 which included forecasts for the year 2005. Logistic regression analysis was used as the main statistical method in analysing the data.

The descriptive data show that Finnish firms are somewhat cautious in disclosing management forecasts. The proportion of qualitative forecasts over more precise quantitative forecasts is overwhelming. Finnish firms appear to be poor in complying with the requirements of the legislation and favour rather cautious choice of words and precision in their management forecasts. It is a relevant question whether investors are currently being given all the information they need and require. It may very well be that the investor community is happy with the current level of management forecast data but this is unlikely given the importance of management information over other sources forward-looking information.

The results from the logistic regression analyses are mostly consistent with prior voluntary disclosure research and provide support for the generalisability of existing results into alternative institutional environments. The data show that the firm propensity to forecast is significantly explained by firm size as predicted. External financing incentive and litigation risk were not found to be related to propensity to forecast.. The role of the firm size is, however, not explicit as firm size is also negatively and significantly related to management forecast precision. This relationship is surprising as it is completely opposite to the hypothesised direction.

The apparent inconsistency for the relationship between firm size and management forecast precision may be explained by the results and conclusions presented by Baginski and Hassell (1997). They also concluded that annual earnings forecasts are less precise for larger firms. They suggested that the information production activities of external parties may have pre-empted the forecast, thus reducing the main benefit of precise forecast production; the changing of expectations reflected in security prices. In this sense, firm size proxies for the amount of public information. For larger firms, the benefits of producing more precise forecast are reduced. More information about larger firms is already produced by parties external to the firm, including analysts, competitors, trade associations and regulators. If the information produced by the external parties is sufficient to meet the demand for more information about larger firms, then to some extent, precise management forecast disclosures and these other sources publicly available, information can be viewed as substitutes. To the extent that externally produced public information pre-empt management forecasts, the effect of precise forecast on security prices is weakened.

Logistic regression analyses on management forecast precision show that litigation risk does give firms with incentives for increased management forecast precision. Also, smaller firms give more precise management forecast information, as discussed above. Consistent with hypotheses, good news forecasts are systematically given in more imprecise form than bad news. But again, external financing is negatively but not significantly related to management forecast precision.

Further analyses show that litigation risk prevents firms from issuing forecasts with longer horizons. The uncertainty related to future appears to be taken into consideration. Also, external financing is found to be related to good news forecasts. It can be proposed that firms give positive forecasts in their attempts to influence the cost of capital.

The results for the successful hypotheses are consistent with prior voluntary disclosure research and provide support for the generalisability of existing results into alternative institutional environments although the forecasts given in Finland appear to be more imprecise on average as compared to U.S.. The results of this study are interesting in the light of the existing research on voluntary disclosure and management forecasts which is based on U.S. data and on the premise of full voluntary disclosure.

7.2 Contributions of the Thesis

This study was conducted to fill a significant gaps in the extant research. Although the hypotheses proposed in this study received mixed success, there are a few insights and contributions worth mentioning. First, the results of this study show that the findings of the existing research also apply in a different geographical and institutional setting. This provides support for the generalisability of the extant theories. Second, while successful in hypothesis testing, this study highlights that the management forecast policies are still somewhat different to the U.S. if the precision of the forecasts is analysed. Finnish firms are issuing forecasts as required by the law but they are only complying with the minimum requirements.

7.3 Limitations of the Thesis

There are several limitations to the results of this study that need to be highlighted. First, the data covers only the financial statements for year 2004 which makes this study is a cross-sectional one. Hence, the data doesn't allow any conclusions of causality between the identified relationships.

Second, the sample is rather small. Of the 137 companies listed in Helsinki Stock Exchange in December 2004, 114 were identified for this study by excluding financial institutions. The sample covers 83% of the total population and 75% in terms of market value. The exclusion of the 24 companies is not likely to have any significant effect on the representativeness of the results in Finland. The analyses were made with 169 firm-forecast observations which is sufficient for regression analyses but can be seen as lacking full statistical power. The firm-forecasts observations were considered to be independent which may in fact not be the case.

Third, the use of archival data may suffer from weaknesses related to variable specification (Graham, Harvey & Rajgopal, 2005). Large sample analyses cannot always speak to the relative importance of competing hypotheses for a phenomenon because the explanatory variable with

the least measurement error might dominate the regression equation. Further, developing good empirical proxies for voluntary disclosure is non-trivial and it is possible that the key variables may potentially proxy for multiple theories and therefore the tests cannot assess which theory fits the data best. For example, size can might explain variation in voluntary disclosure because of political costs, the information environment or firm risk. Size is typically viewed as proxy for information demand or political sensitivity but it is likely to proxy for many other factors. This ambiguous nature of size (from a empirical and theoretical perspective) may a potential explanation for the inconsistency of the found relationships in the hypothesis testing.

7.4 Directions for Future Research

Clearly, the current body of research is incomplete, and there is a need for additional research. This study can be seen as a tentative effort to test the current theories and empirical findings in Finland. Nevertheless, this study has raised several ideas for potential revenues of future research.

First, the hypotheses proposed above, and additional predictions, could be tested with an alternative management forecast quality measure as the dependent variable. One possible alternative could be a some sort of quality index as in the seminal paper by Lang and Lundholm (1993). The downside of this is that there are no readily available Finnish index data and this type of hypothesis testing would first require the development and validation of the index measure. Nevertheless, this line of research would seem enticing.

Second, the attributions given in conjunction with management forecasts are an important area for research. Managers often explain their earnings forecasts by linking forecasted performance to their internal actions and the actions of parties external to the firm. These attributions potentially aid investors in the interpretation of management forecasts by confirming known relationships between attributions and profitability or by identifying additional causes that investors should consider when forecasting earnings. Attributions convey management's assessment of the links between internal and external factors and profitability forecasts. If attributions are credible, they can enhance the usefulness of accompanying earnings forecasts either by providing additional information on known links between factors and profitability or by identifying additional factors to consider in forecasting profits (Baginski, Hassell & Kimbrough, 2004). In addition to documenting and understanding management forecasts and their precision, it is important to acknowledge the explanations given in conjunction with the forecast. The

insightfulness and precision of the explanation part is of great importance to the users of management forecasts.

Third, the capital market effects of management forecasts in Finland would also be an interesting arena for research. These effects were discussed in the literature review but not were included in the empirical research setting.

Fourth, the limitation of this research was a rather small sample. Hence, any further enquiries with bigger samples with greater statistical power would be beneficial.

Fifth, this study was a cross-sectional one, and therefore a follow-up study would be beneficial to see whether the disclosure strategies of firms are a dynamic property and to assess how they change over time (c.f. Miller, 2002). Research in this arena is still somewhat non existent. Given the rather limited research attention on the dynamic perspective of voluntary disclosure, case studies and in-depth analyses of a limited number of companies could be the most appropriate method to be utilised in the first stages of research before employing rigorous statistical approaches. It is my argument, that there is still much to be learned and understood about how disclosure policies are formulated and how voluntary disclosure can be effectively deployed when pursuing company goals. Any development of tools or frameworks for analysing this topic would be of great importance to both investors as well to the research community. This would give additional insights to regulators and authorities as the Securities Market Act requires firms to be consistent in terms of form, frequency and contents. Graham, Harvey and Rajgopal (2005) have already found out that managers pay a lot of attention to consistency and predictability. One of their findings was that executives' decision to limit voluntary disclosure is related to setting a precedent that may be difficult to maintain in the future. Most of the CFOs they interviewed indicated they would not make an earnings forecast or start making voluntary disclosures of non-financial leading indicators for fear of starting a practise that they may later want to abandon.

REFERENCES

- Aboody, D. & Kasznik, R. 2000. CEO stock options awards and the timing of corporate voluntary disclosure. *Journal of Accounting and Economics*, 29: 73-100.
- Akerlof, G.A. 1970. The market for lemons: Quality Uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84: 488-500.
- Ajinkya, B. & Gift, M. 1984. Corporate managers' earnings forecasts and symmetrical adjustments of market expectations. *Journal of Accounting Research*, 22: 425-444.
- Armstrong, J.C. & Grohman, M.C. 1972. A comparative study of methods for long-range market forecasting. *Management Science*, 19: 211-221.
- Baginski, S., Conrad, E. & Hassell, J. 1993. The effects of management forecast precision on equity pricing and on the assessment of earnings uncertainty. *The Accounting Review*, 68: 913-927.
- Baginski, S.P. & Hassell, J.M. 1997. Determinants of management forecast precision. *The Accounting Review*, 72: 303-312.
- Baginski, S.P., Hassell, J.M., Kimbrough, M.D. 2004. Why do managers explain their earnings forecasts? *Journal of Accounting Research*, 42: 1-29.
- Baldwin, B.A. 1984. Segment earnings disclosure and the ability of security analysts to forecast earnings per share. *The Accounting Review*, 57: 376-389.
- Bamber, L. & Cheon, Y. 1998. Discretionary management earnings forecast disclosures: Antecedents and outcomes associated with forecast venue and forecast specificity. *Journal of Accounting Research*, 36: 167-190.
- Botosan, C. 1997. Disclosure level and the cost of equity capital. *The Accounting Review*, 72: 323-349.
- Brown, S., Hillegeist, S.A. & Lo, K. 2005. *Management Forecasts and Litigation Risk*. SSRN Working Paper.
- Chen, S. 2004. *Why Do Managers Fail to Meet Their Own Forecasts?* SSRN Working Paper.
- Choi, J-H. 2000. *A Re-examination of Bias in Management Earnings Forecasts*. SSRN Working Paper.
- Clement, M. 1999. Analyst forecast accuracy: Do ability, resources, and portfolio complexity matter? *Journal of Accounting and Economics*, 27: 285-303.
- Clement, M., Frankel, R. & Miller, J. 2003. Confirming management earnings forecasts, earnings uncertainty, and stock returns. *Journal of Accounting Research*, 41: 653-679.
- Core, J.E. 2001. A review of the empirical disclosure literature: Discussion. *Journal of Accounting and Economics*, 31: 441-456.
- Diamond, D. & Verrecchia, R. 1991. Disclosure, liquidity and the cost of capital. *The Journal of Finance*, 66: 1325-1355.
- Durand, R. 2003. Predicting a firm's forecasting ability: The roles of organizational illusion of control and organisational attention. *Strategic Management Journal*, 24: 821-838.
- Fama, E. 1970. Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25: 383-417.

- Francis, J., Philbrick, D. & Schipper, K. 1994. Shareholder litigation and corporate disclosures. *Journal of Accounting Research*, 32: 137-164.
- Frankel, R., McNichols, M. & Wilson, G. 1995. Discretionary disclosure and external financing. *The Accounting Review*, 70: 135-150.
- Frost, C.A. 1997. Disclosure policy choices of UK firms receiving modified audit reports. *Journal of Accounting and Economics*, 23: 135-150.
- Gibbins, M., Richardson, A. & Waterhouse, J. 1990. The management of corporate disclosure: Opportunism, ritualism, policies, and processes. *Journal of Accounting Research*, 28: 121-143.
- Graham, J.R., Harvey, C.R. & Rajgopal, S. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40: 3-73.
- Harris, M. 1998. The association between competition and managers' business segment reporting decisions. *Journal of Accounting Research*, 36: 111-128.
- Hassell, J. & Jennings, R. 1986. Relative forecast accuracy and the timing of earnings forecast announcements. *The Accounting Review*, 61: 58-76.
- Hayes, R. & Lundholm, R. 1996. Segment reporting to the capital market in the presence of a competitor. *Journal of Accounting Research*, 34: 261-280.
- Healy, P. & Palepu, K. 1993. The effects of firms' financial disclosure strategies on stock prices. *Accounting Horizons*, 7: 1-11.
- Healy, P. & Palepu, K. 2001. A review of the voluntary disclosure literature. *Journal of Accounting and Economics*, 31: 405-440.
- Healy, P., Hutton, A. & Palepu, K. 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research*, 16: 485-520.
- Heil, O. & Robertson, T.S. 1991. Towards a theory of competitive signalling: A research agenda. *Strategic Management Journal*, 12: 403-418.
- Holthausen, R. & Watts, R. 2001. The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics*, 31: 3-75.
- Hutton, A., Miller, G.S. & Skinner, D. 2000. *Effective Voluntary Disclosure*. SSRN Working Paper.
- Hutton, A.P., Miller, G.S. & Skinner, D.J. 2003. The role of supplementary statements with management earnings forecasts. *Journal of Accounting Research*, 41: 867-890.
- Irani, A.J. 2001. Determinants of bias in management earnings forecasts. *Accounting Enquiries*, 10: 33-86.
- Jacob, J., Lys, T. & Neale, M. 1999. Expertise in forecasting performance of security analysts. *Journal of Accounting and Economics*, 28: 51-82.
- Jennings, R. 1987. Unsystematic security price movements, management earnings forecasts, and revisions in consensus analyst earnings forecasts. *Journal of Accounting Research*, 25: 90-110.
- Kaszniak, R. 1999. On the association between voluntary disclosure and earnings management. *Journal of Accounting Research*, 37: 57-81.

- Kasznik, R. & Lev, B. 1995. To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review*, 70: 113-134.
- Kim, O. & Verrecchia, R. 1991. Market liquidity and volume around earnings announcements. *Journal of Accounting and Economics*, 17: 41-68.
- Koch, A.S. 2002. *Financial Distress and the Credibility of Management Earnings Forecasts*. GSIA Working Paper.
- Kothari, S.P. 2001. Capital markets research in accounting. *Journal of Accounting and Economics*, 31: 105-231.
- Lacina, M., Cheng, P. & Dontoh, A. 2000. Differential market effects of voluntary earnings forecasts. *Accounting Enquiries*, 10(1): 1-32.
- Lang, M. & Lundholm, R. 1993. Cross-sectional determinants of analysts' ratings of corporate disclosures. *Journal of Accounting Research*, 31: 246-271.
- Lang, M. & Lundholm, R. 1996. Corporate disclosure policy and analyst behaviour. *The Accounting Review*, 71: 467-493.
- Leppiniemi, J. & Leppiniemi, R. 2000. *Hyvä tilinpäätöskäytäntö*. WSOY. (In Finnish)
- Lobo, G.J., Kwon, S.S. & Ndubizu, G.A. 1998. The impact of SFAS No. 14 segment information on price variability and earnings forecast accuracy. *Journal of Business Finance and Accounting*, 25: 969-985.
- Makadok, R. & Walker, G. 2000. Identifying a distinctive competence: Forecasting ability in the money fund industry. *Strategic Management Journal*, 21: 853-864.
- McNichols, M. 1989. Evidence of informational asymmetries from management earnings forecasts and stock returns. *The Accounting Review*, 64: 1-27.
- Mensah, M.O., Nguyen, H.V. & Ryan, H.A. 1996. An empirical analysis of qualitative management earnings forecasts. *Journal of Business Finance and Accounting*, 23: 1245-1265.
- Mikhail, M., Walther, B. & Willis, R. 1997. Do security analysts improve their performance with experience? *Journal of Accounting Research*, 35: 131-166.
- Miller, G.S. 2002. Earnings performance and discretionary disclosure. *Journal of Accounting Research*, 40: 173-204.
- Moore, M.C. 1992. Signals and choices in a competitive interaction: The role of moves and messages. *Management Science*, 38: 483-500.
- Nagar, V., Nanda, D. & Wysocki, P. 2003. Discretionary disclosure and stock-based incentives. *Journal of Accounting and Economics*, 34: 283-309.
- Nichols, D., Tunnell, L. & Seipel, C. 1995. Earnings forecast accuracy and geographic segment disclosures. *Journal of International Accounting, Auditing and Taxation*, 4: 113-126.
- Noe, C. 1999. Voluntary disclosures and insider transactions. *Journal of Accounting and Economics*, 27: 305-326.
- Patell, J. 1976. Corporate forecasts of earnings per share and stock price behaviour: Empirical tests. *Journal of Accounting Research*, 14: 246-276.
- Penno, M. 1996. Unobservable precision choices in financial reporting. *Journal of Accounting Research*, 34: 141-149.

- Piotroski, J.D. 2002. *The Impact of Management Forecasts on Short-Term Stock Price Volatility*. SSRN Working Paper.
- Porter, M.E. 1980. *Competitive strategy: Techniques for analysing industries and competitors*. Free Press.
- Pownall, G. & Waymire, G. 1989. Voluntary disclosure credibility and securities prices: Evidence from management earnings forecasts, 1969-1973. *Journal of Accounting Research*, 27: 227-245.
- Pownall, G., Wasley, C. & Waymire, G. 1993. The stock price effects of alternative types of management earnings forecasts. *The Accounting Review*, 68: 896-912.
- Rahoitustarkastus. 2005. Osavuositarkastusten laatu: Helsingin pörssin listayhtiöt Q1-Q2/2004. Internet, http://www.rahoitustarkastus.fi/NR/rdonlyres/C6850E85-A255-42AE-AA97-3086EBBF85CA/0/Osavuositarkastusten_laatu.pdf. (In Finnish)
- Sengupta, P. 1998. Corporate disclosure quality and the cost of debt. *The Accounting Review*, 73: 459-474.
- Skinner, D. 1994. Why firms voluntarily disclose bad news. *Journal of Accounting Research*, 32: 38-60.
- Spence, A.M. 1973. Job market signalling. *Quarterly Journal of Economics*, 87: 355-374.
- Trueman, B. 1986. Why do managers voluntarily release earnings forecasts? *Journal of Accounting and Economics*, 8: 53-72.
- Verrecchia, R. 1983. Discretionary disclosure. *Journal of Accounting and Economics*, 5: 179-194.
- Verrecchia, R. 2001. Essays on disclosure. *Journal of Accounting and Economics*, 32: 97-180.
- Watts, R. & Zimmerman, J. 1986. *Positive Accounting Theory*. Prentice-Hall.
- Waymire, G. 1984. Additional evidence on the information content of management earnings forecasts. *Journal of Accounting Research*, 22: 703-718.
- Welker, M. 1995. Disclosure policy, information asymmetry and liquidity in equity markets. *Contemporary Accounting Research*, 11: 801-828.
- Williams, P.A. 1996. The relation between a prior earnings forecast by management and analyst response to a current management forecast. *The Accounting Review*, 71: 103-113.

APPENDIX: LIST OF SAMPLE COMPANIES

1. Aldata Solution
2. Alma Media
3. Amer Sports
4. Aspo
5. Aspocomp
6. Atria
7. Basware
8. Belton-Yhtiöt
9. Benefon
10. Biohit
11. Biotie Therapies
12. Birka Line
13. Cencorp
14. Componenta
15. Comptel
16. Done Solutions
17. E.ON Finland
18. Efore
19. Elcoteq Network
20. Elecster
21. Elektrobit
22. Elisa
23. Endero
24. Etteplan
25. Evia
26. Evox Rifa
27. Exel
28. Finnair
29. Finnlines
30. Fiskars
31. Fortum
32. F-Secure
33. HK Ruokatalo
34. Honkarakenne
35. Huhtamäki
36. Ilkka-Yhtymä
37. Incap
38. Jaakko Pöyry
39. Kasola
40. KCI Konecranes
41. Kekkilä
42. Kemira GrowHow
43. Kemira
44. Keski-suomalainen
45. Kesko
46. Kesla
47. KONE
48. Kylpyläkasino
49. Kyro
50. Larox
51. Lassila & Tikanoja
52. Lemminkäinen
53. Leo Longlife
54. Lännen Tehtaat
55. Marimekko
56. Martela
57. Metso
58. M-real
59. Nokia
60. Nokian Renkaat
61. Nordic Aluminium
62. Okmetic
63. Olvi
64. Orion
65. Outokumpu
66. Perlos
67. PKC Group
68. Plandent
69. Pohjois-Karjalan Kirjapaino
70. Ponsse
71. Proha
72. Puuharyhmä
73. QPR Software
74. Raisio
75. Rakentajain Konevuokraamo
76. Ramirent
77. Rapala VMC
78. Rautaruukki
79. Raute
80. Rocla
81. SanomaWSOY
82. Satama Interactive
83. Saunalahti
84. Scanfil
85. Sentera
86. Solteq
87. SSH
88. Stockmann
89. Stonesoft
90. Stora Enso
91. Stromsdal
92. Suomen Helasto
93. Suomen Spar
94. Suominen Yhtymä
95. SysOpen Digia
96. Talentum
97. Tamfelt
98. Tecnomen
99. Tekla
100. Teleste
101. TietoEnator
102. Tieto-X
103. TJ Group
104. Tulikivi
105. Turkistuottajat
106. UPM-Kymmene
107. Uponor
108. Vaahto
109. Vacon
110. Vaisala
111. Viking Line
112. Wärtsilä
113. YIT-Yhtymä
114. Yleiselektroniikka