MASTER'S THESIS

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Earnings management using classification shifting: Are pro forma earnings and debt explanatory factors?

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Foreword

This master thesis marks the end of an Master's degree in Accounting and Auditing at Nord University. The main paper is written as a scientific article, with a summary article enclosed. Writing about earnings management has been both challenging and demanding, but at the same time very educational. The motivation for doing writing about this subject has been twofold. First, I wanted to write a quantitative paper, and from a accounting and auditing perspective this topic is an excellent choice. Second as there is little literature covering this topic, especially in a Norwegian context, I hope my findings could contribute to the field of earnings management.

I would like to thank my supervisor Frode Kjærland for his critical judgment and helpful discussion throughout the whole process. I would also thank Oleg Nenadić for his computational help and help on technical programming issues in "R." Last but not least, I would like to thank John-Erik Rønning for his critical views and comments on alternative performance measures.

As publishing journal I have chosen *Journal of International Accounting, Auditing and Taxation*, the scientific article is written according to their guidelines[1]. Their guidelines is enclosed in the appendix.

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[1] https://www.elsevier.com/journals/journal-of-international-accounting-auditing-and-taxation/1061-9518/guide-for-authors

1.0 Introduction

Earnings management could be described as when a manager alters the financial report of a firm to portray a better picture of it. There are several factors which could be motivating managers to do this, but Healy & Wahlen (1999) finds that misleading stakeholders or influencing contractual outcomes are the most common ones. Managing earnings could be done through different techniques but the literature discusses mainly three different methods, namely: Accrual-based (Jones, 1991), real earnings management (Roychowdhury, 2006) and classification shifting (McVay, 2006)

Classification shifting is a fairly new and little researched topic in the earnings management field. The methodology for investigating classification shifting was developed by McVay (2006), and her model has in the later years been modified by both Athanasakou et al. (2009) and Fan et al. (2010). The method examines if firms shifts expenses from recurring to non-recurring items in the financial statement, with the result of core earnings being increased. The main benefits for using this method on the contrary to both accrual-based and real earnings management methods, is among others that it leaves the net income unchanged. In addition it's not mean reverting like accrual-based methods are. This makes it harder for the users and auditors of the financial report to detect.

As classification shifting increases core earnings it will at the same time increase the alternative performance measures that relies on core earnings, such as earnings before interest taxes depreciation and amortization (EBITDA). Reporting of alternative performance measures have in the later years become more widely used in the financial reporting, and has shown to have a valuation effect (Bhattacharya et al., 2004; Bradshaw & Sloan, 2002; Doyle et al., 2003). As some of these alternative performance measures are based upon core earnings, it seems highly relevant to investigate whether or not an extensive use of such measures is related to expense shifting or not. Increasing core earnings and at the same time highlighting them through the use of alternative performance measures, could take the user's attention away from a worse net income result. The main objective of this paper is therefore to see if firms that tend to give prominence to alternative performance measures in their financial statements make use of classification shifting. As it turns out that firms who give prominence to alternative performance measures in their financial statements often are more leveraged (Lougee & Marquardt, 2004), this relationship is also researched in this paper. I also see how different debt levels acts as a motivation for firms to shift expenses.

A study that combines these factors together might be interesting due to several factors. First it might be an indication that IFRS is too flexible and relies too much on managerial judgment. Second it might be an indication for that alternative performance measure should be regulated. Third as some debt covenants are based upon alternative performance measures, e.g. EBITDA it could act as a cautionary tale for creditors to reconsider the use of such covenants. Fourth it could also be a red flag for shareholders who most likely will buy an overvalued company if classification shifting techniques is used.

This has led to the following research questions:

To what extend do firms who give prominence to alternative performance measures engage in classification shifting of expenses?

Are firms who give prominence to alternative performance measures more leveraged, and to what extend do different debt ratios affect firms decision to engage in classification shifting of expenses?

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To investigate this I use a Norwegian context, mostly because of its strong institutional environment and investor protection (Hope et al., 2009). Earnings management are according to An et al. (2016) more pronounced in weaker institutional environments, making eventual results transferable to regions with weaker institutional environments. Fan et al. (2012) shows that a firms capital structure is highly influenced by the institutional environment of the firm's location. Firms located in strong institutional environments are often less leveraged, however Norwegian companies are one of the most leveraged countries in their research sample. This makes a Norwegian context particularly relevant. My sample consists of 117 firms *continuously* listed on the Oslo Stock Exchange in the period 2014 - 2019, adding up to 585 firm years.

The results shows that there exsist a positive and significant relationship between unexpected core earnings and non-recurring expenses, which means that Norwegian firms do see classification shifting as a viable earnings management method. When including the interaction between alternative performance measures and non-recurring expenses this relationship gets stronger. This points towards that firms who give prominence to alternative performance measures in their financial statements are unequivocally motivated to shift expenses. Motivated by Thanh et al. (2020), who finds different threshold levels on different debt ratios and classification shifting, my results confirms that these threshold levels are to some extend valid in this context as well. High financial debt motivates firms to shift expenses while low total debt provides similar results, however modest in comparison to the financial debt. I do however not find any evidence that points towards the fact that firms who tend to give prominence to alternative performance measures in their financial statements are higher leveraged.

In the next section I present the theoretical perspectives used in this research, followed by the methods. The scientific article follows afterwards.

2.0 Theory

In this section theoretical aspects regarding earnings management, including classification shifting are described. The fundamental aspect that enables earnings management, the agency theory (Jensen & Meckling, 1976) as well as the principle based IFRS is described first. Second the theory behind earnings management, starting with the traditional accrual-based and real earnings management methods are introduced, before explaining the rationale behind classification shifting as first described by McVay (2006). Furthermore, theoretical aspects that motivates firms management to engage in such techniques are discussed. Lastly the lack of decision usefulness of alternative performance measures is discussed.

2.1 Agency theory

Agency theory was first introduced by Jensen & Meckling (1976) and explains the relationship between a principal and an agent, and how they might have conflicting interests. Since both parts has fundamentally the same goal as to maximize their own value, there might be a situation where the interest of the two parts are diverging. The principal, or the shareholder might wish to maximize the firm value. On the other side the agent, or the firms management wishes to maximize their salary (Eisenhardt, 1989). The agent might exploit the fact that there exists information asymmetry between the two parts to their benefit, at the expense of the principal. Shareholders

have limited access to company information, except from what the company are regulated to or choose to publicly disclose. Such a gap might be exploited by the firms manager by engaging in earnings management techniques. However, this gap may be closed, at least to some extend by making sure the agent and the principal share the same goal. Stock- or options plans are according to Agrawal & Mandelker (1987) one way one can reduce managerial incentive problems.

Accounting reports should provide credible information to investors and stakeholders, so that they can base their decision upon it. Oppourtunistically accouting, or earnings management exploits the agency theory to the benefit of the agent. Since the agent by nature have more information, the management could engage in earnings management techniques to their benefit. By using such methods the agent achives their goal of providing adjusted accounting information that seems credible, and at the same time is very difficult for the principal to detect.

2.2 IFRS as an arena

In 2005 the European Union (EU) adopted the International Financial Reporting Standards (IFRS), the standards are developed and maintained by the International Accounting Standard Board (IASB). The EU have made it a requirement for listed companies to use IFRS in their financial reporting, and since Norway is a member of the European Economic Area (EEA), IFRS applies to companies listed on the Oslo Stock Exchange as well.

Financial information from a company that reports after IFRS shall have some qualitative characteristics, which should help to close the gap between the agent and the principal. These are described in the IFRS (2018) conceptual framework. Based upon a cost and benifit decision financial reports should be understandable and have decision usefulness. This so that the users of the financial report could base their decision upon the information given. The users of a financial statement include among other investors, creditors, lenders, customers, suppliers, government, employees and other stakeholders. IASB sets out to increase transparency and accountability in financial reports, through a set of standards that should make entities financial reports decision useful. Relevance and faithful representation together are supposed to make a financial statement decision useful. Accounting information is relevant if it has predictive and / or confirmatory value. These are often interconnected in such a way that if there is confirmatory value it is most often also predictive. Information is faithfully representative if it is complete, neutral and free from error. Although this is not always achievable, one should strive to enhance these qualities as much as possible to make the accounting information as faithful representative as one can IFRS (2018).

Further, the aim of introducing IFRS in the EU is to increase reporting quality and comparability between similar companies located in different countries. Before the introduction of IFRS they reported after local general accepted accounting principles (GAAP), that could be different from country to country. As IFRS standards are principle-based they do open up for more managerial judgment than former rule-based accounting practices does.

IAS 1 - Presentation of the Financial Statements is the standard that regulates the presentation of financial position, statement of profit or loss and other comprehensive income (income statement and OCI), statement of changes in equity, cash flow statement, and the notes to these statements. This standard requires that the income and expenses that is recognized in one period shall be presented in the income statement. The presentation of these is up to the managers judgment, for example decisions on what to include in the recurring and non-recurring sections are not strictly regulated.

Studies show that classification shifting have become more prevalent after the introduction of IFRS. In the UK, Athanasakou et al. (2009) finds evidence for accrual-based earnings management in the pre-IFRS period, but fails to find strong evidence for classification shifting. Later Zalata & Roberts (2017) finds strong evidence for classification shifting happening in the UK after the implementation of IFRS. One of the explanations they provide is the fact that IFRS grants more room for managerial judgment, which again makes classification shifting more viable than for example accrual-based and real earnings management techniques.

2.3 Earnings management

Although there is no official definition of earnings management, the most cited one is from Healy & Wahlen (1999) who defines it like this:

> *Earnings management occurs when managers use judgement in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers.*

In other words, earnings management are deliberate actions from the management of the entity that affects the financial statement in one way or another but is still within the law. It is on the boarder to fraud, yet it is not fraud. The litterature reveals that there are different methods that could be used, and a manager that chooses to make use of one of these methods must take into consideration both the cost and benefit that applies to the different techniques. As different managers will have different motivations for applying these methods, the managers incentive will also have a saying in what kind of technique that is choosen.

Managing earnings could be done in a variety of ways, and managers of firms seems versatile and willing to change their methods as the external environment changes. The first method researched was accrual-based methods (see DeAngelo, 1986; Dechow & Sloan, 1991; Healy, 1985; Jones, 1991). Later Roychowdhury (2006) model is commonly used for detecting real activities management. According to Kothari et al. (2016) the Sarbanes-Oxley Act (SOX), that was introduced after the Enron and Worldcom scandals, was a participating reason for why firms seemed to move away from accrual-based methods to real earnings management methods.

In the later years, after the implementation of more principal-based accounting rules (IFRS) it seems that firms have once again found a way to exploit a regulatory gap. Classification shifting techniques seems now to be more used by firms as a substitution for both accrual-based and real earnings management methods. Classification shifting of expenses was first researched by McVay (2006), European and Asian studies have in the later years confirmed her findings (Nagar & Sen, 2016; Zalata & Roberts, 2016; Zalata & Roberts, 2017). There has also been found evidence for that revenues are shifted with the same intention as expense shifting, increased core earnings (Malikov et al., 2018).

2.3.1 Accrual-based earnings management

Accruals are defined as the difference in net income and cash flows. There are many ways accruals are created, for example due to depreciation, write-offs, changes in accounting standards or

methods etc. This is normal, but managers can choose to increase or decrease income through so called discretionary accruals and this way portray a better or worse result than the acctual one. Discretionary accruals are found by subtracting total accruals from non-discretionary accruals. This method increases or decreases current year earnings, at the cost of next years earnings The most widely used model today to discover the use of such techniques is the Jones-model (Jones, 1991).

However as Kothari (2001) points out, none of the five models that are most commonly used to detect accrual-based earnings management captures serial correlation between accruals. This means that calculated discretionary accruals may be biased and contain non-discretionary accruals. As such, real earnings management models and classification shifting techniques can better capture if a company actually conducts earnings management than accrual models do. Accruals are also mean reverting, and as it happens at the end of the year it is easier for auditors to detect than other methods. In other words, it comes with a both greater cost than and is easier to detect as for example classification shifting techniques which do not revert to the mean and is difficult to detect.

2.3.2 Real earnings management

Real earnings management happens when managers yield from normal business activities in the context of timing and structuring, with the intention of reaching some form of financial result. Cashflow from operations, production cost and discretionary expenses are variables used to detect earnings manipulation around the zero earnings threshold. Examples of this could be timing of a sale of an asset to make a revenue in the current period, even though it is not the most beneficial thing to do for the firm at that moment (Bartov, 1993). Increasing production to lower the cost of goods sold, or sell goods at a discount to increase sale are other examples which Roychowdhury (2006) points out. Her evidence points towards that managers tend not only to use accrual-based methods but also real earnings management methods in combination. Thus, to look at accrual-based methods alone will most likely not convey true results. Graham et al. (2005) points to the fact that real earnings management can be impossible to reverse, and as such good opportunities may be lost forever. 80% of managers in U.S. firms are according to their research willing to decrease certain expenses like R&D and maintenance, while 55% of the correspondents were willing to postpone a positive NPV-project to meet an earnings target. This shows that reaching certain accounting targets are higher valued than achieving higher cash flows into the firm. Since real earnings management affects the operations and it is not a choice of accounting method, it is more difficult for an auditor to get suspicious about than it is for accrual-based methods. However, it might come at a greater cost as firms may lose opportunities or sell assets that could generate more cash in the future.

Real earnings management could destroy value and Graham et al. (2005) explains it as a struggle between short-term need to deliver accounting results, and long-term objective of maximizing the value of investment decisions. Kothari et al. (2016) points out that since real activities are not regulated under GAAP, nor under IFRS like accrual methods are, managers judgment will play a greater part in the operating strategies of the firm making real earnings management less evident for outsiders.

2.3.3 Classification shifting of expenses

McVay (2006) introduces classification shifting of expenses, and defines it as "the deliberate misclassification of items within the income statement." In her study she focuses on classification shifting of core expenses to special items, or shifting expenses from recurring items to non-recurring items. The model used is analogous to Jones-model (Jones, 1991), but focuses on misclassification expenses. Managing earnings through classifications shifting comes with lesser cost for those who make use of it, and its also easier to manage earnings this way than through accruals or real earnings management methods. By deducting core expenses from net sales, the core earnings which also is called operating earnings will increase, while net income remains unaffected (Zalata & Roberts, 2017). Unlike real earnings management methods this does not involve any business transactions that can affect the actual economic performance of a entity. Firms that use classification shifting of expenses one year will however have high unexpected special item expenses, which will not be present the following year.

Another way of using classification shifting is on the basis of inflating revenues, with the intention of artificially increasing core earnings just like expense shifting does. Malikov et al. (2018) finds that UK firms misclassify non-operating revenues as operating revenues, and that managers tend to favor this instead of expenses shifting as analytics and other users tend to value an increase income more as to a decrease in expenses.

Classification shifting comes at a lower cost than accrual-based and real earnings management methods do. In addition, this technique does not reverse in later years as accruals-based methods, nor does it end up with forgone returns or affect the cash flow like real earnings management methods. It is also less likely to be discovered by auditors, regulators, or other users since it does not affect net income. The principle based IFRS do open up for the use of managerial judgment, giving firms an opportunity to misclassify expenses. Thus, it seems that fter the implementation of IFRS, classification shifting is more and more used as a substitute for both accrual- and real earnings management techniques.

2.4 Motivations for earnings management

The second part of Healy & Wahlen (1999) definition refers to incentives or motivation behind the managers decision to engage in earnings management. Motivational factors are usually divided into three categories in the earnings management literature: Capital market motivations, contracting motivations, and regulatory motivational factors.

Capital market motivations

Information asymmetry exist due to the fact that insiders of the firm knows more than what outsiders do, also referred to as the agency-problem. This skewness in information access, creates inside information which managers can take advantage of through earnings management. Thomas (2002) reveals that diversified firms have a higher degree of information asymmetry, and are less transparent than non-diversified firms. Moreover, Rodríguez-Pérez & van Hemmen (2010) results show that high leveraged and diversified Spanish firms are more likely to use earnings management techniques to improve their performance. Therefore, it seems like diversification opens up for earnings management.

Meeting analysts' forecasts may also be a motivation to commence in earnings management. Roychowdhury (2006) finds some evidence that managers engage in real earnings management to meet analysts' annual forecast. Bartov (1993) finds that managers in firms with decreasing annual earnings, the sale of assets is higher than for firms that experience an increase in earnings. Thus, earnings are smoothed through sale of assets to keep stable reported earnings.

Contracting motivations

Each company is different when it comes to type of operation, what kind of life stage they are in, their capital structure, if they pay dividends or not etc. The composition of the specific firm will bring with its different sets of contracts, which depending on the firm managers and their relationship to the specific contract can motivate to engage in earnings management.

Debt contracts may include covenants that if certain thresholds are approaching or goals are not met, interest rates may increase, penalties may be applied, or the loan being called. Firms with debt covenants may have incentives to manage earnings if the firm is approaching these. Roychowdhury (2006) finds that firms with debt outstanding (used as a proxy for leverage) manages earnings. Bartov (1993) finds that there is a positive correlation between income from asset sales, and debt to equity ratio. Malikov et al. (2019) also investigates the use of earnings management in UK firms for firms with EBITDA-based covenants, and find that firms with tight covenant slack engages in earnings management through classification shifting of revenues. Also, before seeking debt financing Zalata & Roberts (2017) finds that UK firms are more motivated to manage earnings through classification shifting. The relationship between debt and earnings management is however not always that clear. Ghosh & Moon (2010) and Thanh et al. (2020) finds evidence for that there exist a non-linear relationship between debt and earnings management. When total liabilities exceed approximately 60% of total assets firms seems motivated to engage in classification shifting. The same threshold lies around 33% for financial, or interest-bearing debt (Thanh et al., 2020).

Regulatory motivations

All industries are regulated in one way or another and often these are connected to accounting numbers, the banking sector for example have strict regulatory capital structure restrictions. Meeting regulatory requirements can sometimes be difficult to overcome for companies, which can lead to the use of earnings management.

On the other, side regulations may open up for earnings management as it seems that IFRS do through its demand for managerial judgment (Zalata & Roberts, 2017). This is supported by Jeanjean & Stolowy (2008) who finds that the level of earnings management did not decline after the implementation of IFRS in Australia and UK, while in France it actually increased.

Other motivational factors

The above-mentioned motivational factors are not exhaustive, and there may be many other incentives for managers to engage in earnings management. Big baths, or reports of big losses, happens when managers take advantage of a poor result that evidentially cannot be avoided. Through earnings management the manager will make a loss even bigger than it actually is to make future results appear better. First investigated by Healy (1985), who found evidence that if earnings are low and certain targets is unable to be met regardless of what is done, managers have incentives to take big baths. This could be done through write-offs or deferring revenues, which in turn will increase the possibility that the firm will reach its goals in the future.

Macroeconomic events may also motivate managers to engage in earnings management, as Kjærland et al. (2020) finds that managers exploit macroeconomic crises, here a collapse in the oil

price, to manage earnings and at the same time uses a big bath strategy.

2.5 Alternative performance measures

To ensure decision usefulness of a financial statement, IFRS clearly states what kind of performance measures that are mandatory and shall be included in the entities financial reports. However, there has become almost a customary practice among reporting companies to utilize so-called alternative performance measures (APM). They are called alternative because they are not mandatory to report after IFRS and are also referred to as non-IFRS measures, adjusted performance measures, pro forma measures or pro forma earnings. Examples of these are earnings before interest and taxation (EBIT), and earnings before interest depreciation and amortization (EBITDA). These are not defined in IFRS (2018) conceptual framework , or any of the IFRS accounting standards. As such, it is not mandatory for firms that uses IFRS to report EBITDA or any other adjusted variant of it. Still EBITDA is a very important reporting figure, and almost all listed companies report some form of EBITDA either adjusted or un-adjusted.

Since reporting of alternative performance measures are not regulated in any way there is a lot of variety in how these are conveyed. In addition, many companies report adjusted measures instead of "clean" figures, for example X-EBITDA or EBITDAX. Some companies that evidentially reports clean EBITDA, actually use adjusted figures in their reported number (Mey & Lamprecht, 2020). Such alterations makes the measure unfaithful and gives it a lack of comparability, which again makes it a performance measure on which the users should not base their decisions upon. In other words, it might be difficult to understand how the performance measure is calculated since it is not always explained by the entity. The labels are unclear and it is difficult to interpret how one can relate it to other amounts in the financial statement, as companies often seems to be inconsistent in their reporting of such performance measurements. In addition it happens that these measures, which can be one-sided and biased are given more prominence in the financial statements than mandatory IFRS reporting measures are (Bhattacharya et al., 2004; Bradshaw & Sloan, 2002). Additionally, Doyle et al. (2003) finds that companies that uses pro forma earnings often exclude non-recurring expenses in their financial statements. This fools the market as they do not see through this, and values the company higher than it would be by including these omitted expenses.

However, if alternative performance measures are portrayed correctly by the firm there is little doubt that these can be helpful for users of financial statements. Mandatory IFRS measures might not suit every firm equally good, they can provide additional information and give a better understanding of the financial performance of an entity. Flexibility in the reporting can help certain firms to highlight their performance by the use of alternative performance measures, which could help reduce the agency problem (Jensen & Meckling, 1976). This has led to a widespread interest and debate among other the IFRS board if one should try to regulate pro forma measures, or the use of them (IASB, 2017).

Helleren & Stige (2017) research is in line with Mey & Lamprecht (2020) when it comes the lack of comparability of EBITDA across different firms in Norwegian companies. This is due to the fact that the measure is used differently by firms with respect to what kind of numbers they choose to include in the figure. They also found that bigger sized firms have a stronger tendency to report some form of EBITDA, than smaller sized companies. To add to this The Financial Supervision Authority of Norway (2017) did a survey where 228 firms reported their

use of alternative performance measures. 68% reported that they use one or more of these in their financial statements, with EBIDTA as clearly the most used (63%). EBIT (42%) adjusted EBITDA (30%) and adjusted EBIT (18%) are also widely used among Norwegian companies.

Furthermore, even though EBITDA has rather low decision usefulness it is still used as a covenant in some debt contracts. Companies that have this type of covenant do manage earnings not to breach any covenants that lies upon the firm (Malikov et al., 2019; Roychowdhury, 2006). Further, Zalata & Roberts (2017) also points out that since higher earnings today in an analyst or creditor context means higher earnings in the future, thus there is less risk for default. Less risk for default means less credit risk and lower interest rates for the firm. As it is fairly difficult to see through classification shifting techniques, firms that seek debt financing are more likely to make use of such methods. Financially distressed companies are according to Nagar & Sen (2016) more likely to value pro forma earnings and more likely to report special items in their financial statement. They also find evidence for that these companies also engage in classification shifting.

A high use of alternative performance measure can be used by companies because mandatory performance measures does not fit the specific company very good. Another reason might be that they want to disguise a poorer underlying result. This could be done through shifting recurring items to non-recurring items which will increase some alternative performance measures, while leaving net income unchanged. Thus, a high use of alternative performance measures might be an indication that the company utilizes earnings management.

3.0 Data and methods

In this chapter I first describe how the theory of science fits into this research. Next the sample selection and models used are described. Thereafter, I explain how the panel data used is tested and adjusted to be statistical valid in addition to a justification for its external reliability. Lastly the ethical considerations in this research are briefly discussed.

3.1 Theory of science

Researching the phenomena of classification shifting requires a lot of data, preferably both in time and cross-sectional series, which is also referred to as panel data. Interpretation of this quantitative dataset is best done by using a deductive approach. Researching a priori knowledge requires that one defines the hypotheses upon already existing theory, which further is used to base the conclusion on. The fall pit here is that the hypotheses must be clearly defined and based upon existing evidence, as researching and concluding upon a false hypothesis might lead you to a wrong conclusion. This positivists research design goes well with the researcher' rationalistic ontology.

3.2 Sample selection

The sample consist of Norwegian firms that are *continuously* listed on the Oslo Stock Exchange in the period 2014 to 2019. The analysis period is between 2015 - 2019, but as some of the

variables are lagged it requires data from 2014[23]. The total sample consist of 117 firms that in total adds up to 585 firm years, and is collected through the Proff Forvalt database. In line with other similar studies the financial and utilities sector are not included as a part of this study (Fan et al., 2010; McVay, 2006; Nagar & Sen, 2016; Zalata & Roberts, 2017). All sectors included have more than six firm-year observations included (Athanasakou et al., 2009). I use the global industry classification standard (GCIS) for classifying industries, and due to the low number of firms available in the telecom sector it has been merged with the IT sector. Since sales is used as a scalar in most of the variables, firms with less than NOK 10 mill. in revenues are excluded as well. All variables are winsorized at the 1% and 99%.

Data for if firms tend to prominate alternative performance measures (APM) are collected manually through the firms annual reports in the sample period. From the total sample, I find that 243 out of 585 (41.54%) firm year observations tend to give more prominence to non-IFRS measures than to regulatory IFRS measures in their financial statements.

3.3 Models

Managers that engage in classification shifting aims to shift either revenues or expenses[4], to increase core earnings. Core earnings are those earnings that is connected to the normal operations of a firm, and are expected to reoccur every year. In other words it is net income added non-recurring expenses, and special items. Non-recurring and special items will be those who are infrequent, or unusual in the firms normal operations. Examples of these can be write-offs, research and development cost, goodwill impairment etc.

The methodology used in this paper follows Zalata & Roberts (2017) on measuring classification shifting of expenses. They build on McVay (2006) models, who first found evidence of misclassification of non-recurring as recurring expenses through her changes model. McVay (2006) models the expected core earnings of a firm with relation to other performance measures, and is estimated for firm i in year t. She found that core earnings could be estimated through the firms past period core earnings, asset turnover, this period and previous period accruals, and the change in sales. Zalata & Roberts (2017) however does not make use of current period accruals as Fan et al. (2010) recommends this exclusion. Including current period accruals may lead to a mechanically positive relationship between non-recurring items and unexpected core earnings and should therefore be omitted. Based upon this the model used for finding estimated core earnings is as follows, estimated by industry and fiscal year:

$$CE_{i,t} = \beta_0 + \beta_1 CE_{i,t-1} + \beta_2 ATO_{i,t} + \beta_3 TACC_{i,t-1} + \beta_4 \Delta Sales_{i,t} + \beta_5 \Delta NEGSales_{i,t} + \epsilon_{i,t} \qquad (1)$$

As the dependent variable reported core earnings scaled by sales, (CE) is used for firm i in year t. Core earnings will be net income added tax expenses, net financial items, depreciation, amortization and impairments. As core earnings is expected to be fairly stable, lagged core earnings is used

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[2]Firms listed on Oslo Axess are also included.

[3]This is to ensure that firms report after IFRS, as it is mandatory to report after IFRS to be listed on the stock exchange.

[4]This study do only look at classification shifting of expenses.

as the first explanatory variable (CE_{t-1}). ATO is the asset turnover ratio, which is net sales divided by average net operating assets. Net operating assets are operating assets less operating liabilities. It is included because companies will always attempt to utilize assets efficiently and therefore maximize the return on assets, hence there will be a inverse relationship between asset turnover and profit margin. Total operating lagged accruals ($TACC_{t-1}$) is found by subtracting lagged operating cash flow from operations from lagged net income scaled by lagged sales. Since future performance is related to past accruals, this will capture the information content of last period accruals for current period earnings. As previously mentioned, contemporaneous accruals can create a mechanically positive relationship between non-recurring items and unexpected core earnings, therefore they are excluded from this model (Fan et al., 2010). $\Delta Sales$ is the net percentage change in net sales and is included to capture the impact that sales growth has on fixed costs. $\Delta NEGSales$ are the same as $\Delta Sales$, if this figure is negative. It is included to adjust for any un-utilized resources that still exists within the firm in case of falling levels of activity. If sales growth is positive $\Delta Sales$ is used while $\Delta NEGSales$ is 0, and opposite.

The difference in reported core earnings and expected core earnings will be unexpected core earnings (UCE). Model (1) is used to calculate the expected core earnings for firm i in year t. In line with Zalata & Roberts (2017), I then use model (2) to find evidence for misclassification of recurring expenses as non-recurring expenses.

$$UCE_{i,t} = \beta_0 + \beta_1 NREC_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 OCF_{i,t} + \beta_5 ROA_{i,t} + \beta_6 MBV_{i,t} + \epsilon_{i,t} \qquad (2)$$

Non-recurring items ($NREC$) is calculated as the reported core earnings less net income, scaled by sales. Income-decreasing items will be positive, while income-increasing items will be negative and are similar to Zalata & Roberts (2017) set to 0.

Control variables are added to the model, and these are meant to capture firm characteristics which can affect the level of earnings management. Size ($SIZE$) is the natural log of total assets. Leverage (LEV) is long term debt scaled by equity. Operating cash flow (OCF) is cash flow from operations scaled by lagged total assets. Return on assets (ROA) is net income divided by lagged total assets. Market to book value (MBV) is the market value of the firm (measured at year end), divided by book value of equity.

To investigate if Norwegian firms that give alternative performance measures (APM) more prominence over IFRS measures in their financial statements tries to increase core earnings through misclassification of expenses, I modify model (2). By adding the variable APM and its interaction with $NREC$, I get model (3).

$$\begin{aligned} UCE_{i,t} = {} & \beta_0 + \beta_1 NREC_{i,t} + \beta_2 APM_{i,t} + \beta_3 NREC_{i,t} \, x \, APM_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} \\ & + \beta_6 OCF_{i,t} + \beta_7 ROA_{i,t} + \beta_8 MBV_{i,t} + \epsilon_{i,t} \end{aligned} \qquad (3)$$

I this model, APM (alternative performance measure) is a dummy variable that is set to 1 if four or more of the following conditions are met, and 0 otherwise[5]. This data is manually collected through the firms annual reports.

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[5]These are qualitative measures stated by the U.S. SEC (2018) in which they rely on to evaluate if non-GAAP measures are given more prominence than regulatory GAAP measures.

- Presentation of a full separate income statement containing only non-IFRS measures within the annual report.
- Presentation of non-IFRS measures within the first ten pages of the annual report, without presenting IFRS measures within these first ten pages.
- A heading or a caption in the annual report that includes non-IFRS measures, but does not include a comparable IFRS measure.
- Presenting a non-IFRS measure using a presentation style that emphasizes the non-IFRS measure over the comparable IFRS measure, if a comparable measure is mentioned.
- A IFRS measure that is followed directly by non-IFRS measure anywhere in the annual report.
- Describing in any way a non-IFRS measure as exceptional (or any other synonym), without equally describing a comparable IFRS measure.
- Presenting non-IFRS measures in a tabular format, without including comparable IFRS measure in the same or another table.
- Discussing or analyzing a non-IFRS measure, without having a similar discussion or analysis of a comparable IFRS measure with equal or greater prominence.

This approach is a modification as of the approach used by Bhattacharya et al. (2004), Lougee & Marquardt (2004), Black et al. (2017) and Laurion (2020) who uses different pro forma search strings both to identify firms non-GAAP practices, and to classify them as non-GAAP firms. Differentiating firms who rely on alternative performance measures with this method is more thorough than the aforementioned ones. It could also provide new insight on how to identify and classify firms who have an extensive use of alternative performance measures in their financial statements.

To examine who different debt levels affect a firms manager decision to engage in classification shifting, I follow Thanh et al. (2020). They find that firms are more willing to engage in earnings management if the total liabilities to assets exceed approximately 60%, and if the total financial debt to total assets exceed approximately 33%. The two explanatory variables used are respectively $LDEBT$ and $FDEBT$.

$LDEBT$ is calculated as total liabilities divided by total assets. $FDEBT$ includes only the financial debt or interest bearing debt, and is calculated as long term debt + current portion debt + notes payable divided by total assets.

$$LDEBT = \frac{Total\ liabilites}{Total\ assets}$$
$$FDEBT = \frac{Total\ debt}{Total\ assets}$$

If LDEBT and FDEBT is *higher* than 60% and 33% of total assets respectively it is set to 1, and 0 otherwise. Adding the control variables $LDEBT$, $FDEBT$ and their interactions with $NREC$ to model (2), I get model (4).

$$
\begin{aligned}
UCE_{i,t} = {} & \beta_0 + \beta_1 NREC_{i,t} + \beta_2 LDEBT_{i,t} + \beta_3 FDEBT_{i,t} + \beta_4 NREC_{i,t}\, x\, LDEBT_{i,t} \\
& + \beta_5 NREC_{i,t}, x\, FDEBT_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 OCF_{i,t} \\
& + \beta_9 ROA_{i,t} + \beta_{10} MBV_{i,t} + \epsilon_{i,t}
\end{aligned}
\tag{4}
$$

As the literature indicates that there is a non-linear relationship between debt levels and earnings management model (4) is run again, but this time with LDEBT and FDEBT set to 1 if the debt levels are *lower* than 60% and 33%, otherwise they are set to 0.

3.4 Internal validity and reliability

Results from the modeled core earnings are shown in Table 1 below. CE_{t-1}, $\Delta Sales$ and $\Delta NEGSales$ all have positive sign, while ATO and $TACC_{t-1}$ have negative signs. This is as predicted, and in line with what McVay (2006) finds in her research. All coefficients are significant at the 1% and 5% except for ATO which is not significant. The adjusted R^2 of 0.769 shows that the model has great explanatory power. This is also consistent with McVay (2006). To check for heteroskedasticity I ran a Breush-Pagan test, which resulted in a p-value of 0,00 indicating the presence of heteroskedasticity. To compensate for this, I introduced robust standard errors to the regression model.

Table 1: Modeled core earnings

	Dependent variable:
	CE
	Full sample
CE_{t-1}	0.799*** (0.019)
	t = 42.900
ATO	−0.019 (0.015)
	t = −1.250
$TACC_{t-1}$	−0.072*** (0.022)
	t = −3.220
$\Delta Sales$	0.094** (0.038)
	t = 2.450
$\Delta NEGSales$	0.611*** (0.077)
	t = 7.920
Constant	0.054
Year Fixed Effects	Yes
Firm Fixed Effect	Yes
Observations	585
R^2	0.772
Adjusted R^2	0.769
F Statistic	390.000*** (df = 5; 575)

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are given in in parantheses.
The parameters are estimated based on the following model:
$CE_{i,t} = \beta_0 + \beta_1 CE_{i,t} + \beta_2 ATO_{i,t} + \beta_3 TACCt_{i,t}$
$+\beta_4 \Delta Sales_{i,t} + \beta_5 \Delta NEGSales_{i,t} + \epsilon_{i,t}$

The other panel-data models used in the scientific article (Table 5, Table 6 and Table 7) are all run with Industry and Year as fixed effects. A Hausman test, with the null being that random effects are preferred (Green, 2003), is run first showing that fixed effects are the preferred model for all except for the two last regressions in Table 7. For these two the Breusch-Pagan Larange Multiplier test reveals that pooled OLS is favored. However, as I run these as both random effects models

and pooled models there are only negligible differences in the results, and I stick to fixed-effects for all models.

Further, I test for serial-correlation under the null of no serial-correlation with a Breusch-Godfrey test (Green, 2003). The results reveal that the data sets does not suffer from any serial correlation issues.

Lastly a Pesaran's CD test shows with the null being the existence of cross-sectional dependence, that all models except 2 and 4 suffer from cross-sectional dependence. Also, for all models the Breusch-Pagan Test shows serious heteroscedasticity, with the null being a homoscedastic dataset. I correct all models by for both issues by introducing robust standard errors to them (Green, 2003).

Multicollinearity issues could lead to a high R^2 but also high standard errors for each individual coefficient. To check for this the correlation matrix in Table 4 is investigated, and the highest correlation coefficients is ROA and CFO which positively correlates with 0.569. Variation inflation factors (VIF) are also investigated for each coefficient in each model (not tabulated), the highest factor found was for the two factors $NREC\ x\ LDEBT$ and $NREC\ x\ FDEBT$ which both was close to 4. According to Green (2003) VIF levels could be as high as 20, before being indicative of any multicollinearity.

Table 2: Internal reliability tests

	Hausman test	Breusch-Pagan - Larange Multiplier test	Serial Correlation test	Cross-Sectional Dependence test	Heteroskedasticity test
Classification shifting evidence:					
Table 5: Full sample	0.0151	0.7124	0.4647	0.0001	1.83e-87
Table 5: Positive NREC sample	0.0022	0.7512	0.1099	0.2752	7.13e-127
APM Motivation:					
Table 6: Full sample	0.0468	0.0392	0.3611	0.0002	1.61e-86
Table 6: Positive NREC sample	0.0000	0.0335	0.0975	0.3989	6.12e-126
Debt motivattion:					
Table 7: High debt sample	0.0888	0.7085	0.5423	0.0002	1.94e-84
Table 7: Low debt sample	0.2348	0.7036	0.5840	0.0003	5.11e-86

* All values are p-values from the corresponding tests

3.5 External validity

The models used are based upon recent research, which have proven to be generalizable across the globe. The model for core earnings, shown in Table 1 shows very similar results as the few who discloses it in their research (McVay, 2006) and (Nagar & Sen, 2016). This proves that the data material used in this research to calculate core earnings should be good enough in the further calculations. There are some implications however when it comes to the methods for both alternative performance measures and debt measurement.

Other studies use search strings and searches after different alternative performance measures in their research on APM in different settings (see Bhattacharya et al., 2004; Black et al., 2017; Lougee & Marquardt, 2004). I use a different method where I manually and qualitatively assess the annual reports of firms, based upon how U.S. SEC (2018) determine if a firm tends to prominate APM's in their financial statements. I quantify this with a dummy variable which equals to 1 if four or more of the conditions listed in section 3.3 above are met. There might be different ways

to assess this, and I might be biased when looking through the reports which again could lead me to wrongly categorize a firm. To estimate an error rate, I once again examine 10% of the firms who had been classified as APM prominent and I find 0 errors. Additionally the quantitative requirement of fulfilling four or more of the eight points listed might be set to loose or to strict.

Upon investigating whether or not debt is a motivational factor for firms to engage in classification shifting, the literature shows that there is not necessarily a yes or no answer to this. There are also several ways on how to measure debt, and debt levels could be measured against many variables. Thanh et al. (2020) proves this non-linear relationship against debt and classification shifting and uses two different debt levels, LDEBT and FDEBT against total assets However, as this research is from Vietnam it might not be as generalizable into my research context. Both the ratios and the threshold levels might be different. This is tried to be accounted for with some robustness checks, see chapter 4.5 in the scientific article.

3.6 Etichal considerations

As a researcher one must always take into consideration potential ethical issues that the research might rise. This research uses secondary data from databases and official annual reports, no firms or persons can be separately identified in the final article. Hence, I see no ethical issues that might occur. The integrity of the research is protected by ensuring anonymity of the companies researched, while trying to keep the study as transparent as possible. To the best of my knowledge and based on the available dataset, the findings are honest and truthful. This project is not reported to the NSD.

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Scientific paper

**Earnings management using classification shifting:
Are pro forma earnings and debt explanatory factors?**
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Abstract

This study investigates if firms located in a strong institutional environment, who have an extensive reporting of alternative performance measures in their financial statement see classification shifting as a viable earnings management method. As some alternative performance measures are based upon core earnings, shifting of expenses from recurring to non-recurring items will increase such alternative measures while remaining net income unchanged. Making it favorable for firms who rely on pro forma earnings to shift expenses. Contributing to the earnings management literature this study provides a method for how to classify firms as reliant on pro forma earnings. The results shows that these firms do see classification shifting as a viable earnings management method This research also investigates how different debt ratios affects the firms decision to engage in classification shifting. The findings reveal that firms with high financial debt are more likely to use expense shifting as a tool rather than firms with low financial debt. The opposite seems to be valid using a total debt to asset ratio. These results add to the already existing evidence on the non-linear relationship between debt and the use of classification shifting.

JEL Codes: M41

Keywords: Earnings management, Classification shifting, Alternative performance measures, Pro forma earnings, Debt ratio

Acknowledgements

1.0 Introduction

Structuring a financial report of an entity to achieve a goal that is not achievable by the company's normal business activities, is often referred to as earnings management. In the literature there are three earnings management methods that are mostly discussed. Accrual earnings management (Jones, 1991), real earnings management (Roychowdhury, 2006) and classification shifting (McVay, 2006).

Classification shifting is further described as a firm managers decision to intentionally misclassify different types of revenues or expenses in the income statement to achieve an underlying objective. More precisely, expense shifting is done by shifting recurring to non-reoccurring items within the income statement (McVay, 2006). By doing this core earnings will increase, while net income remains unchanged. Recent literature shows that the implementation of the Sarbanes-Oxley Act in 2002, and the mandatory implementation of IFRS has led to a decrease in both accrual based and real earnings management methods, while classification shifting seems to have increased (Kothari et al., 2016; Zalata & Roberts, 2017). However, little research is found in the subject of expense shifting.

Classification shifting increases core earnings, which some alternative performance measures is based upon, e.g. earnings before interest taxes depreciation and amortization (EBITDA). In the later years pro forma earnings have become more extensively used, and its use seems to have a valuation effect. Additionally, there seems to be bias against reporting of alternative measures that exceeds regulatory measures, and some firms focuses almost entirely on pro forma earnings when communicating to investors and analysts (Bhattacharya et al., 2004; Bradshaw & Sloan, 2002; Doyle et al., 2003). Financial reporting after IFRS opens up for flexibility both through its qualitative characteristics and requirements, as well as through managers room for interpretation. The use of alternative performance measures could affect the reliability, faithfulness and comparability of the financial statements as they are non-regulated and non-audited. This ultimately creates an opportunity for companies that reports after IFRS to manage earnings, especially through classification shifting. Some firms may for example try to take attention away from a poor net income result by enhancing a better alternative performance measure instead of in their financial reports. By using classification shifting techniques, one may artificially increase alternative performance measures that are based upon core earnings while leaving net income unchanged.

I do however find a shortcoming in the earnings management field with regards to how extensive pro forma earnings reporting affects firms' decision to engage in classification shifting. The main objective of this paper is therefore to examine if firms that have an extensive use of alternative performance measures in their financial statements, see classification shifting as a viable earnings management method Looking at the use of alternative performance measures as a motivational factor for classification shifting seems highly relevant as some of the measures, such as EBITDA, are based directly on core earnings. These are also often wrongly classified, and used with a lot variety (Mey & Lamprecht, 2020). Ultimately this could lead to a loss of decision usefulness in the presented figure.

Further, it has been shown that higher leveraged firms are more likely to disclose alternative performance measures in their financial statements (Lougee & Marquardt, 2004), which makes regulatory IFRS earnings less informative. The classification shifting literature is mostly focused on equity markets, and to complete the analysis debt markets should also be included (Zalata & Roberts, 2017). Therefore, this research also aims towards giving a contribution in this field

as well. Debt markets are complicated, and there exists a variety of different debt and hybrid debt instruments. Creditors often put covenants on their loans, which sometimes are based upon alternative performance measures. Extant studies show that financially distressed firms which are about to breach such covenants, engage in classification shifting to avoid breaching them (Malikov et al., 2019; Nagar & Sen, 2016). These studies do however only focus on financially distressed firms with high debt, or those who are about to breach covenants. Motivated by Thanh et al. (2020), I make use the threshold levels and debt ratios in this research on my sample. This to get a broader perspective on how different debt ratios motivate firms to engage in classification shifting. Finally, I also examine if firms who give prominence to alternative performance measures in their financial statements are more leveraged than other firms.

I use a Norwegian context mostly because of its strong institutional environment. The institutional environment of where the firm is located seems to have a profound effect on the firms capital structure (Fan et al., 2012). Firms located in strong institutional environments have access to longer term debt, and are often less leveraged than those located in weak institutional environments. However, this study show that companies located in Norway is among the highest leveraged ones. Norway is also known for having a relatively strong investor protection environment (Hope et al., 2009). Highly leveraged firms are more inclined to engage in earnings management methods according to An et al. (2016), but this relationship is less pronounced for firms located in countries with a strong institutional environment. This makes Norwegian companies an excellent environment to investigate these research problems, and could make the research valid in other environments as well.

The results show that notwithstanding the strong institutional environment provided in Norway, classification shifting is seen as a viable earnings management method for firms listed on the Oslo Stock Exchange. Out of the 585 firm years collected, approximately 42% do tend to give prominence to alternative performance measures. The main findings show compelling evidence for that these firms alone are more motivated to engage in classification shifting than the whole sample is. To some extent, the findings do also confirm the non-linear relationship between debt and classification shifting, as earlier found by both Ghosh & Moon (2010) and Thanh et al. (2020). Firms with high financial debt seems to engage in classification shifting to a greater extent than firms with low financial debt. The opposite seems to be valid when testing the sample on total debt ratio. I do however not find any conclusive results on the notion that firms who have an extensive use of alternative performance measures in their financial statements, are either more or less leveraged than other firms are.

This study makes several contributions to the earnings management literature. First, it adds to the understanding that the principle based IFRS sets an arena that enables classification shifting, even for firms located in a strong institutional environment. This should be taken into account in the costs and benefit discussion of IFRS. Second, it introduces a method for how to differentiate firms who rely alternative performance measures and those who don't. The results do confirm that these firms are more willing to engage in classification shifting. Third, as there is little research on how debt ratios and their threshold levels affects managers decision to engage in classification shifting in a European context, this research provide some insight on this as well.

The remainder of this paper is organized as follows: Section 2 discusses the relevant literature and the hypothesis development. Section 3 provides the method used. Section 4 contains the empirical results and robustness checks, while section 5 contains the conclusion.

2.0 Literature review

2.1 Classification shifting of expenses

In the later years there seem to be a shift in managers preference when it comes choice of earnings management methods. Before the introduction of IFRS firms seemed to make use of accrual-based and real earnings management methods, but in the later years' classification shifting have become the more preferred method.

Classification shifting of expenses occurs when managers inflate their core earnings by shifting expenses from recurring to non-recurring items. McVay (2006) provides the first evidence of classification shifting with her changes model. She finds that some managers in the United States increases the firms core earnings by shifting expenses from operating expenses, to income-decreasing special items. Through a two-stage model one first finds a firms expected core earnings, and then compares this to the firms reported core earnings to find the unexpected core earnings. Later this model was modified by Fan et al. (2010) who studies classification shifting tendencies at a quarterly basis, and find that classification shifting is more likely to be done by managers in the fourth quarter. This modified model was also used by Zalata & Roberts (2017) in their study of classification shifting in the UK. In their examination of the post-IFRS era, they find that the introduction of IFRS actually decreases the transparency intended by IFRS with regards to disclosure of non-recurring items in the financial statements. Managerial judgement demanded by IFRS facilitates for opportunistic accounting, which again enables classification shifting. This is also supported by Malikov et al. (2018).

Athanasakou et al. (2009) finds evidence for that classification shifting is used to meet and beat analyst expectations, but no evidence for the use of accrual-based methods in the same context. However, Doukakis (2014) finds no supporting evidence for that the level of real and accrual earnings management have decreased after the implementation of IFRS. Classification shifting have the benefit on lower cost for those who uses it, compared to accrual and real earnings management methods. Accruals reverse in the later periods, while real earnings management ends up with forgone returns and increased cost. Since classification shifting methods leaves net income unchanged, it is less detectable by auditors, users and regulators. Furthermore, as financial constraints might prevent firms from engaging in real earnings management activities, Abernathy et al. (2014) finds that such activities are not a hinder for firms engagement in classification shifting. In sum this points towards that classification shifting might be used as a substitution for these techniques.

Studies shows that core earnings are considered more informative than regulatory net income, and for valuation purposes core earnings are often favored by investors. Modified versions of non-GAAP earnings are both preferred and weighted higher than audited GAAP earnings according to both Bradshaw & Sloan (2002) and Bhattacharya et al. (2004). This is supported by Doyle et al. (2003), who also finds that companies that report pro forma earnings often exclude non-recurring expenses in their financial statements. This fools the market as they do not see through this, and values the company higher than it would if these were included. In addition, Doyle et al. (2013) evidence points towards that managers opportunistically define non-GAAP earnings to meet or beat analyst expectations by excluding expenses from these.

This seems to be exploited by firms as Mey & Lamprecht (2020) finds that companies inconsistently define, labels and calculates EBITDA. Of the 220 companies investigated, 24% of these who reports a clean EBITDA are actually found to be calculated with adjustment other than ITDA-

adjustments. They also identify over 50 different labels on EBITDA in the financial statements of the examined companies. The conclusions is that EBITDA is not faithfully represented, because the reported EBITDA figure lacks decision usefulness. A second problem with such measures is that very often they are not explained by the firms who uses it, which can lead to confusion or miscalculations. Often pro forma measures are disclosed without giving any information about how it is calculated, or which adjustments that is added to the measure. Non-IFRS earnings may be attractive to report for some firms because they are not required to be audited, which gives managers the option to present the firms "core earnings" in a way which suits the certain firm best.

Different alternative performance measures can be presented by companies because mandatory performance measures does not fit the specific company very good. Another reason might be that they want to try to disguise a poorer underlying result. The above-mentioned studies have shown that this might be an effective way to mislead investors, as they seem to valuate core earnings higher than net income. Shifting of recurring items to non-recurring items will increase the alternative performance measure that are based upon core earnings, while leaving net income unchanged. Thus, an extensive use of alternative performance measures in a firms financial report might be an indication that the company utilizes classification shifting.

Even though it seems that EBITDA has rather low decision usefulness, it is still used as a covenant in some debt contracts. Companies that is imposed with this type of covenant do manage earnings not to breach them (Malikov et al., 2019; Roychowdhury, 2006). Zalata & Roberts (2017) also points out that since higher earnings today in an analyst or creditor context means higher earnings in the future, thus there is less risk for default. Less risk for default means less credit risk and lower interest rates for the firm. This points towards that high debt levels might be a motivational factor for firms managers to engage in earnings management techniques. Financially distressed companies are according to Nagar & Sen (2016) more likely to value pro forma earnings, and more likely to report special items in their financial statement. They also find evidence for that these companies also engage in classification shifting. Lougee & Marquardt (2004) point at a connection in their study about earnings informativeness, that firms who reports pro forma earnings are higher leveraged than firms who don't. In addition, they also provide evidence for that these firms also have significantly more negative special items, or income-decreasing items. According to Laurion (2020) firms that reports non-GAAP earnings pursue more and engage in larger acquisitions. This leads to higher CAPEX and higher debt levels. As it is fairly difficult to detect classification shifting techniques, firms that seek debt financing are according to Nagar & Sen (2016) are more likely to make use of such methods. However, Kim et al. (2021) finds that firms who do engage in earnings management, and are detected by credit institutions most likely are penalized by the banks by imposing tighter covenants and higher interest rates.

Earnings quality of firms with high debt levels seems to reach a breaking point when firms reaches a debt ratio of approximately 41%. With lower debt levels earnings quality of firms increases, as credit facilities demand high quality earnings to assess the firms creditworthiness. Firms are eager to provide this, as it will give them a lower cost of debt. However, at higher debt levels the debt covenants becomes stricter and the firm may have to decide upon delivering high quality earnings or breaching debt covenants (Ghosh & Moon, 2010). Zhang et al. (2020) however argues that equity financing is more vulnerable to information asymmetry (see Jensen & Meckling, 1976) than debt financing. Even though they find evidence for that debt financing do motivate the use of earnings management, equity financing motivates firms to a greater extent.

Thanh et al. (2020) indicates a similar non-linear relationship between debt and earnings management as Ghosh & Moon (2010) did. Their study seems to be more accurate in the way that they do include debt-earnings management coefficients which indicates different variants to both firm and time when the threshold variable moves from low to high regime. They also point towards that higher debt does not motivate earnings management up to a certain threshold. Beyond that threshold however, managers are motivated to engage in earnings management due to higher financial distress cost. Their evidence points towards that managers are more willing to engage in earnings management techniques when total liabilities to total assets exceed approximately 60% and when total financial debt to total assets exceeds approximately 33%.

Both capital structure and the motivation to engage in earnings management are influenced by the institutional environment in the country where the firm is located. Fan et al. (2012) shows that firms located in countries with strong institutional environments rely more on long-term debt, but are less reliant on debt financing in total. At the same time their research do reveal that Norway is one of the highest leveraged countries, despite its strong institutional environment. An et al. (2016) studies 25 777 firms in 37 countries over two decades and concludes that higher leveraged firms are more motivated to engage in earnings management. They also concluded with that this relationship seem to be less pronounced in firms which are based in countries with stronger institutionalized environments.

2.2 Hypothesis development

Investors seems to prefer and value non-IFRS earnings higher than regulatory net income according to Bradshaw & Sloan (2002) and Bhattacharya et al. (2004). One way for the company to achieve higher valuation could be by artificially increase their alternative performance measures, and afterwards give them more prominence than regulatory IFRS measures in their financial statements. By misclassification of recurring items as non-recurring items core earnings will increase, and at the same time this will result in both a higher unexpected core earnings and non-recurring items. The net income will remain unaffected and alternative performance measures that are based upon core earnings, such as EBITDA will increase. Firms often include adjusted measures such as X-EBITDA in their financial reports and defend this use as a better provision for their future prospects. However, as Mey & Lamprecht (2020) finds that measures such as EBITDA lacks decision usefulness, extensive use of pro forma measures can easily mislead investors, causing higher valuation of the firm (Doyle et al., 2003). Additionally, Black et al. (2017) finds that firms are more inclined to give prominence to non-GAAP earnings after they have engaged in earnings management techniques if they fall short of analyst expectations.

Classification shifting have in the later years become more widely used, and acts as a substitute for real and accrual earnings management. Furthermore, classification shifting is a better tool if the managers wants to increase core earnings as it is a easy do to, comes without a cost, and its use is hard for users and auditors to detect.

In sum, ceteris paribus firms who give more prominence to alternative performance measures than to regulatory IFRS measures in their financial statement are expected to misclassify recurring expenses as non-recurring expenses.

This leads to the first hypothesis:

H1: Firms who give prominence to alternative performance measures in their financial statements, are likely to engage in classification shifting of expenses.

Firms who give prominence to alternative performance measures have higher CAPEX and are more likely to have higher debt levels, since they according to Laurion (2020) pursue more and makes larger acquisitions. Debt as a motivational factor for firms engagement in earnings management is however not so widely discussed as equity markets are. The research show that the conclusions is rather indecisive as both Ghosh & Moon (2010) and Thanh et al. (2020) finds that there is a non-linear relationship between debt and earnings management. They argue that firms with high debt, but not so much debt that they are financially distressed or about to breach any debt covenants are not motivated to engage in earnings management at the cost of lower earnings quality. These firms are under scrutiny by the creditors who will penalize the firms who engages in earnings management with higher interest rates, or tighter covenants if detected (Kim et al., 2021). This makes the motivation to commence in earnings management low for such firms. On the other side, if these firms are financially distressed because of their high debt levels or about to breach any debt covenants, firms might shift expenses to portray a better picture or to avoid breaching any covenants. Higher debt will in most cases increase interest rates payments for a firm. A company with higher interest-bearing debt will have a lower net income than a similar company, ceteris paribus. Shifting expenses to increase other performance measures might take the users of the financial statement attention away from a poor net income result. Financially distressed firms are likely to use expense shifting according to Nagar & Sen (2016), since the alternative cost as to not engage in classification shifting is much higher.

This leads to the second hypothesis:

H2: Firms with high debt levels are likely to engage in classifications shifting of expenses.

Looking at firms that have low debt levels the opposite seems true. Firms with little or no debt are more motivated to achieve higher earnings quality than to engage in earnings management, since the risk of a covenant breach is rather low or non-existent. Additionally, delivering high quality earnings might lead to lower interest rates and better loan terms (Ghosh & Moon, 2010). Lower debt levels imply more equity financing, and atomistic shareholders don't have the incentives to monitor managers. This because the cost is higher than the benifit it gives. According to Zhang et al. (2020), firms who seek external financing are more likely to engage in earnings management if seeking equity financing rather than debt financing. This is consistent with Teoh et al. (1998) who finds that firms planning an IPO have higher discretionary accruals than firms who are not intending one. In the later years this is supported by Liu & Wu (2020) who finds that in the pre-IPO period expenses are more likely to be shifted. The two conflicting perspectives on how low debt levels motivate managers to engage in classification shifting, is ultimately determined by the interactions between these two.

This leads to the third hypothesis:

H3: Firms with low debt levels are likely to engage in classifications shifting of expenses.

Reporting after IFRS demands managerial judgment (IFRS, 2018), in addition it allows for the use of non-regulated, and non-audited alternative performance measures. Mey & Lamprecht (2020) proves that alternative performance measures are used in a wide variety and some companies that evidentially claim they presents a clean EBITDA, while it is actually an adjusted number. TThe Financial Supervision Authority of Norway (2017) has through a survey proven that Norwegian firms do rely extensively on alternative performance measures, and very often these are not ex-

plained by the company either. This could lead to confusion about how the number is calculated, and thus confirms some of Mey & Lamprecht (2020) results.

As the aforementioned discussion shows there might be a connection between classification shifting and alternative performance measures, as well as classification shifting and debt levels. According to Lougee & Marquardt (2004) firms that reports pro forma earnings more often than not have higher debt levels. In other words, firms that are highly leveraged may have an incentive to use more alternative performance measures to conceal poor IFRS measures, and give more attention to the alternative measures which could be altered through classification shifting techniques.

This leads to the fourth hypothesis:

H4: Firms that give prominence to alternative performance measures in their financial statements are more leveraged firms who don't .

3.0 Research design

3.1 Sample selection and data sources

The sample consist of Norwegian firms that are *continuously* listed on the Oslo Stock Exchange in the period 2014 to 2019. The analysis period is between 2015 - 2019, but as some of the variables are lagged it requires data from 2014[12]. The total sample consist of 117 firms that in total adds up to 585 firm years, and is collected through the Proff Forvalt database. In line with other similar studies the financial and utilities sector are not included as a part of this study (Fan et al., 2010; McVay, 2006; Nagar & Sen, 2016; Zalata & Roberts, 2017). All sectors included have more than six firm-year observations included (Athanasakou et al., 2009). I use the global industry classification standard (GCIS) for classifying industries, and due to the low number of firms available in the telecom sector it has been merged with the IT sector. Since sales is used as a scalar in most of the variables, firms with less than NOK 10 mill. in revenues are excluded as well. All variables are winsorized at the 1% and 99%.

Table 1: Sample selction

	Number of firms	Firm years
Total available firms / firm years	289	1445
Less financial and utilities sector	55	275
Less firms with revenue lower than NOK 10 million	6	30
Less firms with missing financial data, and foregin firms	70	350
Less firms that are not listed throughout the whole period	41	205
Final sample	117	585

Data for if firms tend to prominate alternative performance measures (APM) are collected manually through the firms annual reports in the sample period. From the total sample, I find that 243 out

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[1]Firms listed on Oslo Axess are also included.

[2]This is to ensure that firms report after IFRS, as it is mandatory to report after IFRS to be listed on the stock exchange.

of 585 (41.54%) firm year observations tend to give more prominence to non-IFRS measures than to regulatory IFRS measures in their financial statements.

Table 2: Alternative performance measures (APM)

	Firm years
Number of annual reports where APM's are given more prominence than IFRS measures	243
Number of annual reports where APM's are not given more prominence than IFRS measures	342
Total sample	585

3.2 Models

Managers that engage in classification shifting aims to shift either revenues or expenses[3] to increase core earnings. Core earnings are those earnings that is connected to the normal operations of a firm and are expected to reoccur every year, in other words it is net income added non-recurring expenses and special items. Non-recurring and special items will be those who are infrequent, or unusual in a firms normal operation. Examples of these can be write-offs, research and development cost, goodwill impairment etc.

The methodology used in this paper follows Zalata & Roberts (2017) on measuring classification shifting of expenses. Zalata & Roberts (2017) builds on McVay (2006), who first found evidence of misclassification of non-recurring expenses as recurring expenses through her changes model. McVay (2006) models the expected core earnings of a firm with relation to other performance measures, and is estimated for firm i in year t. She found that core earnings could be estimated through the firms previous period core earnings, asset turnover, this period and previous period accruals and the change in sales. Zalata & Roberts (2017) however does not make use of current period accruals as Fan et al. (2010) recommends this exclusion. Including current period accruals may lead to a mechanically positive relationship between non-recurring items and unexpected core earnings and should therefore be omitted. Based upon this the model used for finding estimated core earnings is as follows, estimated by industry and fiscal year:

$$CE_{i,t} = \beta_0 + \beta_1 CE_{i,t-1} + \beta_2 ATO_{i,t} + \beta_3 TACC_{i,t-1} + \beta_4 \Delta Sales_{i,t} + \beta_5 \Delta NEGSales_{i,t} + \epsilon_{i,t} \qquad (1)$$

As the dependent variable reported core earnings scaled by sales, (CE) is used for firm i in year t. Core earnings is net income added tax expenses, interest expenses, depreciation, amortization and impairments. As core earnings is expected to be fairly stable, lagged core earnings is used as the first explanatory variable (CE_{t-1}). ATO is the asset turnover ratio, which is net sales divided by average net operating assets. Net operating assets are operating assets less operating liabilities. It is included because companies will always attempt to utilize assets efficiently and therefore maximize the return on assets, hence there will be a inverse relationship between asset turnover and profit margin. Total operating lagged accruals ($TACC_{t-1}$) is found by subtracting lagged operating cash flow from operations from lagged net income scaled by lagged sales. Since future performance is related to past accruals, this will capture the information content of last

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[3]This study do only look at classification shifting of expenses.

period accruals for current period earnings. As previously mentioned, contemporaneous accruals can create a mechanically positive relationship between non-recurring items and unexpected core earnings, therefore they are excluded from this model (Fan et al., 2010). $\Delta Sales$ is the net percentage change in net sales, and is included to capture the impact that sales growth has on fixed costs. $\Delta NEGSales$ are the same as $\Delta Sales$ if this figure is negative. It is included to adjust for any un-utilized resources that still exists within the firm in case of falling levels of activity. If sales growth is positive $\Delta Sales$ is used while $\Delta NEGSales$ is 0, and opposite.

The difference in reported core earnings and expected core earnings will be unexpected core earnings (UCE). Model (1) is used to calculate the expected core earnings for firm i in year t. In line with Zalata & Roberts (2017), I then use model (2) to find evidence for misclassification of recurring expenses as non-recurring expenses.

$$UCE_{i,t} = \beta_0 + \beta_1 NREC_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 OCF_{i,t} + \beta_5 ROA_{i,t} + \beta_6 MBV_{i,t} + \epsilon_{i,t} \qquad (2)$$

Non-recurring items ($NREC$) is calculated as the reported core earnings less net income, scaled by sales. Income-decreasing items will be positive, while income-increasing items will be negative and are similar to Zalata & Roberts (2017) set to 0.

Control variables are added to the model, and these are meant to capture firm characteristics which can affect the level of earnings management. Size ($SIZE$) is the natural log of total assets. Leverage (LEV) is long term debt scaled by equity. Operating cash flow (OCF) is cash flow from operations scaled by lagged total assets. Return on assets (ROA) is net income divided by lagged total assets. Market to book value (MBV) is the market value of the firm (measured at year end), divided by book value of equity.

To investigate if Norwegian firms that give alternative performance measures (APM) more prominence over IFRS measures in their financial statements tries to increase core earnings through misclassification of expenses, I modify model (2). By adding the variable APM and its interaction with $NREC$, I get model (3).

$$\begin{aligned} UCE_{i,t} &= \beta_0 + \beta_1 NREC_{i,t} + \beta_2 APM_{i,t} + \beta_3 NREC_{i,t} \, x \, APM_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} \\ &\quad + \beta_6 OCF_{i,t} + \beta_7 ROA_{i,t} + \beta_8 MBV_{i,t} + \epsilon_{i,t} \end{aligned} \qquad (3)$$

I this model, APM (alternative performance measure) is a dummy variable that is set to 1 if four or more of the following conditions are met, and 0 otherwise[4]. This data is manually collected through the firms annual reports.

- Presentation of a full separate income statement containing only non-IFRS measures within the annual report.
- Presentation of non-IFRS measures within the first ten pages of the annual report, without presenting IFRS measures within these first ten pages.

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[4]These are qualitative measures stated by the U.S. SEC (2018) in which they rely on to evaluate if non-GAAP measures are given more prominence than regulatory GAAP measures.

- A heading or a caption in the annual report that includes non-IFRS measures, but does not include a comparable IFRS measure.
- Presenting a non-IFRS measure using a presentation style that emphasizes the non-IFRS measure over the comparable IFRS measure, if a comparable measure is mentioned.
- A IFRS measure that is followed directly by non-IFRS measure anywhere in the annual report.
- Describing in any way a non-IFRS measure as exceptional (or any other synonym), without equally describing a comparable IFRS measure.
- Presenting non-IFRS measures in a tabular format, without including comparable IFRS measure in the same or another table.
- Discussing or analyzing a non-IFRS measure, without having a similar discussion or analysis of a comparable IFRS measure with equal or greater prominence.

This approach is a modification as of the approach used by Bhattacharya et al. (2004), Lougee & Marquardt (2004), Black et al. (2017) and Laurion (2020) who uses different pro forma search strings both to identify firms non-GAAP practices, and to classify them as non-GAAP firms. Differentiating firms who rely on alternative performance measures with this method is more thorough than the aforementioned ones. It could also provide new insight on how to identify and classify firms who have an extensive use of alternative performance measures in their financial statements.

To control for classification shifting and debt, I follow Thanh et al. (2020) who finds that firms are more willing to engage in earnings management if the total liabilities to assets exceed approximately 60%, and if the total financial debt to total assets exceed approximately 33%. The two explanatory variables used are respectively $LDEBT$ and $FDEBT$.

$LDEBT$ is calculated as total liabilities divided by total assets. $FDEBT$ includes only the financial debt or interest bearing debt, and is calculated as long term debt + current portion debt + notes payable divided by total assets.

$$LDEBT = \frac{Total\ liabilites}{Total\ assets}$$

$$FDEBT = \frac{Total\ debt}{Total\ assets}$$

If LDEBT and FDEBT is *higher* than 60% and 33% of total assets respectively it is set to 1, and 0 otherwise. Adding the control variables $LDEBT$, $FDEBT$ and their interactions with $NREC$ to model (2) I get model (4).

$$
\begin{aligned}
UCE_{i,t} =\ & \beta_0 + \beta_1 NREC_{i,t} + \beta_2 LDEBT_{i,t} + \beta_3 FDEBT_{i,t} + \beta_4 NREC_{i,t}\, x\, LDEBT_{i,t} \\
& + \beta_5 NREC_{i,t}, x\, FDEBT_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 OCF_{i,t} \\
& + \beta_9 ROA_{i,t} + \beta_{10} MBV_{i,t} + \epsilon_{i,t}
\end{aligned}
\tag{4}
$$

As the literature indicates that there is a non-linear relationship between debt levels and earnings management model (4) is run again, but this time with LDEBT and FDEBT set to 1 if the debt levels are *lower* than 60% and 33%, otherwise they are set to 0.

4. Empirical results

4.1 Descriptive statistics.

The main variables used in this analysis is shown in Table 3 below. The mean (median) core earnings as a percentage of sales is 7.53 % (11.02 %). The mean (median) unexpected core earnings is 0 % (-1.203 %). This is expected as they are residuals from model (1). These results are also similar to both what Zalata & Roberts (2017) and Athanasakou et al. (2009) finds.

The non-recurring items ($NREC$) as percentage of sales have a mean (median) of 19.4 % (8.44 %), which is quite high compared to what other studies finds. Zalata & Roberts (2017) and Athanasakou et al. (2009) finds non-recurring items af 6,1% and 2,1% respectively. In the period 2000 - 2015 Eilifsen & Knivsflå (2021) finds special items on average to be 6,1% of sales in Norwegian companies. Looking at Table 4 $NREC$ correlates positively (significant at the 1% level) with UCE. This is expected since an increase in the unexpected core earnings can come as a result of shifting of expenses from recurring to non-recurring items, which is represented by $NREC$. Multicollinearity issues can occur with highly correlated variables, which do not seem to be an issue here.

On average 41.54% of the firms have a tendency to give prominence to APM´s in their annual reports. 46.5% of the firms have total liabilities that exceed 60% of total assets, and 69.91% have financial debt that exceed 33% of total assets. This confirms some of Fan et al. (2012) evidence, and shows that Norwegian firms to a great extent rely on debt to finance their activities.

Table 3: Summary statistics.

Descriptive statistics for the full sample					
Variables:	(1)	(2)	(3)	(4)	(5)
	Mean	25th	Median	75th	Std. Dev.
Model (1):					
CE	0.0753	0.0385	0.1102	0.2265	0.446
CE_{t-1}	0.0567	0.0382	0.1080	0.2196	0.492
ATO	0.8303	0.2885	0.7175	1.1870	0.635
TACC_{t-1}	-0.1916	-0.2273	-0.0490	-0.0022	0.436
ΔSales	0.1704	0.0000	0.0670	0.2051	0.254
ΔNEGSales	-0.0632	-0.0491	0.0000	0.0000	0.129
Model (3 and 4):					
UCE	0.0000	-0.0520	-0.0120	0.0612	0.213
NREC	0.1940	0.0405	0.0844	0.2233	0.260
APM	0.4154	0.0000	0.0000	1.0000	0.493
LDEBT	0.4650	0.0000	0.0000	1.0000	0.499
FDEBT	0.6991	0.0000	1.0000	1.0000	0.459
SIZE	14.4244	12.6709	14.3128	15.9126	1.984
LEV	0.7872	0.1186	0.4776	1.0776	0.901
OCF	0.0665	0.0094	0.0628	0.1252	0.124

ROA	-0.0005	-0.0496	0.0283	0.0801	0.150
MBV	4.8408	1.0000	2.1332	5.4962	6.424

Note:

CE is core earnings, and measured as net income added tax expenses, interest expenses, depreciation, amortization and impairments.

CE_{t-1} is previous years core earnings.

ATO is asset turn over ratio, measured as net sales divided by average net operating assets.

$TACC_{t-1}$ is total operating lagged accruals, found by subtracting lagged operating cash flow from operations from lagged net income.

ΔSales is the net percentage change in net sales.

ΔNEGSales is the net percentage change in net sales when sales is negative.

UCE is the unexpected core earnings, measured as reported core earnings less CE.

NREC is non-recurring expenses, and measured as the difference between reported core earnings and bottom line net income scaled by sales.

APM is a dummy variable set to 1 if four or more of the conditions in section 3.2 are met, and 0 otherwise.

LDEBT is a dummy variable set to 1 if total liabilities divided by total assets exceeds / is lower than 60%

LDEBT is a dummy variable set to 1 if total debt divided by total assets exceeds / is lower than 33%

SIZE is the size of the firm, measured as the natural log of total assets.

LEV is leverage, measured as long term debt scaled by equity.

OCF is operating cash flow, measured as cash flow from operations scaled by lagged total assets.

ROA is the return on assets, measured as net income divided by lagged total assets.

MBV is the market to book value, measured as the market value of the firm at year end divided by book value of equity.

Table 4: Spearman correlation table

	UCE	NREC	APM	LDEBT	FDEBT	SIZE	LEV	CFO	ROA	MBV
UCE	1									
NREC	.2448***	1								
APM	.0013	-.0705	1							
LDEBT	.0813*	.0744	-.0694	1						
FDEBT	.0254	-.0608	.0084	.4546***	1					
SIZE	.0894*	.0739	.1115**	.0587	.1375***	1				
LEV	.1308**	.2295***	-.0408	.4818***	.3428***	.4349***	1			
CFO	.1424***	-.0782	.1396***	.1137**	.1269**	.2171***	.1723***	1		
ROA	.2545***	-.3669***	.1226**	-.0762	.0373	.2339***	.0869*	.5689***	1	
MBV	-.0241	-.0856*	.1117**	.0662	-.0893*	-.3103***	-.0101	.1955***	.2171***	1

Note:

* Indicate signifiance at 10% in a two-tailed test

** Indicate signifiance at 5% in a two-tailed test

*** Indicate signifiance at 1% in a two-tailed test

Variable definitions are given in Table 3

4.2 Classification shifting evidence

Model (2) is run first to examine for evidence of classification shifting on the full sample. The results from this model will reveal if firms listed at the Oslo Stock Exchange see classification shifting as a viable earnings management method. Two regressions are run, one on the full sample and one with only those who have $NREC$ expenses. Firms with $NREC$ expenses are according to Zalata & Roberts (2017) more viable to engage in expense shifting. To further test the hypotheses the interactions between APM and non-recurring items, as well as debt and non-recurring items are tested separately later, this to avoid multicollinearity issues.

Table 5: Evidence of classification shifting

	Dependent variable:	
	UCE	
	Full sample	Firms with NREC expenses
	(1)	(2)
NREC	0.132*** (0.042)	0.104*** (0.039)
	t = 3.180	t = 2.690
SIZE	−0.005 (0.006)	−0.007 (0.005)
	t = −0.948	t = −1.430
LEV	0.010 (0.010)	0.007 (0.010)
	t = 1.000	t = 0.763
CFO	−0.066 (0.093)	−0.064 (0.088)
	t = −0.707	t = −0.725
ROA	0.525*** (0.082)	0.479*** (0.081)
	t = 6.400	t = 5.940
MBV	−0.001 (0.001)	−0.002 (0.001)
	t = −0.830	t = −1.400
Constant	0.084	0.133
Year Fixed Effects	Yes	Yes
Industry Fixed Effect	Yes	Yes
Observations	585	533
R^2	0.126	0.124
Adjusted R^2	0.100	0.095
F Statistic	6.280*** (df = 13; 567)	5.590*** (df = 13; 515)

Note:
*p<0.1; **p<0.05; ***p<0.01
Standard errors are given in in parantheses.
The parameters are estimated based on the following model:
$UCE_{i,t} = \beta_0 + \beta_1 NREC_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 CFO_{i,t}$
$+\beta_5 ROA_{i,t} + \beta_6 MBV_{i,t} + \epsilon_{i,t}$
Variable definitions are given in Table 3

From Table 5 one can see that the coefficient for $NREC$ is positive and significant at the 1% for the full sample regression. This indicates that firms listed on the Oslo Stock Exchange do see classification shifting of expenses as a viable method for increasing their core earnings. For the smaller sample the coefficient for $NREC$ is also positive and significant at the 1%, but smaller. First of all, this provides evidence for that even in a strong institutional environment as Norway provides, classification shifting still occurs. Second it is an addition to the already existing evidence, that the managerial opportunities provided by IFRS opens for classification shifting. Third it acts as a cautionary tale for users and auditors of the financial statements, as classification shifting artificially increases core earnings while leaving net income unchanged making it difficult to detect.

Core earnings are often used as a proxy for cash-flow and are often considered more informative than regulatory net-income (Bhattacharya et al., 2004; Bradshaw & Sloan, 2002), thus artificially increasing the measure could mislead users, auditors and regulators. Credit facilities who base their covenants on core earnings (Malikov et al., 2019) should be especially careful since firms could use expense shifting to avoid breaching their covenants.

Further, the coefficient for $SIZE$ is slightly negative portraying that larger size firms are less likely to engage in classification shifting, however it is not significant so the evidence for this is at the best modest. The positive and significant at the 1% coefficient for ROA indicates that firms with higher returns on their assets are more likely to use classification shifting. LEV is positive providing evidence for that higher leveraged firms are more likely to use classification shifting, however since the coefficient is not significant the evidence here also is quite limited.

4.3 The effect of APM reporting on classification shifting

To test the first hypothesis if firms that give more prominence to alternative performance measures utilizes expense shifting, I run regression (3) on both the full sample and only on those with $NREC$ expenses. A firm is classified as APM prominent four or more of the eight criteria stated in section 3.2 are fulfilled. In Table 6 below, the coefficient of interest is $NREC \ x \ APM$. A positive and significant coefficient is expected for hypothesis one to be true.

In both the full sample and the smaller sample with only firms that have non-recurring expenses, the coefficient for $NREC \ x \ APM$ is positive and significant at the 1%. These results provide evidence for that companies who give more prominence to alternative performance measures in their financial reports, see classification shifting as viable a tool to increase their core earnings. This coefficient is greater than the coefficient for $NREC$ in Table 5, providing evidence for that these firms alone are more motivated to engage in classification shifting than the whole sample is. Firms that have an extensive reporting of alternative performance measures in their financial reports, might want to enhance these. One way to do this is through expense shifting, which comes both with little cost and is not easily detectable. Shifting expenses increases core earnings and the alternative performance measures that are based upon core earnings. This is supported by Lougee & Marquardt (2004) who finds that firms reporting pro forma earnings are significantly more likely to report income-decreasing items than firms who does not report pro forma earnings. This is also consistent with Nagar & Sen (2016) who argues that firms who value pro forma earnings are more likely to report special items, which again increases the opportunity for these firms to engage in classification shifting.

As a significant portion of the variation in unexpected core earnings can be explained by the inter-action of the APM dummy variable and non-recurring expenses, this might also be an indication that the quality of the financial reports of these firms are low as well. Mey & Lamprecht (2020) research find strong evidence for that EBTIDA, which is a pro forma earning based on core earnings lacks decision usefulness. This could fool investors, leading to a higher valuation of the firm if not detected.

Table 6: The effect of APM reporting on classification shifting

	Dependent variable:	
	UCE	
	Full sample	Firms with NREC expenses
	(1)	(2)
NREC	0.075* (0.044)	0.055 (0.041)
	t = 1.690	t = 1.330
APM	−0.064*** (0.024)	−0.053** (0.023)
	t = −2.640	t = −2.250
APM x NREC	0.367*** (0.116)	0.336*** (0.105)
	t = 3.170	t = 3.180
SIZE	−0.004 (0.005)	−0.005 (0.005)
	t = −0.678	t = −1.080
LEV	0.003 (0.011)	0.001 (0.010)
	t = 0.300	t = 0.084
CFO	−0.109 (0.094)	−0.099 (0.089)
	t = −1.170	t = −1.120
ROA	0.554*** (0.082)	0.492*** (0.081)
	t = 6.740	t = 6.110
MBV	−0.001 (0.001)	−0.002 (0.001)
	t = −0.940	t = −1.550
Constant	0.083	0.119
Year Fixed Effects	Yes	Yes
Industry Fixed Effect	Yes	Yes
Observations	585	533
R^2	0.141	0.140
Adjusted R^2	0.113	0.108
F Statistic	6.210*** (df = 15; 565)	5.560*** (df = 15; 513)

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are given in in parantheses.
The parameters are estimated based on the following model:
$UCE_{i,t} = \beta_0 + \beta_1 NREC_{i,t} + \beta_2 APM_{i,t} + \beta_3 APM_{i,t} x NREC_{i,t}$
$+ \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 CFO_{i,t} + \beta_7 ROA_{i,t} + \beta_8 MBV_{i,t} + \epsilon_{i,t}$
Variable definitions are given in Table 3

4.4 The effect of debt on classification shifting and APM reporting

As there seems to be a connection between the reporting of alternative performance measures and highly leveraged firms (Lougee & Marquardt, 2004), debt levels and their interaction on unexpected core earnings and non-recurring expenses are examined as well. The literature is twofold when it comes to earnings management and debt levels. Therefore, I examine firms with both high and low debt levels and their interactions on non-recurring expenses, which will give an answer to hypothesis two and three.

Firms with high debt levels could be motivated to engage in classification shifting due to their higher interest expenses than other firms with lower debt. Higher leveraged firms will have a lower net income due to higher interest expenses, ceteris paribus. To make up for the lower net income one might be inclined to artificially increase core earnings and try to portray a better result that way. Additionally, as highly leveraged companies could be on the verge to breach any debt covenants, classification shifting could be used to avoid a breach. EBITDA-covenants are often

used (Abernathy et al., 2014; Malikov et al., 2019), and expense shifting could lead to more slack in the covenant.

On the other side one can argue for that firms with lower debt levels, consequently more equity financed also are inclined to engage in classification shifting. Investors providing equity financing are more exposed to information asymmetry (Jensen & Meckling, 1976), hence firms that seek equity financing are more prone to engage in classification shifting according to both Liu & Wu (2020) and Zhang et al. (2020).

To set a benchmark for the debt levels, I make use of Thanh et al. (2020) evidence on classification shifting and debt. They find that firms are more inclined to engage in classification shifting if the financial debt level exceeds 33% and the total debt level exceeds approximately 60%. The dummy variable $LDEBT$ is therefore set to 1 if total liabilities *exceed* 60% of total assets, and $FDEBT$ is set to 1 if financial liabilities *exceed* 33% of total assets, otherwise they are set to 0. The regression in model (4) is then run on the full sample only. For hypothesis two to be true, I expect a positive and significant coefficient on both $LDEBT\ x\ NREC$ and $FDEBT\ x\ NREC$.

Since the relationship between debt and classification shifting seems to be non-linear. I once again test the full sample, but this time I set $LDEBT$ equal to 1 if total liabilities is *less* than 60% and FDEBT equal to 1 if the financial debt is *less* than 33%, otherwise they are set to 0. For hypothesis three to be true, I expect a positive and significant coefficient on both $LDEBT\ x\ NREC$ and $FDEBT\ x\ NREC$.

The results in Table 7 shows that the coefficient for $LDEBT\ x\ NREC$ is negative but not significant for firms with total liabilities exceeding 0,6. Testing firms with total liabilities lower than 0,6 $LDEBT\ x\ NREC$ is positive and significant at the 10% level. The opposite applies for the $FDEBT\ x\ NREC$ coefficient. The coefficient is positive and significant at the 1% for firms having financial debt exceeding 33%, and negative but not significant for firms with financial debt less than 33%.

These results do to some extent confirm the non-linearity between debt levels and classification shifting, which also both Ghosh & Moon (2010) and Thanh et al. (2020) finds. The two different debt measures are opposite of each other both when it comes to sign and significance. High $LDEBT$ might not necessarily be an indication of financial distress, and thus these firms might refrain from expense shifting since they are under scrutiny of the creditors. High $FDEBT$ on the other side might indicate financial distress, since it is interest bearing debt. Classification shifting could be used to portray a better result through alternative performance measures, or to avoid breaching any debt covenants. With lower $LDEBT$ firms might not be under such scrutiny from creditors as the high $LDEBT$ firms are. Opportunistic expense shifting could therefore be used to mislead investors, since they won't bear the cost of monitoring the firm thus ending up with a higher valued firm. Firms with low $FDEBT$ are seemingly not motivated to shift expenses. As they are not under financial pressure they might refrain from classification shifting and instead deliver higher quality earnings, which might lead to lower interest rates or better loan terms. The alternative cost for these firms is much higher if discovered than for the high $FDEBT$ sample.

These results could be interpreted as for firms with high debt levels, the financial debt is a better benchmark to use if looking for motivation for expense shifting. Creditors should therefore be cautious if the financial debt measure is exceeding 33%. As discussed earlier higher financial debt provides higher interest rates which again could motivate firms to shift expenses and thus report higher core earnings. Investors on their hand should be more cautious when a firms total liabilities

to total asset ratio drops below 60%. These firms seem motivated to engage in classification shifting which could lead to an artificially high valuation of the firm.

Table 7: The effect of debt on classification shifting

	Dependent variable:	
	UCE	
	Full sample: LDEBT > 0,6 and FDEBT > 0,33	Full sample: LDBET < 0,6 and FDEBT < 0,33
	(1)	(2)
NREC	0.058 (0.089)	0.111** (0.056)
	$t = 0.657$	$t = 2.000$
LDEBT	0.005 (0.011)	−0.014 (0.027)
	$t = 0.428$	$t = −0.522$
FDEBT	−0.047* (0.027)	0.030 (0.030)
	$t = −1.750$	$t = 1.020$
LDEBT x NREC	−0.112 (0.135)	0.186* (0.104)
	$t = −0.835$	$t = 1.790$
FDEBT x NREC	0.229*** (0.054)	−0.164 (0.115)
	$t = 4.270$	$t = −1.430$
SIZE	−0.006 (0.009)	−0.005 (0.006)
	$t = −0.653$	$t = −0.971$
LEV	0.015 (0.019)	0.017 (0.012)
	$t = 0.821$	$t = 1.400$
CFO	−0.042 (0.098)	−0.046 (0.095)
	$t = −0.426$	$t = −0.488$
ROA	0.518*** (0.160)	0.524*** (0.082)
	$t = 3.230$	$t = 6.350$
MBV	−0.001 (0.001)	−0.001 (0.001)
	$t = −0.893$	$t = −0.873$
Constant	0.117	0.078
Year Fixed Effects	Yes	Yes
Industry Fixed Effect	Yes	Yes
Observations	585	585
R^2	0.136	0.132
Adjusted R^2	0.103	0.100
F Statistic (df = 17; 563)	5.200***	5.050***

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors are given in in paranatheses.
The parameters are estimated based on the following model:
$UCE_{i,t} = \beta_0 + \beta_1 NREC_{i,t} + \beta_2 LDEBT_{i,t} + \beta_3 FDEBT_{i,t} + \beta_4 LDEBT_{i,t} xNREC_{i,t}$
$+ \beta_5 FDEBT_{i,t} xNREC_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \beta_8 CFO_{i,t} + \beta_9 ROA_{i,t} + \beta_{10} MBV_{i,t} + \epsilon_{i,t}$
Variable definitions are given in Table 3

To test the fourth hypothesis, I check the mean and median leverage levels for the sample after dividing them into those who are classified as APM prominent and non-APM prominent. APM prominent are those firms who have the *APM* variable in model (3) set to 1. I test for the *actual* FDEBT and LDEBT, as well as for the *LEV* ratio which is used as a control variable in the other regressions. For hypothesis four to be true, I expect that the APM prominent group on average have higher debt levels than the other group.

Table 8 shows that firms classified as non-APM prominent actually are slightly more leveraged on all three debt level measures. Although Lougee & Marquardt (2004) finds the opposite between

these two factors, they do point out that this evidence is weak. A two-tailed t-test of the means do however reveal that there is no difference between the means, indicating that they might be similar. This observation rejects the fourth hypothesis, that firms who tend to give prominence to alternative performance measures are more leveraged. The relatively small sample size may on the other side account for this result. Nevertheless, the mean market to book value (MBV) of the APM prominent group is 4.472 compared to the mean non-prominent group of 12.145. One explanation to this could be that the APM prominent group want to increase their MBV by giving prominence to alternative performance measures in their financial statements. On the other hand, it could be an indication that investors not are fooled by the firms extensive use of pro forma measures, and as such are more cautios in their valuation of these firms.

Table 8: Summary statistics of APM reporting and debt

	APM prominent firms		Non-prominent firms		Test of differences	
Number of firms:	243		342		585	
	Mean	Median	Mean	Median	T-Test / Difference	P-value
APM	1.0000	1.0000	0.0000	0.0000		
ALDEBT	0.5514	0.5435	0.5898	0.5971	-1.9464	0.0521
AFDEBT	0.4610	0.4561	0.4805	0.4786	-0.9642	0.3353
LEV	0.6672	0.4121	1.4840	0.5500	-1.4686	0.1428
SIZE	14.7245	14.6607	14.2207	14.2179		
CFO	0.0894	0.0733	0.0326	0.0561		
ROA	0.0298	0.0338	-0.0556	0.0119		
MBV	4.4720	2.5685	12.1449	1.7189		

Note:

ALDETB and AFDEBT are the actual LDEBT and FDEBT, not the dummy variable

All other variables are defined in Table 3

4.5 Robustnes checks

The consumer staples is the industry that by far have the most firms classified as APM prominent, with 65% of all firms in this being classified as APM prominent. Eliminating consumer staples from model (3) would act as a test for if it is this industry alone that drives the relationship between APM and NREC. Running the regression shows a smaller but still significant at the 1% coefficient, providing robustness for that the main findings in hypothesis one are conclusive.

The findings shows that high financial debt could be an indication for firms motivation to engage in classification shifting. At the same time a low total debt ratio could also be an indication for the firms motivation. The debt regimes on $LDEBT$ and $FDEBT$ from Thanh et al. (2020) could be quite arbitrary in this setting. To check for this, I test every 10th percentile on $LDEBT$ and $FDEBT$ and find the breaking point on $FDEBT$ to be approximately on 30%, very similar to Thanh et al. (2020) results. The $LDEBT$ however does not show any clear breaking point. In addition to avoid eventually multicollinearity issues, the original model (4) is run again but with $LDEBT$ and $FDEBT$ on separate regressions providing similar results.

As the results fail to accept the fourth hypothesis, I also test if firms who are classified as APM-prominent in year$_{t-1}$ and year$_{t+1}$ are higher leveraged but the results here are also inconclusive,

and shows no difference in debt levels between APM prominent firms and non-APM prominent firms.

5.0 Conclusion

The managerial judgement provided by IFRS opens up for reporting of non-recurring items (Zalata & Roberts, 2017), as well as the reporting of non-regulated and non-audited alternative performance measures in the financial statements. This study investigates whether or not firms who tend to give prominence to alternative performance measures in their financial statements, see classification shifting as a viable earnings management method. Past studies show that investors prefer and value alternative performance measures higher than regulatory measures (Bradshaw & Sloan, 2002), and by artificially increasing core earnings firms might mislead users of the financial statement. Furthermore, this study also examines different debt ratios and how these affects firms decisions to use classification shifting as a earnings management method. As past studies show a connection between leverage and pro forma reporting (Lougee & Marquardt, 2004), this study also investigates if there is a relationship between these two factors as well.

The results in this research provides multiple contributions to the literature on classification shifting of expenses. First of all, the evidence points towards that the firms in this sample, which are located in a strong institutional environment are inclined to use classification shifting as an earnings management method. This adds to the already existing literature on the fact that firms who report after IFRS utilizes classification shifting. Further as the investor protection is strong in Norway (Hope et al., 2009), it confirms the notion that this method is difficult for users of the financial statements to detect. As classification shifting is seen as a viable tool in this context, it might be transferable to other regions with weaker institutional environments.

Second, the main findings of this research reveal that firms who tend to give prominence to alternative performance measures in their financial statements shift expenses to a greater extent than when testing the whole sample. This should act as a cautionary tale for the users of these financial statements. Enhancing alternative performance measures by using classification shifting, and presenting these in the financial statements could lead to an artificial high valuation of the company. Further as creditors often rely on covenants based upon pro forma earnings, they should be aware that firms can use classification shifting to avoid a covenant breach. Extensive use of alternative performance measures in the financial statement might be a indication that the firm utilizes classification shifting. For standard setters this might also be a caveat for if they should try to regulate, or standardize the use of such pro forma measures. If alternative performance measures are standardized this would most likely make the presented figure faithful and comparable, which again would make it a decision useful measure. In addition, this might remove one of the incentives firm managers apparently have to engage in classification shifting.

Third it ads to the already existing literature on the non-linear relationship between debt and earnings management. The evidence points towards that if firms have high financial, or interest-bearing debt they are more viable to engage in classification shifting than firms with low financial debt. Thanh et al. (2020) threshold on 33% financial debt to total assets seems to be viable in this strong institutional setting as well. Investors and creditors should take this into account when scrutinizing the accounts of firms with high financial debt, as it may imply that the earnings quality is low. In the low debt regime total liabilities to total assets appear to be a better indication

upon the motivation for classification shifting, and as such should warn investors. As there are many ways of defining debt levels and ratios, there might be other ratios and/or threshold levels that might better delineate the relation between debt and classification shifting. This study fail in finding a relationship between firms who give prominence to alternative performance measures and their debt levels. However, the relatively small sample size might be a contributing to this result.

The principle based IFRS standards are slowly being phased inn around the world, and as this opens more up for classification shifting than former rule-based accounting standards might have done. One explanation to why firms see classification shifting as a viable tool in this setting, might be that IFRS allows managers to use their judgment when it comes to expense classification. This has implications for IASB, as to put more focus on regulating classification of line items within the income statement. Further it has implications for both investors and creditors. Valuation of a firm based upon alternative performance measures which are not described, should be carefully considered as firms could artificially increase those with the use of classification shifting. Creditors on their hand must be vigilant as to consider if covenants based upon pro forma measures should be used, as firms might shift expenses to avoid breaching them. Extensive use of alternative performance measures, or high financial debt might be indications to look for if one suspects that firm uses classification shifting.

There is still relatively little research on classification shifting in different contexts all over, and further research is needed in this field in order to find out if there exist a regulatory gap that needs to be filled. This could for example be a comparison between IFRS and non-IFRS reporting firms located in the same environment. Other studies with different approaches with regards to defining firms as APM prominent or not is also encouraged, as it might create a better understanding if firms exploit non-IFRS measures. As debt levels could be measured in a variety of different ways more research on debt and classification shifting is needed, especially on the different threshold regimes.

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Appendix

JOURNAL OF INTERNATIONAL ACCOUNTING, AUDITING AND TAXATION

TABLE OF CONTENTS

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