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Master Thesis

Accounting Conservatism: An empirical study on financial reporting and stock returns in Norwegian listed firms

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Abstract

This thesis studies conditional and unconditional accounting conservatism in Norwegian listed firms. We address two hypotheses; 1) a positive coefficient on change in cash investments captures conditional accounting conservatism, and 2) a positive coefficient on change in lagged operating assets captures unconditional accounting conservatism. This is studied over the ten-year period 2010-2019. We examine differences in conservatism across samples with different market to book ratios, industry classifications, non-negative and negative returns, as well as firms reporting losses or profits. Our findings indicate that conditional and unconditional accounting conservatism is not captured by a positive coefficient on change in cash investment and change in lagged operating assets, respectively.

Keywords: accounting conservatism, returns, earnings

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1. Introduction

The financial statement is a written record that conveys the business activities and a company's financial performance. The purpose of a financial statement is to provide classified information to a wide range of users so the users can base their economic decision-making on the provided information (Murphy & James, 2020). For this reason, governments agencies, accountants, firms, and others, often use financial statements to provide accuracy and for tax, financing, or investing purposes. These records are highly important as they can predict unusual circumstances in companies, such as bankruptcies, accounting scandals, takeovers, and asset revaluations (Xia et al., 2019).

The concept of conservatism is of great importance when analyzing and evaluating financial statements. Accounting conservatism can be defined as "accounting policies or tendencies that result in the downward bias of accounting net asset value relative to economic net asset value" (Ruch & Taylor, 2015). Conservatism is one of the most fundamental features of accounting information, dating back centuries (Basu, 1997).

Basu (1997) interprets conservatism to capture accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements. This statement implies that earnings incorporate "bad news" in a more timely manner than "good news". However, the efficient market hypothesis states that the stock returns can fully reflect different types of information over time (Downey, 2021). This implies that stock returns reflect information from accounting conservatism, as well as from other sources.

There are two types of accounting conservatism concepts commonly used in the literature. The first is conditional conservatism, while the second is unconditional conservatism. Under the first type of conservatism, the accounting does not record payoffs from positive net present value projects until the realization of future sales. In the second type of accounting conservatism, accounting understates book values and earnings in the prior, current, and future periods (Easton & Pae, 2004).

Financial reporting conservatism has significant consequences for the value relevance of financial statements. In general, information is considered to be value relevant if it helps explain stock prices or stock returns (Barth et al., 2001). Relatedly, standard tests of value relevance involve regressing a firm's stock price (or return) on earnings and book values (Francis & Schipper, 1999). Since conservative accounting affects earnings and/or book values, it also impacts the potential value relevance of the two financial statement items.

Easton and Pae (2004) integrates accounting conservatism into a standard test of value relevance. Reflecting the concept of conditional conservatism, the authors suggest including change in cash investments[1] in a standard test of value relevance. The underlying intuition for the adjustment is that firms do not report the payoff from positive net present value projects until revenues are recognized. All else equal, this leads to lower book values of equity and earnings. Second, to account for unconditional conservatism, Easton and Pae (2004) add the change in lagged operating assets to the standard pricing model. In the case of firms unconditionally assuming high depreciation, current earnings will be abnormally low, leading to a positive weight on operating assets.

Conservatism and value relevance has been studied extensively over the past decades. However, there is little research on the interaction between the two concepts that focus on Norwegian listed firms. For this reason, we aim to extend the literature by exploring the relationship between accounting conservatism, financial reporting, and stock returns in Norwegian listed firms. We do so by replicating a significant part of Easton and Pae (2004) for a novel sample of Norwegian listed companies.

The thesis contains seven chapters structured as followed; we start by presenting alternative definitions of conservatism in chapter two, followed by a literature review of the development of conservatism throughout the years. Chapter three looks closer at the effect of conservatism on financial statement users, which contains equity, debt, and corporate governance users. The fourth chapter explain the methodology, while the fifth chapter present our empirical results. The sixth

[1] Refers to net cash investment from the cash flow statement.

chapter contains our discussion, before we give our concluding remarks in chapter seven.

2. Literature Review

2.1. Accounting Conservatism

There are several definitions of conservative accounting. The most known definition is by Basu (1997), which states that conservatism is expressed by the rule "anticipate no profits but anticipate all losses". In practice, this means that earnings are reduced, and the net asset is written down as a response to "bad news", but companies do not increase earnings and write up the net asset in response to "good news" (Penman & Zhang, 2002). Relatedly, the Norwegian Accounting Act, Regnskapsloven (1998), §4-1 (4), states: "Unrealized losses must be recognized in the income statement". This statement forms the basis for several accounting principles, one of them being the lowest value principle. The lowest value principle states that "current assets are valued at the lowest estimate of historical cost or market value" (Finansleksion, n.d). This indicates that if a company has two estimates of amounts to be received or paid in the future that are equally likely, the lowest value principle dictates using the less optimistic estimate. Therefore, the changes in cost estimates are immediately recognized if they result in future expected losses on long-term contracts, but not if they result in increased future profit. Hence, conservatism results in a greater probability of timely accounting recognition of bad news rather than good news (Basu, 1997).

In contrast, others interpret conservatism more broadly as accountants' preference for accounting methods that lead to lower reported values for shareholders' equity. For instance, Belkaoui (1985, p. 239) argues that conservatism "implies that preferably the lowest values of assets and revenues and the highest values of liabilities and expenses should be reported". At a conceptual level, the Statement of Financial Accounting Concept (SFAC) by the Financial Accounting Standards Board (FASB) eliminates this alternative view for two reasons. The first reason is that conservatism does not require deferring recognition of income beyond the time that adequate evidence of its existence becomes available. The second reason is that conservatism does not justify recognizing losses before there is sufficient evidence that they have been incurred. This viewpoint of conservatism is

inconsistent with accounting practice. For instance, most Norwegian firms use straight line rather than accelerated depreciation (Gårseth-Nesbann & Kaurel, 2019).

Accounting conservatism can also be defined as the differential variability required to recognize profit versus losses, which has important implications for accounting regulations (Callen et al., 2016). As a result, accounting conservatism can result in a persistent understatement of net asset values, which might lead to the overstatement of earnings in the future periods causing an understatement of future expenses. In other words, accounting conservatism addresses the moral hazard caused by the parties to the firm where the effects of conservatism would restrict a certain degree of management opportunism (Callen et al., 2016).

2.2. Development throughout the years

Accounting conservatism has influenced the practice and theory of accounting for centuries. However, it is hard to explain the origins of the topic. The first records of accounting conservatism were, according to Basu (1997), found in trading partnerships in the early 15th century. Basu (1997) finds that managers often possess valuable information about a company's operations and asset values. Given that their compensation is linked to reported earnings, they will have an incentive to withhold information that will affect the reported earnings, thus their compensation. As a result, the conservatism principle and the preparation of audited financial statements can be used to prevent managers from hedging against their asymmetrically informed position relative to other claimholders.

Consequently, debtholders and other creditors request timely information about "bad economic news", as the option value of their claims is more sensitive to a decrease than growth in firm value. Basu (1997) argues that conservatism plays a more ex-ante role in contracting between the parties constituting the firm. This means that if accounting was not regulated, contracting parties would agree that the accounting numbers used to partition cash flows amongst them should be determined conservatively.

To conduct more targeted research, scholars have begun to distinguish between different types of accounting conservatism. Ball and Shivakumar (2005) show that

the confusion between the unconditional and conditional versions of conservatism helps explain why conservatism is a controversial aspect of accounting, despite its long-standing influence on accounting practice. Therefore, it is essential to distinguish between the different types of accounting conservatism and determine how they relate.

Several articles provide classifications of conservatism (Basu, 1997; Beekes et al., 2004; Chandra, 2011). Beaver and Ryan (2005) classify accounting conservatism into unconditional and conditional conservatism and elaborate on the relation and distinction between them. Unconditional conservatism, also called news-independent or ex-ante conservatism, is when a company consistently under-recognizes the accounting of net assets (Beaver & Ryan, 2005). This means that the aspect of the accounting process determined at the inception of asset and liabilities yield the expected unrecorded goodwill. Examples of unconditional conservatism include the immediate expensing of the cost of internally generated intangible assets and the amortization of long-lived assets at a rate above the expected economic amortization rate.

Conditional conservatism, also called news-dependent or ex-post conservatism, means that book values are recorded under sufficiently adverse circumstances but not recorded under favorable circumstances (Beaver & Ryan, 2005). Examples of conditional conservatism include not recording payoffs from positive net present value projects until the respective future sales are realized (Easton & Pae, 2004). Both types of conservatism lead to the book value of net assets being understated relative to their market value (Kabir & Laswad, 2014).

A difference between the two types of conservatism is that conditional conservatism carries new information and depends on the economic environment faced by firms (Ball et al., 2013). Generally, conditional conservatism requires economic losses to be recognized in a more timely manner than economic gains. Beaver and Ryan (2005) show that unconditional conservatism is a primary source of unrecorded goodwill, which constitutes a form of “accounting slack” that preempts the application of conditional conservatism unless the news is sufficiently bad to use up the slack.

Another difference between the two types of conservatism is their impact on contracting efficiency. Ball and Shivakumar (2005) show that conditional conservatism can improve contracting and investment efficiency through the timely recognition of losses, thus restricting managers' opportunistic actions. Unconditional conservatism, on the other hand, would prevent conditional conservatism from improving contracting efficiency and could distort financial reporting used by investors (Ball & Shivakumar, 2005).

Ruch and Taylor (2015) find that the two types of conservatism have different effects on financial statements. The use of unconditional conservatism will have a relatively consistent impact on the income statement from period to period. In contrast, conditional conservatism will lead to transitory income statements due to fluctuations in the content and timing of economic news. On a company's balance sheet, both types will lead to understated net assets. However, the two types have different effects on the timing of income statement recognition, hence different effects on the timing of balance sheet recognition.

2.3. The relation between accounting conservatism and value relevance

The value relevance of accounting has been studied rapidly throughout the years, with the foundation given by Easton and Harris (1991) and their introduction of the regression of returns on earnings and deflated earnings changes. According to Barth et al. (2001), an accounting measure is value relevant if it has a consistent association with equity market values.

Francis and Schipper (1999) provide four interpretations of the construct of value relevance. The first interpretation suggests that financial statement information is value relevant if a company generates profits from implementing accounting-based trading rules. The second interpretation suggests that financial information is value relevant if it contains the variables used in a valuation model or assists in predicting those variables. The third interpretation suggests that value relevance is indicated by a statistical association between financial information and prices. The statical association measures an investor's ability to use the information in setting

prices. The last interpretation suggests that value relevance is indicated by a statistical association between financial information and returns.

In order to measure value relevance, Francis and Schipper (1999) use the change in R^2, the change in the coefficient on earnings and earnings changes as indications of the change in the value relevance of U.S financial statements. The weakness of this study is that the regression of returns on earnings and deflated earnings changes does not incorporate accounting conservatism. However, Easton and Pae (2004) show that the coefficient estimates on earnings levels and earning changes are affected by accounting conservatism. The explanatory power improves when the variables associated with conservatism are included in the regression.

2.4. Accounting conservatism and the relation between returns and accounting data

Easton and Pae (2004) estimate earnings-return regression specifications that include conservatism in the standard test of value relevance. Since conservatism is a fundamental feature of accounting, they argue that these modifications might affect conclusions from value relevance studies. They identify firm and sample characteristics that suggest that accounting is likely to be conservative. Hence, the modifications might be necessary for the design of empirical analysis.

To reflect the concept of conditional conservatism, Easton and Pae (2004) suggest including change in cash investment in a standard test of value relevance. Therefore, the authors argue to add change in cash investments to the return regression. The underlying intuition from the adjustments is that accounting does not record the payoffs from positive net present value projects until the associated future sales have occurred. As a result, the benefit of new cash investments in positive net present value projects will not be captured in book value and earnings.

In the second form of accounting conservatism, unconditional conservatism, Easton and Pae (2004) argue that change in lagged operating assets should be added to the return regression. The underlying intuition from the adjustments is that accounting rules, choices, and procedures (such as an aggressive depreciation

policy[2]) might understate book value and current accounting earnings. The idea implies that lagged operating assets capture the cumulative effect of conservatism at the beginning of the fiscal period. Consequently, it captures the impact of conservatism on the other variables in the valuation model – earnings and book value (Easton & Pae, 2004).

Easton and Pae (2004) find evidence of both types of conservatism for firms where the market value of the operating asset is high, relative to their book value. Their empirical analysis suggests that the magnitude of the estimates of the coefficients on change in cash investments and change in lagged operating assets increases as the market to book ratio increases. Easton and Pae's (2004) analysis show that the degree of accounting conservatism varies across industries, and find that accounting conservatism is particularly evident in the pharmaceutical industry. The authors seek evidence from Basu (1997), who suggests that good (bad) news firms are more (less) conservative in their accounting over the fiscal period. Therefore, Easton and Pae (2004) differentiate between firms with non-negative returns (good news) and firms with negative returns (bad news).

To examine the effect of losses on accounting conservatism, Easton and Pae (2004) divide the sample into profit and loss firms. They assume that there is no difference in accounting conservatism associated with the application of accounting rules between firms reporting losses versus firms reporting profits. The argument rests on the motivation by Hayn (1995), who focuses on the news in earnings rather than the news in returns to analyze the returns/earnings relation for firms reporting losses to compare with firms reporting profits.

In general, Easton and Pae (2004) find pervasive evidence that change in cash investments provides significant incremental explanatory power for returns over earnings and earnings changes. The evidence is consistent with the statement that firms invest in positive net present value projects, and that book value and earnings do not capture the value of the investment until later periods. Easton and Pae (2004) find that the explanatory power in lagged operating assets is, by no

[2] The term 'aggressive depreciation' is used to describe a situation where the accounting measure of change in value is greater than the markets measure of change in value (sometimes referred to as economic depreciation). Conservative depreciation describes the situation where accounting depreciation is less than economic depreciation.

means, pervasive. However, they find that the estimate of the coefficient on change in lagged operating assets is positive, as expected, for sub-samples of firms where the ratio of the market value of operating assets to the book value of operating assets is highest.

3. Effect of conservatism on financial statement users

In this section, we will elaborate on how accounting conservatism affects financial statement users in equity markets, debt markets, and corporate governance settings. Financial accounting information is relevant for financial statement users if it provides predictive and/or confirmatory value (Ruch & Taylor, 2015). We presume that the predictive and/or confirmatory information relies on the outcome financial statement users are attempting to predict and/or confirm. Hence, it is natural to assume that equity market users are sourcing relevant information from a valuation perspective. In contrast, debt market and corporate governance users are interested in relevant information from a contracting standpoint.

3.1. Equity market users

Equity market users can be defined as investors and analysts (Ruch & Taylor, 2015). In this section, we will elaborate on how accounting conservatism affects the quality of accounting information provided to these users. Information quality in terms of decision usefulness for investors and analysts can be divided into value relevance and information asymmetry. The first dimension, value relevance, refers to the extent to which accounting information has predictive or/and confirmatory value to the decisions of equity market users (Ruch & Taylor, 2015). Timely loss recognition provides more value-relevant information, which is a result of using conditional conservatism as it leads to a greater association between earnings and returns when the economic news is bad (Basu, 1997). In contrast, if the economic news is good, then conditional conservatism causes a lower association between earnings and returns, which indicates that deferred gain recognition provides information that is less value relevant.

On the other hand, unconditional conservatism might reduce value relevance by omitting useful information when assessing the firm's value (Ruch & Taylor, 2015). For instance, research and development (R&D) expenses could benefit the

firm in future sales. However, the current expenditures of R&D are capitalized as expenses under conservative accounting, and the investment's future benefits are ignored. As a result of the capitalized expenses, the usefulness of reported earnings as a measure of performance and value creation decreases (Corrado et al., 2009).

Moreover, Dichev and Tang (2008) find that increasing investments in intangible assets leads to "a clear and economically substantial trend of declining contemporaneous correlation between revenues and expenses". This is because it is challenging to match the related expense and revenue of the intangible asset. The adverse impact of this decline is that the quality of earnings also declines.

Researchers have discussed whether a high contemporaneous association between accounting information and stock market information should be considered a desirable trait of accounting information. Holthausen and Watts (2001) find that measuring value relevance does not provide value in assessing the quality of accounting information since accounting information has users beyond equity valuation. However, Barth et al. (2001) argue that value relevance is one trait among many that can be used to assess information quality. In their research, value relevance serves as one of many implications to consider in evaluating the qualities of conservatism. Moreover, it is essential to evaluate the effect of conservatism on value relevance when trying to understand the impact of conservatism on equity users. However, it is crucial to underline that the value relevance might only be a desired attribution of accounting from the valuation perspective and not essentially from the contracting perspective.

Accounting research has given indirect evidence that conservatism might affect value relevance. Collins et al. (1997) argue that the decline in value relevance of earnings can be explained by temporary increases in intangible assets intensity, an increase in the incidence of nonrecurring changes in earnings, and increases in negative earnings. The study contains two implications of conservatism where the first one implies that an increase in intangible assets intensity increases unconditional conservatism. Second, the increase in nonrecurring changes in earnings implies an increase in conditional conservatism. Moreover, Lev and Zarowin (1999) find that firms with increasing R&D intensity also have a decline

in value relevance. On the other hand, Francis and Schipper (1999) could not prove that the decline in value relevance for high-technology firms is superior to the decline for low-technology firms.

As mentioned earlier, the second dimension of information quality is information asymmetry, which occurs when the management has confidential information relevant to investors and analysts when evaluating future firm performance. When this confidential information is shared with the investors and analysts, the information asymmetry is alleviated, and the information is of more superb quality. Thus, accounting conservatism improves information quality if it alleviates information asymmetry (and impairs information quality if it exacerbates information asymmetry). Consequently, timely loss recognition is assumed to decrease information asymmetry, while deferred gain recognition is assumed to increase information asymmetry by withholding information about future gains (Ruch & Taylor, 2015). Since unconditional conservatism withholds information related to the firm's value, it might increase information asymmetry.

LaFond and Watts (2008) show that timely reporting of bad news acts as a substitute for voluntary discourse. This is proven by a negative association between voluntary disclosure and accounting conservatism. Furthermore, they find that conservatism decreases the need to disclose bad economic news.

Francis et al. (2013) find that the ability of conservatism to alleviate information asymmetry mitigates negative market reactions to bad economic news events. The study shows a positive relationship between measures of the two types of conservatism and abnormal stock returns during the financial crisis. This implies that firms exhibiting more conservatism prior to the financial crisis experienced minor losses during the financial crisis compared to firms exhibiting less conservatism before the financial crisis.

There are many studies on the effect of accounting conservatism on equity market users. Overall, research shows that conditional conservatism alleviates information asymmetry, which improves information quality on the information asymmetry dimension. Conditional conservatism is also proven to mitigate the negative market response to bad news economic events.

3.2. Debt market users

Accounting conservatism impacts debt market users, as it affects the information quality in the debt contracting setting. Debt market users are referred to as lenders and borrowers (Ruch & Taylor, 2015). Just as with equity market users, two of the most critical aspects of information quality are the relevance of accounting information to lending decisions and the presence of information asymmetry (Ruch & Taylor, 2015). Accounting information is assumed to be of high quality if it is relevant to lending decisions and decreases information asymmetry between lenders and borrowers.

In the first part of Watts' (2003) two-part series on conservatism in accounting, the author theorizes that information about the borrower's losses is more relevant to lenders than information about their gains. This is because the upside to the lender is capped at the contractual interest payments. In this theory, relevant information to lenders is set through conditional conservatism in the form of asymmetric timeliness. On the other hand, unconditional conservatism gives lenders the "worst-case scenario" as it limits the accounting recognition of certain unverifiable portions of economic value. This theory was empirically supported by researchers, who find that accounting conservatism results in lower interest rates for borrowers and better assessment of borrowers' default risk by lenders.

The first researchers that supported this theory were Ahmed et al. (2002). They find that accounting conservatism reduces bondholder-shareholder conflict and debt-cost of capital. This is because bondholders would accept a lower interest rate if conservative accounting, any type, could restrain the overpayment of dividends to shareholders. As a consequence, conservatism is positively associated with the conflict between bondholders and shareholders and negatively associated with the debt cost of capital.

Moreover, Zhang (2008) finds that more conservative borrowers are more likely to violate debt covenants following a negative price shock. In addition to this, the author finds that lenders will offer lower interest rates to more conservative borrowers. Based on these findings, Zhang (2008) theorizes that accounting conservatism benefits lenders as it provides a timelier signal of default risk and

benefits borrowers through lower interest rates. The findings made by Wittenberg-Moerman (2008) also support this theory. Wittenberg-Moerman (2008) findings suggest that conservative reporting decreases information asymmetry regarding a borrower and increases the efficiency of the secondary trading of debt securities.

However, Gigler et al. (2009) challenge the notion that conservatism results in efficient debt contracting. They define an optimal debt contract as "one that minimizes costs arising from decision errors due to false alarms and decisions errors due to undue optimism" (Gigler et al., 2009). According to their model, conservatism decreases the probability of undue optimism but increases the likelihood of a false alarm. Therefore, the degree to which accounting conservatism enhances the efficiency of debt contracts depends on which effect dominates. On the other hand, no studies have empirically tested this model. Thus, leading to the conclusion that research on debt market users supports the notion that conservatism benefits both lenders and borrowers in debt contracting situations.

3.3. Corporate governance users

In this section, we will investigate if conservatism provides information that assists shareholders in monitoring the firm's management. Corporate governance is defined by Chen et al. (2021) as "the system of rules, practices, and processes by which a firm is directed and controlled". It balances the interests of the company's many stakeholders, here referred to as corporate governance users, such as shareholders, management, and the board of directors. From the perspective of accounting conservatism, corporate governance can be seen as a mechanism that enables shareholders to monitor the firm's management (Chen et al., 2021). In this case, accounting information is of high quality if it is relevant to corporate governance decisions and mitigates information asymmetry between shareholders and the firm's management.

One of the primary methods for shareholders to monitor firm management is to align their incentives with the firm management incentives. The incentives are determined by the management compensation incentives, where accounting conservatism affects the management compensation in two possible ways. Firstly,

conservatism protects the shareholders against overcompensating the management. Secondly, compensation incentives based on conservatively reported earnings are more likely to assist the management in making better investment decisions (Watts, 2003). As conditional conservatism leads to timely recognition of losses, the management is incentivized to leave a project with a negative net present value promptly. In addition, the high verifiability requirement to recognize the profit gives the management incentives to push positive net present value projects to the point where they can be recognized in accounting and later reflected in their compensation.

Since Ruch and Taylor (2015) assume that conservative accounting of earnings will reflect an alignment of incentives between shareholders and management, accounting conservatism is of high quality to shareholders. Accounting earnings are expected to be a significant determinant of management compensation. Moreover, they assume that the compensation incentives will result in better investment decisions by firm management in the presence of conservatism than in the absence of conservatism.

Ahmed and Duellman (2007) show that conditional and unconditional conservatism is positively associated with the percentage of outside directors' shareholdings and negatively linked to the percentage of inside directors on the board. This result suggests that conservatism is related to a more independent board of directors, hence reducing agency costs, and improving corporate governance. Furthermore, García Lara et al. (2009) show that firms with strong corporate governance present higher levels of conditional conservatism. These studies provide evidence that conservatism is an essential aspect of effectively monitoring the firm's management.

4. Methodology

Research on accounting conservatism requires a quantitative research method. We will apply regression analyzes to try to explain the explanatory power of conditional and unconditional conservatism and how they affect the relations between stock returns and accounting variables. Research on accounting conservatism does not attempt to prove a causal relationship but relies on finding

statistical associations between the dependent and independent variables. Generally, this is called exploratory analysis and will be the basis of our study.

4.1. Pricing model

Easton and Pae (2004) start with the price level regression, which has been pervasive in the recent empirical literature on the value relevance of accounting. Numerous important and widely cited articles rely on this type of regression, such as Easton and Harris (1991), Ohlson (1995), and Feltham and Ohlson (1996). The regression model expresses price as a linear function of earnings and book value of equity:

$$p_{jt} = \beta_0 + \beta_1 BV_{jt} + \beta_2 EARN_{jt} + \varepsilon_{jt} \quad (1)$$

where p_{jt} is the price of one stock of firm j in year t, BV_{jt} is the book value of equity per share of firm j in year t, and $EARN_{jt}$ is the earnings per share of firm j in year t, and ε_{jt} is the error term for firm j in year t. This model argues that β_1 and β_2 depends on the persistence/transitoriness of earnings. This means that if earnings are permanent, the weight, β_1, on book value is low and the weight, β_2, on earnings is high. On the contrary, if earnings are transitory, the weight on book value is high, and the weight on earnings is low (Easton & Pae, 2004).

Easton and Pae (2004) extend the pricing model by adding two variables that aim to take conditional and unconditional conservatism into account. As mentioned earlier, conditional conservatism arises because accounting does not record the payoffs from the net present value project until the associated future sales have occurred. Therefore, the benefits of new cash investments in positive net present value projects will not be captured in the book value of equity and earnings. Thus, Easton and Pae (2004) add cash investments ci_{jt} to the pricing model.

Unconditional conservatism, on the other hand, arises because accounting rules, choices, and procedures (such as an aggressive depreciation policy) might understate book value and accounting earnings in prior, current, and future periods. As conservative accounting rules influence the operating assets in a greater way than the financial assets, Easton and Pae (2004) concentrate on conservatism in the valuation of operating assets and add the lagged book value of

operating assets, oa_{jt-1}, to the pricing model. Consequently, the regression expresses price as a linear function of book value of equity, earnings, cash investments, and lagged book value of operating assets:

$$p_{jt} = \beta_0 + \beta_1 BVE_{jt} + \beta_2 EARN_{jt} + \beta_3 CI_{jt} + \beta_4 OA_{jt-1} + \varepsilon_{jt} \quad (2)$$

Equation (2) is supported by a model presented by Feltham and Ohlson (1996). Easton (2001) argue that the Feltham and Ohlson (1996) model could be used as a foundation for empirical analyses of the effects of accounting rules and positive net present value investments on future residuals income and current economic goodwill (that is, the present value of future residual income). Most of Easton and Pae's (2004) analyses are based on regressions that is an empirical analogue of equation (2). First, they take the differences, invoking a clean surplus assumption, re-arranging and dividing by the beginning-of-period price, and obtain the regression we will use in our analyses:

$$ret_{jt} = \beta_0 + \beta_1 \frac{EARN_{jt}}{BVE_{jt-1}} + \beta_2 \frac{\Delta EARN_{jt}}{BVE_{jt-1}} + \beta_3 \frac{DIV_{jt-1}}{BVE_{jt-1}} + \beta_4 \frac{\Delta CI_{jt}}{BVE_{jt-1}} + \beta_5 \frac{\Delta OA_{jt-1}}{BVE_{jt-1}} + \varepsilon_{jt} \quad (3)$$

Where Δ represents the first difference, and the return relates to price and dividends by:

$$ret_{jt} = \frac{p_{jt} + DIV_{jt} - p_{jt-1}}{p_{jt-1}}$$

In regression (3), β_4 captures the effect of conditional conservatism, while β_5 captures the effect of unconditional conservatism. That is, conditional conservatism can be captured by the coefficient on change in cash investments, and that unconditional conservatism can be captured by the coefficient on change in lagged operating assets.

In accordance with Easton and Pae (2004), our empirical models are computed for each year separately. Since regression (3) does not contain an explicit term for the year of the observation, we use the methodology of Fama and MacBeth (1973) (FMB) to obtain each year separately. For example, the regression would be run separately for each year and the FMB regression would show the average regression coefficient (and the corresponding standard error). The study will also

examine industry classification, firms with non-negative return (good news firms, hereafter) and negative return (bad news firms, hereafter), as well as firms reporting profits (profit firms, hereafter) and firms reporting losses (loss firms, hereafter) as separate groups in order to capture the different characteristics of the groups as explained in Easton and Pae (2004). However, when the number of observations is insufficient, it is unlikely to get significant estimates. For this reason, we will add a pooled OLS regression, to check the robustness of the models.

4.2. Research question and hypothesis

Our study addresses two research questions. First, is conditional conservatism captured by a positive coefficient in change in cash investments? Second, is unconditional conservatism captured by a positive coefficient on change in lagged operating assets? We consider research question two as most important as Easton and Pae (2004) could not prove the explanatory power in lagged operating assets.

In accordance with previous research, we expect to find presence of accounting conservatism when analyzing the entire sample (Easton & Pae, 2004; Easton & Harris, 1991; Francis & Schipper, 1999). In Easton and Pae (2004), the presence of accounting conservatism is represented by conditional accounting conservatism when analyzing the entire sample. They do, however, not find evidence of unconditional accounting conservatism. For this reason, we expect to only find evidence of conditional conservatism when analyzing the entire sample.

On the other hand, Easton and Pae (2004) did find evidence of both types of conservatism when analyzing sub-samples of the data, which indicates that unconditional conservatism was present (to some degree). In accordance with their findings, we expect to find evidence of unconditional conservatism when analyzing our sub-samples, industry, good and bad news firms, and profit and loss firms.

Research on accounting conservatism and its effect on stock returns and financial reporting has been studied rapidly throughout the years. However, to the best of our knowledge, there has not been any previous research on this topic that focus on Norwegian data. Therefore, we aim to extend the literature by exploring the

relationship between accounting conservatism, financial reporting, and stock returns in Norwegian listed firms. Based on previous research and theory, we propose two hypotheses for our study, both stated as alternatives to their null hypothesis.

Hypothesis 1:

H_1: A positive coefficient on change in cash investments captures conditional accounting conservatism.

Hypothesis 2:

H_2: A positive coefficient on change in lagged operating assets capture unconditional accounting conservatism.

4.3. Data Selection

The data is collected from the Eikon Refinitiv DataStream/WorldScope database. The variables are chosen based on the variables used in Easton and Pae (2004). As we collect data from a different database than Easton and Pae (2004), we are not able to retrieve all variables used in their study. However, Easton and Pae (2004) have thorough explanations of their variables, which made it possible to find variables in Eikon Refinitiv equivalent to those used in Easton and Pae (2004). The variables that are not equivalent to those in Easton and Pae (2004), will be commented. Our variable definitions are in accordance with the definition given by Eikon Refinitiv. We collect firm-year observations from fiscal years 2010 to 2019 for which we have complete data for the following items.

Return (ret_t) is the total return which incorporates the price change and any relevant dividends for the specified period (TR). The compounded daily return for the specified period is used to calculate the total return, and it is effectively the dividend reinvested total return methodology.

Comprehensive income ($COMP\_INC_t$) are income ($EARN_t$) plus comprehensive income other ($COMP\_OTH_t$). Income ($EARN_t$) is net income used to calculate earnings per share. It represents the net income the company uses to calculate its earnings per share before extraordinary items (WC01751). For Norwegian

corporations, it is generally net income after preferred dividends. Comprehensive income other ($COMP\_OTH_t$) is equal to comprehensive income – hedging gain/loss (WC18852), plus comprehensive income – other (WC18854), plus comprehensive income – pension liability (WC18851). Firstly, comprehensive income – hedging gain/loss, represent accumulated gains/losses from hedges disclosed as comprehensive income. Secondly, comprehensive income – other represents the cumulative amount of all the other comprehensive income accounts not otherwise defined. Lastly, comprehensive income – pension liability, represents accumulated pension liabilities disclosed as comprehensive income. However, when retrieving comprehensive income other ($COMP\_OTH_t$) we receive a small amount of data (***Appendix 1***). For this reason, we choose to move forward with income ($EARN_t$) as our earnings variable. However, we will test if the inclusion of comprehensive income other ($COMP\_OTH_t$) will have a significant effect on the results, in section 5.1.

Dividends (DIV_t) are the rolling 12-month dividend per share (adjusted) (DPS) multiplied with common shares outstanding (WC05301). It is intended to represent the anticipated payment over the following 12 months and thus, can be calculated on a rolling 12-month basis or as the "indicated" annual amount. Special or once-off dividends are generally excluded.

Book value of equity (BVE_t) is common shares outstanding (WC05301) multiplied by the book value of outstanding shares fiscal (WC05491). Common shares outstanding represent the number of shares outstanding at year-end, and is the difference between issued shares and treasury shares. The book value of outstanding shares fiscal represents the book value (proportioned common equity divided by outstanding shares) at the company's fiscal year-end.

Financial assets (FA_t) equals cash and short-term investments (WC02001), plus investments and advances-others (WC02250), minus debt in current liabilities (WC03101), minus long-term debt (WC03251), minus preferred stock (WC03451), plus preferred treasury stock (WC05303), minus preferred dividends in arrears (WC01701), minus minority interest (WC03426).

Operating assets (OA_t) are book value of equity (BVE_t) minus financial assets (FA_t).

Cash investments (CI_t) represent the net cash receipts and disbursements resulting from capital expenditures, decrease/increase from investments, disposal of fixed assets, increase in other assets, and other investing activities (WC04870).

The market value of common equity (MVE_t) is market price year-end multiplied with common shares outstanding (WC08001). Market price year-end represents the closing price of the company's stock at its fiscal year-end.

The ratio of the market value of operating assets to the book value of operating assets (V/oa) is the market value of common equity (MVE_t) minus financial assets (FA_t) divided by the book value of operating assets $\left(\frac{MVE_t - FA_t}{OA_t}\right)$.

Our sample includes all companies listed on the Oslo Stock Exchange from 2010 to 2019. However, we exclude firms classified within the areas of *Finance & Insurance*, and *Utilities* because they use accounting rules deviating from traditional industrial companies. In accordance with Easton and Pae (2004), all variables except the market value of equity (MVE_t), annual stock returns (RET_t), and the ratio of the market value of operating assets to the book value of operating assets (V/oa) are deflated by the beginning market value of equity ($BMVE_{t-1}$).

We first exclude observations with negative values on the book value of equity or the book value of operating assets. Further, we delete returns and earnings values equal to zero. Additionally, we remove observations in the top and bottom one percent of the distribution for any of the following variables: annual returns, earnings levels, earnings changes, lagged dividends, change in cash investments, and change in lagged operating assets to mitigate the effect of extreme values. Even though we risk deleting some of the truth, we also reduce the risk of inflated errors and biased statistical estimates. This procedure is a standard practice in the accounting conservatism literature (Easton & Pae, 2004; Easton & Harris, 1991; Francis & Schipper, 1999).

4.4. Sample description

The final sample consists of 1,033 firm-year observations from 2010 to 2019. There are 590 firm-year observations of profit firms and 443 firm-year observations of loss firms. Moreover, there are 551 observations of good news firms and 482 observations of bad news firms.

Panel A of Table 1 reports descriptive statistics for the sample of 1,033 firm-year observations from 2010 to 2019. The median market value of equity is NOK 1.133 billion. The mean and median annual raw stock returns are 10.4% and 2.7% during the ten years. Median earnings and median change in earnings are 2.4% and -0.6% of the beginning market value of equity. The lagged dividends have a median equal to 0. The book value of equity is decomposed into operating assets and financial assets, and Table 1 show that firms, on average, have net financial obligations. Hence, operating assets are greater than the book value of equity. The positive change in operating assets (median of 1.7%) implies that operating assets, on average, are increasing. The ratio of the market value of operating asset to the book value of operating asset is greater than one (both mean and median).

Panel B of Table 1 reports descriptive statistics for the profit and loss sub-samples. On average, the profit firms are larger than the loss firms, with a median market value of equity for profit and loss firms equal NOK 2.813 billion and NOK 483 million, respectively. The loss firms, on average, have higher market to book (P/B and V/oa) ratios than profit firms.

Panel C of Table 1 reports descriptive statistics for the firm-year observations with non-negative returns ("good" news) and the firm-year observations with negative returns ("Bad" news). Panel C reports median market values for good and bad news firm-years equal NOK 2.096 billion and NOK 618 million, respectively. Moreover, good news firm-years have, on average, higher market to book (P/B and V/oa) ratios than bad news firms.

Table 2 reports the Pearson and Spearman correlation of the key variables, where we observe the corresponding p-values. Pearson correlation is a statistical metric that measures the strength and direction of a linear relationship between two random variables (Zhou et al., 2016).

Table 1. Descriptive statistics, *Panel A, B and C*

Panel A: Descriptive statistics for key variables

All firms (#obs=1033)

Variable	Mean	SD	Median	Min	Max
MVE_t	1.28e+07	5.41e+07	1133617	0	6.12e+08
RET_t	.104	.567	.027	-.875	3.485
$EARN_t$	3.485	.368	.024	-2.778	1.116
$\Delta EARN_t$	-.009	.446	-.006	-2.611	3.085
DIV_{t-1}	.025	.052	0	0	.4174
ΔCI_t	-.009	.450	2.35e-06	-2.465	2.220
BVE_t	1.092	1.353	.742	0	21.828
FA_t	-1.299	2.898	-.427	-45.541	3.239
OA_t	2.392	3.778	1.280	0	54.837
ΔOA_t	.100	2.905	.017	-26.681	37.257
ΔOA_{t-1}	-.062	2.356	-.003	-13.414	20.750
V/oa	3.616	17.081	1.240	-298.874	184.586
P/B	2.783	7.225	1.421	0	142.629

Panel B: Profit and loss firms

Profit firms (#obs= 590)					Loss firms (#obs= 443)			
Variable	Mean	Median	Min	Max	Mean	Median	Min	Max
MVE_t	1.93e+07	2813410	14089	6.12e+08	4048355	483188	0	5.12e+08
RET_t	.231	.151	-.731	3.485	-.066	-.196	-.875	2.811
$EARN_t$	.113	.075	.000	1.116	-.309	-.160	-2.778	-.000
$\Delta EARN_t$	.055	.006	-1.676	2.745	-.097	-.055	-2.611	3.085
DIV_{t-1}	.032	.019	0	.398	.017	0	0	.417
ΔCI_t	-.021	-.001	-2.162	2.184	.007	.000	-2.465	2.220
BVE_t	1.003	.687	0	9.743	1.211	.851	0	21.828
FA_t	-1.142	-.485	-45.541	3.239	-1.509	-.297	-28.198	1.272
OA_t	2.145	1.226	.001	54.837	2.720	1.326	0	33.040
ΔOA_t	-.038	-.019	-21.574	37.257	.290	.044	-26.681	22.161
ΔOA_{t-1}	-.100	-.015	-13.414	9.673	-.008	.005	-13.209	20.750
V/oa	2.134	1.331	-39.062	184.586	5.594	1.043	-298.874	179.865
P/B	2.303	1.639	0	20.175	3.422	1.089	0	142.629

Panel C: Good News and Bad News firms

Good News Firms (#obs= 551)					Bad News Firms (#obs= 482)			
Variable	Mean	Median	Min	Max	Mean	Median	Min	Max
MVE_t	1.77e+07	2096290	0	6.12e+08	7204409	618159	6000	4.42e+08
RET_t	.463	.311	0	3.485	-.307	-.269	-.875	-5.93e-13
$EARN_t$	.026	.056	-2.513	1.116	-.177	-.050	-2.778	.4864834
$\Delta EARN_t$	.035	.004	-2.309	2.745	-.063	-.029	-2.611	3.085
DIV_{t-1}	.030	.013	0	.398	.020	0	0	.417
ΔCI_t	-.020	.001	-2.465	2.220	.004	-.001	-2.390	2.178
BVE_t	1.140	.754	0	21.828	1.039	.720	0	12.589
FA_t	-1.212	-.467	-21.391	3.239	-1.399	-.410	-45.541	1.272
OA_t	2.351	1.311	0	32.672	2.438	1.224	0	54.837
ΔOA_t	.118	.027	-16.421	22.161	.078	.005	-26.681	37.257
ΔOA_{t-1}	.067	.005	-11.700	9.673	-.214	-.0228	-13.414	20.750
V/oa	4.503	1.455	-.176	184.586	2.603	.984	-298.874	163.245
P/B	3.354	1.804	0	142.629	2.130	.970	0	107.12

Spearman correlation assess how well an arbitrary monotonic function can describe a relationship between two variables without making any assumptions about the frequency distribution of the variables (De Winter et al., 2016). Unlike the Pearson correlation, it does not require the variables to be measured on interval scales, and it can be used for variables measured at the ordinary level.

In Table 2, we are interested in correlating variables with a significance level of less than 0.05. Most of the correlations between return and each independent variable are statistically significant. However, the Pearson correlation between return and change in cash investments is not statistically significant. This indicate that the strengths of the linear relationship between the dependent and independent variables are weak. This also apply for the Spearman correlation between return and change in cash investments. Even though the Pearson and Spearman correlation suggests that return and change in cash investments are uncorrelated, there is a possibility that it might happen just by "chance". The linear relationship between return and change in cash investment is further discussed in the regression results. The correlation between change in lagged operating assets and both earnings changes and change in cash investments is high (0.202 and -0.204, respectively), suggesting that multicollinearity may affect the stability of the estimates of the coefficients on these variables. We will return to the discussion of multicollinearity in section 5.1.

Table 2. Pearson and Spearman Correlation among key variables

	MVE	RET_t	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	V/oa
MVE	1	0.026	0.079*	0.002	0.059	-0.002	0.001	-0.024
RET_t	0.323*	1	0.281*	0.159*	0.050	-0.012	0.092*	0.137*
$EARN_t$	0.384*	0.455*	1	0.485*	0.064*	-0.011	0.037	0.009
$\Delta EARN_t$	-0.005	0.256*	0.401*	1	-0.034	-0.083*	0.202*	0.074*
DIV_{t-1}	0.395*	0.208*	0.335*	-0.037	1	-0.064*	0.174*	-0.000
ΔCI_t	0.007	0.043	0.007	-0.032	-0.030	1	-0.204*	-0.038
ΔOA_{t-1}	-0.030	0.072*	-0.039	0.062	0.042	-0.184*	1	0.0206
V/oa	0.239*	0.302*	0.068*	0.106*	-0.015	-0.047	-0.075*	1

Pearson correlation above the diagram, Spearman correlation below the diagonal (two tailed p values in the parentheses). The statistically significant coefficients (on the 0.05 confidence level) are marked by *.

5. Empirical Results

In this section, we present our main findings and relate them to previous research. Section 5.1 relates to accounting conservatism and studies the existence of

conservatism in the entire sample. We compare our findings with the results of Easton and Harris (1991) in section 5.2. Section 5.3 employs current market to book ratio as a proxy for conservatism, while section 5.4 examines conservatism and industries. Then, we control for conservatism in companies with positive and negative returns in section 5.5, before controlling for conservatism in companies with profits or losses in section 5.6.

5.1. Conservatism in the Entire Sample

Table 3 summarizes the output from regression (3) for each of the years 2010 to 2019. The estimates of the coefficients on earning, earnings changes, and lagged dividend are all positive, but they are not statistically significant. The coefficient estimates on change in lagged operating assets is positive in six out of ten years. The mean of the coefficient estimates on change in lagged operating assets is not significantly different from zero at the conventional level (t-statistic of 0.77). These findings are in line with the findings of Easton and Pae (2004). Thus, when analyzing all the observations together, there is no evidence of conservatism associated with the over-depreciation of assets.

The coefficient estimate on change in cash investment is positive in seven out of ten years. However, the mean of these estimates (0.071) is not significantly positive at the 0.05 level (t-statistic of 1.26). These findings differ from Easton and Pae (2004), who find that change in cash investments is positive in every annual regression except from one year. Furthermore, they find that the mean of these estimates is significantly positive at, at least, the 0.01 level. Based on their findings, Easton and Pae (2004) are able to find evidence consistent with the notion that conservative accounting does not reflect the effects of investments in positive net present value projects until future periods. Even though the coefficient estimate on change in cash investments is positive in the majority of our yearly regressions, the mean is not significantly positive at our confidence level. Therefore, we are not able to find evidence for this notion.

In section 4.4, our findings show that change in cash investments and change in lagged operating assets have a high correlation equal to -0.204, while we from Table 3 find that neither of the coefficient estimates on change in cash investments is significantly positive. These findings suggest that multicollinearity

might affect our analyses, since the degree of correlation between variables will affect the regression results. As multicollinearity might lead to instability of the coefficient estimates, we perform a variance inflation factor (VIF) test for our analyses (***Appendix 2***). VIF is a measure of the amount of multicollinearity and is equal to the overall variance in the model. O'brien (2007) state that a high correlation is above 2.5 mean VIF. We obtain a mean VIF equal to 1.22, suggesting that our model does not have multicollinearity.

To investigate the explanatory relationship between the dependent variable (return) and independent variables (earnings, earnings change, lagged dividends, change in cash investments, and change in lagged operating assets), we examine the adjusted R^2. The adjusted R^2 is used to determine the reliability of the correlation and determine how much of the correlation is determined by adding independent variables (Eichler, 2022). Therefore, the adjusted R^2 compensates for the addition of variables and only increases (decreases) if the new predictor enhances the model above (less than) what would be obtained by chance (Eichler, 2022). In Table 3, we obtain a mean adjusted R^2 equal to 7.00%, while Easton and Pae (2004) obtain a mean adjusted R^2 equal to 11.00%. Since the mean adjusted R^2 is higher in Easton and Pae's (2004) model, it indicates that they obtain a higher explanatory relationship between the dependent and independent variables in their model than we do in our model.

As mentioned in section 4.3, we choose to omit comprehensive income other in our earnings variable. For this reason, we test if the inclusion of comprehensive income other in the earnings variable will significantly affect the results (***Appendix 3***). ***Appendix 3*** shows that the adjusted R^2 reduces when adding comprehensive income other to the earnings variable, from 7.00% to 6.70%. Moreover, the other coefficients do not improve significantly, and the mean t-value of change in lagged operating assets and change in cash investments is not significantly different from zero (***Appendix 3***). Therefore, we do not continue including other comprehensive income in the model, as it does not significantly improve the model.

Table 3. The regression of returns on earnings, earnings changes, lagged dividends, change in cash investments and lagged change in operating assets: results from year-by-year regressions

$$ret_{jt} = b_0 + b_1 \frac{x_{jt}}{MVE_{jt-1}} + b_2 \frac{\Delta\, x_{jt}}{MVE_{jt-1}} + b_3 \frac{d_{jt-1}}{MVE_{jt-1}} + b_4 \frac{\Delta\, ci_{jt}}{MVE_{jt-1}} + b_5 \frac{\Delta\, oa_{jt-1}}{MVE_{jt-1}} + \varepsilon_{jt}$$

Coefficient estimates with t-statistics in paratheses.

Year	#obs	Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
2010	24	.181 (1.73)	1.438 (1.77)	-.595 (-1.13)	-1.581 (-1.00)	-.283 (-1.48)	.034 (0.84)	-0.011
2011	75	-.178 (-2.99)**	-.016 (-0.06)	.185 (0.92)	.394 (0.49)	.344 (1.92)	.013 (0.63)	0.012
2012	83	.174 (3.43)**	.361 (3.14)**	-.076 (-0.70)	-.470 (-0.54)	.168 (1.43)	-.074 (-1.84)	0.147
2013	84	.230 (2.69)**	.470 (1.80)	-.070 (-0.30)	-.023 (-0.02)	.094 (0.45)	.079 (1.98)*	0.041
2014	84	-.052 (-0.99)	.508 (2.92)**	-.130 (-0.82)	1.798 (0.95)	.045 (0.44)	-.037 (-1.18)	0.087
2015	87	.215 (2.18)*	.652 (2.50)*	-.131 (-0.50)	-1.397 (-0.53)	-.070 (-0.50)	.003 (0.10)	0.124
2016	94	.275 (3.67)**	.033 (0.20)	.256 (1.52)	-.195 (-0.17)	.184 (1.23)	.047 (1.43)	0.013
2017	108	.168 (2.87)**	.368 (2.04)*	.007 (0.07)	-.630 (-0.59)	-.094 (-0.85)	-.001 (-0.03)	0.010
2018	110	-.101 (-2.33)**	.568 (4.31)**	.160 (1.40)	1.092 (1.33)	.167 (1.86)	-.010 (-0.75)	0.199
2019	112	.333 (4.43)**	.110 (0.40)	.458 (1.58)	.069 (0.05)	.159 (0.69)	.056 (1.22)	0.082
Mean (t-values)		.125 (2.29)*	.449 (3.42)**	.006 (0.07)	-.094 (-0.29)	.071 (1.26)	.011 (0.77)	0.070

A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

To summarize, neither of the forms of conservatism are evident in the entire sample. These findings are inconsistent with the findings of Easton and Pae (2004), who find that conservatism associated with investments in net present value projects are evident in the data. However, they did not find evidence of unconditional accounting conservatism, which is consistent with our findings. As we do not find evidence of either of the forms of conservatism, we will investigate sub-samples of the data to see if there is evidence of conservatism.

5.2. A Comparison with Easton and Harris (1991)

This section examines the effect of the omission of change in cash investments and change in lagged operating assets from regression (3). The results of this examination are reported in Table 4. The estimate of the coefficient on earnings levels in the simple regression of returns on deflated earnings levels, model M1, is significantly positive at the 0.05 level with a t-statistic equal to 10.27. The estimate of the coefficient on earnings changes in the simple regression of returns on deflated earnings changes, model M2, is also significantly positive at the 0.05 level with a t-statistics equal to 3.48. These findings are consistent with both Easton and Harris (1991)[3] and Easton and Pae (2004).

Further, we regress model M3, which shows annual stock returns on earnings levels and earnings changes. In model M3, the mean estimates of the coefficients on earnings levels and earnings changes are 0.407 and 0.042, with t-statistics equal to 6.83 and 0.89, respectively. The findings suggest that the change in earnings is not significantly different from zero. As a comparison, Easton and Pae (2004) find that both earnings levels and earnings changes in model M3 are significantly different from zero.

Consistent with the Ohlson (1995) model and Easton and Pae (2004), we add lagged dividends to earnings levels and earnings changes as explanatory variables for returns (model M4). The coefficient estimates on lagged dividends is not

[3] Easton and Harris (1991) report the estimates of 1.02 with a t-statistic equal to 10.0 on earnings levels and 0.74 with t-statistics equal to 9.7 on earnings changes. However, the sample period and the measure of returns and earnings of Easton and Harris (1991) differentiate from this study. Their sample period is from 1968 to 1986, and their returns are measured for a year ending 3 months after the end of the fiscal period. In this paper net income is used as a measure of earnings.

significantly different from zero at the 0.05 level. Easton and Harris (1991) also reports that lagged dividends do not have a significant incremental explanatory power over earnings levels and earnings changes. The results are consistent with Table 2, where the Pearson correlation between return and dividends are not statistically significant. As a comparison, Easton and Pae (2004) find that the coefficient estimate on lagged dividends is significantly different from zero at the 0.05 level in their model M4.

Lastly, we add the change in cash investments and change in lagged operating assets to the model (model M5). By doing so, we obtain the same results as in Table 3, where the mean coefficient estimates on change in cash investments and change in lagged operating assets are equal to 0.071 and 0.011, with t-statistics equal to 1.26 and 0.77, respectively. Since none of the coefficient estimates, cash investments and change in lagged operating assets, are statistically different from zero at the 0.05 level, our findings suggest that they are not correlated with stock returns in the entire sample. Moreover, the findings indicate that we can expect change in cash investments and change in lagged operating assets to not be associated with returns. These findings are inconsistent with the findings of Easton and Pae (2004), who find that conservatism associated with investments in positive net present value projects is evident in model M5. Consistent with our findings, they did not find evidence of unconditional accounting conservatism in their model M5.

Moreover, the adjusted R^2 decreases when we move from model M4 to M5, with 0.62%, respectively. These results suggest that the additional input of change in cash investments and change in lagged operating assets in model M5 do not add value to the model. Our findings differ from Easton and Pae (2004), who find that the addition of change in cash investments and change in lagged operating assets increases the adjusted R^2 from 10.2% (in model M4) to 11% (in model M5).

Table 4. Addition of lagged dividends, lagged change in operating assets, and change in cash investments to the Easton and Harris (1991) regression of returns on earnings and earnings changes

$$ret_{jt} = \beta_0 + \beta_1 \frac{EARN_{jt}}{BVE_{jt-1}} + \beta_2 \frac{\Delta EARN_{jt}}{BVE_{jt-1}} + \beta_3 \frac{DIV_{jt-1}}{BVE_{jt-1}} + \beta_4 \frac{\Delta CI_{jt}}{BVE_{jt-1}} + \beta_5 \frac{\Delta OA_{jt-1}}{BVE_{jt-1}} + \varepsilon_{jt}$$

Coefficient estimates with t-statistics in parentheses.

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
M1	1033	Coef. *t-value*	.125 (2.35)*	.438 (10.27)**					0.089
M2	970	Coef. *t-value*	.114 (2.20)*		.210 (3.48)**				0.024
M3	970	Coef. *t-value*	.133 (2.55)*	.407 (6.83)**	.042 (0.89)				0.088
M4	970	Coef. *t-value*	.128 (2.32)*	.403 (6.84)**	.048 (0.98)	.181 (0.59)			0.084
M5	861	Coef. *t-value*	.125 (2.29)*	.449 (3.42)**	.006 (0.07)	-.094 (-0.29)	.071 (1.26)	.011 (0.77)	0.070

Coefficients are means of annual regressions over the period 2010–2019, and t-values in parentheses are based on the standard error of the mean (Fama & MacBeth, 1973). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

In addition, it is necessary to emphasize that the adjusted R^2, in our model M5, indicates that 7.35% of the variance in the dependent variable (return) is explained by the independent variables (earnings, earnings change, lagged dividends, change in cash investments, and change in lagged operating assets). The percentage indicates that our independent variables marginally explain the variance in the model, which implies a low explanatory relationship between the dependent and independent variables.

As the FMB regression involves estimating yearly cross-sectional regressions for the entire sample, it contains fewer observations, and thus, it is more difficult to find statistically significant associations. To control for fewer observations and its impact, we perform a pooled OLS regression with robust standard errors (***Appendix 4***). When switching from FMB regression to pooled OLS regressions, findings show that neither the coefficient estimates, nor the t-values changes statistically. These findings suggest that the FMB regression provides statistical power to the results.

5.3. The Current Market to Book Ratio as a Proxy for Conservatism

Both types of accounting conservatism results in an understatement of book value. Hence, one would expect to see more evidence of conservatism when the ratio of the market value of equity to the book value is high (Easton & Pae, 2004). However, conservatism is likely to be less prevalent in the valuation of financial assets due to less conservative accounting rules. Moreover, investments in financial assets are generally viewed as a way to hold reserves for future investments in operations. Thus, they are unlikely to be positive net present value. Based on this, Easton and Pae (2004) believe that the ratio of the market value of net operating assets to the book value of net operating assets may be a more appropriate a priori indicator of conservatism.

Table 5. Explanatory power of lagged change in operating assets and change in cash investments for firms grouped on the ratio of market value of operating assets to the book value of operating asset (V/oa)

	V/oa							
Decile	Median	Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
1	.524	-.050 (-0.67)	.134 (1.20)	-.067 (-0.81)	-.407 (-0.49)	-.147 (-1.68)	.053 (2.34)*	0.143
2	.776	-.200 (-4.79)**	.100 (0.79)	.135 (1.61)	2.214 (5.35)**	.097 (1.49)	-.009 (-0.76)	0.219
3	.887	-.008 (-0.16)	.173 (1.77)	-.012 (-0.09)	-1.252(-2.02)*	-.035 (-0.52)	.018 (0.92)	0.103
4	.973	.072 (0.90)	.058 (0.27)	.486 (1.96)*	.352 (0.21)	.129 (1.11)	.022 (1.53)	0.170
5	1.133	.113 (1.37)	.674 (5.01)**	-.014 (-0.15)	1.300 (1.16)	-.056 (-0.40)	.019 (0.54)	0.178
6	1.341	.076 (1.40)	.764 (4.99)**	.032 (0.19)	1.900 (1.41)	.208 (1.25)	.007 (0.32)	0.316
7	1.665	.097 (1.72)	1.435 (3.49)**	.772 (3.42)**	.228 (0.34)	.161 (0.54)	.046 (2.08)*	0.298
8	2.133	.272 (3.97)**	1.136 (2.68)**	-.460 (-0.66)	-.296 (-0.36)	.913 (2.60)**	.146 (2.91)**	0.361
9	3.340	.355 (3.93)**	.559 (1.21)	.772 (1.88)	-1.156 (-0.82)	.167 (0.25)	.329 (1.43)	0.247
10	10.899	.349 (3.08)**	.420 (0.60)	.460 (0.42)	1.669 (1.10)	-.732 (-1.43)	.268 (1.39)	0.061

The t-values in parentheses are based on the standard error of the mean (OLS regression). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

We divide the sample each year into deciles based on the ratio of the market value of net operating assets measured as the market value of equity minus the book value of financial assets to the book value of operating assets. Each decile contains 10% of the original data, meaning that each decile contains 103 observations. As this number of observations is relatively low, it is unlikely that we will get significant estimates when using the FMB regression (***Appendix 5***). For this reason, we choose to use a pooled robust regression on each decile.

Further we examine whether the estimates of the coefficients on the chosen variables capture the two types of accounting conservatism across these sub-samples. Following Easton and Pae (2004), we expect that the higher the ratio of the market value of net operating assets to book value of net operating assets, the more significant the coefficients on these variables will be.

The output from regression (3) conducted within deciles of the market value of net operating assets to the book value of net operating assets is summarized in Table 5. The first decile includes the firms with the lowest ratios of the market value of net operating assets to the book value of net operating assets. In contrast, the last decile includes firms with the highest ratios. According to Easton and Pae (2004), if the current market to book ratio is a good proxy for accounting conservatism, the coefficients on change in cash investments and change in lagged operating assets will increase from the first to the last decile.

From Table 5, we find that the median market to book ratio is less than one for deciles one to four, which implies that accounting is more likely to be aggressive. Further, the median market to book ratios is higher than one from deciles five to ten, suggesting that accounting is more likely to be conservative. Easton and Pae (2004) find that the median market to book ratio is higher than one for deciles three to ten. This suggests that American listed firms have a more conservative accounting approach than Norwegian listed firms.

The estimates of the coefficients on change in cash investment decrease from the first to the last decile. These findings are different from Easton and Pae (2004), who find that the coefficient on change in cash investments increases monotonically from the first to the last decile, implying that the current market to

book ratio is a good proxy for conditional accounting conservatism. Moreover, their coefficients are significant in nine out of ten deciles. Our coefficients, on the other hand, are only significant in one out of ten deciles. Thus, our findings suggest that the current market to book ratio is not a good proxy for conditional accounting conservatism in Norwegian listed firms, which are consistent with our previous findings.

The coefficient on change in lagged operating assets increases from the first to the last decile, suggesting that the current market to book ratio is a good proxy for unconditional accounting conservatism. However, the coefficient is only significant in three out of ten deciles. Easton and Pae (2004), on the other hand, only have two coefficients that are not significant. Thus, most of their variables are significant. As most of our coefficients are not statistically significant, our findings suggest that the current market to book ratio is not a good proxy for unconditional conservatism. These findings are consistent with our previous findings.

5.4. Conservatism and Industry

As accounting methods differ across industries, we expect to see differences in the degree of conservatism and the explanatory power of change in cash investments and change in lagged operating assets for returns. We divide the sample into eleven different industries by sorting them on NAICS Sector Name, and Table 6 shows the various sectors in the sample. The *Other* industry category includes firms that were not classified by any industry in Eikon Refinitiv.

Moreover, Table 7 reports median values for the critical variables sorted by industry. Corporations in the *Retail Trade* and *Construction* industries have the most considerable market value of equity. The median annual stock returns are positive in all industries except *Information*, *Mining*, *Real Estate*, and *Transportation*. In contrast, the median net income is positive for all industries except *Mining*. The median market to book ratio is greater than one for all industries, except *Mining*, *Real Estate*, *Transportation*, and *Wholesale Trade*. The industry with the highest median market to book ratio is *Professional*, followed by the *Information* industry. The median change in cash investments is positive for five industries and negative for the remaining six. These findings suggest that the

minority of the industries increased cash investments in operations over the time period. However, only *Mining*, *Retail Trade*, *Transportation*, and *Wholesale Trade* have a positive median change in lagged operating assets. These findings suggest that most industries have a cash inflow from investing activities that exceed their cash outflows while investing in operating assets or reducing their current liability.

Table 6. Identity of industry sub-samples

Industry	Freq.	Percent
Agriculture	20	1.94
Construction	42	4.07
Information	49	4.74
Manufacturing	272	26.33
Mining	229	22.17
Other	182	17.62
Professional	83	8.03
Real Estate	32	3.10
Retail Trade	18	1.74
Transportation	80	7.74
Wholesale Trade	26	2.52
Total	1, 033	100.00
Mean	94	9.09

Table 8 reports the result from regression (3) conducted at the industry level. Some industries obtain few observations, such as *Agriculture*, *Wholesale Trade*, and *Real Estate* (see Table 6). Since the number of observations is relatively low, the FMB regression omits up to three of our variables, indicating that this regression does not fit the purpose of our analysis (***Appendix 6***). Therefore, we choose to use a pooled OLS regression with robust standard errors on each industry.

The coefficient estimates on change in cash investments are only significantly positive in two out of eleven industries. These findings differ from the findings of Easton and Pae (2004), who find the coefficient estimate on change in cash investments to be significantly positive in ten out of fourteen industries. Thus, their findings indicate that conditional conservatism is present in their sub-sample as the majority of their coefficients are significant. In contrast, our results suggest

Table 7. Median of key variables by industry

Industry	MVE_t	RET_t	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	V/oa
Agriculture	2925918	.413	.071	-.060	.010	-.017	-.228	1.234
Construction	3078825	.171	.059	-.005	.038	.002	-.061	1.198
Information	570176	-.024	.018	-.002	0	-.001	-.008	2.160
Manufacturing	1391443	.018	.014	-.004	0	-.001	-.027	1.535
Mining	1319571	-.057	-.038	-.028	0	-.003	.028	.937
Other	1775446	.065	.042	-.004	.017	.000	-.003	1.455
Professional	396586	.120	.015	-.009	0	.001	-.017	2.462
Real Estate	1701480	-.015	.089	-.005	.006	.007	-.009	.923
Retail Trade	6028655	.135	.073	-.001	.034	-.006	.001	1.401
Transportation	891838	-.065	.030	-.018	0	.024	.606	.843
Wholesale Trade	273004	.195	.077	.026	.009	-.001	.063	.988
Total	1130925	.027	.024	-.006	0	2.35e-06	-.004	1.240

Table 8. Conservatism and industry: mean of OLS regressions

Industry	#obs	Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
Agriculture	17	.865 (2.50)*	-3.064 (-1.77)	2.626 (2.91)**	-2.289 (-1.06)	.218 (1.10)	.034 (0.67)	0.525
Construction	36	.323 (1.97)*	1.384 (2.41)*	.395 (1.47)	-.812 (-0.60)	.074 (0.28)	.011 (0.28)	0.311
Information	42	.106 (1.24)	1.853 (2.77)**	-.253 (-0.85)	-2.552 (-1.23)	.795 (2.81)**	.015 (0.56)	0.414
Manufacturing	240	.188 (4.03)**	.483 (3.10)**	-.137 (-0.77)	-.680 (-1.03)	-.122 (-0.61)	.082 (2.09)*	0.111
Mining	189	.039 (0.91)	.236 (3.10)**	.020 (0.37)	-.311 (-0.41)	-.035 (-0.58)	.016 (1.08)	0.077
Other	149	.120 (1.22)	.296 (0.96)	.186 (0.48)	.694 (0.50)	.030 (0.50)	-.007 (-0.44)	0.051
Professional	66	.154 (1.45)	.686 (0.97)	.799 (0.89)	1.521 (0.82)	.230 (1.49)	.244 (1.26)	0.173
Real Estate	26	.035 (0.49)	.501 (2.97)**	-1.066 (-4.73)**	-3.809 (-1.54)	-.569 (-2.73)**	-.022 (-0.30)	0.424
Retail Trade	13	.051 (0.24)	-.256 (-0.13)	2.047 (0.56)	2.696 (1.24)	6.234 (1.76)	-.097 (-0.79)	0.517
Transportation	60	.099 (0.70)	.368 (1.56)	.085 (0.58)	.852 (0.36)	-.056 (-0.21)	.014 (0.55)	0.124
Wholesale Trade	23	.160 (1.60)	1.820 (2.33)*	.874 (1.45)	-.668 (-0.54)	.652 (1.38)	-.011 (-0.15)	0.407

The t-values in parentheses are based on the standard error of the mean (OLS regression). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

that conditional conservatism is not present in the sub-sample, which is consistent with the findings in Table 3.

Moreover, Table 8 reports that the coefficient estimates on change in lagged operating assets are not significantly different from zero except for *Manufacturing* (t-statistic of 2.09). These findings are in line with the findings of Easton and Pae (2004), who find that the coefficient estimate on change in lagged operating assets is significantly positive in two out of fourteen industries. Therefore, our findings indicate that unconditional conservatism does not arise due to accounting rules, choices, and procedures that might lead to an understatement of book values and accounting earnings in prior, current, and future periods. Accordingly, these results are consistent with those in Table 3, where we find no evidence of unconditional conservatism in the entire sample.

Since none of the industries have significant coefficients estimates on both change in cash investments and change in lagged operating assets, we cannot assume that one industry has more accounting conservatism than another industry.

5.5. Positive Returns vs. Negative Returns and Conservatism

Basu (1997) observes that the explanatory power of earnings for returns varies according to whether news is, on average, good or bad. Positive and negative returns measure good news and bad news firms, respectively. Even though Basu´s (1997) concept of conservatism is very different from Easton and Pae's (2004), they also divide the observations according to the sign of the fiscal periods returns and re-run regression (3) for each group. Basu (1997) argues that bad news and the associated reported earnings tend to be less persistent than good news and the associated reported earnings. In the valuation model, this means that the coefficient on book value of equity (earnings) will be higher (lower) for bad news firms than for good news firms. Thus, the coefficient on earnings levels (change in earnings) in the return's regression (3) will be higher (lower) for bad news firms than for good news firms.

Following Easton and Pae (2004), we predict that the coefficient estimate on change in lagged operating assets will be significantly positive for good news

firms. This is because the effects of conservatism associated with the accounting measure of change in value being less than the change in market value are likely to be exacerbated for good news firms. For bad news firms, however, the accounting measure of change in the value of operating assets may be greater than the market assessment of this change in value. From panel C of Table 1, the findings show that the mean earnings for bad news firms (-17.7% of the beginning of year market value of equity) are greater than the mean returns (-30.7%). Assuming that firms overstate assets in case of bad news, accounting will record a smaller decline in value than assessed by the market. Based on this assumption, we predict that the estimate of the change in lagged operating assets will be significantly negative for bad news firms. Further, we expect that cash investments will be positive for both firms with good and bad news, and thus, the estimate of the coefficient on cash investments will be positive for both sub-samples.

As predicted, Table 9, panel A reports that the coefficient estimate on earnings in the regression of returns on earnings for good news firms is not significantly different from zero (0.034). Further, Table 9, panel B shows that the estimate of this coefficient for bad news firms is significantly positive (0.269, with a t-statistic of 5.67). The multiple regressions, including earnings levels and earnings changes (M3 and M4), show that the coefficient estimate on earnings changes is significant in the good news sub-sample (t-statistic of 3.38). In contrast, it is not significantly different from zero in the bad news-sub sample (t-statistic of -0.48). These findings are in line with the findings of Easton and Pae (2004).

The results from regression (3) (model M5) show that for firms with good news (panel A), the estimate of the coefficient on change in lagged operating assets is not significantly different from zero at the 0.05 level. These findings are not in line with our prediction, but are consistent with the findings of Easton and Pae (2004). Furthermore, the coefficient estimate on change in lagged operating assets for bad news firms is not significantly negative. These findings are inconsistent with our prediction, that the coefficient on change in lagged operating asset is significantly negative. As a comparison, Easton and Pae (2004) find that the coefficient was significantly negative, hence in line with the prediction.

Table 9. Conservatism and the sign of returns: means of FMB regressions

Panel A: Good News firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
M1	551	Coef. *t-value*	.435 (12.49)**	.034(0.40)					-0.002
M2	530	Coef. *t-value*	.436 (13.47)**		.176 (2.82)**				-0.002
M3	530	Coef. *t-value*	.431 (12.01)**	-.224 (-1.14)	.332 (3.35)**				0.011
M4	530	Coef. *t-value*	.465 (12.21)**	-.235 (-0.96)	.306 (3.38)**	-1.288 (-3.13)**			0.013
M5	466	Coef. *t-value*	.450 (10.91)**	-.192 (-0.75)	.282 (3.87)**	-1.400 (-3.09)**	.028 (0.35)	.016 (0.49)	-0.014

Panel B: Bad News firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
M1	482	Coef. *t-value*	-.257 (-13.33)**	.269 (5.67)**					0.198
M2	440	Coef. *t-value*	-.297 (-17.95)**		.074 (2.25)*				0.014
M3	440	Coef. *t-value*	-.257 (-13.95)**	.297 (6.12)**	-.026 (-0.59)				0.014
M4	440	Coef. *t-value*	-.268 (-11.01)**	.285 (5.55)**	-.020 (-0.48)	.622 (1.36)			0.210
M5	395	Coef. *t-value*	-.261 (-8.88)**	.301 (3.74)**	-.063 (-0.96)	.736 (1.51)	.041 (1.45)	.002 (0.42)	0.119

Coefficients are means of annual regressions over the period 2010–2019, and t-values in parentheses are based on the standard error of the mean (Fama & MacBeth, 1973). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

Our findings suggests that unconditional conservatism is not present in either of the sub-samples, good and bad news firms.

The coefficient estimate on change in cash investments is not significant at the 0.05 level for either of the sub-samples. Furthermore, the coefficient estimate on change in cash investment for firms with good news is smaller than the estimate for firms with bad news. These findings differ from Easton and Pae (2004), who find the coefficient to be significantly positive for both sub-samples. Their findings suggests that accounting conservatism is associated with firms investing in positive net present value projects. Our findings, on the other hand, suggests that conditional conservatism is not present in either of the sub-samples, good and bad news firms.

The adjusted R^2 is negative for good news firms for both models M1 and M2 in Table 9, panel A. However, these numbers improve in models M3 and M4, suggesting that these models improve when adding changes in earnings and lagged dividends. In model M5, the adjusted R^2 is equal to -1.4%, implying that adding change in cash investments and change in lagged operating assets improves the model less than what is predicted by chance. As a comparison, Easton and Pae (2004) obtain an adjusted R^2 equal to 5.1% in their model M5, indicating that they obtain a higher explanatory relationship between the dependent variable and independent variables. Our findings, on the other hand, suggest that the coefficients are insufficient measurements for conservatism in this sub-sample.

The adjusted R^2 for bad news firms are positive in all models in Table 9, panel B. There is a decrease from model M1 to M2; however, when both coefficients are observed together, they stay at 1.4%. From model M3 to M4, there is an increase in the adjusted R^2 implying that lagged dividends enhance the model above what would have been obtained by chance. In contrast, the adjusted R^2 decreases from 21.0% to 11.9% in model M4 to M5. As a comparison, Easton and Pae's (2004) adjusted R^2 increases from 12.8% (in model M4) to 13.1% (in model M5). Our findings imply that adding change in cash investments and change in lagged operating assets improve the model less than what is predicted by chance. Therefore, our findings do not support the notion that the coefficients are

sufficient measurements for conservatism. It is, however, important to highlight that the model is better fitted for the sub-sample bad news firms than for the good news firms.

As the FMB regression involves estimating yearly cross-sectional regressions for the two different sub-samples (good news and bad news firms), it contains fewer observations. Thus, it is more difficult to find statistically significant associations. To control for fewer observations and its impact, we perform a pooled OLS regression with robust standard errors on the sub-samples (***Appendix 7***). When switching from FMB regression to pooled OLS regressions, findings show that the coefficient estimate on change in cash investments do not change significantly for either of the sub-samples. The coefficient estimate on change in lagged operating assets, on the other hand, is found to be statistically significant for good news firms. These findings suggest that the FMB regression might lack statistical power as the coefficient estimate on change in lagged operating assets changes from not statistically significant using FMB regressions to statistically significant using pooled OLS regressions with robust standard errors. Accordingly, the results from the pooled OLS regression find evidence in favor of our second hypothesis in the sub-sample good news firms.

5.6. Profit vs. Loss and Conservatism

To investigate the effects of losses on accounting conservatism, we divide the sample into profit and loss firms. This assumption is inspired by Hayn (1995), who focus on the news in earnings rather than the news in returns. His focus motivates an analysis of the returns/earnings relation for firms reporting losses compared with firms reporting profits.

Table 10, panel A reports that the coefficient estimate on earnings in the simple regression of returns on earnings for profit firms are significantly positive at the 0.05 level with a t-statistic equal to 6.62. These findings are consistent with Hayn (1995). Panel B of table 10 reports a significantly positive coefficient estimate with a t-statistic equal to 5.30 for loss firms. Moreover, the coefficient estimate on earnings changes is significant for both profit and loss firms. These findings are consistent with those in Easton and Pae (2004).

Table 10. Conservatism and the sign of earnings: means of FMB regressions

Panel A: Profit firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
M1	590	Coef. *t-value*	.108(2.25)*	.997 (6.62)**					0.066
M2	561	Coef. *t-value*	.214 (3.70)**		.274 (3.28)**				0.026
M3	561	Coef. *t-value*	.103 (1.89)*	1.154 (5.57)**	-.034 (-0.30)				0.077
M4	561	Coef. *t-value*	.107 (1.67)*	1.151 (5.58)**	-.056 (-0.50)	-.101 (-0.18)			0.077
M5	507	Coef. *t-value*	.081 (1.30)	1.248 (5.19)**	-.039 (-0.19)	.065 (0.12)	.162 (1.94)	.024 (0.81)	0.095

Panel B: Loss firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
M1	443	Coef. *t-value*	.007 (0.13)	.240 (5.30)**					0.017
M2	409	Coef. *t-value*	-.040 (-0.78)		.117 (2.22)*				0.003
M3	409	Coef. *t-value*	.007 (0.13)	.187 (3.40)**	.067 (1.21)				0.007
M4	409	Coef. *t-value*	.008 (0.17)	.197 (3.31)**	.063 (1.13)	-.697 (-0.87)			0.001
M5	354	Coef. *t-value*	.107 (0.83)	.787 (1.06)	.115 (0.92)	-.871 (-1.64)	.069 (0.62)	.019 (0.56)	0.133

Coefficients are means of annual regressions over the period 2010–2019, and t-values in parentheses are based on the standard error of the mean (Fama & MacBeth, 1973). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

In regression (3), the coefficient estimate on the change in lagged operating assets is not statistically significant for both profit and loss firms, with t-statistics equal to 0.81 and 0.56, respectively. These findings are consistent with Easton and Pae (2004), who find that the coefficient estimate on change in lagged operating assets is not statistically different from zero for either of the sub-samples. Thus, our findings suggest no difference in accounting conservatism related to the application of unconditional conservatism between profit and loss firms.

Moreover, the coefficient estimate on change in cash investments is not significantly different from zero for both profit and loss firms, with t-statistics equal to 1.94 and 0.62, respectively. As a comparison, Easton and Pae (2004) find that the coefficient estimate on change in cash investments is significantly positive for both profit and loss firms. Since we obtain values that are not statistically different from zero, we cannot conclude that cash investments are generally in positive net present value projects for both profit and loss firms.

The addition of change in cash investments and change in lagged operating assets for the profit firms increases the adjusted R^2 from 7.7% (in model M4) to 9.5% (in model M5). For the loss firms, the adjusted R^2 increases from 0.1% (in model M4) to 13.3% (in model M5). These findings are in line with the findings of Easton and Pae (2004), who find that the adjusted R^2 increases from model M4 to model M5 for both profit and loss firms. Therefore, our results suggest that the additional input variable adds value to the model. Further, it suggests that 9.5% and 13.3% of the variance in the dependent variable (return) is explained by the independent variables (earnings, earnings change, lagged dividends, change in cash investments, and change in lagged operating assets) in model M5.

As the FMB regression involves estimating yearly cross-sectional regressions for the two different sub-samples (profit and loss firms), it contains fewer observations. Thus, it is more difficult to find statistically significant associations. To control for fewer observations and its impact, we perform a pooled OLS regression with robust standard errors on the sub-samples (***Appendix 8***). When switching from FMB regressions to pooled OLS regressions, findings show that the coefficient estimate on change in cash investments do not change significantly for either of the sub-samples. The coefficient estimate on change in lagged

operating assets, on the other hand, is found to be statistically significant for good news firms. These findings suggest that the FMB regression might lack statistical power as the coefficient estimate on change in lagged operating assets changes from not statistically significant using FMB regressions to statistically significant using pooled OLS regressions with robust standard errors. Accordingly, the pooled OLS regression results find evidence in favor of our second hypothesis in the sub-sample profit firms.

6. Discussion

Previous research has shown that a positive coefficient on both change in cash investments and change in lagged operating assets captures accounting conservatism. Therefore, we add change in cash investments and change in lagged operating assets to the foundation of Easton and Harris' (1991) regression of returns on earnings and deflated earnings changes to capture both conditional and unconditional accounting conservatism in the Norwegian stock market. In both the entire sample and the sub-samples, we are not able to identify accounting conservatism associated with investments in positive net present value projects (conditional conservatism) and conservatism due to accounting rules (unconditional conservatism).

In general, we do not find pervasive evidence that change in cash investments provides significant incremental explanatory power for returns over earnings and earnings changes. The closest we get to a positive significant coefficient is for profit firms with a t-value equal to 1.94. Thus, the change in cash investments is not significantly different from zero in any of our six models. These findings are inconsistent with the findings of Easton and Pae (2004), who in general, find pervasive evidence that change in cash investments provides significant incremental explanatory power for returns over earnings and earnings changes. Their evidence is consistent with the notion that firms invest in positive net present value projects where the book value and earnings do not capture the value of the investment until later periods (Easton & Pae, 2004). However, we are not able to support this notion with our findings.

Further, we do not find pervasive evidence that change in lagged operating assets provides incremental explanatory power for returns over earnings and earnings changes. The change in lagged operating assets is not significantly different from zero in any of our six models. These findings are consistent with Easton and Pae (2004), who find that the explanatory power of change in lagged operating assets is, by no means, pervasive. However, they find evidence of unconditional accounting conservatism where the ratio of the market value of operating assets to the book value of operating assets are highest.

In contrast, we are only able to find evidence of unconditional conservatism in good news firms and profit firms when analyzing the data using a pooled OLS regression with robust standard errors. These findings suggest that the FMB regression might lack statistical power as the coefficient estimate on change in lagged operating assets changes when using an OLS regression with robust standard error for the two sub-samples, good news firms and profit firms.

Based on our findings, we are not able to identify trends in the adjusted R^2. The adjusted R^2 do only improve in some cases when we add change in cash investments and change in lagged operating assets. These findings indicate that that the coefficient estimates on earnings levels and earnings changes are not affected by accounting conservatism, and that change in cash investments and change in lagged operating assets decrease the explanatory power of the dependent variable (return).

As the overall findings suggest that conditional and unconditional conservatism is not present in our sample, we are not able to prove our hypotheses and find results consistent with Easton and Pae (2004). However, this might be due to the limitations of our study. Due to the fact that we have looked closer at Norwegian listed firms, we have used companies listed on Oslo Stock Exchange. Oslo Stock Exchange is a relatively small equity market with approximately 250 listed firms. Even though we have used both dead and active firms in our time period, the inclusion of other countries with more yearly observations could have given our study a different outcome. Moreover, the study could have gotten more inference and presumably found more significant coefficients. Our cross-sectional regressions have few observations ranging from 25 to 112 per year in the entire

sample, relative to international research. As small samples may inflict empirical results, our findings might have been affected by the relatively small sample used in this study.

Another limitation that might have affected our study is measurement bias. Measurement bias can occur for three reasons, which are deliberate distortion of data, changes in the way the data are collected and when the data collection technique did not truly measure the topic of interest (Saunders et al., 2019, p. 366). In our study, the second reason "changes in the way the data are collected" could be evident. This happen when the method of collecting data is altered (Saunders et al., 2019, p. 366). In our study, this could become evident as we select variables from Eikon Refinitiv, while they in Easton and Pae (2004) used Compustat CRSP. Even though we use the variables that we believe are the same as the ones used in Easton and Pae (2004), bias can occur. This is because Eikon Refinitiv only offers the variable per stock for some of our variables. Therefore, we had to multiply these variables with the number of outstanding shares. Moreover, Eikon Refinitiv offers multiple variations of the same variable, and for this reason we might have chosen a variation that contains less data than the other ones, thus increasing the possibility of measurement bias in our study.

A suggestion for future research is to study conditional and unconditional conservatism in several countries. By conducting research on multiple countries, the researcher would be able to generalize the findings across the borders. As this study focuses on Norwegian data, we are only able to generalize our results in relation to other countries and regions.

7. Conclusion

In this paper, the change in cash investments and the change in lagged operating assets are empirically evaluated as the measures of conditional and unconditional accounting conservatism in the regression of returns on earnings.

Accounting conservatism has been extensively studied the last decades. However, research on accounting conservatism in the Norwegian stock market has been limited. For this reason, we replicate a significant part of Easton and Pae (2004) to check if the previous findings apply to companies listed on the Oslo Stock

Exchange. Based on previous research, we expect to find evidence of conditional conservatism when analyzing the entire sample. In contrast, we expect to only find evidence of unconditional conservatism when analyzing sub-samples of the data.

Our results show that change in cash investment does not provide significant incremental explanatory power for returns over earnings and earnings changes. This is inconsistent with Easton and Pae (2004), who find that change in cash investments provides significant incremental explanatory power for returns over earnings and earnings changes. Furthermore, we do not find pervasive evidence that change in lagged operating assets provides incremental explanatory power for returns over earnings and earnings changes, which is consistent with the findings of Easton and Pae (2004). As a consequence, we are not able to prove our hypotheses, which state that a positive coefficient on change in cash investments and a positive coefficient on change in lagged operating assets capture conditional and unconditional accounting conservatism, respectively.

However, it is important to note that the results for the sub-samples of good news firms and profit firms changes when using an OLS regression with robust standard errors. This suggests that part of the missing significance might reflect the lack of statistical power under the FMB regression.

APPENDICES:

Appendix 1. Including comprehensive income other in net income
Count if COMP_OTH

#obs 198

Appendix 2. VIF

Variable	VIF	1/VIF
$EARN_t$	1.48	0.678
$\Delta EARN_t$	1.40	0.715
DIV_{t-1}	1.12	0.894
ΔCI_t	1.06	0.940
ΔOA_{t-1}	1.05	0.951
Mean VIF	1.22	

Appendix 3. Table 3 with Other Comprehensive Income in the earning variable

$$ret_{jt} = b_0 + b_1 \frac{x_{jt}}{MVE_{jt-1}} + b_2 \frac{\Delta\, x_{jt}}{MVE_{jt-1}} + b_3 \frac{d_{jt-1}}{MVE_{jt-1}} + b_4 \frac{\Delta\, ci_{jt}}{MVE_{jt-1}} + b_5 \frac{\Delta\, oa_{jt-1}}{MVE_{jt-1}} + \varepsilon_{jt}$$

Year	#obs	Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj R^2
2010	24	.178 (1.71)	1.455 (1.82)	-.605 (-1.15)	-1.581 (-1.01)	-.289 (-1.51)	.034 (0.86)	-0.001
2011	75	-.178 (-2.99)**	-.013 (-0.05)	.185 (0.92)	.397 (0.49)	.343 (1.92)	.013 (0.64)	0.013
2012	83	.175 (3.43)**	.361 (3.14)**	-.077 (-0.70)	-.473 (-0.55)	.169 (1.43)	-.074 (-1.84)	0.147
2013	84	.230 (2.69)**	.465 (1.79)	-.076 (-0.32)	-.013 (-0.01)	.091 (0.43)	.079 (1.98)*	0.040
2014	84	-.048 (-0.89)	.328 (2.20)*	-.117 (-0.68)	2.046 (1.07)	.031 (0.30)	-.027 (-0.87)	0.055
2015	86	.221 (2.19)*	.649 (2.46)*	-.127 (-0.48)	-1.382 (-0.52)	-.068 (-0.48)	.003 (0.10)	0.123
2016	98	.301 (4.02)**	.032 (0.39)	.147 (1.19)	-.596 (-0.52)	.210 (1.44)	.056 (1.69)	0.009
2017	107	.165 (2.80)**	.446 (2.28)*	.026 (0.25)	-.579 (-0.54)	-.090 (-0.82)	-.001 (-0.04)	0.020
2018	109	-.101 (-2.30)*	.554 (4.06)**	.166 (1.44)	1.098 (1.33)	.171 (1.89)	-.010 (-0.73)	0.187
2019	111	.336 (4.46)**	.002 (0.01)	.557 (1.90)	.031 (0.02)	.193 (0.84)	.063 (1.38)	0.076
Mean (t-values)		.128 (1.81)	.428 (1.70)	.008 (0.04)	-.105 (-0.08)	.076 (0.50)	.014 (0.43)	0.067

Coefficient estimates with t-statistics in parentheses. A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

Appendix 4. Table 4 with pooled OLS regression with robust standard error

$$ret_{jt} = \beta_0 + \beta_1 \frac{EARN_{jt}}{BVE_{jt-1}} + \beta_2 \frac{\Delta EARN_{jt}}{BVE_{jt-1}} + \beta_3 \frac{DIV_{jt-1}}{BVE_{jt-1}} + \beta_4 \frac{\Delta CI_{jt}}{BVE_{jt-1}} + \beta_5 \frac{\Delta OA_{jt-1}}{BVE_{jt-1}} + \varepsilon_{jt}$$

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
M1	1033	Coef. *t-value*	.133 (7.75)**	.432(8.21)**					0.078
M2	970	Coef. *t-value*	.116 (6.38)**		.204 (4.33)**				0.025
M3	970	Coef. *t-value*	.144 (8.10)**	.415 (7.17)**	.035 (0.86)				0.082
M4	970	Coef. *t-value*	.134 (6.23)**	.410 (6.99)**	.039 (0.94)	.372 (1.02)			0.083
M5	861	Coef. *t-value*	.134 (5.53)**	.393 (6.40)**	.018 (0.37)	.093 (0.23)	-.005 (-0.09)	.018 (1.72)	0.079

Coefficient estimates with t-statistics in parentheses. A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

Appendix 5. Table 5 with Fama and Macbeth regression

		V/oa							
Decile	#obs	Median	Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	Adj.R^2
1	85	.524	-.023 (-0.22)	.310 (1.06)	-.582 (-1.03)	-7.448 (-1.06)	-.413 (-1.25)	-.128 (0.81)	-0.349
2	86	.776	-.227 (-2.74)**	1.105 (1.34)	-.422 (-0.71)	2.033 (2.12)*	-.082 (-0.37)	.031 (0.79)	-0.190
3	90	.887	3.631 (0.96)	5.189 (1.02)	-5.165 (-1.03)	-168.560(-0.99)	-2.373 (-0.85)	.923 (1.04)	0.017
4	85	.973	-.022 (-0.22)	.324 (0.59)	.494 (0.96)	.494 (0.36)	.119 (0.66)	-.044 (-0.73)	0.549
5	82	1.133	-.021 (-0.15)	-1.531 (-0.69)	.631 (0.55)	9.995 (1.82)	-.407 (-0.50)	-.074 (-0.56)	0.287
6	94	1.341	-.218 (-1.03)	2.054 (1.47)	-2.55 (-0.41)	4.209 (2.47)*	-.909 (-0.54)	.031 (0.13)	0.483
7	85	1.665	-.114 (-1.19)	2.763 (2.24)*	-.291 (-0.47)	1.473 (1.64)	1.167 (1.46)	0.176 (1.20)	0.645
8	84	2.133	.032 (0.25)	2.549 (1.71)	.769 (0.66)	2.380 (1.18)	-.202 (-0.32)	.064 (0.62)	0.595
9	86	3.340	.191 (3.12)**	1.672 (1.27)	2.993 (1.92)	-2.753 (-0.97)	.744 (0.38)	.164 (0.42)	0.710
10	83	10.899	.477 (3.29)**	1.382 (1.85)	-3.308 (-1.49)	2.887 (0.54)	6.439 (0.85)	1.490 (1.58)	-.220

Coefficients are means of annual regressions over the period 2010–2019, and t-values in parentheses are based on the standard error of the mean (Fama & MacBeth, 1973). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

Appendix 6. Table 8 with Fama and Macbeth regression

Industry	#obs	Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
Agriculture	17	.299 (1.62)	0 (omitted)	0 (omitted)	0 (omitted)	.099 (1)	-.142 (-1.07)	1.00
Construction	36	.171 (1.16)	1.249 (0.97)	-.148 (-1.34)	-.161 (-0.43)	.404 (0.47.)	-.389 (-1.44)	1.00
Information	42	.216 (1.00)	2.289 (3.03)**	-.084 (-0.73)	3.112 (0.71)	-2.153 (-0.66)	.365 (0.69)	1.00
Manufacturing	240	.225 (2.11)*	1.309 (2.41)*	-.778 (-1.18)	-4.396 (-1.13)	.200 (0.78)	.099 (1.72)	0.288
Mining	189	.101 (1.04)	.238 (0.93)	-.045 (-0.15)	-.817 (-1.12)	.114 (2.01)*	-.046 (-1.83)	-0.102
Other	149	.223 (3.07)**	.700 (1.92)	-.185 (-0.69)	-3.756 (-1.79)	.615 (1.65)	.045 (1.44)	0.280
Professional	66	.494 (1.23)	-.458 (-0.22)	.344 (1.12)	-2.479 (-0.64)	.664 (0.40)	.639 (1.14)	0.435
Real Estate	26	-.072 (-0.84)	.127 (0.20)	-.315 (-1.55)	0 (omitted)	-.136 (-1.00)	-.138 (-0.60)	1.00
Retail Trade	13	.197 (3.09)**	.228 (1.00)	0 (omitted)	-.204 (-1.00)	0 (omitted)	-.268 (-0.84)	1.00
Transportation	60	-.040 (-0.32)	1.870 (1.24)	-.091 (-0.14)	-3.681 (-0.99)	0.545 (1.40)	-.027 (-0.40)	0.541
Wholesale Trade	23	.035 (0.45)	0 (omitted)	.140 (0.40)	0 (omitted)	.296 (1.00)	-.171 (-0.93)	1.00

Coefficients are means of annual regressions over the period 2010–2019, and t-values in parentheses are based on the standard error of the mean (Fama & MacBeth, 1973). A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

Appendix 7. Table 9 with pooled OLS regressions with robust standard error

Panel A: Good News firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
M1	551	Coef. *t-value*	.462 (20.46)**	.054 (0.73)					0.001
M2	530	Coef. *t-value*	.459 (20.36)**		.176 (3.13)**				0.016
M3	530	Coef. *t-value*	.460 (20.32)**	-.070 (-0.79)	.205 (3.05)**				0.017
M4	530	Coef. *t-value*	.475 (16.49)**	-.064 (-0.71)	.198 (2.84)**	-.486 (-1.20)			0.020
M5	466	Coef. *t-value*	.485 (14.58)**	-.100 (-1.04)	.211 (2.20)*	-1.059 (-2.17)*	.051 (0.54)	.044 (2.62)**	0.046

Panel B: Bad News firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
M1	482	Coef. *t-value*	-.269 (-27.50)**	.217 (7.36)**					0.156
M2	440	Coef. *t-value*	-.304 (-27.92)**		.067 (2.36)*				0.023
M3	440	Coef. *t-value*	-.269 (-26.15)**	.215 (6.71)**	-.026 (-0.42)				0.152
M4	440	Coef. *t-value*	-.273 (-24.28)**	.213 (6.63)**	-.010 (-0.38)	.161 (0.66)			0.153
M5	395	Coef. *t-value*	-.281 (-23.15)**	.186 (5.60)**	0.008 (0.26)	.222 (0.77)	.042 (1.91)	-0.007 (-1.70)	0.151

Coefficient estimates with t-statistics in parentheses. A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

Appendix 8. Table 10 with pooled OLS regression with robust standard error

Panel A: Profit firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
M1	590	Coef. *t-value*	.111(4.05)**	1.076 (4.72)**					0.077
M2	561	Coef. *t-value*	.227 (10.88)**		.255 (3.37)**				0.023
M3	561	Coef. *t-value*	.114 (3.84)**	1.132 (4.44)**	-.017 (-0.21)				0.081
M4	561	Coef. *t-value*	.107 (3.12)**	1.127 (4.43)**	-.013 (-0.16)	.242 (0.62)			0.082
M5	507	Coef. *t-value*	.113 (2.90)**	1.041 (3.53)**	0.22 (0.21)	.348 (0.74)	.126 (1.39)	.040 (2.77)**	0.093

Panel B: Loss firms

Model	#obs		Int	$EARN_t$	$\Delta EARN_t$	DIV_{t-1}	ΔCI_t	ΔOA_{t-1}	R^2
M1	443	Coef. *t-value*	-.002 (-0.05)	.208 (4.06)**					0.024
M2	409	Coef. *t-value*	-.048 (-1.57)		.111 (2.25)*				0.011
M3	409	Coef. *t-value*	.005 (0.13)	.187 (2.89)**	.041 (0.79)				0.026
M4	409	Coef. *t-value*	.002 (0.06)	.187 (2.90)**	.041 (0.80)	0.148 (0.26)			0.027
M5	354	Coef. *t-value*	-.007 (-0.16)	.174 (2.53)*	.018 (0.31)	-.402 (-0.85)	-0.62 -(0.81)	.008 (0.60)	0.027

Coefficient estimates with t-statistics in parentheses. A value over 1.96 and 2.576 implies statistical significance on the 0.05 and the 0.01 confidence level, respectively. The statistically significant coefficients (on the 0.05 confidence level) are marked by *, while the statistically significant coefficients (on the 0.01 confidence level) are marked by **.

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Preliminary Thesis

Preface

During our first year on our master's degree in Accounting and Business Control, we have had courses such as Business Analysis and Valuation, Management Control and Financial Accounting and Taxation. In these courses, we were introduced to how we can evaluate the financing requirements of firms, as well as value possible investments opportunities, prepare financial statements and interpret financial information for managerial decision making. Through lectures and conversations with fellow students and lecturers, we have discussed assorted topics within and outside our syllabus, such as accounting conservatism.

We found this topic interesting, as it has defined how accountants today do their work. Moreover, accounting conservatism affects all companies, as it regulates firm characteristics and stock returns of the stakeholders. We for this reason chose to look closer at the relationship between accounting conservatism, financial reporting, and stock returns.

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1. Introduction

The financial statement is of high importance, as it is, among other things, used to predict unusual circumstances in companies. Such unusual circumstances can be bankruptcies, accounting scandals, takeovers, and asset revaluations. The purpose of financial statements is to provide classified information to a wide range of users, so that the users can base their economic decision making on the provided information. When analyzing and evaluating financial statements, the concept of conservatism is of great importance. Accounting conservatism can be defined as "accounting policies or tendencies that result in the downward bias of accounting net assets value relative to economic net asset value" (Ruch & Taylor, 2015). Conservatism is one of the most fundamental features of accounting information, dating back centuries (Basu, 1997). Moreover, the most common types of accounting conservatism in the literature are referred to as conditional and unconditional conservatism. In our master thesis, one of the aims is to investigate accounting conservatism using a robust set of data collected from the recent years before corona to get insight in the effect of accounting requirements on financial reporting (Xia et al., 2019). We will study how accounting conservatism affects the relations between stock returns and accounting variables in Norwegian Listed firms. In this case, conditional conservatism will be captured by a positive coefficient on changes in cash investments. This type of conservatism is associated with investments in positive present net value projects in a price earnings regression framework, where the effect of conditional conservatism will not be reflected in the financial statement until the expected future benefits is realized. The other type of conservatism, unconditional conservatism, will be captured with a positive coefficient on the change in lagged operating assets (Xia et al., 2019). This type is associated with the application of accounting regulations on operating assets in place. To capture conditional conservatism, we will add new cash investments to the price model and the change in cash investments to the earnings-return regression estimate. Unconditional conservatism, on the other hand, is captured by adding lagged operating assets to the pricing model, and the deflated lagged change in operating assets to the earnings-return regression model.

2. Accounting conservatism

2.1. Alternative definitions of conservatism

There are several definitions of conservative accounting. The most known definition is by Basu (1997), which stated that conservatism is expressed by the rule "anticipate no profits but anticipate all losses". Namely, that in practice you reduce earnings and write down net assets in response to "bad news", but do not increase earnings and writing up net asset in response to "good news" (Penman & Zhang, 2002). For instance, International Financial Reporting Standards (IFRS) (IFRS nr. 13) states: "...if two estimates of amounts to be received or paid in the future are about equally likely, dictates using the less optimistic estimate" (KPMG, 2020). Additionally, you recognize changes in cost estimates if they result in future expected losses on long term contracts immediately, but not if they result in increased future profit. Therefore, it appears an asymmetric recognition of the expected future results of discontinued operations and the write down of physical assets to reflect obsolescence or impairments, but not revaluing them upwards. Hence, conservatism results in a greater probability of timely accounting recognition of bad news than good news (Basu, 1997).

In contrast, some interpret conservatism more broadly as accountants' preference for accounting methods that lead to lower reported values for shareholders equity. For instance, Belkaoui (1985, p. 239) argues that conservatism "implies that preferably the lowest values of assets and revenues and the highest values of liabilities and expenses should be reported". At a conceptual level, the Statement of Financial Accounting Concept (SFAC) eliminate this alternative view and states that conservatism do not require deferring recognition of income beyond the time that adequate evidence of its existence becomes available or justifies recognizing losses before there is adequate evidence that they have been incurred. This viewpoint of conservatism also looks inconsistent with accounting practice. For instant, most Norwegian firms uses straight line rather than accelerated depreciation. Moreover, we will conduct tests on the income statement, specific on earnings (Stober, 1998). This is mainly because conservatism in the balance sheet is of dubious value.

2.2. Development throughout the years

Accounting conservatism have influenced the practice and theory of accounting for centuries, it is however hard to explain the origins of the topic. The first records of accounting conservatism was, according to Basu (1997), found in trading partnerships in the early 15th century. They found that managers often possess valuable information about a company's operations and asset values, and that they, given their compensation was linked to reported earnings, will have an incentive to withhold information that would affect the reported earnings, thus their compensation. Thus, the conservatism principle and the preparation of audited financial statements can be used in order to prevent managers from hedging against their asymmetrically informed position relative to other claim holders. Consequently, debtholders and other creditors have requested to get timely information about "bad economic news", as the option value of their claims is more sensitive to a decrease than a growth in firm value.

Basu (1997) for this reason argues that conservatism play a more ex ante role in contracting between the parties constituting the firm. This means that if accounting were not regulated, contracting parties would agree that the accounting numbers used to partition cash flows amongst them should be determined conservatively. However, in their paper, Ruch and Taylor (2015) found that there are two types of conservatism.

The two types of conservatism is conditional conservatism and unconditional conservatism. Ruch and Taylor (2015) found the primary difference between the two forms to be that the application of conditional conservatism depends on economic news events, whilst the application of unconditional conservatism does not.

When using conditional conservatism, the company recognizes negative economic new in accounting earnings in a timelier manner than positive economic news. This implies that in conditional conservatism, accounting does not record payoffs from positive net present value project until the respective future sales are realized (Xia et al., 2019). Thus, there is an asymmetric recognition between positive and negative economic news.

Unconditional conservatism, on the other hand, is when a company consistently under-recognize the accounting of net assets. This implies that the impact of accounting regulations might lead to an understatement of book value and accounting earnings in the prior periods, current period, and future period. This type of conservatism does not depend on economic news events, like conditional conservatism does (Xia et al., 2019). Thus, it is important to distinguish the differences between the two types.

In their study, Ruch and Taylor (2015) found three reasons why it is important to distinguish between conditional and unconditional conservatism. The first reason is that the two types of conservatism have different effects on the financial statements. The use of unconditional conservatism will have a relatively consistent impact on the income statement from period to period, whilst the use of conditional conservatism will lead to transitory income statements due to fluctuations in the content and timing of economic news. On the balance sheet of a company, both types will lead to understated net assets. However, the two types have a different effect on the timing of income statement recognition, thus different effects on the timing of balance sheet recognition.

Secondly, research have shown that the application of one type of conservatism affects the application of the other type. In their research, Beaver and Ryan (2005) found that unconditional conservatism creates “accounting slack” that may preempt the application of conditional conservatism.

Lastly, the conditions that gave rise to conditional conservatism might differ from those of unconditional conservatism. In his study, Qiang (2007) found that conditional conservatism arises where contracting and litigation costs are high, whilst unconditional conservatism arises when litigation, regulatory and tax costs are high.

3. Effect of conservatism on financial statement users

In this section we will elaborate on how accounting conservatism affects financial statements users in equity markets, debt markets, and corporate governance settings. For financial statements users the financial accounting information is relevant if it provides predictive and/or confirmatory value. We presume that the

predictive and/or confirmatory information rely on the outcome financial statement users are attempting to predict and/or confirm. Considering this, it is natural to assume the equity market users are sourcing for information that is relevant from a valuation perspective, while debt market and corporate governance users are interested in information that is relevant from the contracting perspective.

3.1. Equity market users

Equity market users can be defined as investors and analysts, and we will in this section elaborate on how accounting conservatism affects the quality of accounting information provided to these users (Ruch & Taylor, 2015). Information quality in terms of decision usefulness for investors and analysts can be divided into two groups, *value relevance* and *information asymmetry*. The first dimension, *value relevance*, refers to the extent to which accounting information has predictive or/and confirmatory value to the decisions of equity market users (Ruch & Taylor, 2015). Timely loss recognition provides information that is more value relevant, which is a result of using conditional conservatism as it results in greater association between earning and return when the economic news is bad (Ruch & Taylor, 2015). However, conditional conservatism also causes lower association between earnings and returns when the economic news is good, which indicates that deferred gain recognition provides information that is less value relevant. Unconditional conservatism, on the other hand, might reduce value relevance by omitting information that is useful when assessing the firms value (Ruch & Taylor, 2015). For instance, R&D expenses could provide future benefits to the firm in form of future sales. However, the current expenses of R&D are, under conservative accounting, capitalized as expenses, and the future benefits of the investment are ignored.

There has been a discussion between researchers whether a high contemporaneous association between accounting information and stock market information should be considered as a desirable trait of accounting information (Ruch & Taylor, 2015). In their article on financial accounting standard setting, Holthausen and Watts (2001) found that measuring value relevance do not provide value in assessing the quality of accounting information, since accounting information has

uses beyond equity valuation. However, Barth et al. (2001) argues that value relevance is one trait among many that can be used to assess information quality. In their research, value relevance serves as one of many implications to consider in assessing the qualities of conservatism and it appears that it is important to evaluate the effect of conservatism on value relevance when trying to understand the effect of conservatism on equity users. However, it is important to underline that the value relevance might only be a desired attribution of accounting from the valuation perspective and not essentially from the contracting perspective.

In general, accounting research has given indirect evidence that conservatism might affect value relevance. In their article on systematic changes in the value-relevance of earning and book values over time, Collins et al. (1997) argue that the decline in value relevance of earnings can be explained by temporary increases in intangible assets intensity, increase in the incidence of nonrecurring changes in earnings, and increases in the incidence of negative earnings. The study contains two implications for conservatism, where the first one implies that an increase in intangible assets intensity increase unconditional conservatism. Second, the increase in nonrecurring changes in earnings implies an increase in conditional conservatism. Moreover, in the research done by Lev and Zarowin (1999), they found that firms with increasing R&D intensity, also has a decline in value relevance. On the other hand, in the research done by Francis and Schipper (1999) they were not able to prove that the decline in value relevance for high-technology firms is superior to the decline for low-technology firms.

The second dimension of information quality is, as mentioned earlier, information asymmetry which occurs when the management has confidential information that is relevant for investors and analysts when evaluating future firm performance. When this confidential information is shared with the investors and analyst, the information asymmetry is alleviated, and the information is of greater quality. Taken this into consideration, accounting conservatism improves information quality if it alleviates information asymmetry and impairs information quality if it exacerbates information asymmetry. Therefore, information asymmetry is decreased when it is provided more information than less. Consequently, timely loss recognition is assumed to decrease information asymmetry, while deferred gain recognition is assumed to increase information asymmetry by withholding

information about future gains (Ruch & Taylor, 2015). Since unconditional conservatism withhold information related to the value of the firm, it might increase information asymmetry.

Research conducted by LaFond and Watts (2008) indicate that the timely reporting of bad news acts as a substitute for voluntary discourse. This is proven by a negative association between voluntary disclosure and accounting conservatism. Furthermore, they find that conservatism decrease the need to disclose bad economic news.

Additionally, since one of accounting conservatism abilities is to alleviate information asymmetry, one study committed by Francis et al. (2013) have shown that it leads to mitigating negative market reactions when it occurs bad economic events. Francis et al. (2013) studied several firms during the financial crisis and found that there is a positive relationship between measures of conditional and unconditional conservatism and abnormal stock returns during that period. This implies that firms exhibiting more conservatism prior to the financial crisis experienced smaller losses during the financial crisis, compared to firms exhibiting less conservatism prior to the financial crisis.

There are many studies on the effect of accounting conservatism on equity market users. Overall, research shows that conditional conservatism alleviates information asymmetry, implies that it improves information quality on the information asymmetry dimension. Conditional conservatism is also proven to mitigating the negative market response to bad news economic events.

3.2. Debt market users

Debt market users are also affected by accounting conservatism, as it affects the information quality in the debt contracting setting. Debt market users is referred to as lenders and borrowers of the firm (Ruch & Taylor, 2015). Just as with equity market users, two of the most important aspects of information quality are the relevance of accounting information to lending decisions and the presence of information asymmetry. Accounting information is assumed to have high quality if it is relevant to lending decisions and decreases information asymmetry between lenders and borrowers (Ruch & Taylor, 2015).

In the first part of his two-part series on conservatism in accounting, Watts (2003) theorizes that information about the borrower's losses is more relevant to lenders, than information about their gains, as the upside to the lender is capped at the contractual interest payments. In this theory, relevant information to lenders is set through conditional conservatism in the form of asymmetric timeliness. Unconditional conservatism, on the other hand, gives the "worst-case scenario" to lenders, as it limits the accounting recognition of certain unverifiable portions of economic value.

Ahmed et al. (2002) found that accounting conservatism reduces bondholder-shareholder conflict and debt-cost of capital. This was because bondholders would accept a lower interest rate if conservative accounting, any type, could restrain the overpayment of dividends to shareholders. Thus, conservatism is positively associated with the conflict between bondholders and shareholders and negatively associated with the debt cost of capital.

However, in their study, Gigler et al. (2009) challenge the notion that conservatism results in efficient debt contracting. They define an optimal debt contract as "one that minimizes costs arising from decision errors due to false alarms and decisions errors due to undue optimism" (Gigler et al., 2009). According to their model, conservatism decreases the probability of undue optimism but increases the probability of a false alarm. Thus, the degree to which accounting conservatism enhances the efficiency of debt contracts depends on which effect dominates. On the other hand, there does not seem to be any study that has empirically tested this model, thus leading to the conclusion that research on debt market users supports the notion that conservatism benefits both lenders and borrowers in debt contracting situations.

3.3. Corporate governance users

Corporate governance can, in a perspective of accounting conservatism, be seen as a mechanism that shareholders use to investigate the firm management to decline agency costs. Corporate governance is defined as shareholders, which includes the board of directors and management. In this case, accounting information is of high quality if it is relevant to corporate governance decisions, as well as mitigates information asymmetry between shareholders and the firm's management. In this

section, we will investigate if conservatism provide information that assists shareholders in monitoring the management of the firm.

To align the incentives to the management and shareholders, it is effective to align their incentives. The incentives are determined by the management compensation incentives, where accounting conservatism effect the management compensation in two possible ways. Firstly, conservatism protects the shareholders against overcompensating the management. Secondly, compensation incentives based on conservatively reported earnings are more likely to assist the management to make better investment decisions (Ruch & Taylor, 2015). This is mainly because conditional conservatism leads to a timely recognition of losses, which gives the management incentives to throw away negative net present value (NPV) projects in a timely manner. In addition, the high verifiability to recognize the profit gives the management incentives to push positive NPV project to the point where they can be recognized in accounting, and later reflected in their compensation.

Since Ruch and Taylor (2015) assume that conservative accounting of earnings will reflect an alignment of incentives between shareholders and the management, given that accounting conservatism is of high quality to shareholders, it is expected that accounting of earnings is a significant determinant of management compensation. Moreover, they assume that the compensation incentives will result in better investment decisions by firm management in the presence of conservatism than in the absence of conservatism.

Research done by Ahmed and Duellman (2007) on accounting conservatism and board of directors shows that conditional and unconditional conservatism are positively associated with the percentage of outside directors' shareholdings and negatively linked to the percentage of inside directors in the board. This result provides evidence that conservatism is related with more independence on the board of directors, hence reducing agency costs and improve corporate governance. Furthermore, research done by García Lara et al. (2009) on accounting conservatism and corporate governance shows that firms with strong corporate governance present higher levels of conditional conservatism. These studies provide evidence that conservatism is an important aspect of effectively monitoring the management of the firm.

4. Effect of Conservatism and investment on rates of return

The effect of conservative accounting on accounting rates of return is proved to have no effect on rate of return if the net assets do not change over a period (Penman & Zhang, 2002). This is due to the fact, that earnings will not change during accelerated depreciation or straight-line depreciation if the property, plant, and equipment stays constant over the period. As conservative accounting carries assets in the lowest amount, the rate of return is higher than expected. However, Greenball (1969) finds that when conservative accounting interacts with growth, the rates of returns is lower than in the no-growth cases. This is mainly because the conservative accounting reduces the earnings when there is growth in the net assets. Beaver and Ryan (2000) illustrates the interaction between conservatism and growth in a model, where they evaluate it in a context of valuation.

In general, it is not the effect of conservatism and growth on accounting rate of returns that is concerning, but the effect of the interaction between conservatism and *changes* in growth. For instance, if one firm is expecting a maintain of growth in the net asset at the current level, then the expected future rate of return will be the same as the current rate of return. In contrast, if the management reduce the investment in assets that are subject to conservative accounting, the firms rate of return will increase. If the reduction of the investments is temporary, then the increase in the rate of return will also be temporary. As a result of this, the current rate of return will not be a good indicator of future rates of returns.

5. Presentation of knowledge gap and research question

In our paper, we will extent the work done by Easton and Harris (1991) by including two new measures of accounting conservatism to the regression analysis of returns on earnings and earnings changes. These two types of accounting conservatism, namely conditional and unconditional conservatism, can be captured by the changes in cash investments and the lagged operating assets (Easton & Pae, 2004). These two types of conservatism are comprehensively used by several papers and various metrics have been created in the previous literature. However, through our literature review we did not come across any research on accounting conservatism in Norwegian listed firms. We will for this reason fill this knowledge gap through our thesis.

In our thesis, we plan to include heteroscedasticity robust standard errors, which will lead to a contribution towards a more theoretical correct approach in the research of accounting conservatism and corporate governance. For this reason, our research question is:

"What is the relation between accounting conservatism, financial reporting, and stock returns in Norwegian listed firms?".

Furthermore, both conditional and unconditional conservatism will be evaluated, where conditional is where the net present value of future cash flows is not fully reflected and unconditional is when the book value of operating assets might be understated. Conditional conservatism is news based as it depends on the future, while unconditional is not. In our thesis we will acknowledge previous and literature as the basis of our analysis, but we will provide analysis of differences compared to the previous research as we focus on conditional and unconditional conservatism in Norwegian listed firms.

6. Methodology

We will add changes in cash investments and changes in lagged operating assets to the regression of returns on earnings and earnings changes to capture the two types of accounting conservatism. In this case, a positive coefficient on change in cash investments on Norwegian listed firms, will capture conditional conservatism, as well as relating positive NPV projects to the financial statements after the expected future benefits are realized (Xia et al., 2019). Moreover, we will try to extend the regression of returns on earnings and deflated earnings changes model by estimating a regression that will express price as a linear function of the book value and earnings (Easton & Harris, 1991). This is done to identify the role of conservative accounting in Norwegian listed firm's financial statement.

7. Data collection

The data used for our empirical analysis includes Bloomberg stock database and annual firm-year observations on listed firms in Norway for the time period of January 2002 to December 2019 fiscal years for the following variables of analysis:

- Stock Return
- Comprehensive income
- Dividends
- Operating assets
- Book value of equity
- Financial assets
- Cash investments
- The market value of equity
- The ratio of the market value of operating assets to the book value of operating assets.

In this paper, the measurement of accounting conservatism is dependent on the year when the data is gathered as well as various other firm specific factors.

Limitations:
Data on listed firms in Norway, will cause a selection bias towards larger firms in Norway, limiting the generalizability of the results.

8. Progress plan

In order to fill the presented knowledge gap, we have developed a progress plan for our thesis (APPENDIX 1). We have planned to start working on the introduction, prior research, and the development of our thesis after delivering this preliminary thesis. This is planned to be finished by the end of February. We will then deliver our work to our supervisor for review.

While our supervisor is reviewing our work, we will start collecting our data from Bloomberg. After collecting this data, we will clean the data set, in order to avoid having too much noise when analyzing the data. Analyzation of the data will start in the beginning of April, and we hope to have finished this analysis by the 15th of April. We will then start to write about the how we have collected data, as well as

the method we have used in order to analyze it. When we have finished this, we will deliver this part of the thesis for review.

After delivering “Methods and data collection” for review in the beginning of May, we will start to write our empirical results. These results will be based on what we have found when we analyzed the data. In addition, we will also start writing on the discussion and conclusion part of the thesis in the beginning of May. We hope to finish this part by the end of May.

After finishing all parts, we hope to use all of June to review our thesis. We are aware of that this schedule is very tight, but we have put in 15 days of slack in June. This means that if some of the parts of the thesis writing takes more time than we planned, we can use a total of 15 extra days on the various parts. This can be done, as we plan to edit our thesis a lot while we are writing and getting feedback from our supervisor.

Appendices:

APPENDIX 1:

Date to be finish	**Activity**
01.01.22 – 15.01.22	Formulate hypotheses and write preliminary
17.01.22	Deliver preliminary
15.01.22 – 28.02.22	Write “Introduction, Prior research and development of hypotheses”
01.03.22 – 31.03.22	Collect data and finish the dataset
01.04.22 – 15.04.22	Analyzing the dataset
16.04.22 – 01.05.22	Write about “Methods and data collection”
01.05.22	Deliver for review
01.05.22 – 15.05.22	Write about “Empirical results”
15.05.22	Deliver for review
01.05.22-31.05.22	Write “Discussion and conclusion”
01.06.22-31.06.22	Review.

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