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FINANCIAL POSITION DRIVEN MANAGEMENT OF FINANCIAL STATEMENTS

Evidence from Finnish small limited companies

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ABSTRACT
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FINANCIAL POSITION DRIVEN MANAGEMENT OF FINANCIAL STATEMENTS: EVIDENCE FROM FINNISH SMALL LIMITED COMPANIES

PURPOSE OF THE STUDY

This study examines the management of financial statements in Finnish small limited companies. The purpose is to investigate whether the financial position of a company has any effect on the extent of the management of financial statements. The concept of *financial statement management (FSM)* covers in this study pure accounting related choices, not direct management choices such as timing of investments and financing.

The study contributes to previous Finnish studies by focusing on small limited companies and providing evidence on the basis of a large set of data of high quality. Focus on limited companies also enables to investigate the explanatory role of possible financial position related motives that can be induced from the Finnish Companies Act.

DATA AND METHODS

The data in the study are comprised of official financial statements, additional corporate information and adjusted financial statements. The cross-sectional sample consists of 6,379 limited liability companies and the closing month of the financial year varies from April 2001 to January 2003. The data were retrieved from Suomen Asiakastieto Oy's databases. Differences between official and adjusted financial statements reflect exercised management of financial statements. Hypothesis testing employs nonparametric tests, censored Tobit regression analysis, and logistic regression analysis.

FINDINGS

The main finding of the analysis is that the extent of financial statement management seems to be related to the financial position of the company. Both Shareholders' Equity and EBIT are managed upwards significantly stronger when financial solidity is weaker. Lower profitability also triggers stronger upgrading management activity. Further, the analysis indicates that the motive to avoid the threat of compulsory liquidation – rather than the motive to show distributable equity – drives companies to manage their Shareholders' Equity upwards, both being possible management motives induced from the Finnish Companies Act.

These results may imply that the financial statement management is motivated by opportunism rather than better informing stakeholders. This conclusion is strengthened by a finding of the analysis that willingness to disclose the auditors' report appears to decrease as the extent of the management of Shareholders' Equity increases. Overall, the results can be seen to coincide with the positive accounting theory and many previous academic studies suggesting that financial accounting influences contracting outcomes and thereby company's and owners' wealth.

Keywords:

Financial statement management, financial position, small companies

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TALOUDELLISEN TILAN PERUSTEELLA TAPAHTUVA TILINPÄÄTÖKSEN MUOKKAUS: TUTKITTAVANA SUOMALAISET PIENOSAKEYHTIÖT

TUTKIMUKSEN TARKOITUS

Tutkimus tarkastelee tilinpäätöksen muokkaamista suomalaisissa pienosakeyhtiöissä. Tarkoituksena on tutkia, vaikuttaako yhtiön taloudellinen tila tilinpäätöksen muokkaamisen laajuuteen. Tilinpäätöksen muokkaus -käsite kattaa tässä tutkimuksessa puhtaasti laskentaan liittyvät valinnat eikä suoraa muokkausta, kuten investointien ja rahoituksen ajoittamista.

Tutkimuksen panos aikaisempiin suomalaisiin tutkimuksiin nähden on siinä, että se keskittyy pieniin osakeyhtiöihin ja käyttää laajaa ja laadukasta aineistoa. Keskittyminen osakeyhtiöihin mahdollistaa myös taloudelliseen tilaan liittyvien motiivien, jotka voidaan johtaa osakeyhtiölaista, tutkimisen.

AINEISTO JA MENETELMÄT

Tutkimuksen aineisto muodostuu virallisista tilinpäätöksistä, muusta yritysinformaatiosta sekä oikaistuista tilinpäätöksistä. Poikkileikkausotos koostuu 6 379 osakeyhtiöstä ja tilikauden päättymiskuukausi on välillä huhtikuu 2001 ja tammikuu 2003. Aineisto poimittiin Suomen Asiakastieto Oy:n tietokannoista. Eroavaisuudet virallisen ja oikaistun tilinpäätöksen välillä kuvastavat yhtiön harjoittamaa tilinpäätöksen muokkaamista. Hypoteesien testauksessa käytetään parametrittomia testejä, rajoitettua Tobit –regressioanalyysiä ja logistista regressioanalyysiä.

TULOKSET

Analyysin tärkein tulos on, että tilinpäätöksen muokkaamisen laajuus näyttää olevan yhteydessä yhtiön taloudelliseen tilaan. Sekä omaa pääomaa että liikevoittoa muokataan paremmaksi merkittävästi voimakkaammin, kun vakavaraisuus on heikompi. Myös heikompi kannattavuus saa aikaan voimakkaampaa omaa pääomaa ja liikevoittoa parantelevaa muokkausta. Analyysi osoittaa lisäksi, että motiivi välttää pakollisen selvitystilan uhka – ennemminkin kuin motiivi näyttää jakokelpoista omaa pääomaa – ajaa yhtiöitä muokkaamaan omaa pääomaa suuremmaksi; molemmat ovat osakeyhtiölaista johdettuja mahdollisia muokkausmotiiveja.

Tulokset saattavat merkitä, että tilinpäätöksen muokkaamista motivoi ennemminkin opportunismi kuin pyrkimys informoida sidosryhmiä paremmin. Tätä johtopäätöstä tukee myös se tutkimuksen tulos, että tilintarkastuskertomuksen julkaisuhalukkuus näyttää laskevan, kun omaa pääomaa on muokattu enemmän. Kaiken kaikkiaan tulosten voidaan nähdä olevan yhteneviä positive accounting -teorian sekä useiden aiempien akateemisten tutkimusten kanssa, joiden mukaan ulkoinen talousraportointi vaikuttaa sopimusseurauksiin ja sitä kautta yhtiön ja omistajien varallisuuteen.

Avainsanat:

Tilinpäätöksen muokkaus, taloudellinen tila, pienyhtiöt

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1 INTRODUCTION

1.1 Background and motivation

Financial statements are one of the most essential information sources on the company's financial position. As public documents, financial statements are available to outsiders without unreasonable work and expenses. They summarize the company's assets, liabilities and capability to generate income and cash. Therefore, financial statements play a key role in financial decision making. These decisions include, for instance, customer or other contracting party qualification, determination of terms of contract, company valuation, and estimation of default risk.

If the financial position of a company is unsatisfactory, the capability to generate a future cash flow and to fulfill contractual obligations is easily interpreted inadequate. Thus, to avoid adverse consequences, it is generally in the company's best interest to report at least moderate financial position. The financial position can be improved by real, economic actions only. *A view* on the company's financial position, by contrast, can also be upgraded cosmetically.[1] The view to be more favorable than the actual position, the company may want to resort to discretionary accounting choices, which may be in accordance with, or contrary to, the accounting standards. Consequently, it is of particular interest to know whether the financial position has an effect on financial reporting.

Both international and Finnish evidence on the financial statement management (FSM) indicate that there are motives that drive companies to report managed or manipulated financial statements. As a result of previous Finnish studies, we know, for example, that companies used to take into account the extent of earnings management of other firms operating in the same industry when managing reported earnings (Kallunki & M. Martikainen, 1999), that there has been an implicit dividend contract between companies and large institutional owners (Kasanen et al., 1996), and that failed Finnish companies manage reported earnings upwards before a financial failure (Kallunki & T. Martikainen 1999).

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[1] Assuming that outsiders cannot fully see through the artificial management. For instance, Healy & Wahlen (1999) find support for this assumption when they review literature on how investors interpret managed financial statements requiring corrective adjustments.

Also, the Finnish tradition of corporate analysis is based on an idea that the official balance sheet and income statement do not provide adequate grounds for corporate analysis. This is attributable to the tight connections of financial accounting and taxation, and the prior accounting legislation that allowed a great deal of discretion in determining the reported level of earnings. The reforms of the Accounting Act, the Accounting Ordinance, and the Business Tax Act in the 1990's narrowed the selection of management means and brought the Finnish accounting practices closer to the international practices. In spite of the progress, corporate analysts continue to adjust financial statements so that the view of a company is comparable to the company's prior financial statements and the statements of peer companies. In Finland, the adjustments still have a significant impact on the financial ratios reflecting financial solidity and profitability (Tuuri, 2002).

Although a great deal of research and professional corporate analysis have shown that some Finnish companies manage or manipulate financial statements, there is little literature that addresses the critical issue of how the management is related to the financial position of the company.

1.2 Research problem

This thesis deals with the management of financial statements in Finnish small limited companies. The research problem is the following: *is financial statement management different in magnitude depending on the financial position of a company?* Hence, we want to know whether companies take advantage of the flexibility of the accounting standards or violate the standards more, on average, when the financial position is not satisfactory.

The research problem will be approached from the following angles.

- What is the legal setting like under which Finnish small limited companies prepare financial statements? Does it induce any special financial position related motives for the management of financial statements?
- What are the discretionary actions – in accordance with, or exceeding the limits of the standards – that cause the need for adjusting official financial statements in corporate analysis?

- In the light of unique data, is there a need for financial statement adjustments, that is, have companies managed financial statements? How the need is related to the financial position of the company? To which factors possible differences in the need are attributable?

The need for financial statement adjustments is our measure for the management. The need measures a difference between reported and adjusted financial statements, and it will be defined in detail later. The underlying assumption is that the adjustments analysts actually have made satisfactorily correspond to the true need to correct and harmonize financial statements.

1.3 Contribution

In addition to the financial position focus, the study differs from many previous Finnish studies on the financial statement management in the following three major respects: the data is exceptionally comprehensive and of high quality, the management concept is broader, and the focus is on small companies instead of public companies.

First, the scale and the scope of the data are special features of the study. The sample consists of over 6,300 Finnish small companies and the data include official financial statements, financial statements adjusted by financial statement analysts as well as additional corporate information. Some of the previous studies have been based on the adjustments made in a setting of very limited number of companies and on the basis of only official financial statements. Some other studies have gone through a larger set of companies with the help of an econometric model aimed at detecting abnormal accruals. The large sample size in this study improves the power of the tests. In addition, the reliability of the results can be assumed to be higher: analysts make adjustments on the basis of confidential and additional background material which provides, on average, better information than official financial statements. The assessment of the financial position of a small company may be derived even from the level of individual accounts.

Second, the management concept is likely to be broader – and possibly more meaningful in some sense – than in many previous studies. Going through the financial statements manually and adjusting accounts on the basis of a rather large information set is a fairly direct method of detecting financial statement management. Due to this direct assessment method, the management concept can be said to be broad. Value of investments and receivables, for

example, cannot usually be adjusted if there is no information available beyond the legal disclosure requirements. Unlike some other studies, this thesis also eliminates the impact of the most common way of altering *Profit for the Financial Year*, tax-related *Appropriations*. *Change in Accumulated Depreciation in excess of Plan* and *Change in Untaxed Reserves* are not regarded as means of management because they only change the timing of the income taxation, not the amount of taxable income over time or the structure of the income accrual.

Third, the study focuses on small limited companies while the majority of previous studies have investigated the behavior of the managers of larger, often publicly listed companies. The financial statements of companies with highly concentrated ownership are often exploited in different circumstances and for different purposes than the financial statements of public companies. Consequently, motives for FSM are different and that may also be reflected in management actions. There is also no reason to ignore small firms as their role in the Finnish economy is prominent: close to 99% of the all firms are small, they employ 44% of the working population, and they compose 33% of the aggregate sales.[2]

1.4 Limitations

The sample consists of companies in which a financial institution has interest: most commonly the interest concerns long-term debt financing. Due to this characteristic, the companies involved are likely to be, on average, more leveraged than randomly sampled companies. Thus, the selection bias may cause that the results cannot be fully generalized to the whole set of Finnish small companies.

There may be a bias against the null hypothesis that managers do not artificially improve the view on the financial position and the performance of a company. The potential bias results from the adjustment perspective of the financial institutions for which the financial statements are adjusted in this data set. As lenders, they are mainly concerned with the client's ability to pay the installments and the interest. They prefer conservative accounting. Consequently, there is a relatively low threshold to adjust earnings and equity downwards whereas a threshold to adjust them upwards is higher. On the other hand, there may be also an opposite effect because some management activity remains out of reach. First, analysts adjust financial

[2] Source: <http://www.yrittajat.fi/sy/home.nsf/pages/Yritystoiminta> [cited 22 September 2003]. The data is for the year 2001 and is obtained from Statistics Finland. In this data, a firm is considered small if the number of employees is below 50.

statements in light of available information only; they do not reprepare statements from scratch. Manipulations that keep items outside financial reports or otherwise make accounts unclear cannot be unraveled. Second, poor disclosure quality may also prevent analysts from making necessary adjustments. As a result, the existence and the direction of the bias are not unambiguous.

1.5 Structure of the study

The remainder of the paper is organized as follows. Section 2 reviews previous studies on the management of financial statements. This study is also put in the context of the existing literature. Section 3 describes the legal setting of Finnish small companies in the preparation of financial statements and discusses resulting FSM incentives. Section 4 goes through indicators of financial position that are available to outsiders, common ways to extend and even exceed the limits of the accounting standards, and adjustments made to financial statements in corporate analysis. Section 5 works as a link to the empirical analysis by introducing hypotheses. Section 6 is devoted to the empirical analysis: the description of the data and the methodology, and the presentation and interpretation of the results. Section 7 concludes.

2 RESEARCH ON THE FINANCIAL STATEMENT MANAGEMENT

There is a rich research tradition in the field of the financial statement management and it continues to be vigorous. Since the subject is large and highly empirical, we will take a broad review on previous studies of the financial statement management ranging from the foundations of the research to the motives of the management (also beyond purely financial position related) the literature has considered. At the end of the section, we will contemplate how this study is positioned within the existing research.

2.1 Foundations for the research

First, we will describe some of the main subjects that have laid foundations for the FSM research.

2.1.1 Positive accounting theory

Management of financial statements has been studied for decades. However, it was not until 1986 that Watts and Zimmerman published a book where they provided a systematic summary of the prior main findings of empirical regularities in financial accounting. The book became a landmark of the establishment of a new subject, positive accounting theory. Positive theorists try to explain and predict accounting practice choices. The theory is called *positive*, as opposed to *normative*, because it avoids advocating of one accounting rule as being better or worse than another.

The theory underlying empirical work has its foundations in economic literature. Reasoning is fairly straightforward. As Watts and Zimmerman (1990) explain, a firm can be viewed as a bunch of contracts. In this case, the concept of a contract has a very broad scope including both explicit and implicit contracts. The firm will want to minimize various costs resulting from interacting with other contracting parties because the costs[3] affect the wealth of the firm. Similarly, managers of the firms will want to maximize the present value of their own wealth. Since many of these contracts involve an accounting component, there will arise incentives to manipulate financial statements from the point of view of both the firm and the managers.

Bowen et al. (1995) present situations where companies with a stronger (view on) financial position and a better (view on) profitability are likely to face lower costs in transactions with stakeholders. These situations are examples of implicit contracts.

- Customers are willing to pay a higher price for goods because the firm is assumed more likely to honor implicit warranty and service commitments.
- Suppliers offer better terms, both because the firm is assumed more likely to make payments due for current purchases and because the firm is assumed more likely to make larger future purchases.
- Lenders offer better terms because the firm is assumed less likely to either default or delay loan payments.

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[3] According to Watts and Zimmerman (1990), "contracting costs consist of transaction costs (e.g. brokerage fees), agency costs (e.g. monitoring costs, bonding costs, and the residual loss from dysfunctional decisions), information costs (e.g. the costs of becoming informed), renegotiation costs (e.g. the costs of rewriting existing contracts because the extant contract is made obsolete by some unforeseen event), and bankruptcy costs (e.g. the legal costs of bankruptcy and tile costs of dysfunctional decisions)".

- Valuable employees are assumed less likely either to leave or to demand higher salaries to stay.

2.1.2 Information processing of stakeholders

It is not worth manipulating information as long as stakeholders having interest in a firm have low cost access to the requisite information and they are able to recognize and to make corrections for management actions. (Dechow & Skinner, 2000) In other words, markets are efficient with respect to information if all necessary information is available at low cost and stakeholders are rational. As the availability of information highly depends on the legal system and its ability to enforce provisions, the crucial question remains whether all stakeholders are rational and reasonably sophisticated in information processing.

Empirical papers give some evidence. Breton and Taffler (1995) test the reactions of 63 London City investment analysts to accounts manipulations. In a laboratory experiment, the analysts had two sets of accounts, one heavily managed and the other one clean. The authors report that the analysts made no significant corrections for doubtful accounting choices as they assessed the companies. In another paper, Hirst and Hopkins (1998) study how the way accounting information is presented influence company valuation. The results suggest that variation in the way information is reported in the financial statements can have a predictable impact on analysts' stock price estimates. The literature review of Healy and Wahlen (1999) surveys, among other things, papers targeted on the detection of management. They present a range of investor and analyst related papers showing that earnings management is not always fully detected.

However, the empirical evidence is not fully consistent: especially in the finance sector, studies (e.g. Wahlen, 1994; Beaver & McNichols, 1998) have indicated that investors do detect earnings management and make adjustments. This conclusion is made on the basis that stock returns seem to be negatively related to normal changes in loan loss provisions but positively related to abnormal loan loss provisions, which may be interpreted according to Healy and Wahlen (1999) as an evidence that investors suspect that firms with abnormally low loss provisions are managing earnings and investors discount the reported performance accordingly. However, banking and insurance are exceptionally highly regulated businesses. Strict provisions concerning external reporting may explain the better detection of management.

Economic psychology (see e.g. Antonides, 1996) also argues that non-optimal information processing is characteristic of human economic behavior. Individuals do not tend to make cognitive judgments perfectly rationally and they tend to neglect some of the relevant pieces of information. In financial judgments, the cost of storing, retrieving, and processing financial information may be sufficiently high for some stakeholders to resort to, for instance, heuristic cutoffs to assess company performance.

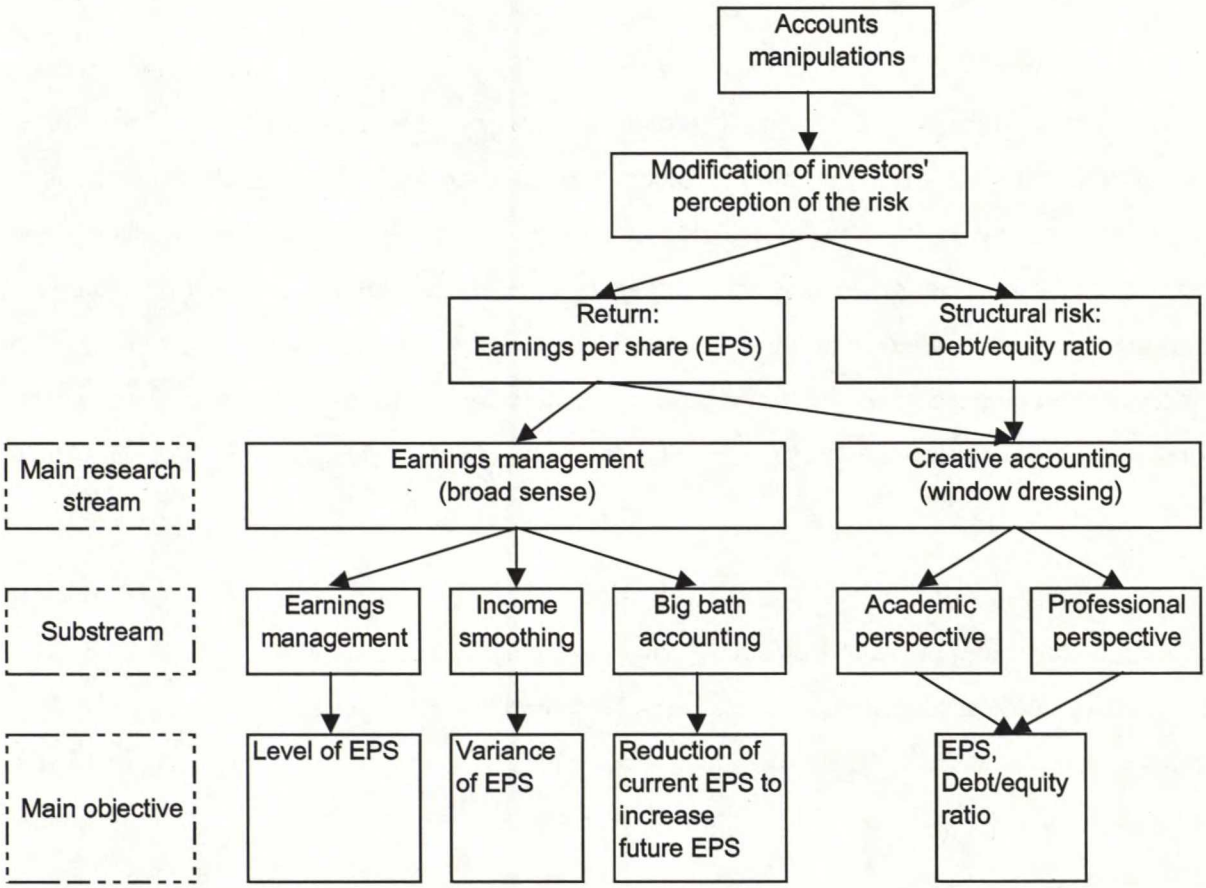
Together, the evidence suggests that not all stakeholders are capable of recognizing and making corrections for FSM actions. This lowers the threshold to manage financial statements (if motives for management exist).

2.2 Management concepts and lines of research

There is a great variety of terms describing managers' discretion in external financial reporting: earnings management, accounts manipulation, creative accounting, "art of cooking the books" etc. All refer to managers' actions that give stakeholders somehow managed and maybe distorted view of the company performance and/or financial position. We start the review of concepts by looking at Stolowy's and Breton's (2000) framework for classifying research lines of the financial statement management (see Figure 1 below).

According to Stolowy and Breton, financial statement management primarily aims at influencing stakeholders', such as investors', perception of the risk of the firm. Provision of managed external financial information reduces the cost of financing firm's projects. They state that the objective of the FSM is to alter two risk-related measures that are observable in financial statements: (1) the level and the variance of earnings and (2) the level of leverage. The framework classifies financial statement management in relation to these two risk components.

Figure 1. *Framework for classifying research lines of the financial statement management*



Source: Adapted from Stolowy and Breton (2000).

Earnings management concentrates on the earnings side and is by far the most widely-examined research stream of the FSM. It can be further divided into three subgroups. First, the initial earnings management research was interested in the level of earnings, and tried to identify cases where reported earnings were maximized or minimized. Second, income smoothing involves behavior of reducing fluctuations in reported earnings. Third, big bath accounting refers to (current) income decreasing accounting actions that new corporate managers take in order to accelerate a reported future growth rate in earnings.

The scope of the earnings management concept is so broad that sometimes it is regarded as a synonym for the FSM. There is, however, a significant factor that prevents earnings management from covering the whole FSM concept. Earnings management merely concentrates on the management actions that alter the bottom line of the income statement;

balance sheet effects are secondary, and actions having only balance sheet effects are totally ignored.

The other main research stream under the Stolowy and Breton framework, creative accounting, examines both income statement and balance sheet management. This line of research is more in-depth analysis of accounts in order to find doubtful applications of accounting practices. Authors of creative accounting generally rely on the experience and knowledge of auditors or other accounting specialists to discriminate between non-managed and managed items whereas earnings management researchers typically construct models that differentiate managed statements from non-managed ones. Issues of creative accounting were first raised by practitioners and journalists, and they entered into academic literature much later.

Since the concepts of the FSM are not well specified and can indeed coincide, we will not go to each concept in more detail. We will, however, consider various definitions of the broadest term of the field, earnings management, in order to address the two issues common to all FSM concepts. There seems to be no consensus among researchers: 1) which actions are labeled as management, and 2) whether the purpose of FSM has to be deceptive.

Beneish (2001) presents a collection of definitions of earnings management:

(a) The process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings. (Davidson et al., 1987, cited in Schipper, 1989)

(b) A purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process). ... A minor extension of this definition would encompass "real" earnings management, accomplished by timing investment or financing decisions to alter reported earnings or some subset of it. (Schipper, 1989)

(c) Managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (Healy & Wahlen, 1999)

All the definitions deal with actions that management may exercise in external financial reporting but differ from each other in the above-mentioned two respects.

Definition (a) includes only ordinary discretionary *accounting* choices that are in accordance with generally accepted accounting principles. Definition (b) (as its extended version) incorporates also *real economic* choices such as timing of investment and financing decisions. It seems that a majority of FSM studies aims at dealing with pure accounting choices rather than incorporating real economic choices. Unfortunately, there is a methodological problem how to distinguish accounting choices from real economic choices (see Section 2.5).

Definition (b) also says that the aim of managing earnings is to obtain private gain. Definition (c) is, similarly, categorical with respect to the purpose of management: either misleading a stakeholder or influencing contractual outcome. Definition (a), on the contrary, refers to obtaining a desired level of earnings without mentioning any need to mislead somebody. Among FSM studies, there is some variation whether the purpose of FSM has to be deceptive. At one extreme, only actions violating the accounting standards are regarded as management while at the other extreme, actions making use of the flexibility in the accounting standards are under examination.

The latter definitions seem to preclude the possibility that earnings management can occur for the purpose of better informing the stakeholders on the company performance and financial position. Accounting standards may simply force to use accounting practices that do not characterize the development of the company in a true way from the management's point of view. Most papers on the management of financial statements take for granted that the FSM is opportunistic by nature, and implicitly ignore the possibility that the motive behind the FSM may be management's willingness to communicate a fairer view. Lobo and Zhou (2001) examined whether earnings management is motivated by opportunism or informing intention with an intelligent research setting by comparing the quality of company's financial disclosure to the level of earnings management. If earnings management were led by informing needs, disclosure quality should be positively related to earnings management. They report, however, a significant negative relation between earnings management and companies' disclosure quality, which suggests that opportunism is a dominant driver in earnings management.

Section 2.6 will, among other things, discuss how this thesis is positioned within the described framework and how financial statement management is defined in the thesis.

2.3 Motives for management

As we saw in Section 2.1.2, even sophisticated accounting and finance experts have difficulties in identifying managed financial statements and making corrections for management. The inefficient information market probably boosts incentives for taking management actions assuming that motives for management exist. This section discusses motives that the literature has proposed. We base the classification of the motives on the categories recognized by Healy and Wahlen (1999) – contracting motives, capital market motives, and regulation related motives – and add another category, labeled as psychological thresholds related motives.

In the view of the positive accounting theory, almost all motives could be traced back to a contract of some kind, either an explicit or an implicit one. The contracting motives presented the first subsections are, however, solely related to real written contracts. The latter motive categories could alternatively be interpreted as motives arising from implicit contracts.

2.3.1 Contracting motives

Specific cases where accounting data are used to help monitor and regulate explicit contracts between a company and its stakeholders include management compensation schemes and debt covenants.

The ambitions of managers of companies of separated ownership and management are often put in line with the goals of the company by tying managers' compensation to partially depend on the company performance. For private companies, bonus schemes typically depend on the figures in the financial statements to a greater degree than for public companies as the stock market is not evaluating the performance. It is logical to assume that managers have a motive to manage reported earnings in a way that maximizes their compensation. Healy (1985) was among the first to comprehensively investigate this motive for the management of financial statements. He found that accounting choices concerning accruals are related to their bonus contracts and that changes in accounting procedures of managers are associated with adoption or modification of their bonus plan. More specifically, managers tend to manage

earnings downwards when their bonuses are at their maximum or below the minimum necessary to receive any bonus and upwards otherwise. Holthausen et al. (1995) report results consistent results except that the lower limit is not a significant factor determining downward earnings management. Thereafter, the evidence has mainly suggested that current earnings are undermined in order to boost future compensation (Beneish, 2001).

Including debt in the capital structure of a company introduces an agency conflict (Jensen & Meckling, 1976). When a financial institution lends money to a company, it may want to restrict the level of leverage of the company, and the dividends the company pays out, as well as to ensure a specified level of equity, working capital, and interest coverage. Financial institutions may include debt covenant clauses in loan agreements to do that. If the costs of a covenant violation are higher than the potential benefits of the violation, a motive arises to circumvent the accounting based restrictions by managing accounts. Empirical evidence from this motive is mixed. For example, Sweeney (1994) and DeFond and Jiambalvo (1994) examined companies reported to actually violate covenant restrictions. Sweeney (1994) reports that companies approaching technical default respond with significant income-increasing accounting changes. Cross-sectional analysis of individual accounting changes failed, however, to provide conclusive evidence that managers of default firms make income-increasing accounting changes to offset tightening debt-covenant constraints. DeFond and Jiambalvo (1994), on the other hand, found debt covenant restrictions to trigger income-increasing accounting choices in the year preceding and the year of violation. DeAngelo et al. (1994) had another approach: they investigated a sample of companies having covenant clauses in their debt contract, but not necessarily violating them. The authors could not unambiguously attribute the changes in accounting practices to intents of offsetting tightening covenant constraints.

The evidence is also mixed with respect to whether the leverage of a company could be used as a proxy for the restrictiveness of covenants. Press and Weintrop (1990) report that a higher debt-to-equity ratio reflects the closeness of the company to its covenant constraints. By contrast, Dichev and Skinner (2001) provide large-sample evidence that leverage is a relatively poor proxy for closeness to covenants. The initial debt hypothesis argues, as Sweeney (1994) writes, that the larger a firm's debt-to-equity ratio, the more likely the firm's manager is to select income-increasing accounting procedures. Researchers have recently

been more interested in the covenant hypothesis than the pure debt hypothesis. This is probably because an explicit contract provides a better-justified hypothesis for their studies.

In all, it is clear that explicit contracts, such as bonus schemes and covenants, create potential management motives. Empirical evidence from studies on contracting motives is not, however, consistent. There is likely to be scope for more intelligent research designs.

2.3.2 Capital market motives

As regards the motives originating from capital markets, literature has considered (1) market expectations and (2) capital market transactions such as equity offerings, insider trading, and management buyouts.

Earnings expectations are set by analysts, investors, and management itself. The importance of meeting the expectations is explained by the prospect theory. It will be covered in Section 2.3.4. While this cognitive theory can explain the importance of meeting expectations, empirical studies show the importance in practice. Barth et al. (1999) document that market rewards – in the form of larger earnings multiples – companies exhibiting patterns of increasing earnings even after controlling for growth and risk. Further, they document that earnings multiples decrease to an abnormally large degree when a company with an increasing earnings track reports an earnings decrease. Beating the last year's earnings seems to be an implicit expectation in stock markets. Skinner and Sloan (2000), in turn, investigated real expectations. They show that stock prices of growth companies exhibit an asymmetrically large negative response to negative earnings surprises. The authors argue that this finding explains a well-documented phenomenon that the returns of growth stocks seem to be unusually low relative to other stocks. According to Burgstahler and Eames (2002), companies have recognized how important it is that reported earnings satisfy the expectations. They report that companies avoid reporting earnings lower than analysts' expectations by managing both earnings upwards and analysts' forecasts downwards.

Capital market transactions create a motive to manage financial statements if the management of the statements has any impact on the share price of a company. When buying shares, the objective is to show artificially weakened performance. When selling them, boosted performance is likely to be preferred.

In equity offerings, it can be assumed that the motive to show brightened performance is high because companies try to get as good price as possible for the shares. The evidence shows that estimates of the FSM activity at the time of an issue are significantly negatively correlated with the subsequent earnings and returns performance suggesting that offerings belong to the relevant motives. Both initial equity issues (e.g. Teoh et al., 1998b) and seasoned equity issues (e.g. Teoh et al. 1998a) seem to pursue the same pattern.

Hypothesis of insider trading as a FSM motive suggests that managers of public companies act as informed traders: they are buying abnormally large number of shares of their company before they report artificially increased company earnings. The findings of Beneish (1999) on companies discovered to violate the GAAP confirm that managers use the information of overstated earnings to trade for their own benefit.

Evidence on whether management buyouts work as motive to understate the company performance, and thereby lower the deal price, is mixed. For instance, DeAngelo (1986) find no support for the existence of the motive while Perry and Williams (1994), additionally controlling for changes in revenues and depreciable capital, report earnings management to be income-decreasing prior to MBO's.

Overall, the research on capital market motives has accelerated in the past decade. This is probably due to the rapid international development of capital markets that has made the role of the capital markets more pervasive and the subject more essential. The evidence from empirical studies seems to support the existence of the motives relatively strongly.

2.3.3 Regulation related motives

Regulatory motives consist of actions that the government and authorities impose to companies. Academic research has proposed that taxation, antitrust regulation, and industry regulation may have impact on how companies prefer showing their performance. Results of the studies on regulatory motives totally depend on the regulation in respective states. Therefore, they are not covered here. For a more detailed discussion of regulatory motives in Finland, see Sections 3.3.1 to 3.3.4.

2.3.4 Psychological thresholds related motives

Due to the limited cognitive capabilities, individuals tend to make judgments on the basis of heuristics. One form of heuristics is to use a reference point when making judgments. As a result, reference points, or psychological thresholds, may be assigned unreasonably high importance. In financial statements, relevant thresholds include the zero-profit, the last year's profit, and the expected profit (Degeorge et al., 1999). Market expectations were already discussed in connection with possible capital market motives in Section 2.3.2.

Explanation for the importance of fulfilling the thresholds is given by the prospect theory. Drawing on the theory of Kahneman and Tversky (1978), we can say that reported earnings are evaluated against a certain reference point. The theory suggests that decision-makers derive value from losses and gains with respect to the reference point, and value functions are convex in losses and concave in gains. Thus, for a given decrease in earnings, the corresponding decrease in the assigned value is greatest when the earnings move from a gain to a loss (assuming the referenced earnings is 'no gain, no loss' situation). According to this reasoning, it is highly important to make profit, to beat last year's profit, and to meet market expectations, each target being a possible reference point.

Cosmetic earnings management is also likely to be based on cognitive reference points. Cosmetic earnings management refers to situations where it is possible to round earnings slightly up in order to make them look abnormally higher. Management of this kind is enabled by a limited amount of memory available: human beings tend to place the most emphasis on the first digit of a number. Humans appear to perceive, for example, that a profit of 501 million is abnormally (more than proportionally) larger than a profit of, say, 497 million. Carslaw (1988) examined the financial statements of New Zealand companies and found that there is a much higher than expected frequency of zeros and other small numbers and a less than expected frequency of nines as the second digit of reported earnings. Kinnunen and Koskela (2003) examined the cosmetic management internationally. Using a sample of almost 22,000 firms in 18 countries for the five-year period 1995-1999, they report that companies tend to exercise cosmetic earnings management worldwide. They also report that cosmetic upgrading co-varies with some institutional factors such as the latitude of country's GAAP, the cultural values, the importance of management bonus schemes, and spending on auditing.

2.3.5 Discussion about motives

As can be seen, the international literature investigating motives is rich. Several motives for FSM actions have been proposed and the evidence is in some cases inconclusive. One thing seems, at least, to be evident: companies actually do manage their financial statements independent of legal systems or eras.

We still take a look at some management issues not fitting well under the four motive categories already discussed. First of all, why *troubled companies* would deliberately reduce reported earnings? For successful companies, downgrading management may be reasonable due to, for example, tax and antitrust considerations. DeAngelo et al. (1994) report that there may also be reasons for downgrading among troubled companies. To a great extent, the reasons are associated with renegotiations of explicit or implicit contracts. Reported losses can help convince e.g. lenders that managers are serious about streamlining operations, unions to accept wage concessions, or the government to grant import relief. In manager-managed companies, deliberately reduced reported earnings can justify a realized management change or rationalize dividend cuts to shareholders who suspect managers of overretaining cash.

Second, the FSM research has, besides firm-specific targets, considered the role of industry-wide targets in the financial statement management. The argument is that the level of financial statement management of a firm cannot deviate too much from that of the other firms operating in the same industry because otherwise the management activity would stand out. Kallunki and M. Martikainen (1999) investigated earnings management in Finland among 509 companies divided into 13 industries. They report that the extent of earnings management adjusts to industry-wide averages, and the estimated speed of the adjustment coefficient is highly significant and relatively high. Kinnunen et al. (1995) show that earnings management (as well as conventional income smoothing) is significantly larger in the core sector companies of the Finnish economy than in periphery sector companies. Using U.S. data Albrecht and Richardson (1990), by contrast, report that pure income smoothing exists in a fairly even fashion across sectors.

Last, it is noteworthy that there is a common difficulty in all statistical research: how to control for the effects of the motives that are not under investigation. Gopalakrishnan and Parkash (1995) tackle this difficulty by directly inquiring which factors determine accounting choices. They asked big U.S. borrowers to rank nine given factors possibly having an impact

on accounting choices. They report that the ranking of the factors is, in order of descending importance: 1. most commonly used, 2. industry convention, 3. level of reported income, 4. taxable income, 5. ease of using, 6. debt covenants, 7. compensation plans, 8. union negotiations, and 9. political environment. The results seem to indicate that the choice between alternative practices is mainly driven by conventions rather than management purposes. The shortcoming of this research method is, obviously, a potential weak association of the expressed statements with the actual behavior.

2.4 Finnish studies

Financial statement management is partly country-specific because political and legal environment influence the applicability of FSM and the feasibility of certain management means. Therefore, we finally take a brief, separate review on some studies that shed light on the FSM activity in Finland.

As presented above, Kallunki and M. Martikainen (1999) show that a company management takes into account the extent of earnings management of other firms operating in the same industry when managing reported earnings. Additionally, they report that Finnish companies tend to manage their reported earnings downwards during good times and upwards during hard times. Their data consisted of listed companies during 1988 - 1996.

Kasanen et al. (1996) argue that there has been an implicit dividend contract between companies and large institutional owners. In a debt-dominated, keiretsu-type financial environment, the institutional owners are reluctant to lose their control by selling shares. Instead, they expect a smooth dividend stream. For this reason, companies need to report earnings high enough to pay out dividends even though companies would otherwise prefer reporting as low earnings as possible for tax purposes. This is supported by the evidence from a sample of 37 listed companies during 1970 - 1989.

Kinnunen et al. (2000) used the same sample as Kasanen et al. (1996) to investigate the earnings management behavior prior to seasoned equity issues. Their evidence suggests that companies issuing new shares exploit earnings management, by the year of a share issue, to report larger earnings in excess of current dividends than other companies. This effect seems to be especially strong among companies issuing shares at higher discounts. By managing their earnings upwards issuing companies try to convince investors of their ability to meet the

expected dividend increase in future. The evidence in main respects is consistent with international studies such as Teoh et al. (1998a) presented in Section 2.3.2. As regards initial public offerings, Teoh et al. (1998b) found that the FSM activity at the time of an issue is significantly negatively correlated with the subsequent earnings and returns performance. On the basis of the results of Ora (2000), Finnish evidence seems to also be in line with those findings.

Drawing on international studies, Niskanen and Keloharju (2000) examined whether Finnish companies manage earnings upwards cosmetically. As explained in Section 2.3.4, cosmetic earnings management refers to small-scale management practices that alter the second leftmost digit of earnings to exceed nine so that the first digit of earnings becomes larger by one. The authors found such behavior among listed companies during 1953 - 1997, the evidence being mostly attributable to the latter sub-period from 1974 onwards. The finding is somewhat surprising as the tight connections of financial and tax accounting made it costly to cosmetically round earnings up.

Kallunki and T. Martikainen (1999) deal with the financial position as a motive for earnings management. Their sample consisted of 47 financially failed Finnish companies during the period of 1983 - 1989 and a control group of 47 non-failed companies comparable in industry and size. They report that failed Finnish companies manage reported earnings upwards three years before the financial failure. The control firms did not show similar behavior.

To summarize Finnish FSM studies, most of them seem to share some common characteristics. First, they exclusively focus on earnings management: for example, misvaluation of assets is not an issue. Second, drawing on the earnings management research tradition, they take into account only actions that have an impact on Profit for the Financial Year: for example, classificatory management actions (reporting income or expenses under incorrect items) are ignored. Third and probably most importantly, the data are from years before the reforms of the Finnish accounting and business income taxation standards in the

1990's.[4] Before the reforms, the accounting standards had very low conformity with the International Accounting Standards.[5]

In the following list adapted from Kinnunen et al. (1995), the most important instruments that were available for management purposes but that are not in accordance with the current Accounting Act or Business Income Tax Act are covered. First, as the Accounting Act did not regulate annual depreciation, companies could, in principle, select any depreciation level between zero and the maximum rates enacted in the Business Income Tax Act. Second, companies were allowed to create several untaxed reserves. Third, companies did not have to record their pension liabilities contributed to pension foundations on an accrual basis. Fourth, companies were allowed to deduct income taxes from earnings in the income statement or directly from retained earnings on the balance sheet. Fifth, they were allowed to add certain tax-free revenues, such as dividends, directly to Shareholders' Equity without presenting them in the income statement. Since the importance of these instruments have declined dramatically or disappeared totally, we cannot be sure whether the evidence from the papers reviewed above is still valid under the reformed acts.[6]

More recent data is used in Tuuri's (2002) master's thesis. It deals with financial statement adjustments and their impact on financial ratios. A random sample of 114 Finnish companies was investigated by comparing financial ratios calculated from official financial statements and from adjusted financial statements. Adjustments were made on the basis of official financial statement material and according to guidelines provided by the Committee for Corporate Analysis[7]. Tuuri (2002) reports that financial ratios describing static liquidity are not sensitive to adjustments while ratios describing profitability and financial solidity are. It is, however, difficult to compare these results with the results from the "pure" FSM studies mentioned above because the methodology is not based on abnormal accruals or distributions as was in the studies above and because some adjustments suggested by the Committee for Corporate Analysis are not designed to correct for management actions.

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[4] The Accounting Act was reformed in 1993 and 1997. A substantial proportion of the provisions of the Business Income Tax were reformed in connection with the grand tax reform in 1992 although the act dating from 1968 is still in effect.

[5] "Survey of the Use and Application of International Accounting Standards" (covered 54 countries worldwide) by the International Accounting Standards Committee (IASC) (1988).

[6] See Lappalainen (2003) for a review on the effects of the reforms on these instruments.

[7] Yritystutkimusneuvottelukunta. The Committee for Corporate Analysis is a Finnish registered association founded in 1972 aiming at promoting, developing, and harmonizing corporate analysis practices in Finland. The members of the committee include nearly 30 major Finnish financial institutions and other organizations and public authorities engaged in corporate analysis. The latest edition of the guidelines was released in 2002.

2.5 Methods employed

The research on the management of financial statements meets a methodological challenge. As Sweeney (1994) points out, literature provides no theory of the choice of an efficient accounting policy in the absence of managerial involvement. In other words, is it possible to claim that the income statement or the balance sheet is managed if there is no solid theory for non-managed accounts? FSM researchers have solved the dilemma by using one of the following three methods: econometric expectation models, benchmarking, and expert opinions.

The first method group, econometric expectation models, can be further divided into three categories: models of aggregate accruals, specific accruals, and discontinuities in the distribution of reported earnings (McNichols, 2000). Accruals approaches use regression models to estimate expected and unexpected accruals i.e. to divide the difference between Net Income and Operating Cash Flow into two components, expected and unexpected one. The models are estimated either in time series or cross-sectionally in a given year.[8] The research stream aiming at finding abnormal accruals has recently encountered increasing criticism. The major concern is that the models seem to fail to distinguish the accounting management component from the managers' real economic choices (McNichols, 2000; Beneish, 2001).

Investigating abnormal distributions of reported earnings is a newcomer among econometric expectations models. The approach is based on an idea that in the absence of management, reported earnings of companies at very narrow intervals should be distributed according to a certain form. Investigated intervals are typically chosen so that they situate around some meaningful thresholds such as analysts' consensus expectation, zero earnings, or last year's earnings. Alternatively, the distribution of some digit in reported earnings may be investigated. From the studies presented above, Degeorge et al. (1999), Niskanen and Keloharju (2000), Dichev and Skinner (2001), Burgstahler and Eames (2002), and Kinnunen and Koskela (2003) apply this method in one way or another. The approach is only interested in the existence of management; it is silent about the form of management.

The second method for investigating managed accounts is benchmarking. However, it may be difficult to justify the use of a given benchmark if there are no theoretical grounds for the

[8] See Lappalainen (2003) for a review and comparison of various models designed to estimate unexpected accruals.

choice. Sweeney (1994) uses financial statements of comparable companies as a benchmark. Kasanen et al. (1996) use IAS-earnings as a benchmark.

The third research method, the use of expert opinions, is the most direct way of estimating the management of financial statements. The studies generally rely on the auditors' expertise in identifying manipulative accounting choices (e.g. Nelson et al., 2002), or cases in which authorities or financial press have challenged accounting practices (Beneish, 1999). The studies using this method generally focus on the actions contrary to the accounting standards. As a result, there is a clear reference for non-manipulation: the accounting standards. On the negative side, the applicability of the method in the FSM research is limited because it excludes discretionary actions in accordance with the law from the selection of management actions.

2.6 Own research in relation to the existing literature

The last task of the research review is to put the own research in the context of the existing literature. The following two subsections will discuss how this study is distinct from previous FSM studies as regards the focus and the methodology.

2.6.1 Focus

There is indeed no comprehensive FSM literature on the behavior of Finnish small companies. This thesis contributes literature by providing evidence from small limited companies only. There are at least two features that make small companies distinct research targets. First, small companies are typically owner-driven businesses while big companies have hired managers. As a result, principal-agent conflicts are not an issue in a small company setting. Second, shares of the small companies are not traded on a public market. Consequently, there are generally no capital market related motives for management. Taken together, potential management motives for big companies seem to differ from those of small companies. Differences are also likely to lead to different management targets and means.

The paper studies whether financial position has impact on the FSM activity. The review of previous studies implied that the role of the pure financial position has been mainly examined through the restrictiveness of covenants or the behavior of distressed firms. Here we consider a broad range of measures of the financial position as well as companies of various levels of

financial strength. Furthermore, we add another aspect, motives induced from the Finnish Companies Act. As regards covenants, we have no data about covenants to which the sample companies may be subject. But as the Finance Survey for Industrial and Service Firms[9] in 2002 indicates, the use of covenants when financing small companies is still a very uncommon practice in Finland. Therefore, we can expect that the role of covenants is trivial and the use of other measures is more justified.

2.6.2 Differences in methodology

The critical issue discussed above, selecting an appropriate proxy for non-manipulated financial statement items, is solved in this study by comparing official financial statements to financial statements adjusted primarily according to the guidelines suggested by the Committee for Corporate Analysis (2002). Hence, we use a more direct method than most of the studies presented above, which employed expectation models. Each company has been investigated manually by an analyst, which may be regarded as an advantage. On the other hand, analyst's subjectivity is likely to be involved to a greater extent than in expectation models.

Another special feature relating to the methodology is the consideration of not only earnings management but also balance sheet management. Most of the Finnish FSM studies have concentrated on the income statement management. They belong to a so-called pure earnings management stream of the FSM research. This study, by contrast, investigates both income statement and balance sheet effects. Thus, classificatory management activities on the balance sheet and asset misvaluation are, for example, also under examination.

As discussed, there is deviation among FSM papers which actions are included in the selection of management actions. This study does not separate illegal and legal discretionary actions. Both are taken into account if possible. Direct management, that is timing of operations and investments, cannot be detected.

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[9] Teollisuus- ja palveluyritysten rahoituskysely. The survey is annually carried out by the Bank of Finland, the Ministry of Trade and Industry, and the Confederation of Finnish Industry and Employers.

3 LEGAL FRAMEWORK FOR PREPARING FINANCIAL STATEMENTS

This section describes the legal framework under which Finnish small limited companies prepare their financial statements, and discusses specific provisions possibly raising interests for managing financial statements. First, we tackle a fundamental question of the justification of the standard setting.

3.1 Justification of the legal standards

Healy and Wahlen (1999) explain the role of financial reporting and standard setting. Assuming that auditors and authorities can enforce the legal framework, they argue that the accounting standards can provide a relatively low-cost and credible means for corporate managers to report information on their firms' performance to external capital providers and other stakeholders. Ideally, financial reporting helps the best-performing firms in the economy distinguish themselves from poor performers and facilitates efficient resource allocation and stakeholders' decision-making. Thus, the standards add value if they enable financial statements to effectively portray differences in firms' financial position and performance in a timely and credible manner.

There is a conflict between the relevance and reliability of information. Standards that stress relevance at the expense of reliability are likely to generate information that is viewed skeptically by the users of the financial statements. On the other hand, standards that over-emphasize reliability in accounting data are likely to lead to financial statements that provide less relevant and less timely information on a firm's performance and financial position. Consequently, the enacted standards tend to be compromises that moderate the demands for both reliability and relevance.

The reliability/relevance conflict relates to a question of how much discretion is allowed for managers in financial reporting. As Healy and Wahlen (1999) continue, it is obvious that if financial statements are to convey managers' information on their firm's performance, standards must permit managers to exercise judgment in financial reporting (in the form of selecting reporting methods, estimates, and disclosures that match the firm's business reality). However, managers' use of judgment also creates opportunities for management activity that does not merely aim at showing a more real view of the firm's underlying economics but a

view that is beneficial for the managers an/or the firm. Distorted views can be hindered by adequate auditing.

Hence, independence, reliability and accuracy of auditing play a major role in guaranteeing the materialization of the standards and the efficient allocation of resources. If the standards and the auditing obligation combined cannot guarantee adequate quality, stakeholders will probably resort to information provided by expert sources such as investment bankers, financial analysts, credit rating agencies, and the financial press. (Healy and Wahlen, 1999)

3.2 General provisions for preparing financial statements

The following three subsections will review general statutes covering all limited companies when preparing financial statements, the content of financial statements and the principles guiding the preparation. Possible provisions concerning only small companies are also highlighted.

3.2.1 Statutes covering all limited companies

The following paragraphs provide a review of the main acts, ordinances, and recommendations that govern the preparation of financial statements of small limited companies in Finland. Requirements that apply to other businesses or listed companies only are ignored.

The Accounting Act[10] as its present form is fully harmonized with the European Union Accounting Directives (the 4th and 7th Council Directive). The act is relatively concise. It includes the main principles; the number of detailed provisions is still limited unlike in the International Accounting Standards. The chapters deal with, for example, recording of transactions and retention of accounting records, contents of the accounts, general principles governing the preparation, definitions of several items relating to the financial statements, and recognition and measurement rules.

The Accounting Ordinance[11] gives details on the form and the content of the financial statements. The ordinance includes two alternative income statement formats (based on the type of expense or operation) and specific formats for non-profit organizations and housing

[10] Kirjanpitolaki (1336/1997).

companies. As regards balance sheets, only one format is given. No format for the cash flow statement is given in the Accounting Ordinance: the legal requirements for it are included in the Finnish Companies Act, and the specific instructions governing it are given by the Accounting Board[12]. The ordinance also defines what must be reported in the notes to the financial statements and in the report of activities. One cannot change the reporting format of the income statement or the balance sheet unless there is a particular reason to do that (Accounting Ordinance, Chapter 1 § 8). However, the income statement and the balance sheet must be itemized in a more detail than the formats require if it is needed in order to clarify the factors having an impact on the accrual of the earnings or the balance sheet items (Chapter 1 § 9).

The Accounting Act and the Accounting Ordinance are general laws that are bypassed if it is enacted differently in specific acts. This order of priority is departed from if the departure is expressly enacted by the specific acts. (Leppiniemi 1999, 17)

Several provisions in the Accounting Act make reference to *the decisions of the Ministry of Trade and Industry*[13]. The ministry has declared decisions on the following issues: computerized accounting (KTMp 47/1998), accounting for financial leases in the consolidated financial statements (KTMp 48/1998), temporary retention of accounting documents outside Finland (KTMp 49/1998), capitalization of development expenses (KTMp 50/1998), and preparation of consolidated financial statements according to the generally accepted standards in the international capital market (KTMp 766/1998).

The Finnish Companies Act[14] also involves sections that have impact on the preparation of financial statements. First, the act classifies companies into private and public companies. Public companies must issue a statement of source and application of funds as part of their financial statements; private companies have no such obligation. Second, the act sets some disclosure requirements on notes to the financial statements (e.g. shares and a share capital) that add the disclosure burden required by the Accounting Act and the Accounting Ordinance. Third, the act regulates the relations of the company and the investors in general and the use of the corporate funds (see Section 3.3.1) in particular. Fourth, it defines the viability of the company (Section 3.3.2).

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[11] Kirjanpitoasetus (1339/1997).
[12] Kirjanpitolautakunta.
[13] Kauppa- ja teollisuusministeriön päätökset.
[14] Osakeyhtiölaki (734/1978).

The mandate of *the Accounting Board* is defined in the Accounting Act (Chapter 8 §§ 2-3). The board issues instructions and statements on the application of the law. The issued instructions cover, for example, inclusion of fixed overhead in the acquisition cost of an asset, recognition of contract revenue by the percentage of completion method, and recognition of environmental items. The board can also grant exemptions from the specified provisions of the Accounting Act and the Accounting Ordinance in so far as they are not against the EU Accounting Directives.

The practices applied in financial accounting have close connections to taxation of companies and shareholders. Connections can be found in *the Business Income Tax Act*[15], *the Income Tax Act*[16], *the Wealth Tax Act*[17] and *the Act on Tax Assessment Procedure*[18]. The connections are discussed in more detail in Section 3.3.3.

3.2.2 Content of the financial statements

The Accounting Act regulates the content of the financial statements. According to Chapter 3 § 1, the financial statements consist of four parts: (1) income statement, (2) balance sheet, (3) notes to the financial statements, and (4) report on activities. Formats for the income statement and the balance sheet as well as the required informational content are enacted by the Accounting Ordinance. In addition, the auditors' report must be attached to the financial statements.

Small companies are granted some concessions concerning the format and the contents of the financial statements. First, small companies[19] are allowed to present an abridged balance sheet (Accounting Ordinance, Chapter 1 § 7). Second, they are not obliged to prepare the report on activities (Accounting Act, Chapter 1 § 4) and the statement of source and application of funds (Finnish Companies Act, Chapter 11 § 9). However, the information that is enacted compulsory by the Finnish Company Act must be included in the notes to the financial statements in any case. Public companies must always prepare the report on activities (Accounting Act, Chapter 3 § 1) and the statement of source and application of funds (Finnish

[15] Laki elinkeinotulon verottamisesta (360/1968).
[16] Tuloverolaki (1535/1992).
[17] Varallisuusverolaki (1537/1992).
[18] Laki verotusmenettelystä (1558/1995).
[19] If at least two of the following limits are not exceeded during the last two financial years: (1) the number of employees is 50, (2) Net Sales is EUR 6.250 million on an annual basis, and (3) Total Assets is EUR 3.125 million. (Accounting Act, Chapter 3 § 9)

Companies Act, Chapter 11 § 9). Third, small companies do not have to disclose every piece of information in the notes to the financial statements as the bigger companies have to. Fourth, the smallest companies[20] are also allowed to abridge the income statement (Accounting Ordinance, Chapter 1 §§ 1-2). The first disclosed item is then Profit before Personnel Expenses (in case the income statement is based on the type of expense), or Gross Profit plus Other Operating Income (in case the income statement is based on operational categories).[21]

Due to the concessions, the informational content of the financial statements of small companies may be fairly moderate. For the purposes of this study, that does not constitute a problem because there is often additional information available (e.g. income statement and balance sheet specifications).

3.2.3 Principles in preparing financial statements

The Accounting Act establishes that financial statements must be prepared according to the three leading principles: (1) good accounting practice (Chapter 1 § 3), (2) a true and fair view (Chapter 3 § 2), and (3) general principles of preparing financial statements (Chapter 3 § 3).

First, good accounting practice must be followed in both current record of accounting and closing the books. The concept of 'good accounting practice' is not, however, defined in law. The Report by the Accounting Act Working Group (1995)[22] mentions possible sources for interpretations of the concept. Legislation provides the basic rules. The Accounting Board is a central interpreter by issuing instructions and statements. The interpretation of good accounting practice can also be deduced from the below-discussed general principles of preparing financial statements. At the bottom of the hierarchy is the guidelines provided by security exchanges, trade unions, and established international accounting standards.

Leppiniemi (1999, 138) suggests that good accounting practice is an umbrella concept that involves at least the prerequisites of a true and fair view and general principles of preparing financial statements. Additionally, he highlights the importance of such concepts as

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[20] If at least two of the following limits are not exceeded during the last two financial years: (1) the number of employees is 25, (2) Net Sales is EUR 3.400 million on an annual basis, and (3) Total Assets is EUR 1.700 million. (Accounting Act, Chapter 3 § 9)

[21] In both cases the profit item is called 'bruttokate' in Finnish.

[22] Kirjanpitolain uudistustyöryhmän raportti 1995.

materiality, substance over form, and verifiability, which are included, among several other things, in the Report by the Accounting Act Working Group.

The second leading principle is that the company must ensure that the financial statements give a true and fair view of the performance and the financial position of the company. Relevant information not becoming clear by solely looking at the income statement or the balance sheet must be disclosed in the notes to the financial statements. The Ministry of Trade and Industry decides when and how the rules concerning the preparation of financial statements may be departed from in order to give a true and fair view. So far, the ministry has issued only one such decision (KTM 766/1998). The decision implies that a fair and true view should be evaluated from the perspective of an outsider.

Third, the general principles of preparing financial statements included in the act are as follows:

- *Going concern* refers to the underlying assumption that the business will remain in existence for the foreseeable future. Assets and liabilities are valued on the basis of what their value is in the course of the business, not in the liquidation of business. This is seen especially in capitalization and depreciation of fixed assets: the base is not a likely alienation price but anticipated income from the asset.
- *Consistency* means that when a business adopts particular accounting methods, it should continue to use such methods consistently. If it is necessary to change the method being employed or the rates being charged, the change must be declared and its effects on the comparability of the successive periods must be shown in the notes to the financial statements.
- *Conservatism (or prudence)* requires that financial statements should always, where there is any doubt, report a conservative figure for profit or valuation of assets. The provision stresses that that it is particularly important to record only profits made during the financial period, and account for all depreciation and impairment of assets, increases in the value of liabilities, as well as all foreseeable and potential liabilities and losses related to the present and prior financial periods.
- *Continuity of balance sheets* states that the opening balance should always be derivable from the previous closing balance. In practice, this means that corrections related to

previous financial years cannot be made by crediting or debiting directly Shareholders' Equity but the corrections must be recognized in the income statement.

- *Accruals basis* means that all revenues and costs are recorded in the appropriate statement at the appropriate time. Income is recognized as they are earned and expenses as they are incurred; the time of alienation is the decisive criterion. However, there are deviations from the accruals basis (e.g. percentage of completion method, appropriations, provisions for liabilities and charges).
- *Prohibition of netting* means that asset and liabilities have to be valued on an individual basis. Again, some deviations exist.

In addition to the sources of interpretation mentioned above, the following sources may also be applicable when evaluating whether the financial statements are prepared in accordance with the principles: preparatory work in legislation, explanations of government proposals, and orders issued by Supreme Court and Supreme Administrative Court.

3.3 Specific provisions influencing the wealth of the company owners

Above, we covered general statutes and principles how to prepare financial statements. Next, we will consider some specific provisions that may have a direct influence on the wealth of the owners of the company.

3.3.1 Distributable equity

The Finnish Companies Act enacts how the use of the funds of a limited company is restricted. Shareholders and other equity investors are entitled to use the company funds only within the limits of the distributable, unrestricted equity capital. From creditor's point of view, it is the amount of the corporate funds that may be transferred out of the reach of the creditors if there are no restrictive covenants.

A formula for distributable equity can be derived from the Finnish Companies Act, Chapter 12 § 2:

Profit for the Financial Year
+ Other unrestricted equity (mainly Retained Earnings)
- Non-distributable items
= Distributable equity

Non-distributable items consist of

- capitalized Start-Up Expenses
- capitalized Research Expenses
- capitalized Development Expenses that do no satisfy the prerequisites of the Ministry of Trade and Industry[23]
- acquisition cost of own and parent company's shares
- amount that must be transferred to Reserve Fund or otherwise cannot be distributed according to a corporation charter.

There are also some additional restrictions. First, if Share Capital is reduced because of the lack of unrestricted equity, during the three years following the registration of the reduction funds can be distributed only by the permission of the register authorities unless Share Capital is increased by an amount that equals at least the reduced amount (Chapter 6 § 4). Second, an accrued interest or other compensation on a capital loan, which is not expensed yet, cannot be distributed (Chapter 5 § 1). Third, if a company is a parent company of a group, it cannot distribute the amount that exceeds the distributable equity calculated from the consolidated financial statements of the latest financial year (Chapter 12 § 2). The distributable equity on the consolidated balance sheet is basically calculated similarly as in a single company setting except that the proportion of Accumulated Appropriations in the accounts of the group companies that are recorded in the consolidated Shareholders' (unrestricted) Equity is also regarded as non-distributable.

[23] Kauppa- ja teollisuusministeriön päätös kehittämismenojen aktivoimisesta taseeseen (50/1998).

Distributable equity can be distributed to shareholders and other equity investors in various forms including dividend, loan to a shareholder, guarantee issued on behalf of a shareholder, installment of and interest for a capital loan, and acquisition of own shares. Availability of distributable equity is generally important as the tax treatment of the unearned income (such as dividends qualifying as unearned income) in most cases tends to be more favorable than the tax treatment of the salary.

3.3.2 Compulsory liquidation

Compulsory liquidation of a limited company is enacted in the Finnish Companies Act, Chapter 13 § 2. According to the provision, the board of directors must monitor the amount of Shareholders' Equity on a constant basis. If there is any reason to doubt – when preparing the financial statements or at any other point of time – that Shareholders' Equity is less than a half of Share Capital, the board of directors is without any delay obliged to prepare a liquidation balance sheet in order to find out the financial position of the company.

If the liquidation balance sheet confirms the doubts, the board of directors is without any delay obliged to let auditors to audit the balance sheet, and call a general meeting to discuss liquidation within two months from the preparation of the liquidation balance sheet. The company must be liquidated unless a general meeting organized within twelve months from the above-mentioned general meeting does not adopt an audited balance sheet showing that Shareholders' Equity is at least a half of Share Capital. If the general meeting does not make a liquidation decision, the board of directors is obliged to file an appeal to the court for liquidation. The auditor or shareholders representing a minimum of ten percent of the shares also have a right to file an appeal.

If the board of directors neglects the liquidation duty, the company may continue its activity but the members of the board will become personally liable for the continuation. Each member may become subject to personal liability for damages if the continuation of business incur damages to creditors. A member may also become personally liable for the liabilities of the company.

3.3.3 Connections of financial accounting to taxation

In Finland, there are close connections between financial accounting and taxation of limited companies. Connections range from the accounting material – which can serve as evidence on the substance, the timing and the value of a transaction for the tax assessment purposes – to calculating taxable income and wealth. These connections to be possible, the accounting periods have to coincide. Furthermore, the reliability of bookkeeping is of high importance.

Calculating taxable income and wealth are based on the bookkeeping of financial accounting. However, the income and the wealth derived from the financial statements do not qualify as taxable items as such. In a tax return, the income and the wealth derived from the financial statements are transformed to the taxable income and wealth. Thus, calculating the taxable income and wealth are based on the financial accounting but the calculation systems of taxation and financial accounting are, in essence, autonomous and complete.

To calculate the taxable income, the income derived from financial statements is modified as follows. Taxable items not included in the accounting income and non-deductible items included in the accounting expenses are added to the profit of financial statements, and tax-free items included in the accounting income and deductible items not included in the accounting expenses are deducted from the profit of financial statements.

Although domestic limited liability companies are not subject to wealth taxation (Wealth Tax Act, Chapter 3 § 5), the net wealth is calculated because it is needed when dividing the dividends from an unquoted limited company into two: the part that will be taxed as unearned income of the shareholder and the part that will be taxed as earned income of the shareholder. The proportion of the distributed dividend per share that is taxed as unearned income is 13.5% of the net wealth per share (Income Tax Act, § 42). When calculating the amount to be taxed as unearned income, the concept of net wealth includes also some assets that are non-taxable in the actual wealth taxation.

As Leppiniemi (1999) points out, the connections of financial accounting to taxation result from two sources: (1) specific provisions of the law and (2) incentives of tax planning. As regards connections from specific provisions of the law, those connections are regulated e.g. by the Business Income Tax Act, the Wealth Tax Act, and the Tax Assessment Procedure Act. A provision that connects financial accounting to taxation probably to the greatest extent is the 54 § of the Business Income Tax. It says that a taxpayer may allocate an income item to

more than one tax year and deduct the acquisition cost of current assets and decreases in untaxed reserves only if the corresponding entries are recorded in financial accounting. In addition, expenses incurred in acquiring fixed assets and deductible by depreciation, development expenses (§ 25) as well as index and exchange rate losses from business debts (§ 26) must not be deducted by more than the amount that has been expensed in financial accounting in the tax year and the years preceding the tax year. The provision creates a situation in which financial statements cannot show income for the owners unless there is simultaneously taxable income.

Besides the law, (direct) tax planning is another source that creates linkages between financial accounting and taxation as tax planning is often reflected in financial statements. Tax planning aims at foreseeing which tax consequences company's actions such as investments will result in, finding tax efficient alternatives, and hindering emergence of uncontrollable tax situations (Leppiniemi 1999, 15). The ultimate purpose of tax planning in many cases is to minimize the tax burden of the company or the group of companies which leads to lowering the level of taxable income. However, as the possibility to distribute company funds to shareholders is restricted by the amount of distributable equity, the income target of the financial statements (and the tax burden thereafter) may have to be increased if the possibility to distribute dividends depends on the income of the financial period at hand. The possibility to receive compensation as dividends instead of a salary is often important because the taxation of dividends (or the part that is considered unearned income in income taxation) tends to be more favorable than the taxation of a salary.[24] Furthermore, income and wealth increasing actions may be taken to increase the taxable net wealth and thereby the proportion of dividends taxed as unearned income.

An expense reserve is a common concept in the tax planning literature to describe legal actions available. It refers to the discretionary scope of lowering the annual profit for taxation purposes. In practice, the means of tax planning relate to expense and revenue recognition with respect to timing, scope, and valuation. A means that probably most differentiates tax planning from pure financial statement management, is transforming tax-free items to taxable items and vice versa.

When managing financial statements because of tax purposes, it is of high importance to ascertain the validity of the management actions. If there is no business rationale for actions, a

taxpayer may become subject to sanctions of tax avoidance or hidden distribution of dividends.

3.3.4 Resulting management interests in Finnish small companies

Regulation concerning financial statements seems to create three potential specific motives for financial statement management in Finnish small limited liability companies.

First, the provision of distributable equity states that owners cannot take funds out of the company more than the amount of retained earnings minus the non-distributable items specified in the Finnish Companies Act. Since the owners of small companies are typically entrepreneurs, their only source of income may be the company. Therefore, it may be tempting to manage accounts in such a way that a given level of distributable equity will be reached.

Second, a company must maintain an enacted level of Shareholders' Equity in order to avoid a threat of compulsory liquidation. For an entrepreneur carrying on a business alone, a violation of the provision would not probably cause any vital problems as such – other than relating to the company image – as an entrepreneur is likely to be liable for the company liabilities in any case. Also, if the business is done without external finance and guarantees, the provision may have no material significance. For those companies having many persons in charge and external liabilities and guarantees, however, it may be important to keep Shareholders' Equity above the enacted level in order to avoid the threat of compulsory liquidation and personal liability for the company liabilities.

Third, limited companies are taxed according to the taxable income that is based to a substantial extent on official financial statements. Hence, the income statement may be managed in order to lower income taxes. Alternatively, accounts may be managed to increase the taxable net wealth and thereby the proportion of dividends taxed as unearned income.

The empirical part of the thesis investigates the role of the two first-mentioned motives in explaining the need for adjustments. The tax motives are not taken into consideration because there is no good data available on taxability and deductibility of items, and thereafter, no reference for non-managed and managed *taxable* income and wealth. Additionally, the most

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[24] A flat rate, 29% in 2003, applies to unearned income while the tax rate for earned income is progressive.

common way of managing taxable income within the limits of the law, the use of Appropriations, only slightly changes the timing of taxation. It is more like a mechanic management action and it is explicitly excluded from the management actions in this study.

4 COMPARABLE VIEW ON THE FINANCIAL POSITION

So far, we have focused on the motivation for financial statement management and the legal framework under which financial statement management can be exercised. The next step is to explore what indicators of the financial position of a company are available to outsiders, how the view on the financial position can be managed, and how corporate analysts tend to respond to the management actions.

4.1 Indicators of the financial position

To make a conclusion on the financial position of a company, a third party can use at least the following information: financial ratios, an auditors' report, registered payment defaults, and credit ratings.

4.1.1 Financial ratios

Financial ratios are generally preferred to stand-alone financial statement items. Hampton (1989, 99) points out that with the help of financial ratios one can compare companies of the same industry, different industries and their characteristics, as well as the performance of a single company between different periods of time. Foster (1986, 96) specifies four reasons why the financial position should be examined in the form of financial ratios:

- To control for the effect of size differences across firms and over time.
- To make the data better satisfy the assumptions underlying statistical tools such as regression analysis (for example, homoscedastic disturbance).
- To probe a theory in which a ratio is the variable in interest.
- To exploit an observed empirical regularity between a financial ratio and the estimation or prediction of a variable of interest.

The selection of financial ratio categories proposed is ample. Foster (1986, 60-70) classifies them into seven categories: cash position, liquidity, working capital/cash flow, capital structure, debt service coverage, profitability, and sales. The Committee for Corporate Analysis (2002) has adopted a convention of dividing them into the categories of profitability (structure of profit and return on capital), financing (capital structure and financial adequacy), per share ratios, and other ratios. Brealey & Myers (2000, 824) present a classification that this thesis partly follows in Appendices 2 and 3: leverage, liquidity, efficiency, profitability, and market ratios.

Technically, financial ratios follow the form x/y in which x and y are figures derived from the financial statements. If both x and y are from the balance sheet, the financial ratio is called *static*. A static ratio captures reserves in a single day. If x or y is derived from the income statement, it can be said that the financial ratio is *dynamic*. A dynamic ratio relates reserves to the accrual of income and/or expenses of a certain period. (Salmi & Martikainen 1994, 427)

Although financial ratios are practical and can alleviate problems in corporate studies, there are also some troubles in the ratio analysis. The lack of advanced theoretical research combined with the minor recognition for the empirical studies have created a shadow over the questions relating to the validity of the various ratio concepts and the interrelations of the ratios. A low level of standardization and a great number of ratios designed to measure the same character further impede the credibility of ratio analysis in practice.

The ratios that are used in the empirical sections of the study will be presented in Section 6.1. Appendix 3 shows the effects of the adjustments described in Sections 4.3.3 and 4.3.4 on some of the key ratios. Formulas for those ratios are shown in Appendix 2.

4.1.2 Auditors' report

Auditing controls the legality of financial statements and corporate governance. All Finnish limited companies are currently (2003) obliged to hire an auditor or auditors to carry out the control task.[25] Since a written and public auditors' report must be given, the report can be seen as an information source of one type.

[25] The Finnish Companies Act 10 § 1.

However, the obligation of the small limited companies will probably change because the Auditing Act and the Finnish Companies Act are to be reformed. According to the Report by the Auditing Act Working Group (November, 2003)[26], the smallest limited companies should be released from the auditing obligation. The report, on the other hand, proposes that if an auditor is selected based on the law or a voluntary decision, he should be a certified auditor, not a lay auditor. The Report by the Finnish Companies Act Working Group (May, 2003)[27] also proposes that a limited liability company could only use certified auditors.

From the conservative perspective of a creditor, the change would be double-edged. On one hand, there would be no institution to check whether the disclosed financial statements give a true and fair view. One potential threat is that manipulation of financial statements would increase. Lehtinen (2000) finds that 5.6% of the auditors' reports (of the limited companies) filed in the Trade Register included adverse remarks.[28] On the other hand, proficiency of uncertified auditors has been criticized.[29] As uncertified auditors have, in practice, carried out auditing of a big proportion of the smallest companies, it is not clear whether the removal of auditing obligation would in practice weaken the current position of a creditor.

4.1.3 Payment defaults

Registered payment defaults serve as information source of the payment track of a company. The payment default register reveals at least those companies that have recently defaulted payments. The role of the default information is stressed when financial statements are not publicly available.[30] A significant proportion of the Finnish companies do not fulfill the legal obligation to file the financial statements in the Trade Register.[31]

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[26] Tilintarkastuslakityöryhmän raportti.
[27] Osakeyhtiölakityöryhmän mietintö.
[28] Of course, not all remarks concerned manipulation or actions against the standards. The most common remark was because of the amount of Shareholders' Equity did not satisfy the requirement of the Finnish Companies Act.
[29] See e.g. the Report by the Auditing Act Working Group (November, 2003).
[30] 14.12% of the companies suppressing financial statements received a registered payment default in two years following the checking of the availability of the statements whereas only 4.95% of the companies making the statements public received a payment default. (Pulkkinen, 2002)
[31] 19% of the active limited companies did not file the financial statements in the Trade Register or in Suomen Asiakastieto's database (Myllys, 2002). All limited companies are obliged to file the financial statements (The Accounting Act 3 § 9 and the Finnish Companies Act 11 § 14). The filing obligation of general and limited partnerships depends on the company size and on whether the owners include limited companies. All persons and firms running business and with a legal obligation to keep books will also become obliged to file if the size limits (of the Accounting Act 3 § 9) are exceeded.

In Finland, Suomen Asiakastieto Oy maintains a payment default register. An entry in the register is preceded by unsuccessful collection of a claim by informal actions or an enforcement order. Generally, the claim has been due for months before the registration.[32]

4.1.4 Credit ratings

Credit ratings issued to Finnish small companies measure *general* creditworthiness of a company. Ratings are not issue-specific, which in essence means that the general rating is just a starting point when evaluating a credit risk involved in a specific credit issued to the company. Contract terms specifying possible guarantees and seniority of the claims further influence the risk involved.

Companies can be rated on a various scope. First, the scale of information set may differ. It may consist of all the pieces of information discussed above i.e. financial ratios, an auditors' report, and registered payment defaults of the company, as well as additional background information such as industry ratios, business connections and creditworthiness of persons in charge, etc.[33] Or, the rating may be based solely on some of the pieces. Second, the data may be unadjusted or adjusted. Third, the level of human involvement may differ. Some ratings come directly as a result of a statistical model, others are based on the analyst's assessment only. Hybrids of the methods also exist.

As an example of the credit ratings and their predictive power, a follow-up study on how the companies rated according to the classification of Suomen Asiakastieto Oy (Rating Alfa) will receive registered payment defaults is shown below. Figure 2 shows, for example, that the probability to receive a payment default in the worse class (C) is 100 times greater than the probability in the best class (AAA) in two years following the rating time.

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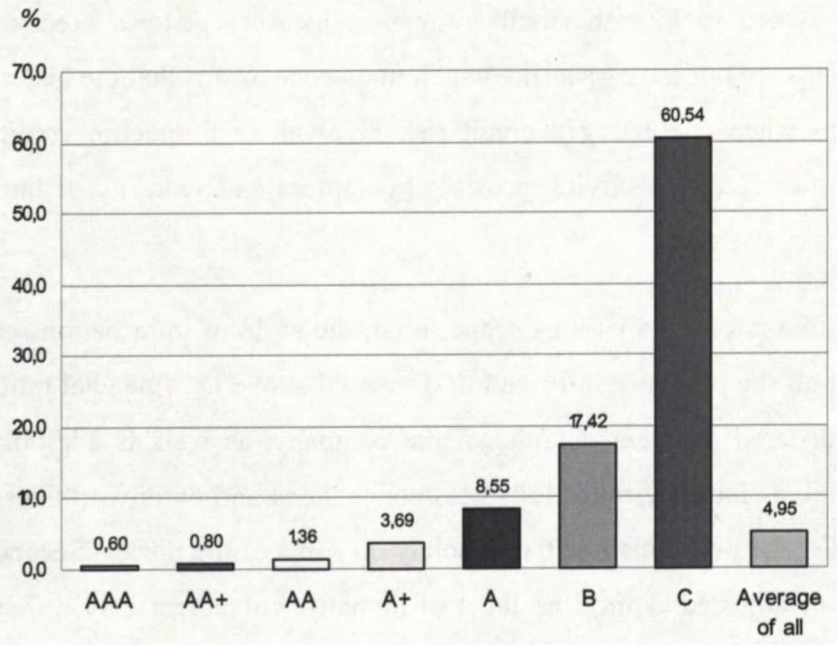
[32] Luottolista 1999, 17: 12-14.

[33] The smaller the company is, the more weight should be put on the persons in charge. A small size means a thin asset side on the balance sheet and limited scope of action to absorb unexpected events. Consequently, the wealth and the creditworthiness of the persons in charge are emphasized.

Figure 2. *Capability of Rating Alfa credit rating model to predict payment defaults*

The graph reports by rating class the probability to receive a payment default in two years following the rating moment. Rating Alfa is a 7-step rating classification of Suomen Asiakastieto Oy. The rating is always based on all available information: the assessment of financial information and company backgrounds is automated and any significant changes are evaluated by an analyst. AAA is the best class, C is the worst class. The data consist of 45,353 companies of which the financial statements were available when the rating was made. The ratings are from March 2000. The registered payment defaults are from the period April 1, 2002 - March 31, 2002.



Source: Pulkkinen (2002).

4.2 Management activities in financial statements

Companies may be seen to exercise three types of management in financial statements. They may use discretion within the limits of the accounting standards. Or, they may move to the gray area, possibly violating the spirit of the standards but formally acting according to the standards. Finally, companies may violate both the spirit and the letter of the standards.

It is not possible to provide an exhaustive description of all management activities because financial accounting and reporting practices are evolving all the time and new creative ways of managing financial statements continue to arise. By the same token, the legislation is subject to constant amendments. Next, we will present through classifications what the targets of management activities are (Section 4.2.1) and what type of management means there are available (4.2.2).

4.2.1 Management targets

In principle, none of the financial statement items can be excluded from being potentially an interesting management target. Which items are managed depends on the situation that triggers an incentive to exercise financial statement management and the interdependencies of the items. At a very rough level of itemization, the primary targets could be said to be those items that comprise relevant financial ratios. Those items include, again roughly broken down, profit subtotals in the income statement, the bottom line (Profit for the Financial Year), Shareholders' Equity, as well as the value and the nature of assets, and the value and the maturity of liabilities.

Managing profit subtotals means managing the structure of the income statement. Various profit subtotals are used when measuring relative profitability, return on assets and other dynamic ratios. Profit lines can be strengthened by transferring income upwards in the income statement so that the income is also included in some upper level profit subtotals or by transferring expenses downwards so that the expenses only affect some lower level subtotals. On the other hand, profit subtotals can be lowered by making income and expense transfers of opposite directions than the mentioned ones. Transfers of income and expenses into a different location in the income statement only alter the level of profit subtotals, not the bottom line.

Another management target is the bottom line. The role of the bottom line is stressed as it directly linked to Shareholders' Equity and thereby, among other things, leverage ratios, determination of the amount of distributable equity and the threat of compulsory liquidation. Classificatory management activities only transferring items across profit subtotals are not enough to alter Profit for the Financial Year. There is a rich selection of activities how the bottom line can be managed. They relate to timing, valuation and other recognition issues of revenue and expense as well as design of real transactions.

It is not always possible, or even meaningful, to separate whether the target of financial statements management is Profit for the Financial Year or Shareholders' Equity. However, the selection of activities to manage Shareholders' Equity is broader than the selection to manage Profit for the Financial Year. This is due to the fact there are transactions that are not recognized in the income statement but only on the balance sheet accounts. For example, making write-ups on fixed assets must not be recognized as income according to the effective

accounting standards. Further, managing the location of capital loans (in Shareholders' Equity or Liabilities) has an effect only on Shareholders' Equity, not Profit for the Financial Year.

When considering key management targets on the Assets side of the balance sheet, valuation of the assets cannot be separated from targets of managing Shareholders' Equity because management of asset values is directly reflected in it. As a separate target, the nature of the assets could be considered. Whether an asset is booked in Fixed Assets or Current Assets and in which class under those asset groups an asset is booked has an effect on the view on the company's liquidity. For example, the Current Ratio and the Quick Ratio regard only Current Assets when measuring static liquidity. Further within Current Assets, the formula of the Quick Ratio involves only Short-Term Receivables, not Long-Term Receivables. In other words, classificatory management activities may substantially alter the view on the liquidity of the company.

On the Liabilities side, the key management interests are probably the following: (1) whether an item is treated as a debt item and (2) the maturity of debt. The first issue has two aspects. First, it cannot be derived from the name of some balance sheet items whether those items should be treated under Shareholders' Equity or Liabilities. These items are, for instance, capital loans and connection fees of companies providing infrastructure (energy, water, data lines, etc.). Companies may treat these items against their true nature and against the provisions of the accounting standards. Second, whether a liability should be shown on the balance sheet or as an off-balance sheet item may be a management issue in some cases. For example, not recognizing foreseeable charges and losses that are probable or certain is a management activity of this type. The second issue of debt management targets mentioned above, the maturity of debt, is again a liquidity related issue. Only debt items treated as Current Liabilities affect static liquidity measures, the Current Ratio and the Quick Ratio. Accordingly, there may be incentives to keep the part of a debt that will be due in one year in Long-Term Liabilities instead of transferring the part to the correct place, Current Liabilities.

4.2.2 Categories of management means

Nelson et al. (2002) provide a good framework for classifying management means. Based on a sample of 515 earnings management attempts[34] obtained from a survey of 253 experienced

[34] Auditors waived 56% of the detected attempts.

U.S. auditors, Nelson et al. classify the management attempts as relating to (1) expense recognition, (2) revenue recognition, (3) issues unique to business combinations, (4) classification, (5) consolidation, or (6) other issues. Table 1 shows what sort of management attempts, among other things, each category involves.

Table 1. *Classification of earnings management means*

The table shows a classification of earnings management attempts that were detected in a survey of 253 experienced U.S. auditors.

Category	Subcategories
Expense recognition	Underaccruing or overaccruing expense, liability, or reserve in current year. Recognizing too much or too little asset impairment. Using capitalization vs. expense treatment. Reducing or not reducing previous accrual vs. recognizing current expense. Modifying depreciation or amortization asset life. Affecting assumptions used to calculate expense and liability. Modifying depreciation or amortization method.
Revenue recognition	Cutoff manipulation (=timing of transactions at the turn of a financial year). Deferring or not deferring revenue. Bill-and-hold sales. Right of return. Not sale because retained significant interest. Sale not final in other ways. Timing recognition of realized or unrealized gains and losses on investments. Confusing revenue and non-revenue accounts when cash received. Sale-lease back transactions. Misstating value of consideration received. Transactions with related parties. Misestimating progress when using percentage-of-completion method. Changing accounting principle.
Issues unique to business combinations	Overstating or understating assets and liabilities and offset with goodwill. Overstating or understating expenses in period of acquisition. Changing or not changing accounts established in an earlier acquisition period. Trying to use pooling rather than purchase method.
Classifications	Moving revenue and gains higher (or expense and losses lower) in income statement. Classifying amounts as nonrecurring.
Consolidation	Using cost method rather than equity method. Avoiding consolidation.
Other management activities	Moving leases on- or off-balance sheet. Modifying disclosures.

Source: Adapted from Nelson et al. (2002).

Although the survey is carried out in the U.S., the classification of Nelson et al. would also give a fruitful basis for a case study on the means of management most often employed in Finland. All the management categories and subcategories in Table 1 are available to Finnish companies as well.

4.3 Financial statement adjustments in corporate analysis

The previous section discussed accounting means of changing the view on a company's financial position and performance. This section discusses how corporate analysts tend to respond to those management activities. General objectives and principles of adjusting function are covered first. Then an illustration of the technical side of the adjusting process is given: some adjustments that are usual and that the Committee for Corporate Analysis (2002) has suggested. Insight into practical issues may be useful when reading empirical analysis in the rest of the paper. Formats for the official and the adjusted income statement (based on expense categories), and the official and the adjusted balance sheet are shown in Appendix 1.

4.3.1 General objectives

The adjusted income statement and balance sheet form the basis for corporate analysis. Analysts employ adjustments principally in two cases: when (1) statements do not reflect a view that is considered true and fair or (2) a view is true and fair but it is not comparable.

A true and fair view is one of the principles in the preparation of the financial statements (see Section 3.2.3). The Auditing Act[35], Chapter 2 § 19, prescribes that an auditors' report must also contain a statement on whether the financial statements give a true and fair view of the company's performance and financial position. In spite of the requirement prescribed by the law, analysts may have to adjust the view. Above all, a view is fundamentally a relative notion. As Stolowy and Breton (2000) note, the notion is not understood in the same way by everybody. The view may be true and fair enough for the company and the auditors but analysts may still suspect it. Another possibility is that a company intentionally discloses financial statements that do not give a true and fair view but auditors cannot detect the faultiness or the faultiness does not exceed the reaction threshold of the auditors. As analysts

[35] Tilintarkastuslaki (936/1994).

may have other information besides official financial statements, they may make adjustments that lead closer to a true and fair view from their viewpoint.

Comparability has two aspects. First, accounts should be comparable to other companies in general, and to the peer companies in particular. The majority of the adjustments are applied similarly for all companies independent of their activities. For example, if a book value of an asset is discovered to be significantly higher than its fair value, the book value is always adjusted downwards. On the contrary, some adjustments depend on the activities of the company. For example, income that is considered extraordinary in one industry may be treated as income arising from continuous operations in another industry. Second, comparability also means that financial years should be comparable. For example, one cannot treat an income as an extraordinary income in one year and include similar type of income in operating income in another year. Analysts' task is to guarantee a consistent treatment of items throughout the years.

The most comprehensive guidelines on how Finnish financial statements are adjusted are provided by the Committee for Corporate Analysis (2002). The following discussion about adjustment principles and adjustments in practice are based on the guidelines suggested by the committee.

4.3.2 Principles

All the principles presented in Section 3.2.3, when we discussed the preparation of financial statements, are also guiding the adjusting of financial statements. However, conservatism and consistency are likely to be emphasized. Emphasis on conservatism is due to that the end-user of an analysis is most often a bank or another entity having a creditor or guarantor relationship with the company. Their main interest is monitoring that the company will perform in such a way that their interest will not fall in danger. As the principal-agent theory would suggest, it is logical that they prefer accounting practices that are conservative. That requires, for instance, cautious valuation of assets and measurement of profit, recognition of only income that is realized by the balance sheet date, and making provisions for all foreseeable charges and losses that are probable. The other issue, consistency, means in practice that financial years are comparable with each other with respect to applied accounting practices. Similar items should be treated similarly from one financial year to another. Consistent treatment is of high importance in corporate analysis because conclusions on the

company performance are made on the basis of several successive financial years. Some financial ratios are also calculated from items from a financial year in hand and a year preceding it.

A feature that should be remembered is that adjusting procedure of financial statements does not completely follow the logic of bookkeeping. First, if a bookkeeper records income or expenses into the income statement, they are carried to Shareholders' Equity through Profit for the Financial Year. In an adjusting phase of corporate analysis, income or expense corrections may, however, only have effects on the subtotals in the income statement but Profit for the Financial Year, and consequently Shareholders' Equity, remains unaffected.[36] Second, by the same token, write-downs on assets on the balance sheet also affect the income statement according to accounting standards; adjustments, by contrast, are often made only on the balance sheet (write-down on the value of an asset, and contra entry directly on Shareholders' Equity).

The inconsistencies mentioned result from practical matters. Analyst cannot reprepare the accounts. It may not be feasible to adjust successive financial years in a consistent manner and to ensure that the opening balance is always derivable from the closing balance. The latter inconsistency emerges as an asset do not necessarily impair only during one financial year. Companies, however, usually write down assets without following the accruals concept. Analysts do not usually have adequate information to recognize missing impairments as they are incurred. Rather, adjustments are made directly in Shareholders' Equity. This way, the added impairments do not unreasonably affect profitability of one year and the successive years are kept comparable.

4.3.3 Income statement adjustments

It can be said that adjusting the official income statement aims at discovering conservative estimate for profitability of the company. This is mainly carried out by ensuring that income and expenses are shown under a location corresponding to their true nature and that items that should be included are included at an acceptable value.

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[36] There are contra entry rows for these corrections in the lower part of the adjusted income statement which eliminate the corrections from Profit for the Financial Year.

First, it may be useful to highlight the difference of *Net Profit* of the adjusted income statement and *Profit for the Financial Year* of the official income statement. Net Profit (as well as the other profit subtotals above it) excludes Appropriations and Extraordinary Items. Thus, the purpose of Net Profit is to show the (after-tax) profit that has accrued from continuous and recurrent operations while Profit for the Financial Year is the bottom line including all items. Net Profit, on the other hand, also includes analyst's corrections that increase or decrease income or expenses. Therefore, Net Profit may deviate from Profit for the Financial Year by more than the sum of Appropriations and Extraordinary Items.

To discover fair and comparable profit subtotals i.e. Operating Profit before Depreciation and Amortization (or Earnings before Interest, Taxes, Depreciation and Amortization, EBITDA), Operating Profit (or Earnings before Interest and Taxes, EBIT) and Net Profit, the analyst has to judge whether income and expenses are recorded under a location corresponding to their true nature. If not, transfers of income or expenses have to be made, possibly across these subtotals.

Probably the most common issue of classificatory assessment is whether an income or expense item is related to usual or extraordinary operations. The Accounting Act defines the category of Other Operating Income broadly. Other Operating Income will incorporate income that is directly related to the company's usual operating activities and that is very similar to Net Sales by nature (e.g. rental income, commissions, etc.). It will also include subsidies received for the ordinary course of the business such as R&D, employment, and production subsidies. It is logical to treat all these items also in the analysis as Other Operating Income since the corresponding expenses are in the operational expenses. Gains on sales of fixed assets will also be mainly included in Other Operating Income according to the Accounting Act. As purchases and sales of fixed assets are made in a regular basis in the course of the business, the gains are treated as other Operating Income in the analysis, too. However, gains on disposals of whole business units are extraordinary by nature and therefore they are usually considered extraordinary in the analysis.[37] The same applies to any non-recurrent items of substantial value that distort profitability comparisons between different years and other companies.

Corresponding to the treatment of Other Operating Income, items of substantial value included in Other Operating Expenses that are not associated with continuous business

operations, that are non-recurrent and that hamper profitability comparisons should transferred to Extraordinary Expenses. To keep income and expenses symmetric and conservative accounting in mind, it is not logical to do the transfer unless possible Other Operating Income corresponding to these expenses is also transferred to Extraordinary Income. The transfers discussed also apply vice versa i.e. from Extraordinary Items to Operational Items if income or expenses are recurrent and from continuous operations but recorded in Extraordinary Items.

Direct Taxes affects Net Profit. Direct Taxes in the official income statement consists of Income Taxes and Other Direct Taxes. Other Direct Taxes is uncommon in limited liability companies because limited companies will not be liable to the wealth tax, which is the most common other direct tax. Tax on real estate and other similar taxes will be included by their nature in Other Operating Expenses. As the analysis aims at discovering the profit that is from continuous and recurrent operation and from the financial period at hand, only taxes attributable to (adjusted) Net Profit should be accounted for. This means that tax rebates received or additional taxes paid from previous financial years are included in Extraordinary Items.[38] Similarly, taxes on Extraordinary Items (after adjustments) are treated as extraordinary.

An imputation system of corporate tax (avoir fiscal system) is still effective in Finland.[39] Income taxes on dividends paid by a domestic dividend paying company will be counted to the dividend receiver's credit, providing the receiver has unlimited tax liability. The system will avoid double taxation of domestic dividends.[40] In the analysis, the imputation credit included in Financial Income and Direct Taxes is to be eliminated. Although the credit has no effect on profit margins, it has an increasing effect on the Return on Total Assets (ROA) and the Return on Invested Capital (ROI) because these ratios include Financial Income but exclude Direct Taxes. Thus, if the credit were not eliminated, it would have a positive effect on the return ratios even though there is an equal income-decreasing item in Direct Taxes.

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[37] The same treatment is possible also in financial accounting. (Leppiniemi 2000, 206)

[38] In financial accounting, tax rebates received and additional taxes paid are recorded as extraordinary only if they are substantial. (Leppiniemi & Leppiniemi 2000, 136)

[39] Act on Imputation Credit (1232/1988) (Laki yhtiöveron hyvityksestä). According to the government's tax reform plan, the avoir fiscal system will be abandoned in 2005.

[40] Double taxation is not completely avoided. If crediting of dividend taxes leads to a tax rebate to the company, it will not be paid in cash. Instead, it will be deducted from taxes during the following ten years. If no payable taxes accrue during this period, the imputation credits are lost and double taxation will be the outcome. (Leppiniemi 2000, 222)

Profitability comparisons between companies are not possible if some companies do not show in the income statement expenses incurred in obtaining the income. For example, entrepreneurs' salary is such an item in small companies. Entrepreneurs in limited and general partnerships almost never charge their salary through the income statement but through directly debiting Shareholders' Equity. Shareholders of small limited companies may also receive only dividends. An adjustment to entrepreneurs' salary can be made if the income statement does not include salary expenses corresponding to the entrepreneurs' contribution to the business. The amount of private use or dividends do not have an effect on the size of the adjustment since the amount of private use correlates more with the liquidity of the company and financing needs of the entrepreneurs, and less with the entrepreneurs' contribution. The Committee for Corporate Analysis (2002) has suggested that the adjustment depends on Net Sales as follows:

Net Sales (12 months)	***Salary adjustment (12 months)/person***
EUR 50 – 330 thousand	EUR 17 thousand
over EUR 330 thousand	EUR 25 thousand

The adjustment to entrepreneurs' salary is an imputed item affecting only profitability. It has no effect on the financial solidity ratios.

The acquisition cost of a fixed asset will be capitalized and depreciated according to plan during the economic life of the asset.[41] However, companies do not always follow the provision. The analyst may use the maximum depreciation percentages provided in the Business Income Tax when calculating Depreciation according to Plan in the analysis if: (1) the depreciation made by the company is not in reasonable relation to the total amount and the quality of the fixed assets or (2) the company's estimation of the economic life of the assets is significantly above the recommendations given by the Accounting Board[42]. The difference between the adjusted depreciation and the depreciation recorded in the official income statement has a contra entry under the category Other Adjustments to Profit in the adjusted income statement. Adjustments may also be carried to the balance sheet without an adjustment in the income statement by simply decreasing the value of Fixed Assets and making a contra adjustment to Shareholders' Equity.

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[41] The Accounting Act 5 § 5. The provision concerns all limited companies except real estate companies. Land and Water Areas and Long-Term Investments are not subject to depreciation according to plan.
[42] Instruction of the Accounting Board on the depreciation according to plan (September 27, 1999).

The income statement adjustments discussed above are commonly made in corporate analysis of Finnish small limited companies as adjusting follows the guidelines of the Committee for Corporate Analysis (2002). The effect of the adjustments on some key profitability, leverage, liquidity, and efficiency ratios are shown in Appendix 3.

4.3.4 Balance sheet adjustments

It can be said that adjusting the official balance sheet aims at discovering conservative estimates for the financial solidity, liquidity, and return on assets of the company. This is mainly done by three types of adjustments. First, by eliminating the balance sheet value of the assets that exceeds the expected income from the assets. Contra adjustments are made directly in Shareholders' Equity. Second, by adding some off-balance sheet liabilities on the adjusted balance sheet. Third, by correcting the nature of the balance sheet items (maturity of receivables and liabilities, division of debt between interest-bearing and non-interest-bearing debt, etc.). For making adjustments of the first type, the assessment of the company's capability to collect the income corresponding to the asset's balance sheet value is crucial. On the basis of disclosed statements, the task is challenging and ambiguous. The following paragraphs cover the common analysis treatment of the assets from the least liquid asset class to the most liquid one. After that, adjustments of the other side of the balance sheet, Shareholders' Equity and Liabilities, are covered.

As regards intangible assets, there is no obligation to capitalize the acquisition cost. As the acquisition cost can always be expensed, capitalization raises a question whether the company is trying to show higher earnings and stronger Shareholders' Equity. Further, capitalization of intangibles prevents the company from making corresponding deductions in income taxation. As Leppiniemi and Leppiniemi (2000, 140-141) also point out, by capitalizing the acquisition cost a poor-performing company may want to take advantage of those deductions later as currently there is already too much to deduct.

Examples of intangibles that merit a closer examination include Start-Up, Research, and Development Expenses as well as capitalized Goodwill. The accounting standards allow capitalization of Start-Up and Research Expenses but the expenses restrict the amount of distributable equity in limited companies according to the Finnish Companies Act. In the analysis, it is a common practice to remove Capitalized Start-Up Expenses from Intangible Assets (and thereby from Shareholders' Equity) because they consist of expenses for which it

is difficult to justify direct income expectation (as they are related to e.g. share subscription and organization of the initial shareholders' meeting). A similar elimination is made for Research Expenses unless the company operates in an industry in which Research Expenses have a significant impact on the accrual of future income. As regards capitalized Development Expenses, the criteria for capitalization set by the Ministry of Trade and Industry[43] are usually used as a proxy for conservative capitalization: if Development Expenses do not meet the criteria, they are removed. Goodwill, arising as a result of a merger or an acquisition, must be amortized in five years, or if its effective time is longer, in its effective time, not being longer than 20 years in any case.[44] Goodwill without any concrete value is removed.

There is little prospect of adjusting the value of Tangible Fixed Assets (Land and Water Areas, Buildings and Constructions, Machinery and Equipment, Other Tangible Assets) because in practice it is not possible to estimate the assets' capability of accruing future income based on the material available to the analyst. Tangibles are mainly adjusted only if the amount of depreciation shown in the income statement is considered insufficient. Balance sheet adjustments then correspond to the depreciation adjustments made in the adjusted income statement.

The category Long-Term Investments and Receivables on the adjusted balance sheet includes Long-Term Investments from both Fixed and Current Assets of the official balance sheet. Practically, shares or receivables are eliminated from Assets and Shareholders' Equity if (1) the financial position of an owned company or a debtor is weak (e.g. Shareholders' Equity is lost) and, in case of a receivable, the repayment is doubtful or unlikely, or (2) a loan receivable is of a high risk, e.g. a capital loan granted to cure a deficiency in the debtor's Shareholders' Equity and the repayment of which is unlikely. In the analysis of a partnership, receivables from partners are always eliminated because the partners hold the legal right to all the assets of the partnership implying that any form of the use of the funds is analogous to private use against equity. In the analysis of a limited company, the removal of a receivable from private owners is likely to be well-grounded if the receivable is clearly illiquid or its repayment is unlikely: e.g. the receivable is unsecured, the loan balance is perpetual or increasing, or the financial position of the owner is weak.

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[43] Decision on capitalization of development expenses (KTMp 50/1998). Expenses failing to meet the criteria restrict the amount of distributable equity.
[44] The Accounting Act 5 § 9.

The location of receivables may also be adjusted. According to the Accounting Act 4 § 7, the part of a receivable that will be due in over one year is long-term. For example, if the company has recorded an item as a short-term receivable although it is not due in one year or it is otherwise illiquid, the item will be transferred to Long-Term Investments. The adjustment affects the liquidity ratios.

The removal of Short-Term Receivables is basically carried out according to the same lines as the removal of the Non-Current Receivables. There is, however, a difference in adjusting the balance sheet value of securities depending on their character. Securities of Fixed Assets will be stated at historical cost (including possible revaluation) or at a lower value of expected income if the impairment in value is deemed to be permanent.[45] Securities recorded in Inventories will be stated at the lower of cost or net realizable value.[46] Securities recorded in Financial Assets will be stated at the lower of cost or market.[47] Accordingly, it is easier to justify value adjustments of the Short-Term Securities than the Securities of the Fixed Assets: the impairment of the latter securities should be permanent whereas for the former ones it is enough if the market value is lower at the balance sheet date.

Finally on the Assets side, it is covered a few adjustments that harmonize situations where the accounting standards allow alternative practices. First, if a company using factoring financing applies the net booking method instead of the gross booking, the analyst may increase Trade Receivables and Interest-Bearing Liabilities by the amount of factoring financing used. Second, if a company does not expense exchange losses from long-term receivables or liabilities as they are incurred but defer it until realization, foreign exchange losses are removed from Prepaid Expenses and Accrued Income. Third, if a company applies a percentage of completion method when recording long-term projects, the finished portions of the ongoing projects booked in Prepaid Expenses and Accrued Income are regarded as unfinished projects (Inventories) for the purpose of calculating working capital and liquidity ratios. Harmonization improves the comparability of the financial ratios between companies.

Next, we move to the other side of the balance sheet, Shareholders' Equity and Liabilities. The upper part on the adjusted balance sheet, adjusted Shareholders' Equity, consists of Shareholders' Equity of the official balance sheet, Accumulated Depreciation in excess of

[45] The Accounting Act 5 § 13.
[46] The Accounting Act 5 § 6.
[47] The Accounting Act 5 § 2.

Plan, Untaxed Reserves, and Adjustments to Shareholders' Equity. The category Adjustments to Shareholders' Equity serves as a contra account to the value adjustments of the assets. As already explained, these adjustments have an effect on the balance sheet only, they have no effect on the income statement (depreciation adjustment of fixed assets being possibly an exception).

There are at least three cases in which transfers across the boundary of Shareholders' Equity and Liabilities may be made. First, the company may already record, under certain criteria[48], the dividend to be paid from the current financial year as a debt and deduct it from distributable equity in the financial statements. Due to the comparability reasons, such an entry may be reversed in the analysis. Second, a hidden tax liability is transferred in the analysis from Accumulated Depreciation in excess of Plan and Untaxed Reserves to Deferred Taxes if the company has not done it when closing the books. The foreseeable hidden tax liability can generally be distinguished by multiplying the sum of Accumulated Depreciation in excess of Plan and Untaxed Reserves by the corporate tax rate. Third, capital loans are shown in Shareholders' Equity of the official balance sheet if the terms of the loans are in accordance with the Finnish Companies Act (5 § 1). In practice, not all loans shown in Shareholders' Equity fulfill the conditions, though. In the analysis, artificial strengthening of the balance sheet is dissolved: loans that fail to fulfill the conditions of the act are automatically transferred to their correct location, debt. The part of the capital loans that is not needed to getting a full coverage to the restricted equity and the other non-distributable items (see Section 3.3.1) is treated as debt because the loans will be repayable according to the standard terms. However, if the capital loans have been invested in the company for a specified, lengthy period (e.g. as a development loan), it would be logical to keep the loans in Shareholders' Equity until maturity.

Liabilities of the adjusted balance sheet include at least liabilities of the official balance sheet, Provisions, Deferred Taxes, and Leasing Commitments. Provisions are long-term liabilities by nature: provisions are made for foreseeable charges and losses that relate to previous financial years, of which realization is certain or probable, and from which the corresponding

[48] Statement of the Accounting Board 1542/1998.

income is neither certain or probable.[49] Deferred Taxes consists of the hidden tax liability arising from Appropriations.

Off-balance sheet items are obligations (e.g. leasing and rent commitments) and contingent liabilities (e.g. issued guarantees, mortgages, assets pledged, risks outside the normal business), which cannot be shown on the balance sheet as liabilities according to the accounting standards. As the adjusted financial statements do not necessarily follow the official accounting standards, those items could be considered. The convention of the Committee for the Corporate Analysis (2002) is to add off-balance sheet Leasing Commitments to both sides of the adjusted balance sheet, as a separate item to Fixed Assets and to Liabilities. Other rent commitments are not, however, generally taken into account. The Committee advocates the adoption of the convention by noting that capitalization of rent payments to present time is deemed to be subjective. Interestingly, preparing the financial statements does not tend to be based on present but nominal values. Also, Leasing Commitments are accounted for at nominal amounts on the adjusted balance sheet. As a whole, the inclusion of the off- balance sheet items in the adjusted on-sheet liabilities should probably be considered on a case by case basis, the focus lying on what the probability of materialization of such obligations and liabilities is.

Whether a liability is treated as interest-bearing or non-interest-bearing has an effect on the cash flow statement and some of the financial ratios. On the basis of the official balance sheet titles, some debt items are conventionally treated as interest-bearing: Bond and Notes, Convertible Bonds, Loans from Financial Institutions, Loans from Pension Institutions, and Bills of Exchange Payable. Long-Term Liabilities are generally considered interest-bearing regardless of whether they actually carry interest. As they will be due after one year, they are rather "invested" in the company than "temporarily available" to the company, and it is appropriate to take them into account when calculating, for instance, return on invested capital. Current Deferred Income and Accrued Expenses, and Advances Received are non-interest-bearing, as well as Trade Payables for the most part. If installments payable from making investments are booked under Trade Payables, they should be transferred to interest-bearing debt. Current Liabilities to Group Companies and Associated Companies, and Other Current Liabilities should be examined case by case. As regards Other Current Liabilities,

[49] The Accounting Act 5 § 14. Additionally, the charges must be based on the law or a commitment made by the company.

they mainly tend to consist of non-interest bearing items such as accrued value added taxes, withholding taxes, and income taxes. Provisions, Deferred Taxes, and Leasing Commitments are treated as non-interest-bearing.

The location of liabilities is adjusted on the same grounds as the location of receivables. The Accounting Act 4 § 7 applies again; the part of a liability that will be due in over one year is long-term. For example, if the company has not transferred the following year's installment of a bank loan from Long-Term Liabilities to Current Liabilities, the analyst does that. The adjustment affects the liquidity ratios.

Advances Received include any payments, relating to goods the company delivers, that the company has received before the delivery. For advances that relate to work-in-progress, there is no longer, in practice, repayment obligation. Therefore, those advances are not to be included in debt when calculating debt ratios.

In addition to these adjustments suggested by the Committee for Corporate Analysis (2002), there are naturally company dependent adjustments that can be done. The effect of the presented adjustments on some key profitability, leverage, liquidity, and efficiency ratios are shown in Appendix 3.

4.3.5 Feasibility and limits of the adjustments

The adjustments presented above are those that the Committee for Corporate Analysis (2002) has suggested. Some of the adjustments make corrections for the management's use of liberal (as opposed to conservative) accounting practices. Thus, making such adjustments may be seen as a sign of management's resorting to discretionary accounting choices in accordance with the standards. On the other hand, some of the adjustments presented are only "technical" additions to the cost or liability concepts of the accounting standards. In particular, technical additions include adjusting entrepreneurs' salary, adding leasing commitments, and transferring a tax liability hidden in Accumulated Depreciation in excess of Plan and Untaxed Reserves to debt. The recognition of those items is not required by the accounting standards;

they are special cases in which the need for adjustments does not reflect financial statement management.[50]

In addition to the adjustments presented, there are in practice also many other cases which require adjustment but cannot be standardized because of their uniqueness. These cases often tend to violate the standards.

The feasibility of the adjustments is different depending on the situation. On the basis of the experience in the field, there is often adequate information available to make classificatory adjustments, and to adjust the value of some assets. At the other end, the analyst tends to have difficulties in correcting financial statements that are violating the effective standards. It is difficult to unravel (or even detect) cases where income, expenses, assets or liabilities are not shown in the financial statements or are shown in incorrect financial period.

The profit in the financial statement primarily includes realized income. An increase in the asset value is not usually allowed to be shown as income until alienation of the asset. This concept is called *accounting income*. The income concept that includes also positive changes in the asset value is called *economic income*. (Leppiniemi & Leppiniemi 2000, 187-188) The analysis does not transform the accounting income to the economic income. Possible detection of undervalued assets does not lead to adjustments in the adjusted income statement. Additionally, economic income (or wealth) does not fully materialize on the adjusted balance sheet as the analysts are reluctant to adjust asset values upwards even with sole balance sheet effects due to the creditor's perspective discussed above.

Financial statements incorporate several non-simultaneous cash flows. In order to get a true view on the company performance and financial solidity, adjustment should be made for inflation. Currently, inflation is not an issue in Finland and financial statements are not inflation-adjusted. In hyperinflation circumstances inflation must be taken into account. Well-known inflation accounting methods are e.g. Current Purchasing Power of Money, Current Cost Accounting, and a Finnish method called Indexation of Capitalized Acquisition Costs (Laitinen 1994, 37). A thorough inflation adjustment would require a great amount of information on the timing of the cash flows.

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[50] Consequently, the adjusted financial ratios and figures used in the empirical analysis of this thesis are cleansed of the following adjustments: adjusting entrepreneurs' salary, adding leasing commitments and transferring a tax liability hidden in Accumulated Depreciation in excess of Plan and Untaxed Reserves to debt.

5 HYPOTHESES

The hypotheses of the study will be presented next. Each of the four subsections will cover one main hypothesis that may be specified in more detail in the course of the analysis.

5.1 Existence of the financial statement management

On the basis of practical work done in corporate analysis and previous studies of academics, it is reasonable to assume that there is a payoff from adjusting financial statements. However, we want to be sure that there exists a need for financial statement adjustments so that there is justification for the further hypotheses. At this initial stage, the existence of the financial management is measured through a difference between reported and corresponding adjusted financial ratios. Particularly, it is assumed that adjustments worsen the financial ratios because (1) there seem to be motives to cosmetically upgrade – rather than downgrade – the view on the company's financial position and performance (see Section 3.3.4), and (2) conservative accounting is the leading guideline in the adjustment work.

> H_1: *The financial ratios calculated from the adjusted financial statements are worse than the ratios calculated from the official financial statements.*

The change in financial ratios is examined separately for financial solidity, liquidity, and profitability.[51]

5.2 Effect of the financial position on the financial statement management

At the second stage, we move to the key interest of the study, the relation of the management to the financial position of the company.

> H_2: *The extent of the financial statement management is greater among companies which a have weaker financial position.*

[51] As pointed out in Section 4.3.2, the connections of profitability adjustments to solidity ratios and solidity adjustments to profitability ratios are not perfect due to the adjustment policy applied.

Hence, we assume that companies take advantage of the flexibility of the accounting standards or violate the standards more, on average, when the financial position is not satisfactory. This would be consistent with many of the management motives presented in this study. As we go deeper into the analysis, the company size and the industry are controlled for in order to find out whether their inclusion has an impact on the relation of the financial statement management to the financial position. The financial position variables will be described in Section 6.1.3.

This and the rest of the hypotheses will be tested best by using regression techniques. This requires that the financial ratios have to be abandoned when measuring financial statement management. The abandonment is due to troublesome statistical properties of the difference between reported and corresponding adjusted financial ratios. When testing the hypotheses, financial statement management will be measured by the change the adjustments bring about in the absolute amount of Shareholders' Equity or EBIT (proportioned to Total Assets and Net Sales, respectively) (see Section 6.1.4). As a consequence of this choice, regression analysis can be applied. On the other hand, a consequence of this choice is also that the hypothesis is examined only for financial solidity and profitability, and not for liquidity. The data set contains no appropriate item comparable to Shareholders' Equity (used in measuring the management of financial solidity) or EBIT (profitability), which could be used in measuring the management of liquidity.

5.3 Effect of the closeness to the critical limits of the Finnish Companies Act on the equity management

The third hypothesis is a special case of a broad financial position motive assumed in the second hypothesis. This hypothesis assumes that the special provisions of the Finnish Companies Act influencing the company owners' wealth play a significant role in explaining the management of Shareholders' Equity. Those motives from the Finnish Companies Act are, as presented in Section 3.3, the threat of compulsory liquidation and the restrictive amount of distributable equity.

H_3: *The greater extent of the equity management among companies having a weaker financial position is attributable to the closeness to the critical limits of the compulsory liquidation and/or the distributable equity.*

5.4 Effect of the financial statement management on the disclosure of the auditors' report

At the final stage, the paper examines whether the use of discretionary management actions has an effect on the company's willingness to disclose the auditors' report.

> H_4: *The extent of the financial statement management influences the disclosure of the auditors' report.*

The hypothesis says nothing about the direction of the possible relation. This is due to the different premises that are possible. On one hand, the relation may be negative if companies do not disclose an auditors' report because of auditors' unfavorable remarks. On the other hand, the relation may be positive if auditors do not detect existing faults or do not give remark on them, or companies are willing to increase the quality of the financial information by disclosing especially those auditors' reports that contain unfavorable remarks.

All Finnish limited companies are obliged to hire an auditor (or auditors) to officially examine company's accounting principles, financial statements, and governance practices. Disclosure means in this study that the company sends the auditors' report to the financial institution along with the other financial statement material, or the company fulfills its duty to file the auditors' report in the Trade Register. We hypothesize that the decision of whether to disclose the report is not made unintentionally; companies see the auditors' opinion to have a signaling effect.

6 EMPIRICAL ANALYSIS

6.1 Data

The data for the study were obtained from Suomen Asiakastieto Oy's databases.[52] The sample consists of 6,379 companies. The following subsections will describe the sample selection

[52] Suomen Asiakastieto Oy is a Finnish business and credit information company. In addition to basic information services such as information about company facts, persons in charge, payment defaults and official financial statements, the Company also provides expert services for the support of credit granting and other financial decision-making. For instance, some of the leading Finnish financial institutions have outsourced some of their financial statement analysis of retail corporate customers to Asiakastieto.

process accompanied with possible selection bias, measures of financial position and financial statement management, as well as other variables that are employed in the analysis.

6.1.1 Sample selection

The sample was formed among the companies of which financial statements were analyzed at Asiakastieto, the latest available closing month being from April 2001 to January 2003. The sampling proceeded as follows. First, only private small companies were included in the sample as the whole study focuses on them. In this study, a company is defined to be small if Net Sales does not exceed EUR 6.250 million on an annual basis, and Total Assets does not exceed EUR 3.125 million.[53] An additional condition of Net Sales above EUR 50 thousand was set in order to eliminate inactive companies from the sample. Second, only limited liability companies were included. Partnerships, foundations, associations etc. were excluded because the use of their funds is regulated under different acts and some of those entities are non-profit organizations. Concentration on limited companies also makes it possible to investigate the Finnish Companies Act induced motives for management. Third, certain industries were left out because of their substantially distinct operations and earnings logic.[54] Fourth, companies preparing their income statement based on operational categories were excluded due to technical reasons. Finally, the study employs cross-sectional data: only the latest available financial year is under examination for all companies.

6.1.2 Selection bias

The sample selection procedure applied raises a selection bias issue. It is a fact that a great majority of the sample companies are debt-financed as they are clients of the financial institutions. The sample companies are likely to be, on average, more leveraged than randomly sampled companies. Therefore, one must be cautious about generalizing the findings of the thesis to the full population of Finnish small limited companies.

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[53] According to the Accounting Act, a company is small if at least two of the following limits are not exceeded during the last two financial years: (1) the number of employees is 50, (2) Net Sales is EUR 6.250 million on an annual basis, and (3) Total Assets is EUR 3.125 million. According to the Decree on Aid to Business (Valtioneuvoston asetus yritystoiminnan tukemisesta) a company is small if (1) the number of employees is less than 50 and (2) Net Sales does not exceed EUR 7 million on an annual basis, or Total Assets does not exceed EUR 5 million and (3) a company fulfills specified prerequisites of independence.

[54] Electricity, gas and water supply (two-digit SICs 40-41), financial services (two-digit SICs 65-67) and real estate businesses (three-digit SICs 701-702). SICs are from the Standard Industrial Classification, TOL 2002, maintained by Statistics Finland.

6.1.3 Measures of the financial position

Section 4.1 discussed four indicators of a company's financial position that are often available to outsiders: financial ratios, an auditors' report, payment defaults registered, and a credit rating. To describe a financial position in the empirical analysis, these all, except for a credit rating, are employed.

Credit ratings were available but they were not included in the analysis. Credit ratings are based on a predefined statistical model combined with human assessment: including credit ratings in the analysis would incorporate a question concerning both the validity of the model and the quality of the assessment. The other indicators are assumed to be more objective measures although they also involve, of course, subjectivity to some extent.

Among various financial ratios, the adjusted Equity Ratio (*ER*) is chosen to describe the financial position.

$$ER\ (\%) = \frac{Adjusted\ Shareholders'\ Equity}{Adjusted\ Total\ Assets - Advances\ Received} * 100 \qquad (1)$$

The Equity Ratio is a static ratio designed to measure the company's financial solidity, its ability to withstand losses and its ability to fulfill its commitments in the long term. It shows, in accounting terms, the proportion of Total Assets that is financed by Shareholders' Equity. Static solidity is often associated with the concept of financial risk because in liquidation the distributive portions of equity and debt investors depend on how the value of assets corresponds to the value of debt (Laitinen 1994, 44-45). The higher the Equity Ratio, the lower the financial risk is. The Committee for Corporate Analysis (2002) suggests the following benchmarks for the Equity Ratio:

- above 40 % good
- 20 – 40 % satisfactory
- below 20 % poor

Advances Received are deducted from the adjusted Total Assets if advances relate to work-in-progress. When relating to work-in-progress, there is no longer, in practice, repayment obligation. Therefore, payments of this kind the company has received before the delivery are

not included in debt when calculating the Equity Ratio. (Committee for Corporate Analysis, 2002)

We will assume that an adverse opinion of auditors has an association with the company's financial performance and strength. An auditors' opinion is taken from the auditors' report. We will use a rough division: the auditors' report is either qualified (includes some adverse remark(s)) or unqualified (standard report).

$$\begin{aligned} &\textit{Qualified report} = 1 \quad \textit{if the auditors' report is qualified} \\ &\textit{Qualified report} = 0 \quad \textit{if the auditors' report is unqualified} \end{aligned} \tag{2}$$

A rough division is also used with respect to the payment default data. A dummy variable indicates whether a company has entries in the payment default register maintained by Suomen Asiakastieto Oy. A company to be recognized to have payment defaults, one entry in the registry is sufficient.

$$\begin{aligned} &\textit{Payment defaults} = 1 \quad \textit{if the company has payment defaults} \\ &\textit{Payment defaults} = 0 \quad \textit{if the company has no payment defaults} \end{aligned} \tag{3}$$

6.1.4 Measures of the financial statement management

The following measures are used to quantify the need for adjustments in the official financial statements of each company.

Need for profitability adjustments:

$$Z_{EBIT} = \frac{EBIT_r - EBIT_a}{Sales_a} \tag{4}$$

Need for equity adjustments:

$$Z_{equity} = \frac{Equity_r - Equity_a}{Assets_a} \tag{5}$$

where Z is the need for adjustment, *EBIT* is Earnings before Interest and Taxes (or Operating Profit), *Sales* is Net Sales, *Equity* is Shareholders' Equity, and *Assets* is Total Assets.

Subscript *r* refers to a reported figure and *a* to an adjusted figure.[55] Figures are from the same financial period.

Thus, the need for adjustments means a scaled change in an earnings subtotal EBIT or in Shareholders' Equity when the items are calculated from the adjusted financial statements instead of the reported financial statements. The difference is scaled in order to detect the relative importance of the adjustments and to guarantee a more well-behaved distribution (i.e. homoscedastic disturbance). A positive need figure reflects EBIT and equity increasing management actions, a negative figure reflects EBIT and equity decreasing management.

To keep the analysis compact and to cover only the most relevant issues, measuring the need for profitability adjustments and solidity adjustments is limited to the two items, EBIT and Shareholders' Equity, respectively. Comparing adjusted EBIT to reported EBIT captures a substantial proportion of the most usual adjustments made in the income statement. For instance, adjusting the amount of depreciation and transferring income and expenses from operating to extraordinary items (or vice versa) are reflected in the comparison of adjusted EBIT to reported one. Comparing adjusted and reported Shareholders' Equity is also justified because Shareholders' Equity works as a contra account to any value adjustment on the assets side of the balance sheet. Transfers from debt to equity and vice versa are also captured. On the other hand, this comparison does not capture classificatory adjustments within liabilities or adding off-balance sheet liabilities.

6.1.5 Variable definition

Table 2 presents definitions of all the variables used in the empirical analysis. First, Z_{EBIT} and Z_{equity} quantify financial statement management or, equivalently, measure the need for management. Second, there is a group of financial ratios measuring financial profitability,

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[55] There is one point that is highly important when interpreting the measures. Adjusted EBIT and adjusted Shareholders' Equity in the formulas *do not completely equal to those adjusted items proposed by the Committee for Corporate Analysis (2002)*. This is due to our choice to ignore a couple of adjustments that are pure technical additions corporate analysts make in the financial statements rather than corrections for choices that exploit the range of discretion or violate the accounting standards. As regards EBIT, the ignored item is the adjustment to entrepreneurs' salary. The adjustment to entrepreneurs' salary only improves profitability comparisons between companies as some entrepreneurs take their salary through the income statement while some entrepreneurs take their compensation in the form of dividends or private use of funds without affecting the income statement. As regards Shareholders' Equity, the tax liability hidden in Accumulated Depreciation in excess of Plan and Untaxed Reserves is not transferred to Deferred Taxes. The transfer is a mechanical adjustment to separate the part of Accumulated Appropriations that is debt in essence. The separation is not, however, enacted by the accounting standards.

solidity and liquidity: EBIT margin, Equity Ratio and Quick Ratio, respectively. The data contain both reported and adjusted ratios. Third, Total Assets and Net Sales (measured in thousand euros) represent the size of the business. Fourth, there is a bunch of dummy variables. They provide information on whether the company has payment defaults registered, whether the auditors' report is disclosed, whether the report is qualified, and which industry the company operates in. Finally, there are two variables that measure the company's closeness to two critical limits of Shareholders' Equity that are enacted by the Finnish Companies Act: *Distributable equity* measures a distance to the limit of zero amount of distributable equity and *Liquidation* to the limit of the threat of compulsory liquidation.

Table 2. *Definition of the variables in the empirical analysis*

Variable	Definition	Unit
Z_{EBIT}	Need for EBIT adjustments: ($EBIT_r$ - $EBIT_a$) / $Sales_a$ * 100%	%
Z_{equity}	Need for equity adjustments: ($Equity_r$ - $Equity_a$) / $Assets_a$ * 100%	%
$EBITm_r$ and $EBITm_a$	Reported and adjusted EBIT margin	%
ER_r and ER_a	Reported and adjusted Equity Ratio	%
QR_r and QR_a	Reported and adjusted Quick Ratio	%
Assets	Total Assets (adjusted)	tEUR
Sales	Net Sales (adjusted and scaled to correspond to 12 months)	tEUR
Qualified report	Auditors' report is qualified	0 / 1
Report disclosure	Auditors' report is disclosed	0 / 1
Payment defaults	Company has payment default(s) registered	0 / 1
Primary production	Company operates in primary production	0 / 1
Manufacturing	Company operates in primary manufacturing	0 / 1
Construction	Company operates in construction	0 / 1
Trade	Company operates in wholesale and retail trade	0 / 1
Hotels	Company operates in hotels and restaurants	0 / 1
Transportation	Company operates in transportation, storage and communication	0 / 1
Other services	Company operates in other services	0 / 1
Distributable equity	Closeness to the zero amount of distributable equity: Amount of distributable $equity_a$ / Total Assets * 100%. (Negative figure also possible)	%
Liquidation	Closeness to the amount of Shareholders' Equity required to avoid the threat of compulsory liquidation: (Shareholders' $Equity_a$ – 0.5 * Share Capital) / Total Assets * 100%. (Accumulated appropriations excluded from the adjusted Shareholders' Equity)	%

Notes:
The industry classification is based on the Standard Industrial Classification, TOL 2002, maintained by Statistics Finland.
Adjusted EBIT and adjusted Equity in the need formulas (and in the financial ratio formulas) do not completely equal to those items proposed by the Committee for Corporate Analysis (2002). The adjustment to entrepreneurs' salary is ignored, leasing commitments are not added to liabilities on the balance sheet, and the tax liability hidden in Accumulated Depreciation in excess of Plan and Untaxed Reserves is not transferred to Deferred Taxes.

6.2 Methodology

Table 3 shows that the measures of the financial statement management have highly asymmetrical distributions with a high level of kurtosis and skewness. The need for adjustments is zero[56] for a great majority of the companies, and for those companies having a nonzero need, the need is mostly positive. In addition to possible management actions, the lack of negative values may result from the conservative adjustment approach: there is a relatively low threshold to adjust earnings and equity downwards whereas a threshold to adjust them upwards is higher.

Table 3. *Descriptive statistics of the measures of the financial statement management*

The table reports descriptive statistics for the measures of the financial statement management. Z_{EBIT} denotes the need for EBIT management and is calculated as follows: $(EBIT_r - EBIT_a) / Sales_a * 100\%$. Z_{equity} denotes the need for equity management: $(Equity_r - Equity_a) / Assets_a * 100\%$. Subscript *r* refers to a reported figure, and *a* to an adjusted figure. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

			Percentiles						
	Mean	Std. dev.	5	10	25	50	75	90	95
Z_{EBIT}	0,408	8,302	-0,090	-0,053	-0,032	0,000	0,030	0,069	0,873
Z_{equity}	2,186	12,460	0,000	0,000	0,000	0,000	0,000	1,900	10,500

In addition to the chosen measures of the financial statement management (need variables, Z_{EBIT} and Z_{equity}), the distributional properties of the financial ratios and their differences (or their transformations either) do not meet the prerequisites for the standard t-tests and the ordinary least squares regression. Instead, methods briefly described in the following subsections are used in the empirical analysis.

6.2.1 Nonparametric testing

At the initial stage, the existence of the financial statement management is measured through a difference between reported and corresponding adjusted financial ratios. The first hypothesis states that the financial ratios calculated from the adjusted financial statements are

[56] The small deviation from zero in most of the percentiles of the need for EBIT adjustments is attributable to rounding errors in calculation. As the figures are shown as percentages (the need in euros in proportion to Net Sales), the deviations are negligible. The deviations being below 0.1% in absolute value are identified with zero in the further analysis.

worse than the ratios calculated from the official financial statements. For testing this hypothesis, a nonparametric Wilcoxon signed-ranks test for matched pairs will be applied.

The equality of the financial ratios or the need variables across companies divided into groups based on their financial position will be tested using the Mann-Whitney U test for two independent groups or its extension the Kruskal-Wallis test for more groups. They are nonparametric counterparts of the parametric t-test for independent samples.

6.2.2 Tobit regression

A Tobit regression is a maximum likelihood technique that combines a Probit regression with a standard regression analysis. It is a suitable regression technique for data of this type where the dependent variable (need for adjustments) is essentially a continuous variable but is not observed (i.e. is censored) for values of zero or less. The use of a standard regression for data of this type would yield inconsistent estimates.

A standard Tobit model is defined as

$$\begin{aligned} y_i &= x_i\beta + \varepsilon_i \\ y_i &= y_i^* \quad if \quad y_i^* > 0 \\ y_i &= 0 \quad if \quad y_i^* \le 0 \end{aligned} \tag{6}$$

where y_i^* is the latent dependent variable, y_i is the observed dependent variable, x_i is the vector of the independent variables, β is the vector of coefficients, and the ε_i 's are assumed to be independently normally distributed: $\varepsilon_i \sim N(0, \sigma^2)$. Observed zeros on the dependent variable can refer to a "true" zero or censored data.[57]

When using Tobit regressions in this study (testing hypotheses 2 and 3), censoring takes place because the adjustment of financial statements rarely produces negative need values (i.e. earnings or equity is not usually adjusted upwards) due to the conservative adjusting approach. Therefore, the need is a censored variable, censored below at zero. There are two features of the need variable distribution that we are interested in. First, the expected value of the company's need for adjustments given x (the vector of explanatory variables), and given that the need is positive, i.e. $E(need \mid x, need > 0)$. Second, the probability that the (positive) need exists, given x, i.e. $P(need > 0 \mid x)$.

In maximum likelihood estimation, there is no measure of goodness of fit equivalent to R^2 which would have such a natural interpretation. We will report, however, the pseudo R^2 when presenting test results. The pseudo R^2 compares the log-likelihood, log L, with the log-likelihood that would have been obtained with only the intercept in the regression, log L_0. A likelihood, being a joint probability, must lie between 0 and 1, and consequently, a log-likelihood must be negative. The pseudo R^2 is the proportion by which log L is smaller, in absolute terms, than log L_0: [58]

$$pseudo\, R^2 = 1 - \frac{\log L}{\log L_0} \tag{7}$$

It has a minimum value of 0 and the maximum value must be less than 1. A higher pseudo R^2 generally implies a better fit of the model although it does not have such a natural interpretation as R^2.

As a basis for tests of goodness of fit, variations in likelihood can be used. The explanatory power of the model can be tested via the likelihood ratio statistic

$$2\log\frac{L}{L_0} = 2(\log L - \log L_0) \tag{8}$$

It is distributed as a chi-squared statistic with *k-1* degrees of freedom, *k-1* being the number of explanatory variables, under the null hypothesis that the coefficients are all jointly equal to 0. When presenting our Tobit results, these statistics will be reported as *LR Chi*^{2} accompanied with the significance.

Furthermore, the likelihood ratio tests can be used to compare different model specifications. The likelihood ratio statistic presented above is used by replacing L by that of an unrestricted model, and by replacing L_0 by that of a restricted model. Under the null hypothesis that restrictions are valid, the test statistic will have a Chi-squared distribution with g degrees of freedom, where g is the number of restrictions. The test is applied in this study to compare the likelihood ratios of unrestricted models and models under the restriction that the coefficients of certain variables are zero.

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[57] See e.g. Greene (2000) for a detailed presentation of the estimation procedures of the Tobit models.
[58] Presenting goodness of fit tests here follows Dougherty (2002).

6.2.3 Logistic regression

When testing the hypothesis number 4 ("the extent of the financial statement management influences the disclosure of the auditors' report"), we are interested in whether an auditors' report is disclosed. Thus, the dependent variable can take only two values, *disclosed* or *not disclosed.* In case of dichotomy, a logistic regression model should be applied instead of an OLS regression model.

In a logistic regression, it assumed that the probability of the occurrence of the event X is determined by the S-shaped function

$$P_i(Y=1) = F(Z_i) = \frac{1}{1+e^{-Z_i}} \tag{9}$$

where $P_i(Y)$ denotes the probability of an event Y for the i^{th} case and Z_i is a linear function of the explanatory variables. The model is fitted by maximum likelihood estimation.[59] When testing the fourth hypothesis, $P_i(Y=1)$ is the probability of disclosing an auditors' report for the i^{th} company and Z_i is the need for adjustments.

6.3 Descriptive statistics of the sample

In this section, the statistics describe the sample with respect to industry distribution and company characteristics by industry (6.3.1) as well as to adjusted financial solidity, profitability, and liquidity (6.3.2).

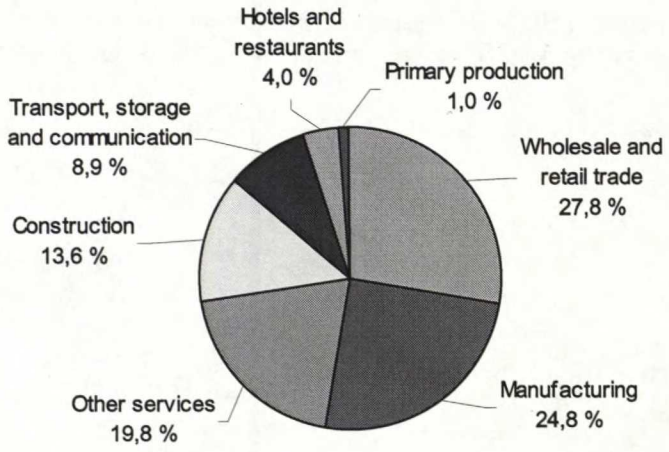
6.3.1 Company characteristics by industry

Figure 3 shows industries in which the sample companies are involved. Slightly over one fourth of the companies operate in wholesale and retail trade and one fourth in manufacturing. Other industries representing over ten percent of the companies are other services (19.8%) and construction (13.6%). In all, the sample companies cover the whole range of the main sections of the industry classification except (1) electricity, gas and water supply, (2) financial services, and (3) real estate businesses, which were explicitly left out.

[59] See Dougherty (2002).

Figure 3. *Sample companies by industry*

Companies are categorized according to the Standard Industry Classification (TOL 2002). Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy.



The sample selection criteria presented in Section 6.1.1 produced a sample with mean Net Sales of EUR 1.374 million (median EUR 0.935 million) and mean Total Assets of EUR 0.741 million (median EUR 0.519 million). As can be seen below in Table 4, a company seems to be biggest, in average terms, in wholesale and retail trade and in manufacturing. The smallest average company can be found in hotels and restaurants, in other services, in transport, storage and communication or in primary production depending on whether Net Sales or Total Assets is considered. The Kruskal-Wallis nonparametric test rejects the equality of size across the industries at the 0.1% significance level.

When reviewing profitability, primary production with the EBIT margin of 13.8% seems to outperform other industries clearly. On the other hand, liquidity, in the light of the Quick Ratio, seems to be worst in this industry together with hotels and restaurants. The highest leverage, on average, tends to be among companies operating in hotel and restaurant business and in transport, storage and communication. The Kruskal-Wallis test rejects the equality of each of the financial ratios across the industries at the 0.1% significance level.

Table 4. *Company size and performance by industry*

The table reports the mean, the median, and the standard deviation of the size variables (Net Sales and Total Assets, measured in thousand euros) and the adjusted financial ratios (EBIT margin, Equity Ratio, and Quick Ratio) in each industry and in the whole sample. Companies are categorized according to the Standard Industry Classification (TOL 2002). P-values on the on the equality of the means across different industries are based on the Kruskal-Wallis test. Companies are categorized according to the Standard Industry Classification (TOL 2002). Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

		Sales	Assets	$EBITm_a$	ER_a	QR_a
Primary production	Mean	869	708	13,8	31,9	1,2
	Median	571	503	11,0	31,7	0,6
	Std. dev.	937	615	16,4	25,9	1,9
Manufacturing	Mean	1 450	881	6,2	35,0	1,3
	Median	1 045	637	6,8	34,9	0,9
	Std. dev.	1 252	722	26,8	35,1	1,6
Construction	Mean	1 457	706	8,6	37,9	1,7
	Median	1 069	482	6,9	38,2	1,1
	Std. dev.	1 234	625	10,9	27,3	5,1
Wholesale and retail trade	Mean	1 726	755	6,3	35,3	1,2
	Median	1 274	551	5,0	35,0	0,7
	Std. dev.	1 468	639	10,9	33,5	2,9
Hotels and restaurants	Mean	1 070	511	5,9	24,2	0,9
	Median	692	329	5,4	29,0	0,6
	Std. dev.	1 068	506	14,2	37,3	1,0
Transport, storage and communication	Mean	1 186	654	6,8	23,1	1,0
	Median	784	470	5,7	23,7	0,8
	Std. dev.	1 143	583	12,9	44,1	1,3
Other services	Mean	900	659	6,7	33,1	3,0
	Median	504	445	8,8	35,9	1,0
	Std. dev.	1 033	635	59,1	47,9	50,5
Whole sample	Mean	1 374	741	6,8	33,6	1,6
	Median	935	519	6,4	34,1	0,9
	Std. dev.	1 292	655	30,7	37,8	22,6

	Chi-Square	df	p-value (2-tailed)
Sales	473,466	6	0,000
Assets	168,010	6	0,000
$EBITm_a$	129,150	6	0,000
ER_a	103,355	6	0,000
QR_a	167,475	6	0,000

6.3.2 Adjusted financial ratios

The following statistics are presented in order to give a brief look at financial profitability, solidity, and liquidity of the sample companies. Table 5 explores the three adjusted financial ratios in the whole sample (Panel A), how the ratios vary across companies categorized by the

adjusted Equity Ratio (B), payment defaults registered (C), and the type of the auditors' report (D).

Table 5. Adjusted financial ratios

The table reports descriptive statistics of the adjusted financial ratios; EBIT margin ($EBITm_a$), Equity Ratio (ER_a), and Quick Ratio (QR_a). Panel A shows the mean and the standard deviation as well as some percentiles in the whole sample. Panels B, C, and D report the mean and the standard deviation by companies classified according to the adjusted Equity Ratio, the existence of payment defaults, and the type of the auditors' report, respectively. At the bottom of Panels B to D, test statistics on the equality of the means across different classes are based on the Mann-Whitney U test for two independent groups or its extension the Kruskal-Wallis test for more groups. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

Panel A: Whole sample

			Percentiles		
	Mean	Std. dev.	25	50	75
$EBITm_a$	6,8	30,7	2,3	6,4	12,4
ER_a	33,6	37,8	15,4	34,1	55,7
QR_a	1,6	22,6	0,5	0,9	1,5

Panel B: Grouped by adjusted Equity Ratio

		ER_a				
		< 10,0	10,1 - 25,0	25,1 - 40,0	40,1 - 60,0	60,1 - 100,0
$EBITm_a$	Mean	-0,7	4,5	7,0	9,6	12,3
	Std. dev.	28,9	17,3	19,4	22,4	50,5
ER_a	Mean	-12,9	18,0	32,9	49,8	73,0
	Std. dev.	55,0	4,7	5,3	7,3	11,3
QR_a	Mean	0,6	0,8	1,0	1,3	4,3
	Std. dev.	1,5	1,4	1,2	3,7	49,2

	Chi-Square	df	p-value (2-tailed)
$EBITm_a$	1 102,840	4	0,000
ER_a	5 986,371	4	0,000
QR_a	2 346,313	4	0,000

Panel C: Grouped by payment defaults

		Payment defaults	
		No	Yes
$EBITm_a$	Mean	7,1	-0,1
	Std. dev.	30,5	35,7
ER_a	Mean	35,2	-2,4
	Std. dev.	34,6	71,3
QR_a	Mean	1,7	0,6
	Std. dev.	23,1	0,6

	Mann-Whitney U	Z	p-value (2-tailed)
$EBITm_a$	619 746,5	-7,853	0,000
ER_a	385 128,0	-15,626	0,000
QR_a	473 788,5	-12,705	0,000

Panel D: Grouped by the type of the auditors' report

		Auditors' report		
		Unqualified	Qualified	Not disclosed
$EBITm_a$	Mean	7,6	-2,7	7,3
	Std. dev.	30,1	43,4	16,4
ER_a	Mean	38,2	-10,5	29,2
	Std. dev.	30,0	64,5	45,5
QR_a	Mean	1,8	0,7	1,4
	Std. dev.	24,6	0,7	2,0

	Chi-Square	df	p-value (2-tailed)
$EBITm_a$	138,299	2	0,000
ER_a	599,571	2	0,000
QR_a	223,516	2	0,000

In the whole sample, the mean EBIT margin amounts to 6.8%, the mean Equity Ratio to 33.6% and the Quick Ratio to 1.6. Comparing means to medians reveals that the EBIT margin and the Equity Ratio have a reasonably equal mean and median whereas the mean of the Quick Ratio (1.6.) is slightly above the upper quartile (1.5). Therefore, the mean does not seem to describe satisfactorily the liquidity of an average Finnish small limited company. The relatively high mean is likely to result from a small amount of companies that do not have any material current liabilities on their balance sheet which drives the Quick Ratio to a very high level.[60]

Panels B to D show that a weaker financial position is – whether measured by the Equity Ratio, payment defaults or the type of the auditors' report – reflected in financial ratios describing profitability, solidity, and liquidity. In each panel, the stronger the financial position, the higher the mean ratio is consistently. Not surprisingly, the equality of the financial ratios across the financial position classes is rejected at the 0.1% significance level (nonparametric tests).

6.4 Results from the hypotheses testing

The following four subsections will explore the four hypotheses raised in Section 5, respectively.

[60] The most significant outliers (with respect to any of the three financial ratios) were, however, eliminated when refining the data.

6.4.1 Existence of the financial statement management

Before investigating the effect of the company's financial position on the financial statement management, the preliminary task is to check whether Finnish small companies indeed exercise financial statement management. The null hypothesis is as follows:

> *H0: A financial ratio calculated from the adjusted financial statements equals the corresponding ratio calculated from the official financial statements.*

An alternative hypothesis H1 is that profitability, solidity, and liquidity ratios (EBIT margin, Equity Ratio, and Quick Ratio, respectively) are lower, on average, if calculated from the reported statements. The decrease of the ratios is assumed because there seem to be motives to cosmetically upgrade – rather than downgrade – the view on the company's financial position and performance and because the adjusting approach tends to be conservative.

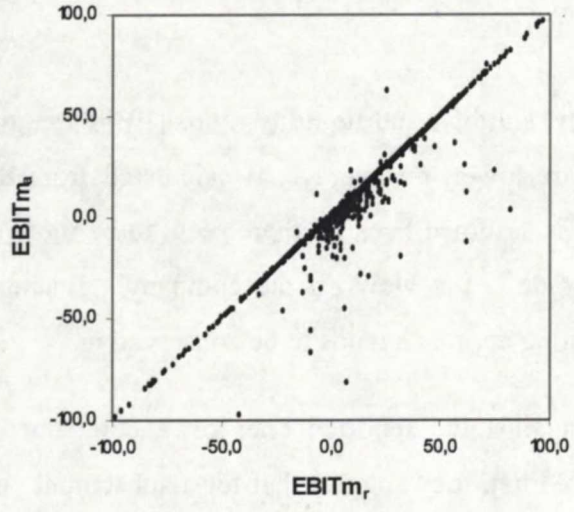
In Figure 4, the adjusted ratios are plotted against the reported ones on a company by company basis. The figures indicate two things. First, they suggest that for a substantial part of the companies the adjusted and reported financial ratios are not equal. Second, most of the observations consisting of unequal values are generally located below the invisible 45 degrees line indicating equal ratios. In other words, if there is any deviation between the ratios, the adjusted ratio seems to be lower than the reported one.

Figure 4. *Adjusted versus reported financial ratios on a company by company basis*

Panels A to C plot adjusted financial ratios against reported ratios on a company by company basis. A minor number of observations lie beyond the values in the figures. Not showing those observations improves the readability of the figures.

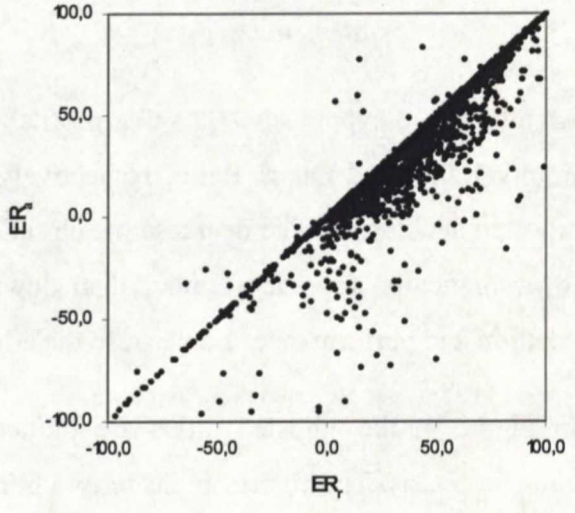
Panel A.

Adjusted versus reported EBIT margin



Panel B.

Adjusted versus reported Equity Ratio



Panel C.

Adjusted versus reported Quick Ratio

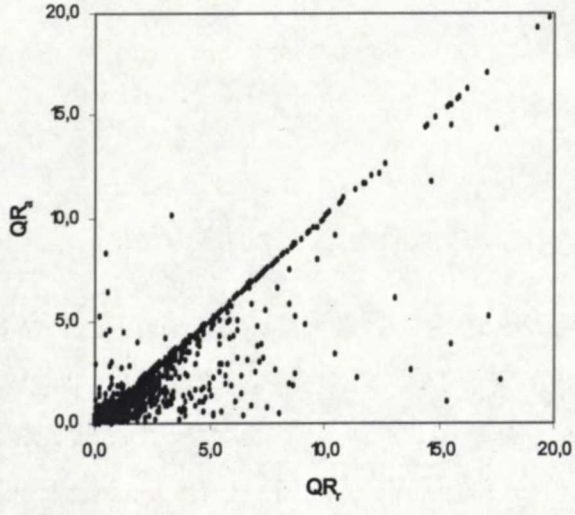


Table 6 confirms the visual interpretation. The null hypothesis of equal means can be rejected for all the ratios at the 0.1% significance level. A nonparametric test is applied as none of the three ratios (or their typical transformations) follows the normal distribution.

Table 6. *Reported versus adjusted financial ratios*

The table reports the means of the reported and the adjusted financial ratios (EBIT margin, Equity Ratio, and Quick Ratio). P-values on the equality of a reported and an adjusted financial ratio are based on the Wilcoxon signed-rank test. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

	reported	adjusted	p-value
EBITm	7,053	6,773	0,000
ER	36,219	33,578	0,000
QR	1,772	1,643	0,000

As pointed out, this was a preliminary check of the existence of the financial statement management. As some companies indeed manage their financial statements, we will next investigate whether the financial position of the company has any effect on the extent of the management.

6.4.2 Effect of the financial position on the financial statement management

As discussed, the financial statements have a crucial role in financial decision making. To guarantee a favorable interpretation in such situations, companies facing financial difficulties may want to manage earnings and equity upwards. Hence, we assume that companies take advantage of the flexibility of the accounting standards or violate the standards more, on average, when their financial position is not satisfactory. Accordingly, the null hypothesis is as follows.

> *H0: The extent of the financial statement management is equal across different financial position classes.*

An alternative hypothesis H1 states that the extent differs at least in one of the classes.

As a first step, Table 7 explores the need variable in the whole sample (Panel A), how the need variable varies across companies categorized by the adjusted Equity Ratio (B), payment defaults registered (C), and the type of the auditors' report (D). In the whole sample, the mean need for EBIT adjustments, Z_{EBIT}, is 0.408% of Net Sales. The sample mean need for equity adjustments, Z_{equity}, is 2.186% of Total Assets.

Table 7. *Need for financial statement adjustments*

The table reports descriptive statistics of the measures of the financial statement management. Z_{EBIT} denotes the need for EBIT management and is calculated as follows: ($EBIT_r$ - $EBIT_a$) / $Sales_a$ * 100%. Z_{equity} denotes the need for equity management: ($Equity_r$ - $Equity_a$) / $Assets_a$ * 100%. Subscript *r* refers to a reported figure, and *a* to an adjusted figure. Panel A shows the mean and the standard deviation in the whole sample. Panels B, C, and D report the mean and the standard deviation by companies classified according to the adjusted Equity Ratio, the existence of payment defaults, and the type of the auditors' report, respectively. At the bottom of Panels B to D, test statistics on the equality of the means across different classes are based on the Mann-Whitney U test for two independent groups or its extension the Kruskal-Wallis test for more groups. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

Panel A: Whole sample

Z_{EBIT}	Mean	0,408
	Std. dev.	8,302
Z_{equity}	Mean	2,186
	Std. dev.	12,46

Panel B: Grouped by adjusted Equity Ratio

		ER_a				
		< 10,1	10,1 - 25,0	25,1 - 40,0	40,1 - 60,0	60,1 - 100,0
Z_{EBIT}	Mean	0,524	0,386	0,306	0,157	0,683
	Std. dev.	12,226	3,668	3,516	8,613	9,916
Z_{equity}	Mean	8,036	1,614	0,941	0,518	0,484
	Std. dev.	25,574	9,089	5,397	3,862	3,521

	Chi-Square	df	p-value (2-tailed)
Z_{EBIT}	11,323	4	0,023
Z_{equity}	433,294	4	0,000

Panel C: Grouped by payment defaults

		Payment defaults	
		No	Yes
Z_{EBIT}	Mean	0,412	0,330
	Std. dev.	8,459	3,416
Z_{equity}	Mean	2,084	4,416
	Std. dev.	12,166	17,553

	Mann-Whitney U	Z	p-value (2-tailed)
Z_{EBIT}	823 554,0	-1,102	0,271
Z_{equity}	717 834,0	-7,070	0,000

Panel D: Grouped by the type of the auditors' report

		Auditors' report		
		Unqualified	Qualified	Not disclosed
Z_{EBIT}	Mean	0,357	1,031	0,305
	Std. dev.	7,677	15,005	3,299
Z_{equity}	Mean	1,536	7,492	3,817
	Std. dev.	10,283	20,919	19,422

	Chi-Square	df	p-value (2-tailed)
Z_{EBIT}	4,086	2	0,130
Z_{equity}	191,524	2	0,000

In Panel B, the adjusted Equity Ratio seems to be negatively related to the adjustment needs. The lower the ratio (i.e. the more leveraged the company), the higher the need to adjust both EBIT and Shareholders' Equity is. The only exception to this relation is the group of the least leveraged companies (Equity Ratio above 60%) in which the need for EBIT adjustments is the highest in the sample. In this group, there are most likely companies that have recorded large, non-recurrent and extraordinary income in Other Operating Income: an adjustment transferring the income to Extraordinary Income has affected EBIT but the income has strengthened Shareholders' Equity. As regards equity adjustments, the result is unambiguous: the lower the adjusted Equity Ratio, the stronger the need for equity adjustments.[61] The Kruskal-Wallis nonparametric test rejects the null hypothesis of the equal need across the groups with respect to EBIT at the 5% significance level and with respect to equity at the 0.1% level.

In Panel C, where the companies are classified into two groups based on whether they have payment defaults registered, the need for EBIT adjustments behaves differently from the need for equity adjustments. Contrary to the expectations, companies having no payment defaults have a higher sample mean Z_{EBIT} than companies with defaults registered (0.412% vs. 0.330%). However, the difference is not statistically significant as the Mann-Whitney U test fails to reject the null hypothesis of the equal need for EBIT adjustments (p-value 0.271). By contrast, the need for equity adjustments differs between the groups at the 0.1% level. The sample companies with no defaults have a 2.084% need, on average, while the companies with at least one payment default registered have a 4.416% need: a 2.1 times greater need.

Finally, Panel D implies that companies receiving a qualified auditors' report (i.e. contains unfavorable remark(s)) exercise stronger financial statement management than companies receiving an unqualified report ("clean" report, contains no unfavorable remarks). For example, the mean Z_{equity} in the sample is 4.9 times greater among companies having received a qualified report (a 7.492% need) than among companies received an unqualified report (a 1.536% need). As regards Z_{EBIT}, the corresponding ratio is 2.9 (1.031% vs. 0.357%). It can be seen in Panel D that the null hypothesis of the equal needs for EBIT adjustment across the three groups (unqualified, qualified, not disclosed) is not rejected at any conventional

[61] This is a logical result because making an equity adjustment often results in a lower Equity Ratio. Thus, in the lower classes the extent of equity adjustments is likely to be higher than in the higher classes given that transitions of companies across Equity Ratio classes take place because of the adjustments. However, the need shows similar behavior although the *reported* Equity Ratio was used as a classifying variable (not reported here).

significance level. For equity adjustments, it is rejected at the 0.1% level. If the group of not disclosed companies were excluded and only companies with a unqualified and a qualified report were compared, the significance of Z_{EBIT} would drop from 0.130 to 0.052 and the significance of Z_{equity} would not be affected (not reported in the table).

Next, the hypothesis is tested by running Tobit regressions. Using Tobit regressions enables testing the significance of the different financial position measures as explanatory variables for the need measures and simultaneously controlling for the company size and the company's field of business.[62] The estimation equations are shown below. Z_i refers to the need for financial statement adjustments for company i, x_i to the vector of the independent variables, β to the vector of coefficients.

$$\begin{aligned} Z_{EBIT,i} &= \max(0, \alpha_i + x_i\beta + u_i) \\ Z_{equity,i} &= \max(0, \alpha_i + x_i\beta + u_i) \end{aligned} \tag{10}$$

The elements of the x_i vector depend on the model specification. There are three specifications: the first specification incorporates our financial position measures, the second one adds profitability and liquidity measures to the equations, and the third one also controls for the company size and the industry. Tables 8 and 9 present the regression results from the three specifications for the need for equity adjustments and the need for EBIT adjustments, respectively.

Table 8 deals with equity management. A main finding is that the Equity Ratio and the qualified auditors' report become significant explanatory variables in all three specifications. More specifically, the need for equity adjustments is higher when the Equity Ratio is lower. This is consistent with our expectation. Also, the effect of the qualified disclosed report on the need is expected: the extent of equity lowering adjustments is higher in case of a qualified report. The last measure of the financial position, whether the company has payment defaults registered, also has an expected positive coefficient, meaning that the existence of payment defaults triggered stronger equity management among the sample companies, but it is not statistically significant.

[62] See Section 6.2.2 for discussion about the reasons for using the Tobit analysis and the main features of the regression technique.

Table 8. *Determinants of the need for equity adjustments*

The table reports Tobit regression results when regressing the need for equity adjustments (Z_{equity}) on various possible determinants of the need. In Specification 1, the need for equity adjustments is regressed on three financial position measures, the adjusted Equity Ratio, the 'existence of payment defaults' -dummy and the 'receipt of a qualified auditors' report' -dummy. The dummies take the value 1 if the company has received a payment default or if the company has received a registered payment default, respectively, and zero otherwise. In Specification 2, a profitability measure, the adjusted EBIT margin, and a liquidity measure, the adjusted Quick Ratio, are added as independent variables. Specification 3 includes additional control variables, size (measured by Total Assets, thousand euros) and industry (incorporated in the model by industry dummies). As regards the industry dummies, manufacturing is used as a reference group. The likelihood ratio statistics show the explanatory power of the model specifications. The likelihood ratio statistic labeled as *LR Chi²* is calculated as $2(\log L - \log L_0)$, $\log L$ denoting the value of the log likelihood function and the subscript *0* a restricted model. It is distributed as a chi-squared statistic with *k-1* degrees of freedom, *k-1* being the number of explanatory variables, under the null hypothesis that the coefficients are all jointly equal to 0. The related significance can be read in the fourth row. The pseudo R^2 is calculated as $1 - (\log L / \log L_0)$. The likelihood ratios at the bottom of the table compare different model specifications. Under the null hypothesis that restrictions are valid, the test statistic will have a Chi-squared distribution with *g* degrees of freedom, where *g* is the number of restrictions. The related significance can be read in the last row.

Specification	1			2			3		
Independent variable	Coef.	p-value		Coef.	p-value		Coef.	p-value	
Constant	-39,521	0,000	***	-39,249	0,000	***	-38,814	0,000	***
ER_a	-0,347	0,000	***	-0,341	0,000	***	-0,348	0,000	***
Payment defaults	1,415	0,682		1,395	0,686		0,793	0,817	
Qualified report	14,436	0,000	***	14,103	0,000	***	14,728	0,000	***
QR_a				0,124	0,757		0,718	0,861	
$EBITm_a$				-0,634	0,001	***	-0,510	0,006	***
Primary production							-21,851	0,036	**
Construction							-12,181	0,000	***
Trade							-6,026	0,007	***
Hotels							3,301	0,407	
Transportation							-10,465	0,001	***
Other services							3,906	0,092	*
Assets							0,435	0,000	***
Log likelihood		-5 493,6			-5 487,9			-5 455,9	
LR Chi^2		488,6			500,1			564,1	
degrees of freedom		3			5			12	
significance		0,000	***		0,000	***		0,000	***
Pseudo R^2		0,043			0,044			0,049	

Likelihood ratio tests for comparing the specifications									
LR test for	2 vs. 1			3 vs. 1			3 vs. 2		
LR Chi^2	11,5			75,5			64,0		
degrees of freedom	2			9			7		
significance	0,003	***		0,000	***		0,000	***	

* significant at 10% level, ** significant at 5%, *** significant at 1%.

A liquidity measure (Quick Ratio) and a profitability measure (EBIT margin) are incorporated in the second and the third model specification. The Quick Ratio appears to have no association with the need for equity adjustments. By contrast, the EBIT margin is negatively related to the need at the significance of 1%. This means that weaker profitability triggers heavier management of Shareholders' Equity.

Including the control variables, the industry dummies and the company size, in Specification 3 does not alter the fundamental results. The company size, as measured by Total Assets, is significantly and positively related to the need. As regards the industry examination, all the industries being significant at the 5% or 1% level has a negative coefficient. Since manufacturing, representing one fourth of the sample companies, is used as a reference group, the results can be interpreted inversely: there seems to be a strong need for equity adjustments at least in manufacturing.

All model specifications are statistically significant at the 0.1% level. The likelihood ratio tests at the bottom of the table indicate that the restrictions (e.g. omitting liquidity and profitability variables in Specification 1 compared to Specification 2) are not valid. Consequently, the best-fitting model specification is the last one (Specification 3).

Table 9 deals with EBIT management. It shows that the Equity Ratio and the EBIT margin are associated with the need for EBIT adjustments, as they were with the need for equity adjustments above. The coefficients are again negative: the lower the Equity Ratio and the lower the EBIT margin, the higher the need for adjustments. The coefficient of the payment default dummy remains positive but statistically insignificant also here, just like in the equity case above. Despite these similarities between determinants of the need for equity and EBIT adjustments, there is, however, also a difference. While the qualified auditors' report is a highly significant explanatory variable when explaining the need for equity adjustments, its role in explaining the need for EBIT adjustments is weak. The qualified report becomes significant at the 10% level in Specifications 1 and 2 but drops out of from the 90% confidence interval in Specification 3.

Table 9. *Determinants of the need for EBIT adjustments*

The table reports Tobit regression results when regressing the need for EBIT adjustments (Z_{EBIT}) on various possible determinants of the need. In Specification 1, the need for EBIT adjustments is regressed on three financial position measures, the adjusted Equity Ratio, 'the existence of payment defaults' -dummy and 'the receipt of a qualified auditors' report' -dummy. The dummies take the value 1 if the company has received a payment default or if the company has received a registered payment default, respectively, and zero otherwise. In Specification 2, a profitability measure, the adjusted EBIT margin, and a liquidity measure, the adjusted Quick Ratio, are added as independent variables. Specification 3 includes additional control variables, size (measured by Total Assets, thousand euros) and industry (incorporated in the model by industry dummies). As regards the industry dummies, manufacturing is used as a reference group. The likelihood ratio statistics show the explanatory power of the model specifications. The likelihood ratio statistic labeled as *LR Chi²* is calculated as $2(\log L - \log L_0)$, $\log L$ denoting the value of the log likelihood function and the subscript *0* to restricted model. It is distributed as a chi-squared statistic with *k-1* degrees of freedom, *k-1* being the number of explanatory variables, under the null hypothesis that the coefficients are all jointly equal to 0. The related significance can be read in the fourth row. The pseudo R^2 is calculated as $1 - (\log L / \log L_0)$. The likelihood ratios at the bottom of the table compare different model specifications. Under the null hypothesis that restrictions are valid, the test statistic will have a Chi-squared distribution with g degrees of freedom, where g is the number of restrictions. The related significance can be read in the last row.

Specification	1			2			3		
Independent variable	Coef.	p-value		Coef.	p-value		Coef.	p-value	
Constant	-42,655	0,000	***	-42,233	0,000	***	-45,380	0,000	***
ER_a	-0,612	0,001	***	-0,537	0,002	***	-0,461	0,010	***
Payment defaults	3,550	0,249		3,285	0,284		3,487	0,255	
Qualified report	4,736	0,052	*	4,284	0,078	*	3,811	0,117	
QR_a				0,251	0,137		0,202	0,227	
$EBITm_a$				-0,658	0,000	***	-0,647	0,000	***
Primary production							0,515	0,453	
Construction							2,210	0,371	
Trade							1,377	0,501	
Hotels							12,319	0,000	***
Transportation							0,731	0,798	
Other services							11,749	0,000	***
Assets							-0,113	0,307	
Log likelihood		-3 604,0			-3 592,6			-3 564,4	
LR Chi^2		27,4			50,2			106,6	
degrees of freedom		3			5			12	
significance		0,000			0,000			0,000	
Pseudo R^2		0,004			0,007			0,015	

Likelihood ratio tests for comparing the specifications

LR test for	2 vs. 1	3 vs. 1	3 vs. 2
LR Chi^2	22,8	79,2	56,4
degrees of freedom	2	9	7
significance	0,000	0,000	0,000

* significant at 10% level, ** significant at 5%, *** significant at 1%.

All specifications are again significant. Similarly, the restrictions are invalid indicating that the best fitting specification is the last one. Inclusion of the control variables has no fundamental effect on the key variables. The control variables themselves have two interesting features. First, Total Assets appears to have no relation to the need for EBIT adjustments although the relation to the need for equity adjustments is significantly positive. Second, industries in which significant upward EBIT management is exercised (compared to manufacturing) are *hotels and restaurants* and *other services.*

To tie together the evidence presented in this section, we can say that the company's financial position seems to be related to the extent of financial statement management. More specifically, companies with a weaker financial position exercise stronger management. Both Shareholders' Equity and EBIT are managed upwards more, on average, if financial solidity and profitability are weaker. Interestingly, static liquidity as measured by the Quick Ratio seems to have no significant role in explaining the EBIT and equity management. For equity management, additionally, a qualified auditors' report and a bigger company size explain higher upgrading management activity.

6.4.3 Effect of the closeness to the critical limits of the Finnish Companies Act on the equity management

The company's financial position in Finnish small companies seems to be related to the extent of the management of *Shareholders' Equity* in the ways described in the previous section. So far, the variables depicting the financial position have consisted of a group of measures, such as the Equity Ratio, the existence of payment defaults, and the qualified auditors' report, which are not exactly tied to any detailed, unambiguously specified motive for financial statement management. This section, by contrast, covers two specific motives: the threat of compulsory liquidation and the restrictive amount of distributable equity (see Section 3.3). They both influence the company owners' wealth and they are enacted by the Finnish Companies Act. Closeness to the critical limits of the provisions can be read from the balance sheet and the notes to the financial statements. This section explores whether the closeness to the critical limits will provide additional explanation for the variation in the management activity. The null hypothesis says that it will not.

H0: The greater extent of the equity management among companies having a weaker financial position is not attributable to the closeness to the critical limits of the compulsory liquidation or the distributable equity.

Descriptive statistics of the variables are given in Table 10. As can be seen, the mean sample distance to the amount of Shareholders' Equity that would be needed to avoid the threat of compulsory liquidation (scaled by Total Assets) is 30.1%. As the limit of zero amount of distributable equity is always higher than the limit of compulsory liquidation, it is obvious that the variable measuring closeness to the zero amount of distributable equity is lower than the liquidation variable. On average, the distance to the zero amount of distributable equity (scaled by Total Assets) amounts to 22.4% in this sample. The variability of the distributable equity variable seems to be higher, which is also obvious because the number of balance sheet items directly having an impact on the calculation of the zero amount of distributable equity is clearly higher than the number of items needed to define the limit of compulsory liquidation. The latter limit is basically calculated by multiplying Share Capital by 0.5 whereas several items may lower the former limit. Negative figures in Table 10 indicate in which percentile the threat of compulsory liquidation is in effect and in which percentile there is no equity left distributable to shareholders.

Table 10. *Descriptive statistics of the critical limit variables of the Finnish Companies Act*

The table reports descriptive statistics for the critical limit variables of the Finnish Companies Act. *Liquidation* denotes the closeness to the limit of the threat of compulsory liquidation and is calculated as follows: closeness (after adjustments and in euro terms) to the amount of Shareholders Equity required to avoid the threat of compulsory liquidation / Total Assets * 100%. *Distributable equity* denotes the closeness to the limit of the zero amount of distributable equity: closeness (after adjustments and in euro terms) to the zero amount of distributable equity / Total Assets * 100%. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

			Percentiles						
	Mean	Std. dev.	5	10	25	50	75	90	95
Liquidation	30,1	37,3	-9,6	0,8	11,7	30,1	51,8	69,5	78,4
Distributable equity	22,4	60,4	-35,3	-9,7	6,8	25,7	48,8	67,5	76,8

Table 11 gives indication consistent with the previous section that exercising financial statement management and the company's financial position are associated with each other. The descriptive table suggests that companies exercising financial statement management seem to be closer to the critical limits than companies not managing the statements. The second indication is that companies exercising *equity* management seem to be closer to fall

below the limits than companies exercising *EBIT* management. This is expected, as the compliance with the limits of the provisions is judged on the basis of Shareholders' Equity, not EBIT or some other income statement subtotal. Accordingly, the effect of the critical limit variables will next be examined on the equity management only.[63]

Table 11. *Exercising management versus the critical limit variables of the Finnish Companies Act*

The table reports descriptive statistics for the critical limit variables of the Finnish Companies Act, based on whether EBIT or equity management has been exercised. *Liquidation* denotes the closeness to the limit of the threat of compulsory liquidation and is calculated as follows: closeness (after adjustments and in euro terms) to the amount of Shareholders Equity required to avoid the threat of compulsory liquidation / Total Assets * 100%. *Distributable equity* denotes the closeness to the limit of the zero amount of distributable equity: closeness (after adjustments and in euro terms) to the zero amount of distributable equity / Total Assets * 100%. In the upper part, the variables are shown in relation to the existence of EBIT management. In the lower part, the variables are shown in relation to the existence of equity management. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

		Equity adjustments		
		No	Yes	Total
Liquidation	Mean	33,2	10,1	30,1
	Std. dev.	31,7	58,9	37,3
Distributable equity	Mean	26,8	-5,4	22,4
	Std. dev.	55,4	80,4	60,4

		EBIT adjustments		
		No	Yes	Total
Liquidation	Mean	31,4	21,2	30,1
	Std. dev.	36,0	44,6	37,3
Distributable equity	Mean	24,7	6,6	22,4
	Std. dev.	57,5	75,5	60,4

To test the significance of the closeness variables, each of the three Tobit regression model specifications of the previous section is run by including an extra independent variable: the liquidation variable or the distributable equity variable. An original specification acts as a restricted specification whereas including a closeness variable forms an unrestricted specification. Letter *L* following the specification number denotes a specification with the liquidation variable and letter *D*, correspondingly, a specification with the distributable equity variable.

[63] Although not reported here, the closeness variables were also added to regressions where the need for EBIT management was explained. However, log likelihood ratio tests implied that model specifications extended by the liquidation and distributable equity variables are not fitted better than models without those variables.

Table 12. *Effect of the closeness to the critical limit of compulsory liquidation on the equity management*

The table reports Tobit regression results when regressing the need for equity adjustments (Z_{equity}) on the determinants already included in the regressions in Table 8 plus an extra independent variable, *Liquidation.* The extra variable measures closeness to the limit of the threat of compulsory liquidation and is calculated as follows: closeness (after adjustments and in euro terms) to the amount of Shareholders Equity required to avoid the threat of compulsory liquidation / Total Assets * 100%. The likelihood ratio statistics show the explanatory power of the model specifications. The likelihood ratio statistic labeled as *LR Chi²* is calculated as $2(\log L - \log L_0)$, $\log L$ denoting the value of the log likelihood function and the subscript *0* a restricted model. It is distributed as a chi-squared statistic with *k-1* degrees of freedom, *k-1* being the number of explanatory variables, under the null hypothesis that the coefficients are all jointly equal to 0. The related significance can be read in the fourth row. The pseudo R^2 is calculated as $1 - (\log L / \log L_0)$. The likelihood ratios at the bottom of the table compare different model specifications. The upper part covers Specifications 1L, 2L, and 3L while the lower part focuses on comparing a specification with the *Liquidation* variable included to a corresponding specification without the *Liquidation* variable. Under the null hypothesis that restrictions are valid, the test statistic will have a Chi-squared distribution with *g* degrees of freedom, where *g* is the number of restrictions. The related significance is accompanied.

Specification	1L			2L			3L		
Independent variable	Coef.	p-value		Coef.	p-value		Coef.	p-value	
Constant	-40,843	0,000	***	-40,535	0,000	***	-39,963	0,000	***
Liquidation	-0,432	0,000	***	-0,418	0,001	***	-0,358	0,003	***
ER_a	0,899	0,463		0,819	0,502		0,151	0,903	
Payment defaults	1,862	0,588		1,827	0,593		1,209	0,723	
Qualified report	14,496	0,000	***	14,166	0,000	***	14,756	0,000	***
QR_a				0,119	0,770		0,693	0,868	
$EBITm_a$				-0,610	0,001	***	-0,495	0,007	***
Primary production							-21,267	0,040	**
Construction							-12,081	0,000	***
Trade							-5,397	0,016	**
Hotels							3,653	0,356	
Transportation							-10,136	0,002	***
Other services							3,956	0,086	*
Assets							0,405	0,001	***
Log likelihood		-5 487,4			-5 482,0			-5 451,6	
LR Chi^2		501,0			511,9			572,6	
Degrees of freedom		4			6			13	
Significance		0,000	***		0,000	***		0,000	***
Pseudo R^2		0,044			0,045			0,050	

Likelihood ratio tests for comparing the specifications

LR test for	2L vs. 1L		3L vs. 1L		3L vs. 2L	
LR Chi^2	10,9		71,5		60,7	
degrees of freedom	2		9		7	
significance	0,004	***	0,000	***	0,000	***

LR test for	1L vs. 1		2L vs. 2		3L vs. 3	
LR Chi^2	12,5		11,8		8,5	
degrees of freedom	1		1		1	
significance	0,000	***	0,001	***	0,004	***

* significant at 10%, ** significant at 5%, *** significant at 1%

As Table 12 indicates, the liquidation variable is significantly and negatively related to the need for equity adjustments. That is, the closer (or the more below) Shareholders' Equity is to the limit of the threat of compulsory liquidation, the more equity management is exercised. This rejects the null hypothesis that closeness to the limit of liquidation does not provide additional explanation for the variation in the equity management activity.

Including a variable measuring the closeness to the limit of compulsory liquidation alters the regression results in one further significant respect. The Equity Ratio is not anymore a significant explanatory variable. This is a notable change as in each of the restricted model specifications the Equity Ratio was a highly significant negative explanatory variable.

The significance of the other variables is not affected materially. A greater extent of the equity management still exists among companies having a lower EBIT in relation to Net Sales, having received a qualified auditors' report, and/or being bigger in size. Furthermore, the variation in management activity between industries seems similar although the liquidation motive is also considered.

The results of the likelihood ratio tests are shown at the bottom of Table 12. First, the upper part tests the three new model specifications against each other. The results indicate that omitting the liquidity and the profitability ratio and the control variables (industry and size) is not valid: the best fitting specification is the last one (3L). Second, the lower tests indicate that including the liquidation variable improves the model in each of the three cases.

In contrast to the case of compulsory liquidation, including the distributable equity variable does not improve the original model in each three cases (See Table 13). Specification 1 is the only one in which adding a variable measuring the closeness to the zero amount of distributable equity significantly (5% level) improves the model fitting. However, Specification 3 was the best-fitting specification in the previous section and for that specification, there is no significant improvement (see test for Specifications 3D vs. 3). As a consequence, the only result that can be seen in Table 13 is that the null hypothesis, stating that closeness to the limit of zero amount of distributable equity does not provide additional explanation for the variation in the equity management activity, cannot be rejected.

Table 13. *Effect of the closeness to the zero amount of distributable equity on the equity management*

The table reports Tobit regression results when regressing the need for equity adjustments (Z_{equity}) on the determinants already included in the regressions in Table 8 plus an extra independent variable, *Distributable equity*. The extra variable measures closeness to the limit of the zero amount of distributable equity: closeness (after adjustments and in euro terms) to the zero amount of distributable equity / Total Assets * 100%. The likelihood ratio statistics show the explanatory power of the model specifications. The likelihood ratio statistic labeled as *LR Chi²* is calculated as $2(\log L - \log L_0)$, $\log L$ denoting the value of the log likelihood function and the subscript *0* a restricted model. It is distributed as a chi-squared statistic with *k-1* degrees of freedom, *k-1* being the number of explanatory variables, under the null hypothesis that the coefficients are all jointly equal to 0. The related significance can be read in the fourth row. The pseudo R^2 is calculated as $1 - (\log L / \log L_0)$. The likelihood ratios at the bottom of the table compare different model specifications. The upper part covers Specifications 1D, 2D, and 3D while the lower part focuses on comparing a specification with the *Distributable equity* variable included to a corresponding specification without the *Distributable equity* variable. Under the null hypothesis that restrictions are valid, the test statistic will have a Chi-squared distribution with *g* degrees of freedom, where *g* is the number of restrictions. The related significance is accompanied.

Specification	1D			2D			3D		
Independent variable	Coef.	p-value		Coef.	p-value		Coef.	p-value	
Constant	-40,357	0,000	***	-39,842	0,000	***	-39,056	0,000	***
Distributable equity	-0,339	0,035	**	-0,230	0,163		-0,105	0,524	
ER_a	-0,297	0,000	***	-0,307	0,000	***	-0,333	0,000	***
Payment defaults	1,260	0,715		1,282	0,710		0,750	0,827	
Qualified report	15,001	0,000	***	14,517	0,000	***	14,910	0,000	***
QR_a				0,119	0,769		0,700	0,865	
$EBITm_a$				-0,574	0,003	***	-0,484	0,010	**
Primary production							-21,804	0,036	**
Construction							-12,149	0,000	***
Trade							-6,005	0,007	***
Hotels							3,371	0,397	
Transportation							-10,374	0,001	***
Other services							3,798	0,102	
Assets							0,430	0,001	***
Log likelihood		-5 491,5			-5 486,9			-5 455,7	
LR Chi^2		493,0			502,1			564,5	
degrees of freedom		4			6			13	
significance		0,000	***		0,000	***		0,000	***
Pseudo R^2		0,043			0,044			0,049	

Likelihood ratio tests for comparing the specifications

LR test for	2D vs. 1D		3D vs. 1D		3D vs. 2D	
LR Chi^2	9,1		71,5		62,4	
degrees of freedom	2		9		7	
significance	0,011	**	0,000	***	0,000	***

LR test for	1D vs. 1		2D vs. 2		3D vs. 3
LR Chi^2	4,4		1,9		0,4
degrees of freedom	1		1		1
significance	0,036	**	0,165		0,525

* significant at 10%, ** significant at 5%, *** significant at 1%

In conclusion, it seems that the motive to avoid the threat of compulsory liquidation dominates the motive to show distributable equity. In fact, distributable equity does not appear to be a distinct motive. A few possible interpretations for the findings could be contemplated. First, persons in charge of a small limited liability company may see the impact of Shareholders' Equity being below the critical limit of compulsory liquidation serious because of its possible adverse effects on an auditors' report, credit ratings and, thereby, chances of receiving further credit and the price of the credit. However, becoming personally liable for the continuation is possibly not, as such, the biggest concern. In small companies, members of the board tend to be entrepreneurs personally liable for the business in any case (assuming no external guarantees are used). Second, upgrading equity cosmetically to show distributable equity may not be a top priority. In many cases when the amount of Shareholders' Equity is not satisfactory, it may simply be that there are no liquid funds to distribute and therefore it does not pay to manage Shareholders' Equity.

6.4.4 Effect of the financial statement management on the disclosure of the auditors' report

At this final stage of the hypothesis testing, we investigate whether the use of discretionary management actions has an effect on the companies' willingness to disclose the auditors' report. The null hypothesis states that no such effect exists.

H0: The extent of the financial statement management has no influence on the disclosure of the auditors' report.

An alternative hypothesis H1 says that the extent of the financial statement management influences the disclosure. The relation will be negative if companies do not disclose the auditors' report because of the auditors' unfavorable remarks reflecting the need for adjustments. On the other hand, the relation may be positive if auditors do not detect existing faults or do not give remark on them, or companies are willing to increase the quality of the financial information by disclosing especially those auditors' reports that contain unfavorable remarks.

As a first step, Figures 5 and 6 indicate whether there is a difference in willingness to disclose the report depending on whether the company has payment defaults registered and on the financial solidity as measured by the Equity Ratio, respectively. The proportion of disclosed

reports is divided into two: unqualified and qualified reports. As can be seen in the bottom parts of the columns in Figure 5, the proportion of not disclosing appears to be higher among companies having payment defaults (11.7%) than among companies which do not have one (7.1%). The statistical significance can be read in Table 14. Pearson's chi-square test for count data rejects at the 1% level a null hypothesis that the disclosure is independent on whether the company has payment defaults. The Equity Ratio, as well, seems to have an association with the disclosure willingness according to Figure 6: the proportion of disclosing companies declines through the second strongest class (6.0% did not disclose) to the lowest class (8.7%). However, the highest Equity Ratio class, the ratio being above 60%, is inconsistent with the relation as the 7.1% of the companies of the class did not disclose the report. Equal proportions cannot be rejected statistically.

Figure 5. *Disclosure of the auditors' report versus payment defaults*

In the figure, the sample companies are divided into two groups according to whether they have payments defaults registered. In both groups, the figure shows the proportion of the companies having not disclosed the auditors' report as a bottom part of the column and above it the proportion having disclosed it. The latter proportion is further divided into two: companies having received an unqualified report and companies with a qualified report. Disclosure means here that the company sends the auditors' report to the financial institution along with the other financial statement material to be analyzed, or the company fulfills its legal duty to file the auditors' report in the Trade Register. Payment default data are from the payment default register maintained by Suomen Asiakastieto Oy. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

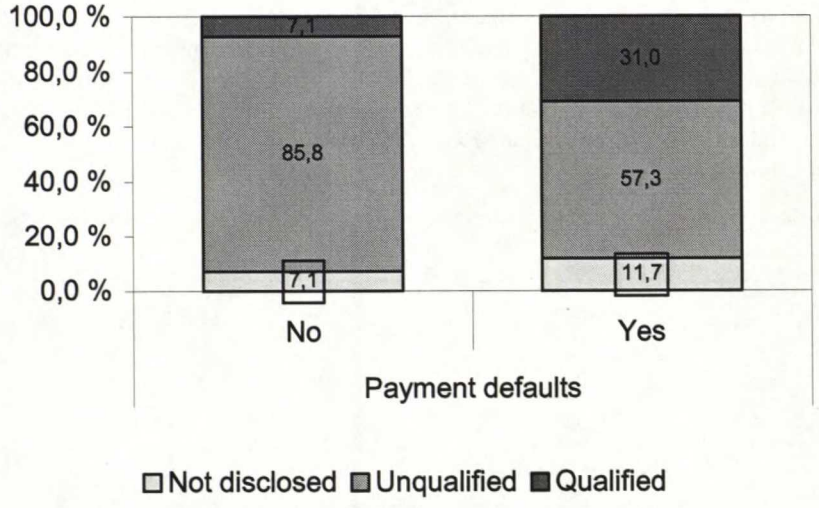


Figure 6. *Disclosure of the auditors' report versus the Equity Ratio*

In the figure, the sample companies are divided into five groups according to the level of the adjusted Equity Ratio. In each group, the figure shows the proportion of the companies having not disclosed the auditors' report as a bottom part of the column and above it the proportion having disclosed it. The latter proportion is further divided into two: companies having received an unqualified report and companies with a qualified report. Disclosure means here that the company sends the auditors' report to the financial institution along with the other financial statement material to be analyzed, or the company fulfills its legal duty to file the auditors' report in the Trade Register. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

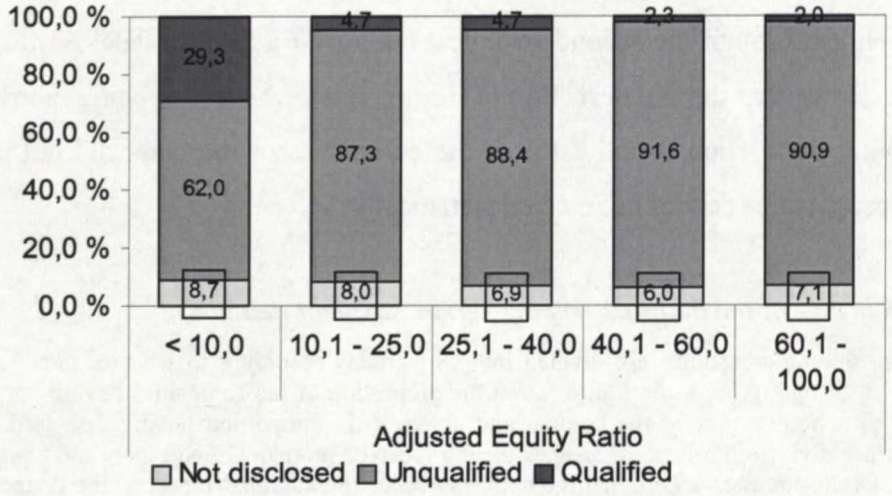


Table 14. *Disclosure of the auditors' report by the payment defaults and the Equity Ratio*

The table reports the proportion of the sample companies having disclosed the auditors' report and the proportion of the companies having not disclosed it, based on two measures of financial position. In the upper part, disclosure is investigated in two company classes based on whether a company has payments defaults registered. In the lower part, disclosure is investigated in five company classes based on the adjusted Equity Ratio. Results of the Pearson's chi-square test on the independence of the disclosure on the payment defaults and the adjusted Equity Ratio are accompanied. Disclosure means here that the company sends the auditors' report to the financial institution along with the other financial statement material to be analyzed, or the company fulfills its legal duty to file the auditors' report in the Trade Register. Payment default data are from the payment default register maintained by Suomen Asiakastieto Oy.

		Payment defaults		
		No	Yes	Total
Report disclosure	Disclosed	92,9	88,3	92,7
	Not disclosed	7,1	11,7	7,3

	Value	Approx. sig.
Contingency coefficient	0,037	0,003

		ER_a					
		< 10,0	10,1 - 25,0	25,1 - 40,0	40,1 - 60,0	60,1 - 100,0	Total
Report disclosure	Disclosed	91,3	92,0	93,1	94,0	92,9	92,7
	Not disclosed	8,7	8,0	6,9	6,0	7,1	7,3

	Value	Approx. sig.
Contingency coefficient	0,034	0,109

After this illustration, the question is next tackled by investigating whether the disclosure of the auditors' report is dependent on exercising financial statement management. In Figure 7, companies are divided based on whether there is a need for adjustments (the two columns on the left referring to the need of equity adjustments, and the two columns on the right to the need of EBIT adjustments). For both comparisons, the proportion of not disclosing seems to be higher among the companies that have exercised management. Table 15 reveals that the dependence is statistically significant in case of the EBIT management but insignificant in case of the equity management.

Figure 7. *Disclosure of the auditors' report versus exercising management*

The figure reports the proportion of the sample companies having disclosed the auditors' report and the proportion of the companies having not disclosed it, based on whether EBIT or equity management has been exercised. The columns show the proportion of the sample companies having not disclosed the auditors' report as a bottom part of each column and above it the proportion having disclosed it. The latter proportion is further divided into two: companies having received an unqualified report and companies with a qualified report. In the figure, the two leftmost columns deal with the EBIT management and the other two with the equity management. 'No' columns includes companies in which there is no need for adjustments, 'yes' columns consist of companies in which there is a need for adjustments. Disclosure means here that the company sends the auditors' report to the financial institution along with the other financial statement material to be analyzed, or the company fulfills its legal duty to file the auditors' report in the Trade Register.

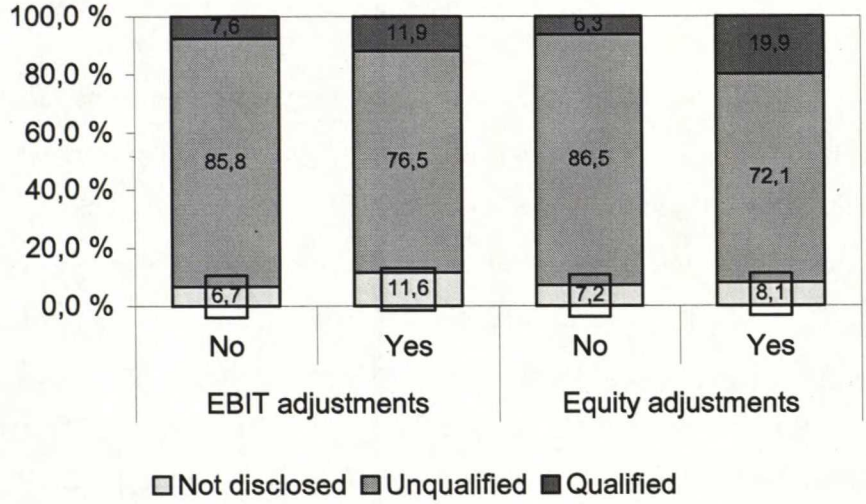


Table 15. *Disclosure of the auditors' report versus exercising management*

The table reports the proportion of the sample companies having disclosed the auditors' report and the proportion of the companies having not disclosed it, based on whether EBIT or equity management has been exercised. In the upper part, disclosure is investigated in relation to the existence of the EBIT management. In the lower part, disclosure is investigated in relation to the existence of the equity management. Results of the Pearson's chi-square test on the independence of the disclosure on the existence of the management are accompanied. Disclosure means here that the company sends the auditors' report to the financial institution along with the other financial statement material to be analyzed, or the company fulfills its legal duty to file the auditors' report in the Trade Register.

		EBIT adjustments		
		No	Yes	Total
Report disclosure	Disclosed	93,3	88,4	92,7
	Not disclosed	6,7	11,6	7,3

	Value	Approx. sig.
Contingency coefficient	0,062	0,000

		Equity adjustments		
		No	Yes	Total
Report disclosure	Disclosed	92,8	91,9	92,7
	Not disclosed	7,2	8,1	7,3

	Value	Approx. sig.
Contingency coefficient	0,011	0,361

Finally, we test whether the *extent* of the financial statement management has an influence on the disclosure of the auditors' report. A logistic regression is run in order to find variables that can explain the disclosure choice and check whether the need variables belong to them. The logistic regression analysis is applied because the dependent variable, *report disclosure*, is dichotomous i.e. it can take only two values: 0 if the auditors' report is not disclosed and 1 if the report is disclosed.[64] Considered independent variables are the following: the measures of the financial statement management (Z_{EBIT} and Z_{equity}), *payment defaults*, adjusted financial ratios describing financial profitability ($EBITm_a$), solidity (ER_a) and liquidity (QR_a), variables measuring the closeness to the critical limits of the Finnish Companies Act (*Distributable equity* and *Liquidation*), size variables (*Sales* and *Assets*), and industry.

Each of the stepwise estimation methods[65] led to the results shown in Table 16.

[64] See Section 6.2.3 for discussion about the main features of the logistic regression.

[65] Stepwise methods available in SPSS for Windows 10.0: conditional, likelihood ratio, and Wald for both forward and backward estimation.

Table 16. *Determinants of the disclosure of the auditors' report*

The table reports logistic regression results when regressing the disclosure of the auditors' report on possible explanatory variables. Variables initially entered into the model were the measures of the financial statement management (Z_{EBIT} and Z_{equity}); payment defaults; adjusted financial ratios describing financial profitability ($EBITm_a$), solidity (ER_a) and liquidity (QR_a); variables measuring the closeness to the critical limits of the Finnish Companies Act (*Distributable equity* and *Liquidation*); size variables (*Sales* and *Assets*) and industry. The Wald statistic and the corresponding significance level show the significance of independent variables that became significant in the course of a stepwise estimation process. The *Exp(B)* denotes the odds ratio of the row independent with the dependent. Data: 6,379 Finnish small limited companies of which financial statements were analyzed at Suomen Asiakastieto Oy. The financial year used is the latest year available, the closing month being between April 2001 and January 2003.

	B	S.E.	Wald	df	Sig.	Exp(B)
Constant	2,383	0,075	1 019,076	1	0,000	10,836
Z_{equity}	-0,006	0,003	5,631	1	0,018	0,994
Payment defaults	-0,509	0,193	6,965	1	0,008	0,601
Assets	0,000	0,000	12,308	1	0,000	1,000

The need for equity adjustments, existence of payment defaults, and Total Asset explain the variance of the disclosure choice to a significant degree. The rest of the variables were removed in the course of the stepwise estimation process.[66]

A negative coefficient of Z_{equity} in Table 16 suggests that the probability to disclose the report decreases as the need for equity adjustments increases. It rejects, from the equity part, the null hypothesis that the extent of the financial statement management has no effect on the disclosure of the report. The negative relation may imply that companies do not disclose the auditors' report because of the auditors' unfavorable remarks. This may well be the reason as the evidence (see e.g. Table 7 in Section 6.4.2) for the equity management part confirms a logical assumption that the need for adjustments is higher if the auditors' report is qualified than if the report is unqualified, other things uncontrolled for.

In contrast to the need for equity adjustments Z_{equity}, the need for EBIT adjustments, Z_{EBIT}, seems to have no role in explaining the disclosure probability. This may seem to contrast with the results of Table 15 above in which the tests of the contingency coefficient indicated that exercising EBIT management is associated with the disclosure decision while exercising equity management is not. However, the earlier examination focused on *the existence* of the management; here the model specification addresses *the extent* and *the direction* of the financial statement management.

[66] An enter method (not reported) also produced results of a similar kind. The only material difference was that Total Assets became insignificant.

Although the existence of payment defaults does not explain the financial statement management, here it seems to have a significant role in explaining the willingness to disclose the report. The sign is negative, as might be expected, indicating that registered payment defaults are associated with decreased disclosure willingness. It may be that entries in the payment default register are also reflected in the auditors' report in the form of remarks concerning, for example, the compulsory liquidation provisions or discretionary financial statement practices.[67] Companies may not want to make those remarks public.

Additionally, size, as measured by Total Assets, seem to explain the variation in the disclosure. The relation is positive (a small coefficient is partly due to expressing Total Assets in a small scale, in thousand euros) meaning that the willingness to disclose seems to increase with the size. One possible reason for this relation may be that financial tasks are better organized in bigger companies, and consequently legal duties – such as the disclosure of the auditors' report – are not neglected as easily.

In brief, the willingness to disclose the auditors' report appears to decrease as the extent of the equity management increases and if the company has payment defaults registered. Consequently, the null hypothesis is rejected. Also, a bigger size boosts the disclosure willingness. In contrast, financial ratios describing profitability, solidity and liquidity as well as motives induced from the Finnish Companies Act seem to have, after controlled for the first mentioned variables, no significant effect on the disclosure choice.

6.5 Quality of the evidence

The quality of the empirical results as well as the credibility of the implications and the conclusions is dependent on several things. The ones that can be considered most critical are covered briefly next.

The first issue is the accuracy of detecting managed or manipulated financial statement items. Whether or not they are detected is influenced by the availability of relevant financial material, the quality of the available material, and the analyst's accuracy. If the company does not disclose relevant statements, the quality of the material is inadequate or the analyst fails to pay attention to doubtful practices and items, some management will remain out of reach. In

[67] On the basis of the disclosed reports solely, this seems obvious: companies with payment defaults have received a qualified report in 35.1% of the cases compared to 7.6% of the companies with no payment defaults.

practice, the analysts constructing the adjusted data of this thesis used to have more information available than official financial statements. The additional information included, for example, income statement and balance sheet specifications, information registered in the Trade Register, business background of the persons in charge and information on the financial health of firms owing to the company. It is worth noting, however, that there is great variation in the quality of disclosed statements. Accordingly, accounts of some companies have to be adjusted in light of inadequate information.

The second concern is the feasibility of the adjustments. In all circumstances, it is not feasible to make adjustments. That will again leave some management out of reach. The feasibility is different depending on the situation. There often seems to be adequate grounds for making classificatory adjustments, and for adjusting the value of some assets such as loan receivables or capitalized acquisition costs of intangibles. At the other end, the analyst tends to have difficulties in correcting financial statements that are violating the effective standards. It may be difficult to unravel, or even detect, cases where income, expenses, assets or liabilities are not shown in the financial statements or are shown in an incorrect financial period.

Third, a fundamental question influencing the results is the choice of the benchmark that distinguishes management actions from non-management actions. Here the choice has been the effective Finnish accounting standards and the guidelines provided by the Committee for Corporate Analysis (2002). The benchmark prefers conservative accounting practices because the guidelines are mainly tailored for financial institutions to assess the creditworthiness of companies for which they are providing debt financing. As a consequence, if the benchmark had been on the liberal side of the accounting standards, some companies now identified with manipulators would then have been considered non-manipulators and vice versa.

On the basis of the discussion above, one might argue that there is a bias against the null hypothesis that the view on the company's financial position and performance is not cosmetically upgraded. Conservative adjustment logic means that there is a relatively low threshold to adjust earnings and equity downwards whereas a threshold to adjust them upwards is higher. In fact, this feature drove us to use an explicitly censored regression analysis, Tobit, when testing the effect of the financial position on the extent of the financial statement management. However, there is a contra force in effect as some management actions and manipulation inevitably remain beyond the adjustments. Thus, the existence of the bias is not unambiguous.

Finally, a common major concern to all studies using regression techniques is omitted variable bias. The bias is the difference between the expected value of an estimator and the true value of the underlying parameter due to failure to control for a relevant explanatory variable or variables. If one or more important variables are missed out, the test statistics are in general invalidated. Coefficient estimates can have a positive or negative bias. Standard errors will be biased positively. As social science phenomena are, by their very nature, multivariate, we can never – in this thesis either – be sure whether all relevant variables are captured.

7 CONCLUSIONS

The purpose of this thesis was to find out whether management of financial statements in Finnish small limited companies is different in magnitude depending on the financial position of the companies. A research question of this kind is interesting since financial accounting figures are a base for many contracting outcomes, which in turn determine firm's and owners' operating and financial circumstances. If the figures cannot be improved to a satisfactory level by real economic actions, pure accounting actions may be resorted to. The evidence (e.g. Breton & Taffler, 1995; Hirst & Hopkins, 1998; and Healy & Wahlen, 1999) suggests that stakeholders cannot fully undo management of accounts, which may lower a threshold to manage financial statements by pure accounting actions. Thus, it was hypothesized that companies take advantage of the flexibility of the accounting standards or violate the standards more, on average, when the financial position is not satisfactory.

Although a great deal of research in the field of the financial statement management has been carried out both internationally and domestically, the financial position of a firm as a motive for management has not been studied with large data sets and comprehensively in Finland. Further, research on the financial statement management has concentrated on big firms although small firms can be considered distinct research targets due to, for example, their concentrated ownership structure and its effects on the use of corporate funds.

We used a data set of over 6,300 companies to investigate the management of financial statements in Finnish small limited companies. The data included official financial statements, additional corporate information and adjusted financial statements, adjustments having been made by professional analysts on the basis of the public information and the

confidential information provided by the companies under analysis. The large sample size is likely to improve the power of the tests. The comprehensiveness of the data set can, in turn, be assumed to improve the reliability of the results. In much of the previous research, official financial statements have been the only information source. For the primary methods of the analysis, nonparametric tests and a censored regression technique, Tobit, were chosen in order to handle distributional properties not meeting the prerequisites for the standard t-tests and the ordinary least squares regression.

The empirical analysis indicated that some Finnish small limited companies indeed manage their financial statements. In other words, companies take advantage of discretion allowed by the accounting standards or violate the standards to a significant degree. This conclusion can be made because it was discovered that financial ratios describing financial solidity, profitability and liquidity become significantly worse when calculated from the adjusted financial statements instead of the official financial statements. A difference in the ratios means that analysts have adjusted accounts to guarantee a conservative view on companies, to make companies comparable and to correct wrong entries made in bookkeeping.

These results are partly inconsistent with the results of Tuuri (2002). He reports that ratios describing profitability and financial solidity are sensitive to adjustments in Finnish firms while financial ratios describing static liquidity are not. Our results indicate that static liquidity, as measured by the Quick Ratio, is besides profitability and financial solidity subject to a decline because of adjustments. This deviation in results is probably attributable to a fact that Tuuri only used official financial statements when making adjustments whereas this thesis had also additional and confidential information, which enabled to assess the collectibility and the liquidity of receivables and the maturity of debt.

A key finding of the analysis is that the extent of financial statement management seems to be related to the financial position of the company. Both Shareholders' Equity and EBIT are managed upwards significantly more when financial solidity (as measured by the Equity Ratio) is weaker. Lower profitability (the EBIT margin) also triggers stronger upgrading management. For equity management, additionally, a qualified auditors' report (not standard report, includes some adverse remark(s)) and a bigger company size explain higher upgrading management activity. The essential role of the financial position in explaining the management and especially the prominence of the Equity Ratio gives support for the original debt hypothesis stating that the higher the debt-to-equity ratio (i.e. the lower the Equity

Ratio), the more likely the firm's manager is to select income-increasing, and thereby equity-increasing, accounting actions. Among the advocates of the original debt hypothesis are Press and Weintrop (1990) who found that leverage satisfactorily proxies for closeness to actual covenant constraints companies have. One could also find some similarities in our results with the findings of Kallunki and T. Martikainen (1999) who report that distressed Finnish companies manage reported earnings significantly upwards before the financial failure while non-failed control firms do not show such behavior. The research problem and the methodology employed were very different from our study but the conclusion that a weaker financial position triggers – at least when approaching the failure – heavier upward management is not against our conclusions.

The result that the company's financial position influences the management of financial statements may imply that the management activity is motivated by opportunism rather than better informing stakeholders. This interpretation would coincide with the finding of Lobo and Zhou (2001) who conclude, by comparing the quality of company's financial disclosure to the level of earnings management, that *earnings* management is driven by opportunism. If informing needs were a dominant driver, it could be argued that the financial position and the extent of financial statement management should not have any association with each other. The association detected in this thesis could suggest that the management activity is aimed at preserving satisfactory financial figures and consequently, in the language of the positive accounting theory, at increasing the probability of favorable contracting outcomes. The intentionality can be explained by the positive accounting theory which says that financial figures determine the outcomes of explicit and implicit contracts of the company and in this way influence company's and owners' operating and financial circumstances.

As regards specific implicit contracts, a review on the Finnish Companies Act revealed that the act contains at least two provisions that could be interpreted as implicit contracts influencing owners' wealth: compulsory liquidation (Chapter 12 § 2) and distributable equity (Chapter 13 § 2). The provision of compulsory liquidation states that a limited company must maintain an enacted level of Shareholders' Equity (i.e. a half of Share Capital) in order to avoid the threat of compulsory liquidation. The provision of distributable equity states that owners cannot take funds out of the company more than the amount of retained earnings minus the non-distributable items specified in the act. Since owners of small companies are typically entrepreneurs, their only source of income may be the company. Therefore, it may

be tempting to manage Shareholders' Equity in such a way that the threat of compulsory liquidation and the restrictions of distributable equity will be avoided.

A logical way to deepen the analysis was to investigate whether closeness to those critical limits actually provide additional explanation for variation in the *equity* management. The estimation results showed that closeness of Shareholders' Equity to the limit of zero amount of distributable equity does not provide additional explanation for the management activity. Instead, including a variable measuring closeness of Shareholders' Equity to the limit of compulsory liquidation does explain the management activity: the closer (or the more below) Shareholders' Equity is to the limit of the threat of compulsory liquidation, the more equity management is exercised. In fact, the liquidation variable displaced the Equity Ratio as a significant explanatory variable.

On the basis of these developed tests, it can be concluded that the motive to avoid the threat of compulsory liquidation dominates the motive to show distributable equity and that distributable equity is not, in point of fact, a distinct motive at all. A few possible interpretations could be considered. It could be that persons in charge of a small limited liability company see the impact of Shareholders' Equity being below the critical limit of compulsory liquidation serious because of its possible adverse effects on auditors' comments in their public report and on credit ratings, which in turn may affect company's chances of receiving further credit and the price of the credit. For the persons in charge, Shareholders' Equity being below the critical limit of compulsory liquidation may also give rise to concern about becoming personally liable for the continuation of the business. On the other hand, this is possibly not, as such, the biggest concern for many small companies because members of the board tend to be entrepreneurs who are personally liable for the business in any case (assuming the business is done without external guarantees). The second conclusion, distributable equity not being a distinct motive, could simply results from a strong association of the lack of distributable equity in terms of the Finnish Companies Act with a situation where there are actually no liquid funds to distribute.

Finally, the analysis discovered that willingness of Finnish small limited companies to disclose the auditors' report appears to decrease as the extent of the equity management increases. Registered payment defaults and a smaller size also indicate lowered disclosure willingness. It is noteworthy that financial ratios describing financial liquidity, profitability and liquidity or the motives induced from the Finnish Companies Act do not seem to explain

the choice to disclose as such. Rather, the extent to which companies have managed their Shareholders' Equity seems to be a dominant factor.

The negative relation of the equity management and the disclosure of the auditors' report imply that the decision of whether to disclose the report is possibly not made unintentionally. Auditors may comment on financial statement management not in accordance with the provisions and companies may not want to make those remarks public. Thus, one could interpret that companies find the auditors' opinion to have a significant signaling effect for outsiders.

What practical implications could be drawn from the results that could benefit corporate analysis, then? First of all, the results suggest that analysts also wear a hat of a detective, not just a hat of a quality inspector. In other words, analysts' contribution appears not to be limited to harmonizing accounting practices that are chosen in a haphazard way but analysts also have an important role in correcting practices that are used in order to intentionally hide the true position. Another implication could relate to guiding a working process and prioritizing adjustment focus between companies of different type. On the basis of the estimation results, it could be said that that special attention should be paid to companies having difficulties reflected by weak financial solidity, having weak profitability and/or with a qualified auditors report received. By contrast, less weight could be put on indicators of liquidity such as the Quick Ratio or payment defaults registered. In prioritizing efforts, a hindering factor is, of course, that weak financial solidity and profitability cannot be always directly read from reported financial figures.

As to limitations of the study, some methodology and data related weaknesses and uncertainties exist, as practically do in every empirical study. On one hand, the adjustment logic restrains making earnings and equity increasing adjustments, which may generate a bias against the null hypothesis that the view on the financial position and the performance of a company is not artificially improved. The conservative adjustment logic leading to the possible bias seems reasonable from a practical point of view as the adjustments were made for financial institutions which – as lenders – are mainly concerned with their clients' ability to pay installments and interest. On the other hand, some management activity inevitably remains out of reach. There are a few reasons for that. First, hands of the analyst are tied if relevant information is not available. If the company does not disclose relevant statements, management activity may not be detected and, hence, adjustments cannot be made. Second,

poor disclosure quality may also prevent the analyst from making necessary adjustments. If the deviations in the availability and the quality of the information are intentional and systematic, e.g. companies exercising heavier management suppress information more easily, results and conclusions may be interfered with this systematics. In other words, financial statements management beyond the analyst's range makes it more difficult to reject the null hypothesis that the view on the financial position and the performance of a company is not artificially upgraded. Taken these limiting factors together, the existence and the direction of the bias are not unambiguous.

Although there are some drawbacks in the chosen methodology, benefits are likely to outperform them. The data is constructed by manually going through the financial statements and other relevant – partly confidential – information and making necessary adjustments. This contrasts with a majority of the existing literature which has investigated management by making adjustments merely on the basis of official financial statements or by using expectation models to predict changes in accruals of official financial statements. Using only official statements restricts the management concept in one respect: the variety of adjustments that can be made is more limited. For example, assessment whether receivables actually have value cannot be made if there is no information on the debtor. Official statements rarely provide that information, additional confidential specifications often do. As regards accruals models, they tend to fall in danger of identifying changes in the company's economic activity or real economic choices with the exercised financial statement management (e.g. McNichols, 2000; Beneish, 2001). Those changes do not affect the results of this study.

This study hopes to have raised an interest for some other questions, which could be studied in future. From a large set of data, this study produced quantitative generalizations on the change in the view on the company solidity and profitability that financial statement management brigs about in small companies. It also estimated factors explaining the extent of the financial statement management. Possible management means were discussed but their role and frequency were not examined. Certainly a more detailed, and possibly a more qualitative, analysis is needed in order to investigate which accounting means companies actually employ. A possible future study could concentrate, for example, on examining means by which companies try to avoid the threat of the compulsory liquidation. Also, an in-depth analysis would be needed to examine a question how management means change as the company evolves from a financially healthy company to a distressed company. Another

interesting direction for further research could be comparing financial statement management between entrepreneur driven small companies and manager driven small companies.

The research tradition in the field of the management of financial statement has been rich and multifaceted. It will hardly fade out in the future either. This is ensured by continuous evolvement (amendments and reforms) of company law, tax codes, and financial accounting standards that will always influence accounting choice preferences of limited companies.

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APPENDIX 1. FORMATS OF THE OFFICIAL AND ADJUSTED INCOME STATEMENT AND BALANCE SHEET

This appendix presents formats of the official and adjusted income statement and balance sheet. The expense categories based income statement (Accounting Ordinance, Chapter 1 § 1) is the only income statement format shown because the sample in this study consists of only companies used that format. The official balance sheet is from the Accounting Ordinance, Chapter 1 § 6. The adjusted income statement and balance sheet are from the Committee for Corporate Analysis (2002).

A. Official income statement based on expense categories

NET SALES
+/- Change in Finished Goods and Work-in-Progress Inventories
+ Production for Own Use
+ Other Operating Income
TOTAL OPERATING INCOME
- Materials and Services
Materials, Supplies and Goods
Purchases during the Financial Year
Change in Raw Material Inventories
Outsourced Services
- Personnel Expenses
Salaries and Wages
Social Security Expenses
Pension Expenses
Other Social Security Expenses
- Depreciation and Reductions in Value
Depreciation according to Plan
Reductions in Value of Fixed and Other Non-Current Assets
Exceptional Reductions in Value of Current Assets
- Other Operating Expenses

OPERATING PROFIT (EBIT)

+ Financial Income and Expenses
+ Income on Investments in Group Companies
+ Income on Investments in Associated Companies
+ Income on Investments in Other Fixed Assets
+ Other Interest and Financial Income
- Reductions in Value of Investments in Fixed and Other Non-Current Assets
- Reductions in Value of Investments in Current Assets
- Interest and Other Financial Expenses

PROFIT BEFORE EXTRAORDINARY ITEMS, APPROPRIATIONS AND TAXES

+ Extraordinary items
+ Extraordinary Income
- Extraordinary Expenses

PROFIT BEFORE APPROPRIATIONS AND TAXES

+ Appropriations
-/+ Change in Accumulated Depreciation in excess of Plan
-/+ Change in Untaxed Reserves
- Income Taxes
- Other Direct Taxes

PROFIT FOR THE FINANCIAL YEAR

B. Adjusted income statement based on expense categories

NET SALES
+ Other Operating Income
TOTAL OPERATING INCOME
- Materials and Supplies Used
- Outsourced Services
- Personnel Expenses
- Adjustment to Entrepreneurs' Salary
- Other Operating Expenses
+/- Change in Finished Goods and Work-in-Progress Inventories

OPERATING PROFIT BEFORE DEPRECIATION AND AMORTIZATION (EBITDA)

- Depreciation according to Plan
- Reductions in Value of Fixed and Other Non-Current Assets
- Exceptional Reductions in Value of Current Assets

OPERATING PROFIT (EBIT)

+ Income on Shares/Similar Rights of Ownership and Other Investments
+ Other Interest and Financial Income
- Interest and Other Financial Expenses
+/- Foreign Exchange Gains/Losses
- Reductions in Value of Investments in Fixed and Other Non-Current Financial Assets
- Direct Taxes

NET PROFIT

+ Extraordinary Income
- Extraordinary Expenses

TOTAL PROFIT

-/+ Change in Accumulated Depreciation in excess of Plan
-/+ Change in Untaxed Reserves
+ Adjustment to Entrepreneurs' Salary
+/- Other Adjustments to Profit

PROFIT FOR THE FINANCIAL YEAR

C. Official balance sheet

FIXED AND OTHER NON-CURRENT ASSETS
Intangible Assets
- Start-Up Expenses
- Research Expenses
- Development Expenses
- Intangible Rights
- Goodwill
- Other Intangible Assets
- Advances Paid

Tangible Assets
- Land and Water Areas
- Buildings and Constructions
- Machinery and Equipment
- Other Tangible Assets
- Advances Paid and Fixed Assets under Construction

Long-Term Investments and Receivables
- Shares/Similar Rights of Ownership in Group Companies
- Receivables from Group Companies
- Shares/Similar Rights of Ownership in Associated Companies
- Receivables from Associated Companies
- Shares/Similar Rights of Ownership in Other Companies
- Other Receivables
- Owns Shares/Similar Rights of Ownership

CURRENT ASSETS
Inventories and Work-in-Progress
- Materials and Supplies
- Work-in-Progress
- Finished Goods
- Other Inventories
- Advances Paid

Receivables
Long-Term Receivables
- Trade Receivables
- Receivables from Group Companies
- Receivables from Associated Companies
- Loan Receivables
- Other Receivables
- Unpaid Shares/Similar Rights of Ownership
- Prepaid Expenses and Accrued Income

Short-Term Receivables
- Trade Receivables
- Receivables from Group Companies
- Receivables from Associated Companies
- Loan Receivables
- Other Receivables
- Unpaid Shares/Similar Rights of Ownership
- Prepaid Expenses and Accrued Income

Financial Assets
- Shares/Similar Rights of Ownership in Group Companies
- Owns Shares/Similar Rights of Ownership
- Shares/Similar Rights of Ownership in Other Companies
- Other Securities

Cash in Hand and at Bank

TOTAL ASSETS

SHAREHOLDERS' EQUITY
Shareholders' Equity
- Share Capital
- Share Premium
- Revaluation Reserve
- Other Reserves
  - Treasury Stock or Reserve Fund of any Other Capital
  - Contingency Capital
  - Reserves According to the Articles of Association or Bylaws
  - Other Reserves
- Retained Earnings
- Profit for the Financial Year
- Subordinated Loans

Accumulated Appropriations
- Accumulated Depreciation in excess of Plan
- Untaxed Reserves

Provisions
- Pension Provisions
- Tax Provisions
- Other Provisions

LIABILITIES
Long-Term Liabilities
- Bonds and Notes
- Convertible Bonds
- Loans from Financial Institutions
- Loans from Pension Institutions
- Advances Received
- Trade Payables
- Bills of Exchange Payable
- Loans from and Other Liabilities to Group Companies
- Loans from and Other Liabilities to Associated Companies
- Other Loans and Liabilities
- Deferred Income and Accrued Expenses

Current Liabilities
- Bonds and Notes
- Convertible Bonds
- Loans from Financial Institutions
- Loans from Pension Institutions
- Advances Received
- Trade Payables
- Bills of Exchange Payable
- Loans from and Other Liabilities to Group Companies
- Loans from and Other Liabilities to Associated Companies
- Other Loans and Liabilities
- Deferred Income and Accrued Expenses

SHAREHOLDERS' EQUITY AND LIABILITIES

D. Adjusted balance sheet

FIXED ASSETS
Intangible Assets
- Research Expenses
- Development Expenses
- Goodwill
- Other Intangible Assets

Tangible Assets
- Land and Water Areas
- Buildings and Constructions
- Machinery and Equipment
- Other Tangible Assets

Long-Term Investments and Receivables
- Shares/Similar Rights of Ownership in Group Companies
- Shares/Similar Rights of Ownership in Other Companies
- Receivables from Group Companies
- Other Investments and Receivables

Leasing Commitments

CURRENT ASSETS
Inventories and Work-in-Progress
- Materials and Supplies
- Work-in-Progress
- Finished Goods
- Other Current Assets

Short-Term Receivables
- Trade Receivables
- Trade Receivables from Group Companies
- Other Receivables from Group Companies
- Other Receivables

Cash and Marketable Securities

TOTAL ASSETS

SHAREHOLDERS' EQUITY
Shareholders' Equity
- Share Capital
- Share Premium and Revaluation Reserve
- Other Reserves
- Retained Earnings
- Profit for the Financial Year
- Subordinated Loans

Accumulated Appropriations
- Accumulated Depreciation in excess of Plan and Untaxed Reserves

Adjustments to Shareholders' Equity

LIABILITIES
Long-Term Liabilities
- Loans from Financial Institutions
- Loans from Pension Institutions
- Advances Received
- Loans from and Other Liabilities to Group Companies
- Other Long-Term Liabilities

Deferred Taxes
Provisions
Leasing Commitments
Current Liabilities
- Current Interest-Bearing Liabilities
- Advances Received
- Trade Payables
- Trade Payables to Group Companies
- Other Liabilities to Group Companies
- Other Current Non-Interest-Bearing Liabilities

SHAREHOLDERS' EQUITY AND LIABILITIES

APPENDIX 2. FORMULAS FOR KEY FINANCIAL RATIOS

This appendix presents formulas for some key financial ratios. The ratios are divided into four categories: (1) profitability, (2) leverage, (3) liquidity, and (4) efficiency. Formulas are from the Committee for Corporate Analysis (2002). Appendix 3 shows the impacts of standard adjustments on these financial ratios.

Notes:

All items in the formulas are from the adjusted financial statements.

If a financial ratio involves items from both the income statement and the balance sheet, the income statement items should be annualized.

Invested Capital, *Total Assets* and *Shareholders' Equity* are calculated as the average of the opening and closing balances of the financial year under analysis.

Advances Received refers to advances received for work or projects-in-progress.

1) Profitability

a. Structure of profit

$$EBITDA\ margin = \frac{EBITDA}{Total\ Operating\ Income} * 100\%$$

$$EBIT\ margin = \frac{EBIT}{Total\ Operating\ Income} * 100\%$$

$$Financing\ Profit\ margin = \frac{Net\ Profit + Depreciation\ and\ value\ reductions\ deducted\ before\ EBIT}{Total\ Operating\ Income} * 100\%$$

Value reductions deducted before EBIT = Reductions in Value of Fixed and Other Non-Current Assets + Exceptional Reductions in Value of Current Assets

$$Net\ Profit\ margin = \frac{Net\ Profit}{Total\ Operating\ Income} * 100\%$$

$$Total\ Profit\ margin = \frac{Total\ Profit}{Total\ Operating\ Income} * 100\%$$

b. Return on capital

$$Return\ on\ Investment = \frac{Net\ Profit + Financial\ Expenses + Direct\ Taxes}{Average\ Invested\ Capital} * 100\%$$

Invested Capital = Adjusted Shareholders' Equity + Loan Capital

If Shareholders' Equity is negative, Invested Capital should amount to the sum of Loan Capital at minimum.

Financial Expenses = Interest and Other Financial Expenses + Foreign Exchange Losses

$$Return\ on\ Assets = \frac{Net\ Profit + Financial\ Expenses + Direct\ Taxes}{Average\ Total\ Assets} * 100\%$$

If Shareholders' Equity is negative, Total Assets should be replaced by the sum of Liabilities.

$$Return\ on\ Equity = \frac{Net\ Profit}{Average\ Shareholders'\ Equity}$$

2) Leverage

$$Equity\ Ratio = \frac{Shareholders'\ Equity}{Shareholders'\ Equity\ and\ Liabilities - Advances\ Received} * 100\%$$

$$Gearing = \frac{Total\ Interest\text{–}Bearing\ Liabilities}{Shareholders'\ Equity}$$

$$Net\ Gearing = \frac{Total\ Interest\text{–}Bearing\ Liabilities - Cash\ and\ Marketable\ Securities}{Shareholders'\ Equity}$$

$$Debt\ to\ Net\ Sales\ Ratio = \frac{Liabilities - Advances\ Received}{Net\ Sales} * 100\%$$

$$Net\ Debt\ to\ Net\ Sales\ Ratio = \frac{Liabilities - Advances\ Received - Cash\ and\ Marketable\ Securities}{Net\ Sales} * 100\%$$

3) Liquidity

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

$$Quick\ Ratio = \frac{\begin{array}{c}Short\text{–}Term\ Receivables + Cash\ and\ Marketable\ Securities - \\ Receivables\ Recorded\ according\ to\ the\ Percentage\ of\ Completion\ Method\end{array}}{Current\ Liabilities - Advances\ Received}$$

4) Efficiency

$$Working\ Capital\text{–}\% = \frac{Working\ Capital}{Net\ Sales} * 100\%$$

Working Capital = Inventories + Trade Receivables + Trade Receivables from Group and Associated Companies + Receivables Recorded according to the Percentage of Completion Method - Trade Payables - Trade Payables to Group and Associated Companies - Advances Received

$$Collection\ Period\ of\ Trade\ Receivables\ (days) = \frac{365 * Trade\ Receivables + Trade\ Receivables\ from\ Group\ and\ Associated\ Companies}{Net\ Sales}$$

$$Payment\ Period\ of\ Trade\ Payables\ (days) = \frac{365 * Trade\ Payables + Trade\ Payables\ to\ Group\ and\ Associated\ Companies}{Purchases + Outsourced\ Services}$$

APPENDIX 3. IMPACTS OF STANDARD ADJUSTMENTS ON KEY FINANCIAL RATIOS

The table below presents the impacts of standard adjustments on some key financial ratios.

	Profitability								Leverage					Liquidity		Efficiency			
	Structure of profit					Return on capital													
Adjustment	EBITDA margin	EBIT margin	Financing Profit margin	Net Profit margin	Total Profit margin	Return on Investment (ROI)	Return on Assets (ROA)	Return on Equity (ROE)	Equity Ratio	Gearing	Net Gearing	Debt to Net Sales Ratio	Net Debt to Net Sales Ratio	Current Ratio	Quick Ratio	Working Capital -%	Collection Period of Trade Receivables	Payment Period of Trade Payables	
Income statement																			
Transfer of Other Operating Income to Extraordinary Income	-	-	-	-		-	-	-											
Addition to entrepreneurs' salary	-	-	-	-	-	-	-	-											
Transfer of Other Operating Expenses to Extraordinary Expenses	+	+	+	+		+	+	+											
Addition to Depreciation according to Plan		-		-	-	-	-	-											
Elimination of imputation credit from Financial Income and Direct Taxes						-	-												
Transfer of Extraordinary Income to Other Operating Income	+	+	+	+		+	+	+											
Transfer of Extraordinary Expenses to Other Operating Expenses	-	-	-	-		-	-	-											
Transfer of Direct Taxes from previous years to Extraordinary Items			+	+				+											
Transfer of Direct Taxes on Extraordinary Items to Extraordinary Items			+	+				+											
Correction items recorded in incorrect accounts	Case dependent impact																		
Balance sheet																			
ASSETS																			
Removal of Start-Op Expenses						+	+	+	-	+	+								
Removal of Research Expenses, unless a significant impact on the accrual of future income						+	+	+	-	+	+								
Removal of Development Expenses not meeting the criteria set by the Ministry of Trade and Industry						+	+	+	-	+	+								
Removal of valueless Goodwill						+	+	+	-	+	+								
Removal of valueless Long-Term Investments and Receivables						+	+	+	-	+	+								
Transfer of Short-Term Trade Receivables to Long-Term Receivables														-	-	-	-		
Transfer of Other Short-Term Receivables to Long-Term Receivables														-	-				
Addition of factoring financing to Trade Receivables and Interest-Bearing Liabilities if the net booking method is applied						-	-		-	+	+	+	+	+/-	+/-	+			
Regarding Short-Term Trade Receivables as illiquid														-	-				
Removal of valueless Trade Receivables						+	+	+	-	+	+			-	-	-	-		
Regarding Other Short-Term Receivables as illiquid														-	-				
Removal of valueless Other Short-Term Receivables						+	+	+	-	+	+			-	-				
The finished portions of the ongoing projects booked in Prepaid Expenses and Accrued Income (percentage of completion method) are regarded as unfinished projects (Inventories) for the purpose of calculating working capital and liquidity ratios															-	+			
Removal of exchange losses (on long-term receivables or liabilities not expensed as incurred) from Prepaid Expenses and Accrued Income						+	+	+	-	+	+			-	-				
Regarding Short-Term Marketable Securities as illiquid														-	-				
Removal of valueless Short-Term Marketable Securities						+	+	+	-	+	+/-		+	-	-				
Other necessary value adjustments	Case dependent impact																		
Correcting items recorded in incorrect Assets accounts	Case dependent impact																		
SHAREHOLDERS' EQUITY AND LIABILITIES																			
Transfer of dividends to be paid already recorded back to Retained Earnings						-		-	+	-	-	-	-	+	+				
Transfer of repayable Subordinated Loan to Liabilities								+	-	+	+	+	+						
Transfer of Tax Liability Hidden in 'Accumulated Depreciation in excess of Plan' and in 'Untaxed Reserves' to Deferred Taxes						+		+	-	+	+	+	+						
Addition of Leasing Commitments							-		-			+	+						
Transfer of the part of a liability that will be due in one year to Current Liabilities														-	-				
Transfer of 'Installments Payable from Making Investments' to interest-bearing debt if recorded as Trade Payables						-				+	+					+			-
Transfer of debt items from Non-Interest Bearing to Interest-Bearing Debt, or vice versa						+/-				+/-	+/-								
Exclusion of Advances Received relating to Work-in-Progress from debt when calculating debt ratios									+			-	-		+	+			
Correcting items recorded in incorrect Liabilities accounts	Case dependent impact																		

Notes:
Adjustments and formulas for the ratios are from the Committee for Corporate Analysis (2002).
A plus sign means that an adjustment improves a ratio, a minus sign that it worsens it.