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Abstract

Our study contributes to the understanding of IFRS adoption by examining the effect it has on audit fees and auditor choice in Norway. Using a regression model, we first analyze the effects that transitioning from NGAAP to IFRS will have on audit fees. Secondly, we use the Heckman two-stage model method to examine the effects on auditor choice. Our findings show a decrease in audit fees upon transitioning from NGAAP to IFRS, followed by an increase in audit fees in the subsequent years. Additionally, we find that the transition to IFRS leads to a higher likelihood of choosing a Big 5 auditor.

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1. Introduction

In this Master Thesis, we will explore the effects of switching from Norwegian Generally Accepted Accounting Principles (NGAAP) to International Financial Reporting Standards (IFRS) on audit fees, non-audit, and total fees and auditor switching in Norway. We find evidence suggesting that audit fees are reduced in the year of implementation of IFRS and increase in the following years. We also find evidence that switching to IFRS has a more significant impact on the amount of non-audit fees. Additionally, our results from the Heckman Two-Stage method suggest that when switching to IFRS, clients will be inclined to choose a Big 5 auditor. This study contributes to the existing literature on IFRS implementation by carrying it out in the Norwegian context. It also shows the driving forces behind changing auditors when implementing IFRS and the effects of switching.

The adoption of IFRS has led to many companies and countries experiencing changes in their financial reporting practices, especially firms listed on the stock exchange. IFRS has been implemented to enhance transparency, comparability, and financial reporting quality among stock-listed firms across several countries. However, it could also lead to some challenges and uncertainties associated with audit fees, non-audit fees, and the choice of auditor. In our thesis, our primary focus will be examining the relationship between implementing IFRS and audit fees. Therefore, we intend to answer the research questions:

"Do auditors' fees increase when companies switch accounting language from NGAAP to IFRS?"

"Does implementing IFRS drive companies to switch to Big 5 auditors?"

By answering this research question, we aim to provide additional insight into the correlation between IFRS adoption and fees concerning audit and non-audit services and auditor choice. The rules and regulations of International Accounting Standards (IAS) and their implications on corporate reporting, costs, and effects make IFRS a crucial topic of study. While there have been several studies on the topic, little research has been conducted on the cost of adopting IFRS in the Norwegian context.

To answer our research questions, we have examined three different hypotheses:

H1: Changing accounting language from NGAAP to IFRS will increase audit fees.

H2: Audit fees increase the following years after implementing IFRS.

H3: Companies intending to transition from NGAAP to IFRS are more likely to switch to one of the Big 5 auditors.

1.1 Research Context

Previous research has shown that auditors' fees tend to increase when transitioning from GAAP to IFRS (Raffournier & Schatt, 2018; De George et al., 2013). For this Master Thesis, we aim to investigate the impact of this transition on auditors' fees in the Norwegian context, as well as explore the driving forces behind auditor switches around the time of IFRS adoption. The complexity of IFRS regulations compared to GAAP may offer insights into why auditors' fees increase, as auditors need to invest significant time and effort in understanding these rules before performing. Higher standards are set for the auditor's expertise and desire to audit IFRS due to the complexity of the system.

We will examine companies that have changed from NGAAP to IFRS between 2003 and 2020 with the data provided by Brønnøysundregisteret. Then we will gather the data we will analyze to disclose an effect on auditor fees. The paper will also disclose why companies want to change their accounting practices, the benefits of it, the costs, and auditor choice. The adoption of IFRS has been growing for a few years, and we found this kind of research highly relevant to the present situation in the professional field (Tronstad & Selnes, 2021).

1.2 What is the Answer?

The findings of our study can be summarized in three main points. We find evidence that switching from NGAAP to IFRS will decrease audit fees for firms in the year of implementation and rather increase in the following years. We also find that the effect of switching to IFRS is more significant for non-audit fees. These non-audit

fees are a consultant and advisory services the auditor provides for the firm. In addition, we find evidence suggesting that firms switching from NGAAP to IFRS are more likely to use a Big 5 auditor during the transition.

1.3 How does the answer Contribute to the Literature?

Using a sample of Norwegian firms from 2003 to 2020, this study contributes to the existing literature in different ways. Firstly, research on switching to IFRS and the effect on audit fees have been conducted in countries worldwide. Our study gives a comprehensive and updated analysis of the effects of switching from NGAAP to IFRS in the Norwegian context, including variables that could have an effect on the fees. Secondly, our analysis does not only concern the year firms switch to IFRS, but we examine the effects on audit fees both the year before switching and the years after. This way, we get a more persistent understanding of the effects of switching to IFRS. Lastly, we check for the effects of audit affiliation to see if the findings from prior studies regarding switching auditors will be the same in the Norwegian context.

1.4 Why is it Interesting?

IFRS provides a universal language for businesses to prepare their financial statements. This allows analysts, investors, and other stakeholders to easily analyze the financial performance of companies across nations and sectors. A strong understanding of IFRS is essential for those in the finance, accounting, or business fields, as it can improve decision-making and comprehension of a company's financial health.

Many nations have adopted IFRS as their national accounting language, so a comprehensive understanding of these standards is vital for conducting business. The demand for knowledge of IFRS has increased as businesses become more complex and investors require greater transparency and disclosure of the cost of adopting IFRS. By researching this topic, we aim to provide valuable insights into an essential study area currently lacking in the Norwegian context.

The results from our study could also have some implications for regulators, as the study will investigate the effects of IFRS adoption. They can use these findings to assess methods to make the transition to a new accounting language smoother. By providing results on the relationship between IFRS adoption, audit fees, and auditor switching in Norway, our research could inspire studies in the future to investigate the underlying mechanisms that drive the observed changes. This could be, for example, changes in audit risk, audit complexity, or competitive dynamics in the audit market.

The next section of the paper will present the framework regarding NGAAP, and IFRS, the main differences between them, and the auditor market in Norway. Section 3 covers the literature review and hypothesis development. Section 4 presents the methodology and our data, followed by the analysis and results in Section 5. We will also present some additional analysis in Section 6 before concluding in the last part of the paper.

2. Accounting Framework

2.1 NGAAP

The Norwegian accounting environment has developed NGAAP, a legally required reporting language for financial reporting in Norway. NGAAP is developed and overseen by the Norwegian Accounting Standards Board (NASB), or Norsk Regnskapsstiftelse (NRS) in Norwegian, an independent body that sets the accounting standards and principles for businesses operating in Norway. NASB was tasked with providing a definition of good accounting practice that aligns with the accounting legislation (Finansdepartementet, n.d.).

One of the primary responsibilities of the NASB is to maintain accounting standards (*NRS Organer*, n.d.). NRS 8: Good accounting practice for small enterprises is to supplement and interpret the basic accounting principles and the provisions of the Accounting Act in general for small undertakings. NRS 8 shall contribute to small enterprises carrying out their annual accounts within the law's framework while the annual accounts contain relevant and reliable information. The requirement for relevant information must be balanced against the use of resources. The rules for small businesses must be simple and low-cost for the person liable to the account, but the rules must also take care of what is necessary for information to the users of the accounts (Norsk Regnskapsstiftelse, 2022).

The NASB provides guidance and interpretation of NGAAP, including the definition of good accounting practice, through its publications and guidelines. The most recent publication on this subject is the report NOU 2015: 10, which includes recommendations for strengthening the Norwegian accounting system and improving the quality of financial reporting in Norway (Finansdepartementet, n.d.-b). In this report, the NASB highlighted the importance of adhering to the principles of good accounting practice, which include the principles of continuity, realization, matching, and prudence. These principles ensure that financial statements accurately reflect the financial position of the business, including its assets, liabilities, and equity, as well as the results of its operations.

Accounting Principles

The NGAAP accounting language serves as a guide to ensure the best overview and the most details about the income, expenses, and outcomes for a certain period. Five of the ten broad concepts that accounting law is built upon are regarded as fundamental, according to Accounting Act §4-1 (Lovdata, 1998).

The following accounting principles are considered to be fundamentals:

- **Historical cost principle**: Explains which value of the item should be booked (Langli, 2022).
- **Congruence principle**: Explains that only changes in equity during the period—as opposed to distributions of equity and contributions of new equity—should be recorded in the financial statement (Langli, 2022).
- **The Accrual principle**: Explains that when income is earned, it should be recorded in the income statement (Langli, 2022).
- **The Precautionary principle**: States that a corporation must use caution when determining the value of its assets and obligations and that it must take potential loss into account (Langli, 2022).
- **Continuity principle**: Dictates that the financial statements be prepared with the assumption that the business will continue to operate for the foreseeable future (*Skatteetaten*, 2003).
- **The Matching principle**: According to this principle, expenses must be recorded at the same time period as related revenue (*Skatteetaten*, 2003).
- **The Transaction principle**: Explains that payment for products or services should be recorded as soon as the goods are delivered physically, or the services are rendered (*Skatteetaten*, 2003).
- **The Security principle**: When hedging, gains and losses must be recognized in the profit and loss statement in the same period. The idea is to prevent the cost of an insured but unrealized loss (*Skatteetaten*, 2003).
- **Good Accounting Practice**: Explains that appropriate accounting practice should be followed when preparing financial accounts (*Skatteetaten*, 2003).

2.2 IFRS

All publicly traded firms in the European Economic Area (EEA) are required to present their consolidated financial statements in accordance with IFRS, as decided

by the European Union (EU) in 2002, which was put into motion on September 14, 2002. Companies were required to create their consolidated financial statements using IFRS for the first time in 2005. IAS Regulation EU No. 1606/2002 was the basis for this choice (IFRS-forordningen: Bruk Av Internasjonale Regnskapsstandarder | Europalov, n.d.). IFRS's goal is to provide regulations for the particular kinds of transactions and events that must be reported in financial statements (IFRS: International Financial Reporting Standards, n.d.).

Prior to the adoption of IFRS, the board of the International Accounting Standards Committee (IASC) developed the International Accounting Standards (IAS) between 1973 and 2001. In 2001, the International Accounting Standards Board (IASB) took over as the IASC's replacement. The IASB is an independent nonprofit organization that develops and approves IFRS (Acca, 2020). In order for financial statements to be uniform, reliable, and comparable across all businesses in any country that uses IFRS, it was initially intended for organizations to have equivalent accounting principles (International Financial Reporting Standards, n.d.). The jurisdiction in which the company operates determines which companies must use IFRS.

The Advantages and Disadvantages

We briefly mentioned why businesses change accounting language to IFRS in the introduction. It is thought that implementing IFRS will increase transparency, comparability, and financial reporting quality, which will be described in this section.

- **Transparency**: Transparency is the idea that all market participants should have access to, and be able to see and comprehend, information about current conditions, decisions, and actions (Lepadatu & Pirnau, 2009).
- **Comparability**: Comparing businesses more accurately requires that they prepare their financial accounts in accordance with the same standards. This is crucial when comparing businesses based in different nations since they would otherwise produce their financial statements according to different standards and techniques. Investors may now more accurately decide where to allocate their investment funds, thanks to the improvement in comparability (Lacoma, 2016).

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- **Financial Reporting Quality**: The study conducted by Musa (2019) discovered through several academic works that implementing IFRS improves foreign direct investment between nations and results in higher-quality accounting numbers.

While adopting IFRS has numerous advantages, there are some disadvantages that businesses should be aware of. These are a few possible disadvantages:

- **Not Globally Accepted**: Countries like the United States have not yet braced IFRS as their accounting language. The fundamental difference between the accounting languages is that the United States Generally Accepted Accounting Standards (USGAAP) are more rule-based, whereas IFRS is more principle-based. This means USGAAP is more specific than IFRS. IFRS are interpreted more as guidelines open for interpretation (*Global Adoption of IFRS as an Example of International Financial Law Making*, 2022; *US GAAP Vs IFRS: Spot the Difference*, 2021). Other countries are holding out as well. Due to the need to frequently compile financial statements using IFRS and another set using USGAAP, foreign-based companies that conduct business in America have a difficult time with their accounting (Lacoma, 2016).
- **Increased Costs**: A prior study looked at data showing that IFRS caused compliance costs and yearly accounting costs for businesses in Australia to increase by 20% (Pawsey, 2017). Due to their lack of significant resources compared to larger companies, smaller businesses are more financially exposed due to costs (Lacoma, 2016).
- **Standard Manipulation**: Companies can choose among reporting techniques that suit their needs, allowing them to shape their financial reports to reflect the best-desired outcomes. However, this flexibility can allow for manipulating profits or revenue in the reports. This can potentially make it easier to hide financial problems, which in turn can affect the company's financial transparency and credibility (Editor in Chief, 2019).

While there are certainly some disadvantages to using IFRS, it is vital to remember that there are many advantages to having a single worldwide accounting language.

2.3 Differences between NGAAP and IFRS

As mentioned, NGAAP follows the rules that are being set by the Accounting Act fundamental principle (rskl. §4-1) and its assessment rules (rskl. kap. 5). IFRS contains a considerable amount of regulated details and comprehensive standards.

NGAAP is results-oriented, whereas IFRS is balance sheet-oriented, which is the main distinction between the two. This means that when implementing IFRS, only the entries made by the accountant that satisfy the requirements for assets and liabilities should be included in the balance sheet. The remaining entries should be in the profit and loss account (Bjørnslett, 2022).

NGAAP is the required accounting language for Norwegian private firms. Businesses must use IFRS as their accounting language if publicly traded on the Norwegian Stock Exchange (Oslo Børs).

According to Gjerde et al. (2008), NGAAP is principle-based, earnings-oriented, and requires the use of unbiased accounting estimates. While IFRS takes a more balanced sheet-oriented focus on non-biased fair value accounting (Gjerde et al., 2008). The usual legal process will serve as the guiding principle for interpretation because the accounting standards are incorporated into the law (Baksaas & Stenheim, 2015).

The main difference between IFRS and NGAAP, as these accounting regimes have evolved over time, is that fair value according to IFRS and cost according to NGAAP are now the preferred measurement principles in reality (Gjerde et al., 2008).

The measuring principles that NGAAP and IFRS employ are another factor that distinguishes them significantly from one another. According to Gjerde et al. (2008), the following differences are the most significant:

- *Goodwill and other intangible assets*: NGAAP mandates that goodwill be tested for impairment losses and amortized to the best estimate its useful life. According to IFRS, it only needs to be assessed for impairment once a year, along with other intangible assets with indefinite lifetimes.

- *Research and Development*: Whereas IFRS requires that the research cost be recognized as an expense as soon as it is incurred, NGAAP allows the classification of the research expenditure as an intangible asset. According to IFRS, development costs that result in economic advantages should be recognized as intangible assets, although NGAAP has the option to expense them immediately.
- *Future expenditures*: According to NGAAP, reserves for upcoming costs may be recognized as debt and matched with related revenues. IFRS views routine maintenance as an investment that loses value over time.
- *Biological assets and investment property*: Both biological assets and investment property must be capitalized at cost according to NGAAP, and if they are subject to an impairment test and have a long useful life, they should be depreciated. When measured fairly, it should be capitalized as an asset and reported in accordance with IFRS.
- *Financial instruments*: According to IFRS, the majority of financial instruments are valued at fair value and amortized cost. Financial assets and debt are measured at cost in accordance with NGAAP unless they are short-term financial instruments traded on a liquid market. Then, they are valued at their fair market value.
- *Investment properties*: According to IFRS, investment properties are valued at fair value, while NGAAP values them at cost (Gjerde et al., 2008).

While these are the significant differences between NGAAP and IFRS, differences between them also appear in deferred taxes, pensions, and share-based payments (Gjerde et al., 2008).

Since 2008, IFRS has undergone substantial revisions and updates. As a part of this process, several new standards have been introduced:
- *Leasing*: In 2019, IFRS 16 replaced IAS 17. IFRS 16 defines a lease as a contract that transfers the right to control the use of an identified asset, while NRS 14 defines a lease as an agreement where the tenant is granted a right of use of the leased object (dib.no, 2020; Regnskapsstiftelsen, 2008).
- *Presentation*: IFRS requires a statement of profit and loss above total comprehensive income, while NGAAP only requires disclosing the result. NGAAP requires a certain setup for the financial statement (dib.no, 2020; *IFRS - IAS 1 Presentation of Financial Statements*, n.d.).

2.4 Auditor Market in Norway

EU Regulations

Norway is not a member of the EU, but it is a member of the EEA, which includes Iceland, Liechtenstein, and Norway. As a member of the EEA, Norway has adopted many of the same accounting and auditing regulations as the EU.

Norway has implemented the EU's Accounting Directive, which sets our rules on preparing and presenting financial statements for certain types of companies. Norway has also implemented the EU's Audit Directive, which sets out rules on the statutory audit of annual and consolidated financial statements.

Norway has its own accounting standards board, which sets out accounting standards for Norwegian companies. Norway also has its own regulatory body, the Norwegian Financial Supervisory Authority (Finanstilsynet) (*Revisjon*, 2023). Other countries in Europe have their own accounting and auditing regulations. Countries like the United Kingdom, France, and Germany have their own regulators (Financial Reporting Council, n.d.; *Normes Françaises*, n.d.; Deutsches Rechnungslegungs Standards Committee e.V.).

Norwegian Regulations

The Norwegian Financial Supervisory Authority oversees the Norwegian auditor market. Its diverse responsibilities include approving audit firms and auditors and monitoring their operations. The regulations' main goal is to ensure that the audit services provided are of the highest quality with the utmost independence (*Finanstilsynet*, 2022). The Brønnøysund Registration Center (BRC) must receive complete sets of financial accounts from all Norwegian companies if they fulfill the criteria (Brønnøysundregistrene, 2022).

According to Chapter 2, Audit Obligations (Revisorloven) Etc. § 2-1. Obligation to Audit, Companies that are registered as limited liability companies (Aksjeselskap) can opt out of an audit if they are below the following thresholds (*Lov Om Revisjon Og Revisorer*, 2020):

- The operating income is less than NOK 6 million.

- The balance sheet total is less than NOK 23 million.
- The average number of employees does not exceed 10 full-time employees (*Altinn*, 2023).

In Norway, publicly traded companies at the Norwegian Stock Exchange (Oslo Børs) must implement IFRS as their accounting language. With a few national adaptations due to unique needs in the company regulations, Norway's auditing standards are based on the International Standards of Auditing (ISA) (Che et al., 2020). Auditors can become state-authorized by meeting educational and experience requirements. Then they can enroll in an exam to obtain the state-authorized public auditor title (*Finanstilsynet*, 2017).

The Market for Auditors

Six large auditor companies control the majority of the Norwegian market. The Norwegian auditor market is dominated by six companies: PwC, EY, Deloitte, KPMG, BDO, and RSM (6). According to Losnegård (2021), the six auditing firms held a combined market share of 79.1% in 2020. This is an increase of 0.7%-points from 2019, measured by the company's turnover (Losnegård, 2021). Not only big businesses had a rise in turnover from 2019 to 2020. The development of the various turnover levels is highlighted in the table below.

Company size after turnover	Turnover 2020	Marked share after turnover	Change in turnover in %
> 100 mill. (6)	12,203,700	79.1%	8.3%
25-100 mill. (25)	962,400	6.2%	5.1%
10-25 mill. (67)	1,069,300	6.9%	6.4%
5-10 mill. (78)	546,900	3.6%	-0.2%
< 5 mill. (386)	639,300	4.2%	2.2%
All (562)	**15,421,600**		**7.4%**

Table 2.1: Auditor firms' market share in Norway measured with turnover (Losnegård, 2021)

According to statistics from 2020, there are around 9,842 people who work as auditors in Norway, of whom 8,421 are state authorized auditors (Losnegård, 2021; *Revisjon*, 2023).

There is a high demand for auditors who can provide services like audit of accounts, financial advice, tax planning, and reporting for all different businesses in Norway, like non-profit organizations, public institutions, and private companies.

3. Literature Review

This part of the paper will present the extensive literature that has been conducted on IFRS. The first part will dive into the research concerning the adoption of IFRS, specifically the benefits of IFRS adoption, challenges and concerns, and the financial implications that follow. The second part will take a closer look at the different determinants of audit fees and what previous studies find that could impact the price of audits. The third part will present research regarding auditor change, what leads to the change, and what effect the change has on audit pricing. The last part will present our hypotheses and how they have been developed based on the literature we have presented.

3.1 Benefits of IFRS Adoption

Bertrand et al. (2021) conducted a study examining the advantages of voluntary adoption of IFRS. While IFRS was formally adopted by publicly traded companies in 2005 to promote the harmonization of accounting practices, some nations allow unlisted firms to choose their preferred accounting language. The paper looked into whether privately held businesses in Europe can increase their borrowing capacity by voluntarily reporting their consolidated financial data in accordance with IFRS as opposed to their national accounting language. Demonstrating that IFRS adoption causes more non-listed enterprises to issue private debt by using fixed effects regressions on 8,391 firms across 22 European Union (EU) nations from 2005 to 2018.

Several factors must be considered when evaluating the decision to transition from GAAP to IFRS. One reason is that IFRS is increasingly being used globally, and many businesses find that adopting IFRS makes it simpler to conduct business abroad (Lee, 2019). Furthermore, some experts argue that IFRS provides a more transparent and uniform foundation for financial reporting, which might make it simpler for investors to compare financial statements from various organizations. Some companies may also see IFRS adoption as a means to simplify their accounting processes and minimize compliance costs (De George et al., 2013).

3.2 Challenges and Concerns of IFRS Adoption

There are a few reasons why companies may be concerned about the potential increase in auditor fees when adopting IFRS from GAAP. Furthermore, implementing IFRS can be a difficult and time-consuming process as firms must review and potentially revise their financial statements to align with the new standards. Leading to an increased workload and additional examinations from auditors, which can result in higher audit fees for the company (Guindy & Trabelsi, 2020).

Auditors may face additional difficulties in assessing a company's financial statements due to the differences in accounting rules and practices between IFRS and GAAP. For instance, IFRS may necessitate more subjective judgment and estimation in the preparation of financial statements, which could increase audit risk and require more effort from the auditors (Dinh & Piot, 2014).

Companies may be concerned about the potential impact on their financial statements when adopting IFRS (Pawsey, 2016). For example, IFRS may result in different reported amounts for specific items, such as revenue and assets, which could affect the company's financial performance and investors' perceptions. This situation may necessitate additional audit procedures to ensure the accuracy and completeness of financial statements, which could result in increased audit fees.

3.3 Financial Implications of IFRS Adoption

De George et al. (2013) investigated the cost of adopting IFRS and fees from auditors in Australia. The data the authors used in this study is for all companies listed on the stock exchange. According to the data, the auditors' fee jumped 23% from the mean the year before IFRS was adopted. The report found an 8% pre-IFRS anomalous rise in auditor costs. Additional research shows that IFRS-related audit fees are disproportionately higher for small businesses. Empirical studies imply that enterprises exposed to more complicated audits have more considerable increases in compliance costs as they switch to IFRS (De George et al., 2013). The authors of the article specifically note that adopting IFRS is costly for businesses due to the increased effort, knowledge, and information systems needed to implement the new standards, as well as the increased effort needed to manage the risk of material

omissions in IFRS-compliant financial statements. The study also states that there would be two main factors for the auditors. The auditor will need more information concerning IFRS to ensure the adoption has been properly executed, which is the first justification because the auditor wants to charge more for the audit to recoup the cost of the effort. The second reason is that auditors are likely to increase audit work to minimize the risk that financial statements will be misstated after IFRS adoption or the litigation risk related to the effects of misstated financial statements.

Higgins et al. (2016) considered a longer post-adoption time. They demonstrated consistently higher audit fees in the year of adoption and the years that followed using data from 2002 to 2012, demonstrating that the increase in audit costs is not a transient phenomenon. The premise that voluntary adopters invest in higher audit quality is supported by the fact that early adopters charge higher audit fees than required adopters.

3.4 Determinants of Audit Fees

There has been extensive empirical research trying to identify the determinants of audit fees. Previous studies have examined factors influencing audit fees from perspectives like auditor, client, and engagement attributes. These studies have been conducted in many countries and include variations in the types of companies involved in the data (Hay et al., 2006; Hay, 2012). The next part of this literature review will explore prior studies that look at these factors in detail and examine how they may affect auditor fees when adopting IFRS.

3.4.1 Client Attributes

Size

Firm size is a widely studied determinant of audit fees and has been included in almost all studies on the matter. According to Hay (2006), who conducted a meta-analysis of prior studies on audit fees, size had a dominant effect in the analysis and is expected to have a significant positive relationship with audit fees. The argument behind this expectation is that the number of hours it will take to audit a company will rise with the size of the company (Campa, 2013). This argument is also supported by studies conducted by Januarti and Wiryaningrum (2018), who stated in their study that when auditing larger companies, auditors encounter more

challenges compared to smaller ones. This is because larger firms typically deal with more complex transactions that carry a higher risk of misstatement, providing greater audit risk that demands a more extensive and thorough audit process from the auditors.

While most studies have used the natural logarithm of total assets to measure the firm size (Hay, 2006), some studies have applied alternative measures in their analysis. This can be seen from studies like Hope and Langli (2009) and Barua et al. (2019), who used the natural logarithm of sales, and Fleischer and Goettsche (2012), who used employees to capture the effect on firm size. Hope and Langli (2009) include both log of sales and the log of employees in their research, and similar to other studies, they find a significant positive association between the firm size variables and audit fees. Fleischer and Goettsche (2012) argued that using employees as a proxy for firm size would be more suitable when analyzing audit fees. Arguing that using employees as a variable is a better proxy to use in the analysis since it would have no collinear relation or interdependency to other financial variables based on financial statements commonly used in audit fee studies, and it would be more or less constant over a longer period.

Geographic Location

Prior research on auditor fees has included the location of clients and auditors as a contributing factor. Audit firms may charge higher fees in larger cities due to the increased costs associated with operating in these areas. Sundgren and Svanström (2013) conducted a study in Sweden investigating audit quality and pricing, in which they included a control variable for the region to account for the effects of big city costs. They highlighted the importance of including the region as a control variable, in their case Stockholm, given that Stockholm houses some of the largest companies in Sweden and is also one of the most expensive cities to live in. A similar study was conducted by Kharuddin and Basioudis (2018) in the UK, and their findings also indicate higher audit fees for London-based companies. They argue in the same way as Sundgren and Svanstrøm that this increase is due to the elevated living costs in London.

Industry

Langli and Hope (2009) suggested that variations in audit fees across industry sectors can be attributed to systematic differences in the degree of risk and complexity associated with the audit function in each sector. This can also be seen in the meta-analysis conducted by Hay et al. (2006). The findings in this meta-analysis stated that prior research had highlighted industries that operate in more complex ways, including financial institutions and utilities, which typically have larger assets and are generally easier to audit than companies with significant inventory, receivables, or intangible assets. Palmrose (1986) also included an industry variable in her study on audit fees and reasoned that the impact of the client industry on audit fees could be ascribed to differences in audit risk and varying audit requirements across industries.

Ownership/Structure

Ownership/structure could be an essential determinant of auditor fees as it can lead to information asymmetry between the managers and owners of the companies (Niemi, 2005). The asymmetry varies based on what type of ownership there is. Niemi (2005) conducted a study in Finland investigating the impact of ownership on audit hours and fees by examining three common ownership structures: multinational companies/foreign ownership, companies with high managerial ownership, and governmental ownership. Findings of the study revealed that companies with high managerial ownership had a negative effect on audit fees. In contrast, multinational companies or those with foreign ownership had a positive effect. Interestingly, no difference was found between private and public companies. However, Palmrose (1986) argued in her study on auditor fees that audit requirements will be higher in public firms than in private firms because public engagements will lead to higher risk exposure. Her study also supported this, where the findings showed that public companies could experience higher audit fees. In addition, Harahap and Prasetyo (2018) argued that ownership structure differences could result in variations in the methods used by shareholders to monitor the firm's activities, including the financial statement reporting process. Their study, which included companies from the Indonesian stock market to examine ownership structures, found similar results to the Finnish study. Managerial ownership has a negative effect, foreign ownership has a positive effect, and government ownership has a positive effect on audit fees.

Complexity

Prior literature has also included complexity as a significant determinant of auditor fees (Hay, 2006). In their study, Januarti and Wiryaningrum (2018) argued that larger companies with many transactions and complex transactions are associated with greater risk for auditors. Supporting this argument, Gerrard et al. (1994) stated in their study that as the complexity of the auditee increases, more time and effort are required by the auditor to plan, coordinate, and execute the audit function. Additionally, the greater the complexity of the client, the more difficult it becomes to perform the audit, leading to a greater number and level of challenges. Therefore, higher audit fees are expected when taking on such missions.

Risk

Many studies have included complexity as a control variable, using a variety of proxies to account for its effects. Langli and Hope (2009) used a log number of subsidiaries, the percentage of foreign subsidiaries, and the number of distinct two-number sic codes while finding a significant positive relationship between complexity and audit fees. Januarti and Wiryaningrum (2018) used only the number of subsidiaries associated with the company and also found a significant positive effect. The ratio between the sum of inventory and receivables, divided by total assets is a variable that has been included in many studies, but often as a proxy for inherent risk rather than complexity. Schadewitz and Vieru (2008) used it to control for complexity in their study concerning first-time IFRS users in Finland and found a positive effect on audit fees. Additionally, Kim et al. (2012) also found a positive effect for this variable in their study from the EU.

Leverage

Raffournier and Schatt (2018) found evidence in the Australian context that there is a positive association between audit fees and total debt. The higher fees are explained by the elevated risk of bankruptcy that occurs for highly leveraged firms and the fact that bankruptcy could be costly for both audit companies and the creditors of the client company, resulting in them demanding additional effort. Furthermore, a study completed by Fleischer and Goettsche (2012) in the German context found that leverage affected the audit price taken by small companies rather than large companies due to higher risk from smaller companies. Barua et al. (2019)

took it a step further and conducted a study researching what kind of leverage had the most significant effect on auditor fees. They argued that leverage could originate from financing and operating activities and therefore divided leverage into financial- and operating liability leverage. They found in their study that financial liability leverage has a negative association with audit fees, whereas operating liability leverage has a significant positive association with audit fees. The explanation behind this was that financial liability was, to a greater degree, contractual and therefore had a higher degree of accuracy than operational liability.

As with many other determinants of audit fees, different ratios have been used in prior studies to find the effect of leverage and the effect of risk due to liabilities in a firm. In this case, the most commonly used ratios are total debt, current ratio, and quick ratio (Hay, 2006).

Profitability

Raffournier and Schatt (2018) argued that low profitability might also be a sign of future difficulties and increased risk for the auditor; therefore, auditors may increase audit fees to compensate for the increased risk or for the increased audit effort that may be required. Harahap and Prasetyo's (2018) study presents an argument for the rise in audit fees due to profitability, even when profitability may be high. The argument relates to the information asymmetry that may exist between owners and managers of companies. This asymmetry can make it difficult for owners to know if there has been manipulation or earnings management in the financial statements. Owners could therefore want to ensure higher audit quality to avoid such agency conflicts.

Most studies have used different proxies like loss and return on assets (ROA) as control variables to control the effect that profitability can have on audit fees and operating performance. Earlier studies conducted in the UK, Norway, Australia, and Germany all found ROA to have a negative effect on audit fees (Guindy & Trabelsi, 2020; Hope & Langli, 2009; Raffournier & Schatt, 2018; Fleischer & Goettsche, 2012).

According to Guindy and Trabelsi´s (2020) research, companies that experience losses tend to pay higher audit fees, as auditors require compensation for the

potentially heightened risk and increased litigation possibility. These findings are also consistent with the results of studies conducted by Campa (2013) and Carcello et al. (2000). Fleischer and Goettsche (2012) found that for the German context, this was only supported by the smaller companies, as larger companies' profitability did not affect their audit fees. In contrast to these studies, Craswell and Francis (1999) found evidence that firms that had experienced losses the last couple of years had lower audit fees and argued that it possibly was due to an inability to pay higher fees.

3.4.2 Auditor Attributes and Engagement Attributes

Big 5

The "big 5 effect" or "big audit firm effect" has been examined in prior literature to determine if big audit firms charge a premium in their pricing schedule and what will drive this premium. Different countries and scholars have different ways of defining a big audit firm, and firms could also vary in size across borders. This difference also causes a variation in how many firms have been included in the variable when controlling for the effects.

Due to IFRS's reputation for being more complex, as mentioned earlier, global audit firms (PwC, KPMG, EY, and Deloitte) may maintain a better position as compared to smaller audit firms (Dinh & Piot, 2014). The Big 5 are said to have the edge over local audit firms since they are more versed in IFRS. By doing this, the Big 5 auditors might give public firms a safer way to adopt IFRS (Dinh & Piot, 2014).

Che et al. (2020) conducted a study on the effect of audit quality in big audit firms and found that the Big 5 effect arises because bigger audit firms offer higher audit quality, with higher-quality personnel, more resources, and better monitoring and incentives. McMeeking et al. (2006) suggest that big auditors have the opportunity to specialize their employees in different industries and offer industry-specialized auditors to their clients. They also argue that Big 4 auditors can maintain long-term client relationships, compensating for the increased fees through high-quality audits and satisfying service. Furthermore, a study conducted in the UK by Campa (2013) found that Big 5 audit firms do charge an "audit fee premium." Nonetheless, the premium charged by Big 5 audit firms is not tied to delivering superior audit

services. Instead, the premium is linked to the significant differences between clients of Big 5 firms and those of non-Big 5 firms. Big 5 clients typically have greater size, profitability, cash flow from operations, and leverage but lower growth levels than those audited by non-Big 5 firms.

Audit Activity (BUSY)

Another factor that has gained attention in prior studies is the audit firm's workload during the "busy season" and how it may affect the fees charged for their services. Earlier studies like Hope and Langli (2009), Craswell and Francis (1999), Causholli et al. (2011), Guindy and Trabelsi (2020), and Raffournier and Schatt (2018), all included an indicator variable to control for busy periods. McMeeking et al. (2006) highlighted in their study that the inclusion of this variable is justified by the fact that when there is a high demand for auditors' services, it can result in greater marginal costs for the auditors, leading to an increase in audit fees. However, the results from this variable have been mixed. While Craswell and Francis (1999) do not find any significance in this effect in their study, Hope and Langli (2009) surprisingly find a positive association between off-peak reporting and audit fees. The same goes for Raffournier and Schatt (2018), who note that larger firms have lower audit fees when audited in a busier period. Conversely, Guindy and Trabelsi (2020) and Kharuddin and Basioudis (2018) find that audit fees are higher during busy auditing periods.

NAF and AF ratio (Knowledge spillover)

Another engagement attribute that has received a great deal of interest is the relationship between audit fees and the existence of non-audit services. Plenty of audit companies offer advisory services to their clients in addition to the audit, and they could experience knowledge spillover from one side to the other. A crucial aspect of the audit firm's production function is having a thorough understanding of the client's business operations and environment. Just as Causholli et al. (2011) stated in their study, on the one hand, because of knowledge spillover, start-up, and production costs are lowered due to multiple services being provided by the same firm. On the other hand, they also state that large firms may have different personnel that provides different services and that knowledge sharing would be difficult. Walker and Hay (2013) also studied how non-audit services and knowledge spillover would affect audit services. According to their findings, the effects of

knowledge spillovers are not immediate but rather delayed. This implies that although knowledge spillovers may facilitate a faster audit, a learning curve is involved, and the benefits may not occur until the following years. This is also supported by Krishnan and Yu (2011), which find a negative relationship between audit- and non-audit fees, suggesting that knowledge spillover occurs from non-audit to audit services and vice versa.

3.5 Auditor Change

Ettredge and Greenberg (1990) conducted a study regarding auditor switching using 389 different cases from mid-1983 to mid-1987. They build on prior evidence that lowballing occurs in initial audit engagements and study the determinants that drive this effect. Their analysis focused on five different variables that could affect the initial audit fee that firms pay when changing auditors. These factors are (1) the financial health of the client; (2) the change in auditor class between non-big audit firms and big audit firms; (3) technological efficiency or efficiency differences between old and new auditors; (4) industry expertise; and (5) the number of bidding auditors. Their findings indicate that there are fee cuts when changing auditors from a big firm to a non-big firm and that when initiating a change from a non-big to a big one, there is a premium. They also found evidence that the premium or discount could be affected by different factors, such as industry expertise and audit efficiency, as well as the number of auditors bidding for the contract.

An early empirical study by DeAngelo (1981) argued that the discount seen by initial engagement when changing auditors is provided because of the cost advantage that the incumbent auditor possesses. Given this cost advantage, competitors must give a discount similar to the transaction and start-up costs of changing auditors. These costs also allow the current auditor to raise their fees in the subsequent years following the engagement and still have a cost advantage over competitors. A later study motivated by these findings is from Craswell and Francis (1999), who examined initial audit engagements and pricing in Australia. This study used a sample of 1,468 firms listed on the Australian stock exchange in 1987. The test investigated changes within big auditors and transitioned from non-big to big and big to non-big. Initial engagement discounts were only observed when clients switched from a non-big auditor to a big auditor. Their explanation behind the

observation is something they called "experience goods." According to this economic theory, discounted prices will occur due to goods being challenging to assess and evaluate before being experienced and rather having higher fees after experiencing the quality of the goods (Craswell & Francis, 1999).

A study conducted in the Norwegian context by Che et al. (2020) looked into the effect of when partner-auditee pairs changed affiliation to another audit firm. Their data involved 68 pairs in the end. Their findings indicate that audit fees increase when pairs switch from non-big to big auditors and that this increase is due to increased audit quality. They also find evidence that the increase does not place the year of the switch but rather the following years.

El Guindy and Trabelsi (2020) used data from listed firms in the UK between 2003 and 2007 to investigate whether UK firms that adopted IFRS for the first time were being charged a premium on audit fees and non-audit fees and if this premium is conditional to auditor change and tenure. Their findings imply that audit firms charge higher audit fees for both old and new clients when they implement IFRS for the first time, indicating that rather than finding a low-balling effect that comes into play when changing auditors, they find an initial premium for companies that adopt IFRS for the first time. This premium is charged whether the audit firm is part of the "Big 5" or not.

Krauß et al. (2014) investigated the effects of initial audit engagements in the German context. The study consisted of publicly traded companies from the German stock exchange between 2005 and 2011. Their findings revealed "low-balling" in initial audit engagements and that the discount on audit fees averaged 13 percent. Additionally, they find that this "low-balling" effect disappears in subsequent years, indicating a rise in audit fees in the following years. They argued that this "low-balling" effect is a response to the competitive audit market and supports the findings of DeAngelo (1981), as stated earlier. These findings are also supported by the study conducted by Fleischer et al. (2017), who examined the audit premium for firms that switched auditors. Their data consisted of listed firms in Belgium, Finland, Germany, and Italy for fiscal years 2007–2010. This study found audit prices and fees differ between existing and new clients of Big 5 firms

compared to non-switching firms. Indicating that big audit firms are willing to cut their initial premium and fees to secure new clients.

Wieczynska (2016) conducted a study examining the effect of IFRS implementation on the market for auditors. She examined how adopting IFRS affects the likelihood and direction of auditor switching during shifts from 1998 to 2010 in a sample of enterprises from five European Union (EU) countries, including the UK, Germany, Italy, Spain, and Poland. The author examined whether larger auditing companies, such as the Big 4, BDO, and Grant Thornton, had an edge regarding experience when accounting standards changed. In the year of IFRS adoption, clients were more inclined to switch to multinational auditing companies, which gives the companies an advantage over the smaller audit firms, according to her research. In other words, implementing IFRS favors the Big 4, BDO, and Grant Thornton since they have expertise in IFRS.

However, some studies conclude that companies rarely change auditors before changing accounting rules (Dinh & Piot, 2014). The board of directors is responsible for selecting the company's auditor. The choice is made based on the particular needs and circumstances of the firm. The transition to change accounting language from GAAP to IFRS is one of several factors a company may consider when selecting an auditor (Raffournier & Schatt, 2018).

Companies consider the auditor's qualifications and experience, standing and credibility, fees, or position of independence and objectivity when choosing or replacing their auditor (Hudaib & Cooke, 2005). Companies may replace their auditor if they believe the quality of the audit services is insufficient or if they have doubts about the auditor's independence or objectivity.

3.6 Hypotheses Development

In this section, present the hypotheses that we will test in our analysis. These hypotheses follow from the extensive literature above.

Most prior studies agree on the fact that using IFRS as an accounting language will increase audit fees compared to the local accounting rules in the country. Still, there

are some discrepancies in the findings in prior studies surrounding this topic, there are some who find conclusive evidence of the increase in audit fees, and some find it just affects smaller companies.

This can be seen from studies completed in different regions and countries. A study completed in Switzerland by Raffournier and Schatt (2018) found that the majority of companies experienced an increase in audit fees due to IFRS. However, there was a split when regarding very large firms. This was supported by a study conducted in the Australian context by De George et al. (2013), which found a disproportionately increase in audit fees for smaller companies. A study concerning the Finnish context by Schadewitz and Vieru (2008) also found a positive association between transitioning to IFRS and audit fees. They argued that it was due to the large disparity between local accounting standards and IFRS. This is also supported by Kim et al. (2012), who studied mandatory IFRS adoption in the EU. They found an increase in audit fees, and the driving force behind this to be the increase in audit task complexity.

The most common argument behind this statement, and the rationale for the increase in audit fees when using IFRS, is that IFRS is much more complex and detailed than the local accounting standard. This increase in complexity will also affect the audit effort required from the auditors, and they will expect a higher fee. In our study, we want to test if the same effect from IFRS will happen in the Norwegian context as in other countries. We also find a large disparity between NGAAP and IFRS and believe that using IFRS will lead to higher fees.

H1: Changing accounting language from NGAAP to IFRS will increase audit fees.

There is also something to be said about differences in the year of implementation and the following years. In our study, we want to check for the different effects of IFRS implementation on audit fees around the time of implementation, both before and after. We want to see if there will be an increase in fees the year prior to and after the switching of accounting language. This effect could occur since the companies know about the switch and can hire expertise in an earlier phase to do additional work prior to switching. We also want to check for the effect of

"learning" and if having the same client/auditor affiliation over multiple years can lead to lower audit fees due to less time needed in the audit or if it will lead to higher prices due to the quality of the audit increases. Another reason for the fees to rise and stay high after switching to IFRS could be that IFRS is much more complicated and requires more from the auditor. According to the study conducted by Guindy and Trabelsi (2020) and Higgins et al. (2016), audit fees will increase both in the year of implementation and in the following years. Higgins et al. (2016) also found a larger post-adoption years increase relative to the year of adoption.

This is what caused our second hypothesis. We hope that including these two hypotheses could give us more insight into audit pricing in the initial and following years. Our hypotheses follow the most common findings in previous studies, as we believe the effect is the same in the Norwegian context.

H2: Audit fees increase the following years after implementing IFRS.

We also want to check for the probability of companies changing auditor when switching accounting language to IFRS and what variables may increase or decrease the probability of this happening. When studying why firms may decide to change auditors, there are many factors to consider, and previous studies differ in their conclusions.

The rationale behind our hypotheses is rooted in the findings of the studies in our literature review. The adoption of IFRS as an accounting language has been found to impact the probability and direction of auditor switching (Wieczynska, 2015). According to the same study, companies are more inclined to switch to more prominent audit firms due to their expertise around IFRS.

Furthermore, there are some discrepancies in the findings of prior studies regarding the effect on audit fees when clients switch from non-big to big auditors. DeAngelo (1981) conducted a study that found premiums from switching auditors, in contrast to some studies that find low-balling effects from doing so as a way to attract new clients (Guindy & Trabelsi, 2020). The increase in audit fees might be due to the increased effort and expertise expected when implementing IFRS or the increase in audit quality (Hope and Langli., 2009). Therefore, it is plausible that the shift from

NGAAP to IFRS could drive clients to switch audit firms in search of better quality, expertise, or audit prices.

H3: Companies intending to transition from NGAAP to IFRS are more likely to switch to one of the Big 5 auditors.

4. Methodology

This Section's objective is to explain the techniques used to evaluate the study hypotheses. The best way to address the hypotheses is by critically analyzing and comparing the methodologies and guiding concepts that were employed.

Panel Data

When a dataset contains both cross-sectional and time-series data, the dataset is referred to as panel data or longitudinal data (Statista, n.d.). Information from different time periods and locations will be embodied in panel data. Notably, a panel keeps the same people or things and collects data over time on a certain quantity about them (Brooks, 2019). By doing this, we can use panel data to address a broader range of problems and solve more challenging ones. Additionally, by more appropriately structuring our model, we can reduce some types of omitted variable bias in regression findings (Busenbark et al., 2021). Using fixed effects is beneficial to use when we want to include unobserved observations or heterogeneity at the individual level. Fixed effect models allow us to check unobserved individual-specific factors that may influence both the dependent and independent variables (Collischon & Eberl, 2020).

Using panel data from 2003 to 2020 and a sample of 16,158 firm years, we examined numerous factors that could have an impact on auditor fees in our study. We used firm-fixed effects and year-fixed effects in our regression model to control for potential heterogeneity across various firms and years. Since we are using firm-fixed effects, we have corrected for industry affiliation since the companies mostly operate in the same industry. Firm fixed effects allow us to generate more precise and unbiased estimates of the associations between explanatory variables and the dependent variable. In this case, it is auditor fees (Mauri & Michaels, 1998). They do this by controlling for unobserved changes among industrial sectors that can influence auditor fees. The explanatory variable "Year" was used to isolate the impact of the other explanatory variables on the dependent variable, auditor fees, while accounting for time-specific factors.

In order to account for potential correlation and heteroskedasticity within each cid (Organizational number) group, we adjusted the standard errors for clustering at the company level (cid). More reliable and accurate estimates of the standard errors for

the model's coefficients are provided by cluster-robust standard errors, resulting in more solid inference (*LOST*, n.d.). We have used the STATA command *xtset* with cid and Year to declare the dataset to be panel data. Using cid, we have identified each company separately, and Year provides the time frame.

Research Design

Research is defined as the production of new knowledge and/or using pre-existing knowledge to produce novel ideas, approaches, and comprehensions. This might involve synthesizing and analyzing earlier research to the point that it produces original and innovative results (*Definition of Research | Western Sydney University*, n.d.). A research design is a framework for gathering and evaluating data to address a research question and accomplish research goals. It offers a rationale for selecting the data sources, collection procedures, and analysis methodologies (Saunders et al., 2019, p. 815). We must gather pertinent and useful data to respond to the specific research question we have chosen. Depending on the research question selected, there are many methods for data collection. A research design using quantitative, qualitative, or hybrid approaches has different methodological considerations (Saunders et al., 2019, p. 174). Data gathering methods or data analysis that produce or employ numerical data are called "quantitative design." Comparatively, the qualitative design uses a variety of data collection methods and analytical methodologies to examine participant meanings and interactions while focusing on non-numerical data (Saunders et al., 2019, p. 175).

An explanatory study will be used in this investigation. Explanatory research employs variables to identify a causal relationship between variables and then attempts to explain this relationship (Saunders et al., 2019, p. 188). An explanatory study will be used to clarify the impact of IFRS implementation and the choice of auditors prior to and after the implementation.

Data Collection

The research aims to investigate the adoption of IFRS by Norwegian companies from 2003 to 2020. We collected data from the Brønnøysund Register Center to identify which accounting language Norwegian companies used during this period and the initial year they transitioned from NGAAP to IFRS. We concentrate on the company accounts that have transitioned from NGAAP to IFRS, not the

consolidated company accounts that have done the same. In addition, we obtained data from the Center for Corporate Governance Research (CCGR) to examine the factors that influence auditor fees for these companies. We have also checked annual reports from companies in our sample to determine if the registered audit fees in our data are from the company's account. We wish to examine our main and supplementary tests in a regression analysis to see if their respective variables impact the auditor's fees. By analyzing the data set, we aim to understand better the patterns and determinants of IFRS adoption in Norway and how they relate to auditor fees.

Validity

According to Saunders et al. (2019, p. 214), validity refers to the longevity of the measurement used, the accuracy of the result evaluated, and the generalizability of the findings. Both main and secondary data should be handled carefully. The data must therefore be evaluated for its usefulness to the subject of the master's thesis research (Saunders et al., 2019, p. 360). The data used in this study come from two different places: Using his vast expertise in this field, John Christian Langli, who also serves as our supervisor, has supplied variables. Additional data was obtained from the CCGR, a recognized organization that specializes in corporate governance.

To assess our data's validity, we randomly selected ten firms in our dataset and cross-referenced the data we obtained with these firms' financial statements. By comparing the data for audit- and non-audit fees, we can verify that our data is consistent with the financial numbers reported by the firms. This ensures the reliability and accuracy of our data. Table 4.1 presents a visualization of the companies chosen randomly and shows that the data we use in our analysis is the same as the firms have presented in their financial statements. In Appendix 2, we have provided an overview of the firm's financial reports.

Cid.number	Firm	Year	Our data AF	NAF	Financial reports AF	NAF
811413682	ELOPAK ASA	2020	269	91	269	91
838745512	Landkreditt SA	2019	212	74	212	74
880309102	EVINY AS	2018	403	649	403	523
891797702	NORTH ENERGY ASA	2013	409	73	409	73
910686909	NRC GROUP ASA	2019	700	100	700	100
912230252	HAFSLUND PRODUKSJON HOLDING AS	2012	700	300	700	300
914348803	Moelven Industrier ASA	2007	300	100	300	100
986947884	NORDKRAFT AS	2015	173	855	173	855
918494316	MPC CONTAINER SHIPS ASA	2017	330	41	330	41
946598038	GRIEG SEAFOOD ASA	2019	994	989	994	989

Table 4.1: Control sample on our data and financial statements

Our dataset is complete and representative due to the integration of various sources. In order to assure consistency and completeness, we thoroughly cleaned the data, contributing to the reliability of our study's conclusions.

We have also included a correlation matrix and descriptive statistics in our study to understand our dataset better and address potential multicollinearity issues.

4.1 The Models

The regression model for our analysis for our main tests are presented below:

Model for Main Test 1:

Model 1:

$Ln\_AF_{it} = \beta_{0it} + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 BIG5_{it} + \beta_4 CUR\_RATIO_{it} + \beta_5 LEVERAGE_{it} + \beta_6 ROA_{it} + \beta_7 INVAREC_{it} + \beta_8 Ln\_NAF_{it} + \beta_9 LOSS_{it} + \beta_{10} Tenure_{it} + \beta_{11} BUSY_{it} + \beta_{12} Pre\_IFRS_{it} + \beta_{13} OneYear_{it} + \beta_{14} TwoYear_{it} + \beta_{15} ThreeYears_{it} + \beta_{16} Five\_Own_{it} + \beta_{17} Ten\_Own_{it} + \beta_{18} Board\_Size_{it} + \beta_{19} State\_Own_{it} + \beta_{20} Private\_Own_{it} + Year\text{- and Firm-fixed effects} + u_{it}$

Model 2:

$Ln\_NAF_{it} = \beta_{0it} + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 BIG5_{it} + \beta_4 CUR\_RATIO_{it} + \beta_5 LEVERAGE_{it} + \beta_6 ROA_{it} + \beta_7 INVAREC_{it} + \beta_8 Ln\_AF_{it} + \beta_9 LOSS_{it} + \beta_{10} Tenure_{it} + \beta_{11} BUSY_{it} + \beta_{12} Pre\_IFRS_{it} + \beta_{13} OneYear_{it} + \beta_{14} TwoYear_{it} + \beta_{15} ThreeYears_{it} + \beta_{16} Five\_Own_{it} + \beta_{17} Ten\_Own_{it} + \beta_{18} Board\_Size_{it} + \beta_{19} State\_Own_{it} + \beta_{20} Private\_Own_{it} + Year\text{- and Firm-fixed effects} + u_{it}$

Model 3:

$$Total\_Fees_{it} = \beta_{0it} + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 BIG5_{it} + \beta_4 CUR\_RATIO_{it} +$$
$$\beta_5 LEVERAGE_{it} + \beta_6 ROA_{it} + \beta_7 INVAREC_{it} + \beta_8 LOSS_{it} + \beta_9 Tenure_{it} + \beta_{10} BUSY_{it} +$$
$$\beta_{11} Pre\_IFRS_{it} + \beta_{12} OneYear_{it} + \beta_{13} TwoYear_{it} + \beta_{14} ThreeYears_{it} + \beta_{15} Five\_Own_{it} +$$
$$\beta_{16} Ten\_Own_{it} + \beta_{17} Board\_Size_{it} + \beta_{18} State\_Own_{it} + \beta_{19} Private\_Own_{it} + \text{Year- and}$$
$$\text{Firm-fixed effects} + u_{it}$$

Because the dependent variables differ, the models do accordingly. The dependent variable for the first model is Ln_AF, the dependent variable for the second model is Ln_NAF, and the dependent variable for the third model is Total_Fees. Ln_NAF is a control variable in model 1, while Ln_AF is a control variable in model 2. Compared to models 1 and 2, model 3 has one less variable. All three models account for year-fixed effects and firm-fixed effects.

Models for Main Test 2:

In the second main test, we analyze whether companies are more likely to change their auditors three years before, after, and during the initial year of implementation of IFRS. We follow the procedure of prior studies conducted by Lennox et al. (2012) and Downing and Langli (2018) and use the Two-Stage Heckman Selection Model (Heckman, 1979). By using this model, we consider endogeneity. Firms can decide if they want to be audited by a Big 5 firm or not. Therefore the variable BIG5 is endogenous. The first stage in this model is to estimate the probability of using a Big 5 firm using a probit model. The variables included in our probit model (Model 4) are based on the variables included in previous research presented by Lennox et al. (2012). We have also included an indicator variable for company-specific effects (cid). We use the outcome of this estimation to calculate the IMR variable, which is the inverse Mills ratio. This was accomplished in a Lennox et al. (2012) study, and the inverse Mills ratio is included in the second stage model as a control variable to control for selection bias.

The probit model is as follows:

Model 4:

$$BIG5_{it} = \beta_{0it} + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 Ln\_NAF_{it} + \beta_4 LOSS_{it} + \beta_5 ROA_{it} +$$
$$\beta_6 LEVERAGE_{it} + \beta_7 CUR\_RATIO_{it} + \beta_8 INVAREC_{it} + \beta_9 BUSY_{it} + \beta_{10} Tenure +$$
$$\beta_{11} Change\_IFRS\_Auditor_{it} + u_{it}$$

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As discussed in prior studies (Lennox et al., 2012), we include exclusion restrictions in the second stage. This implies that we exclude some of the variables included in the first stage model that is correlated with the decision of choosing a Big 5 auditor but not correlated with the amount of audit fees. We found the process of excluding some variables to be quite difficult since the variables in our dataset are included because we found prior studies arguing for their significance and correlation to audit fees. We have still excluded some variables from following the process of the Heckman selection model. Not including exclusion restrictions could lead to multicollinearity, a more fragile model, and less robust results (Lennox et al., 2012). The variables that we exclude from our second model are BUSY, LEVERAGE, and Change_IFRS_Auditor. The reason behind excluding these variables is that according to our findings from main test 1, we find these variables to have low correlation and significance to audit fees.

In the second stage of the Heckman procedure, we estimate the following regression model with fixed effects.

Model 5:

$Ln\_AF_{it} = \beta_{0it} + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 Ln\_NAF_{it} + \beta_4 LOSS_{it} + \beta_5 ROA_{it} + \beta_6 CUR\_RATIO_{it} + \beta_7 INVAREC_{it} + \beta_8 Tenure_{it} + \beta_9 IMR_{it} + Year\text{-} and Firm\text{-}fixed effects + u_{it}$

All models have variables with distinct values for various entities or businesses, as indicated by the "i" notation, which stands for the cross-sectional dimension. The time dimension is denoted by the letter "t," which shows that the variable might have various values at different times.

Variables and Measurement

Variables that are part of the data set for this master's thesis will be discussed in this section. For our master's thesis, 24 variables were used. Look at Appendix Section 1 for a wider view of all variables included in the dataset. The variables LEVERAGE, CUR_RATIO, INVAREC, and ROA have been treated with the STATA command "winsor2" to treat outliers as extreme values. The default function for *winsor2* in STATA is to trim the variables' 1st and 99th percentiles.

The data have been received from two sources, and we have merged the data using the variables "cid" and "Year" to match the observations from both sources. This allows us to combine the relevant data and create a unified dataset for our analysis. The total number of observations we received from John Christian Langli was 16,158. The number of observations was the same as those that matched the data we combined from CCGR.

Missing Values

We have identified one variable that contains fewer observations than other variables. *Ln_NAF* is the variable we have located that has fewer observations compared to other variables used in this data set. Because businesses might not have disclosed non-audited fees, Ln_NAF may have fewer observations than other variables. For those observations, we have given them the value of zero. Ln_AF has the same argument as Ln_NAF.

The variable SIZE has missing values because the total assets for some companies are negative. Due to the nature of the natural logarithm function, it cannot process negative values, which is why they are replaced with zero.

Some companies have not reported current assets and current liabilities. For these observations, the value of CUR_RATIO is zero. The same argument counts for LEVERAGE and ROA. If companies have not reported the number of percentage owners for Five_Own and Ten_Own, the value is zero for those observations. Not all companies have a board of directors, hence the value of zero for those observations in the variable Board_Size. If companies have not reported that they are private or state-owned, we assume zero ownership for those observations.

Variable	Missing	Total	Percent missing
Ln_AF	1,704	16,158	10.550
SIZE	39	16,158	0.240
CUR_RATIO	397	16,158	2.460
LEVERAGE	28	16,158	0.170
ROA	28	16,158	0.170
Ln_NAF	6,353	16,158	39.320
INVAREC	27	16,158	0.167
Five Own	1,314	16,158	8.130
Ten_Own	1,314	16,158	8.130
Board Size	343	16,158	2.120
State Own	1,314	16,158	8.130
Private_Own	1,314	16,158	8.130

Table 4.2: Overview of Missing Values

By adopting this approach, we represent all of our 16,158 observations in our analysis. Due to missing values in various variables, using STATA, our sample size would only have 5,654 observations when running a regression if these missing values were not considered. If auditor fees rise due to the implementation of IFRS, this will better illustrate our research findings since we have a more representative sample. Variables that are not specified in Table 4.2 have no missing values.

4.2 Definitions of Variables[1]

4.2.1 Dependent Variables

Ln_AF

The dependent variable main test 1 model 1, and main test 2 model 2, Ln_AF, contains data on the amount the company reported paying in auditor fees in its financial statement. Using the natural logarithm function, we transform the variable into a more normal distribution and treat extreme values as outliers.

Ln_NAF

Previous studies like Causholli et al. (2011) and Walker and Hay (2013) used a variable for non-audit fees. Ln_NAF is the natural logarithm of non-auditing fees the company charges for services other than auditing, such as tax advisory, consulting, documentation, or other non-auditing services. Similarly to audit fees,

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[1] Definitions of the variables included in our study and in this chapter are based on prior literature up until March 28, 2023.

we also use the natural logarithm function to analyze non-audit fees. The variable will be used as a control variable in some of the models and a dependent variable in main test 1 model 2 to check how non-audit fees are affected.

Total_Fees

The variable Total_Fees represents the total fees paid by the company to its auditor, including both audit- and non-audit fees. The variable is expressed as a natural logarithm form to account for the skewed distribution of fee values. We follow a similar approach to Raffournier and Schatt (2018) and use the variable as a dependent variable in main test 1 model 3.

4.2.2 Explanatory Variable

IFRS

Companies that have adopted IFRS will have the variable IFRS equal to 1. Otherwise, it will be 0. In our analysis, the variable of interest is the IFRS variable since we want to determine whether audit fees are rising if businesses use IFRS for their accounting.

4.2.3 Control Variables

OneYear, TwoYear, and ThreeYears

We have included different independent variables for our regression analysis. Following a similar approach to Che et al. (2020), we include the variables OneYear, TwoYear, and ThreeYears in our analysis to see if audit fees are increasing after the year of implementation. If a company files in accordance with IFRS requirements one year after the year of implementation, OneYear is a dummy variable equal to 1. If a company reports in accordance with IFRS regulations two years after the implementation year, the variable TwoYear is equal to 1. The variable ThreeYears is a dummy variable. If the companies are reporting in accordance with IFRS, the variable ThreeYears equals 1. Since prior research has employed similar types of variables in their investigations, we have chosen a variety of relevant variables for our investigation.

Pre_IFRS

Following the study of Raffournier and Schatt (2018), we include the variable Pre_IFRS. Pre_IFRS is a dummy variable with a value of 1 the year before the adoption of IFRS and a value of 0 otherwise—the variable controls for companies reporting according to NGAAP the year before the implementation of IFRS. We can contrast auditor fees before and after the adoption of IFRS because of the variable. By including this variable, we want to clarify if auditor firms are charging higher fees before implementing IFRS.

BIG5

A company's choice of audit firm is categorically represented by the variable BIG5, which captures explicitly whether the company has hired one of the well-known "Big 5" audit firms, which include PwC, EY, Deloitte, KPMG, or BDO. Similarly to previous studies, a BIG5 value of 1 denotes the selection of a "Big 5" audit firm to carry out their audit (Campa, 2013; Che et al., 2020). This reflects their preference for a reputable, internationally renowned firm with in-depth industry knowledge (McMeeking et al., 2006). On the other hand, the value of 0 for BIG5 denotes a company's choice of a non-big audit firm.

BUSY

BUSY is a dummy variable created to represent the timing of each company's fiscal year-end. If the business delivered its financial statements on December 31, it equals 1. Otherwise, it is equal to 0. Prior studies have included a variable to control for seasonality, as auditors may be busier with several customers during the year-end period, potentially affecting audit fees and the whole audit process (Guindy & Trabelsi, 2020; Raffournier & Schatt, 2018). BUSY will also be included as an independent variable in the analysis on auditor choice.

INVAREC

To control for the effect that a firm's complexity has on audit fees, we include the variable INVAREC. The inclusion of this variable follows previous studies conducted by Campa (2013) and Schadewitz and Vieru (2008). Following these studies, the variable is the sum of Inventory and Account Receivables divided by Total Assets to create a ratio. Gerrard et al. (1994) and Januarti and Wiryaningrum (2018) both argued that higher complexity could increase audit fees due to increased

risk and this is what we wish to control when including INVAREC. We also include it in the first stage of Heckman when analyzing auditor choice, following a similar approach to Lennox et al. (2012)

ROA

The independent variable return on assets (ROA) is included in our research to control for the effect that a firm's profitability could have on audit fees and on auditor choice. To calculate ROA for all companies in our sample, we followed the same approach as earlier studies and divided the Net Income variable with the Total Assets (Guindy & Trabelsi, 2020).

LOSS

The variable LOSS is a binary variable that equals 1 when companies report a loss in their financial statements and 0 otherwise. This variable has been included in several prior studies (Carcello et al., 2000; Craswell & Francis, 1999). The reasoning behind including LOSS is to control the effect of financial performance on auditor fees and auditor choice. Companies reporting a loss may have other auditing requirements and risk profiles that could result in heightened risk for the auditors, and higher audit fees are required as compensation (Guindy & Trabelsi, 2020).

LEVERAGE

In addition to profitability, we have also included LEVERAGE as an independent variable in our analysis both on audit fees and auditor choice. Leverage illustrates the firm's financial risk, and we include it to control for the elevated risk of bankruptcy that an auditor experiences (Raffournier & Schatt, 2018). To calculate LEVERAGE, we followed the same process as Fleischer and Goettsche (2012), dividing Total_Debt by Total_Assets.

CUR_RATIO

Another variable to include in our analysis is CUR_RATIO, which illustrates the company's ability to meet short-term obligations. The CUR_RATIO variable is calculated by dividing Current_Assets with Current_Liabilites (Raffournier & Schatt, 2018). By including CUR_RATIO as an independent variable in our

analysis, we want to control for the effect that a firm's liquidity has on audit fees and on auditor choice.

SIZE

Following the explanation of audit fees, we include the variable SIZE to control for the effects that the size of a company has on the audit fees they are paying and the choice of auditor. The variable SIZE is measured in the same way Craswell and Francis (1999) did in their study, as the natural logarithm of Total_Assets, which is calculated by adding Total_Debt to Total_Equity which equals Total_Assets. With the use of natural logarithms, we mitigate the extreme values and scale the variable to be appropriate for regression analysis.

Ownership

We include the variables Private_Own, State_Own, Board_size, Five_Own, and Ten_Own to control for the potential effects of different ownership structures on audit fees. The inclusion of ownership variables is consistent with prior studies like Palmrose (1986) and Harahap and Prasetyo (2018). Palmrose (1986) argues for the inclusion of such variables because of the heightened risk exposure that public firms experience, while Harahap and Prasetyo (2018) argue that different shareholders could have different methods to monitor firm activities. Although private and public variables are most commonly used, we include the variables Five_Own, Ten_Own, and Board_size to further control for ownership effects. The Private_Own variable represents the number of private owners or shareholders in a company, the State_Own variable shows how many state shareholders or owners there are in a business, and the Board_Size variable represents the size of the board of directors in a company.

Tenure

The variable Tenure represents the number of years companies have had the same auditor. In line with the research conducted by Guindy and Trabelsi (2020), we have included a variable called Tenure to check whether the relationship between auditor fees, auditor choice, and IFRS adoption is affected by the duration of the affiliation.

DISTRICT

The DISTRICT variable shows which district the firms are located in Norway. These variables will be used in additional analysis 1, controlling for the effects that firms located in different districts can experience on audit fees due to variations in living costs between the different districts. The inclusion of these variables is similar to the studies conducted by Sundgren and Svanström (2013), which included a variable for Stockholm, and Kharuddin and Basioudis (2018), which included one for London. These variables represent the 11 districts in Norway after the merging of districts in 2020 and Svalbard as its own district (regjeringen.no, n.d.).

Change_IFRS_Auditor

According to Hay et al. (2006), some studies include a variable that only controls for audit change in the year under review. In addition to this variable, we include a variable that controls whether a company changes its auditor in the three years prior or three years after the year of implementing IFRS. This can be seen by the variable Change_IFRS_Auditor. The variable captures when auditor changes occur throughout a specified period of time, up to three years before the implementation year and up to three years after implementation. The number 1 denotes a change in a company's auditors and implementation of IFRS during this time, whereas the number 0 denotes no change.

4.3 Descriptive Statistics

Summary statistics

	N	Mean	SD	Skewness	Min	p10	p90	Max
Ln AF	16,158	4.695	2.117	-.86	0	0	6.883	14.308
IFRS	16,158	.656	0.475	-.659	0	0	1	1
SIZE	16,158	13.028	2.523	-.928	0	10.413	15.846	21.525
BIG5	16,158	.906	0.292	-2.777	0	1	1	1
CUR RATIO	16,158	9.787	42.301	6.785	0	.127	9.977	350.995
LEVERAGE	16,158	.578	0.472	3.113	0	.048	.918	3.608
ROA	16,158	-.035	0.381	-5.033	-2.798	-.17	.162	.629
INVAREC	16,158	.144	0.243	1.74	0	0	.552	.891
Ln NAF	16,158	2.853	2.594	.159	0	0	6.18	13.134
Total Fees	16,158	4.123	2.857	-.427	0	0	7.181	14.441
LOSS	16,158	.371	0.483	.536	0	0	1	1
Tenure	16,158	5.299	4.031	1.041	1	1	11	18
BUSY	16,158	.949	0.221	-4.07	0	1	1	1
Pre IFRS	16,158	.065	0.247	3.515	0	0	0	1
OneYear	16,158	.072	0.258	3.314	0	0	0	1
TwoYear	16,158	.067	0.250	3.461	0	0	0	1
ThreeYears	16,158	.062	0.242	3.619	0	0	0	1
Five Own	16,158	1.853	1.629	1.685	0	1	4	12
Ten Own	16,158	1.324	0.938	1.523	0	0	3	7
Board Size	16,158	4.88	2.284	.449	0	2	8	37
State Own	16,158	.188	1.251	14.396	0	0	0	30
Private Own	16,158	.389	1.863	9.943	0	0	1	37

Table: 4.3: Descriptive Statistics.

The descriptive statistics are presented in Table 4.3. The presented measures include the number of observations (N), the mean, standard deviation (SD), skewness, min and max, and the 10th and 90th percentile. For detailed descriptions of these variables, check section 4.2.

The natural logarithm of audit fees (Ln_AF) has a relatively symmetric distribution with a slightly left skewness, indicating a normal distribution. The IFRS variable has a mean of 0.656. This suggests that 65.6% of the observations in the dataset are IFRS adopters. We also see that the majority of companies are audited by Big 5 audit firms, as indicated by the variable BIG5. The SIZE variable is negatively skewed, which indicates a longer left tail that could suggest that smaller firms are more represented in the sample than large ones. The 10th and 90th percentile of 10.413 and 15.846 shows that 80% of the sample is within this range. The ownership variable in Private_Own has a mean of 0.389 and SD of 1.863, indicating variation in private ownership among the firms in our sample. State_Own has a mean of 0.188 which suggests that the firms in our sample have, on average, a low amount of state ownership. Both variables have a high positive skewness, suggesting that there is a small number of firms that contribute with high levels of

different ownerships. We can also see that around 37% of the financial statements report a loss.

Table 4.4 gives a representation of how many firms have switched auditor affiliation in a time period of three years before implementing IFRS and three years after the implementation, including the year of implementation. As we can see from the table below, there are a few observations that we can use to analyze the effects of switching IFRS and auditor, only 793 observations.

Tabulation of Change_IFRS_Auditor

	Freq.	Percent	Cum.
0	15,365	95.09	95.09
1	793	4.91	100.00
Total	16,158	100.00	

Table 4.4: Number of observations that have changed their auditor and implemented IFRS.

Table 4.5 below presents the distribution of districts and where the firms in our dataset are located. The district is most represented in Oslo, with 41.13% of the firms being from Oslo, followed by Viken and Rogaland, with 18.8% and 8.28%. Our data also contains 1,285 missing values, where the firm's location is unknown.

Tabulation of DISTRICT

	Freq.	Percent	Cum.
.	1,285	7.95	7.95
Agder	404	2.50	10.45
Innlandet	160	0.99	11.44
Møre og Romsdal	458	2.83	14.28
Nordland	324	2.01	16.28
Oslo	6,646	41.13	57.41
Rogaland	1,338	8.28	65.70
Svalbard	6	0.04	65.73
Troms og Finnmark	170	1.05	66.78
Trøndelag	638	3.95	70.73
Vestfold og Telemark	577	3.57	74.30
Vestlandet	1,114	6.89	81.20
Viken	3,038	18.80	100.00
Total	16,158	100.00	

Table 4.5: Representation of Districts in Norway.

4.4 Multicollinearity Test

Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1) Ln_AF	1.000																					
(2) IFRS	0.101*	1.000																				
(3) SIZE	0.337*	0.189*	1.000																			
(4) BIG5	0.163*	0.134*	0.255*	1.000																		
(5) CUR_RATIO	-0.093*	0.005	-0.019	-0.001	1.000																	
(6) ROA	0.056*	-0.038*	0.277*	0.081*	0.012	1.000																
(7) LEVERAGE	0.029*	-0.035*	-0.076*	-0.050*	-0.145*	-0.401*	1.000															
(8) LOSS	-0.070*	0.047*	-0.216*	-0.028*	0.010	-0.423*	0.070*	1.000														
(9) Ln_NAF	0.483*	0.281*	0.239*	0.097*	0.007	0.022*	-0.025*	0.010	1.000													
(10) Prc_IFRS	-0.024*	-0.366*	-0.028*	-0.013	-0.094*	0.085*	-0.025*	-0.025*	-0.054*	1.000												
(11) Board_Size	0.344*	0.062*	0.423*	0.151*	0.007	0.010	0.070*	0.010	0.259*	-0.006	1.000											
(12) Total_Fees	0.603*	0.371*	0.245*	0.123*	-0.042*	0.016	-0.010	0.003	0.838*	-0.077*	0.220*	1.000										
(13) Five_Own	0.055*	-0.028*	-0.117*	-0.104*	-0.008	-0.070*	-0.131*	-0.053*	0.111*	0.026*	0.184*	0.063*	1.000									
(14) State_Own	0.057*	0.060*	0.126*	0.024*	-0.018	0.019	-0.006	-0.010	0.085*	-0.017	0.189*	0.072*	0.158*	1.000								
(15) Private_Own	-0.032*	0.009	-0.088*	-0.128*	0.005	-0.020	-0.026*	0.026*	0.013	0.008	0.005	0.006	0.249*	0.057*	1.000							
(16) BUSY	0.002	0.015	0.024*	-0.039*	0.006	-0.025*	-0.035*	0.032*	0.044*	0.003	0.056*	0.003	0.123*	0.034*	0.045*	1.000						
(17) INVAREC	0.118*	-0.131*	0.101*	-0.006	-0.110*	0.061*	0.227*	-0.188*	-0.012	-0.010	0.101*	-0.007	-0.220*	-0.055*	-0.050*	-0.056*	1.000					
(18) OneYear	0.035*	0.201*	0.038*	0.038*	0.001	-0.008	-0.022*	0.033*	0.095*	-0.074*	0.011	0.080*	0.008	-0.014	-0.027*	0.006	-0.041*	1.000				
(19) TwoYear	0.044*	0.194*	0.037*	0.037*	0.003	-0.003	-0.018	0.019	0.090*	-0.071*	0.019	0.101*	0.003	-0.021*	-0.027*	0.002	-0.032*	-0.075*	1.000			
(20) ThreeYears	0.035*	0.187*	0.032*	0.032*	-0.003	-0.015	-0.014	0.027*	0.077*	-0.068*	0.018	0.095*	-0.006	-0.013	-0.026*	-0.009	-0.029*	-0.072*	-0.069*	1.000		
(21) Tenure	0.104*	0.290*	0.156*	0.121*	-0.037*	0.020*	0.024*	-0.058*	0.196*	-0.093*	0.106*	0.279*	-0.010	0.075*	0.038*	0.006	0.050*	-0.069*	-0.020	0.011	1.000	
(22) Change_IFRS A~r	-0.011	-0.078*	-0.026*	-0.038*	0.017	-0.014	0.002	0.010	-0.007	0.062*	-0.016	-0.013	-0.004	-0.024*	-0.005	-0.010	0.006	0.047*	0.020*	0.057*	-0.242*	1.000

Table 4.6: This table contains Pearson correlations. The correlation that is statistically significant at the 1% level is denoted by an *; * p<0.01.

Table 4.6 presents the correlation matrix for our variables of relevance, which provides an overview of the linear relationship between each pair of variables. A correlation matrix is a useful tool for identifying potential multicollinearity problems and understanding the association between variables before conducting further analysis.

Ln_AF and SIZE show a strong positive correlation of 0.337, which indicates that as the natural logarithm of audit fees increases, the firm size increases. Ln_AF and Ln_NAF have a moderately strong positive correlation of 0.483, suggesting that the non-audit fees tend to increase as the audit fees increase. The IFRS variable has a weak positive correlation of 0.101 with Ln_AF. This indicates that IFRS results in a higher audit fee for adopters. CUR_RATIO has a weak negative correlation of -0.093, which tells us that audit fees can be explained by the variation of the current ratio. Leverage shows a weak positive correlation of 0.029, which tells us that audit fees can be explained by the leverage variable. Board_Size has a strong positive correlation of 0.344 with Ln_AF. This means audit fees can be explained by the variation in board size, with higher board size being associated with higher audit fees. INVAREC has a weak positive correlation of 0.118 with Ln_AF, indicating that the variation in audit fees can be explained by the variation in inventory and accounts receivable. Total_Fees has a strongly positive correlation with Ln_AF and Ln_NAF. This was expected to be high since we added the fee variables together to create the variable. Finally, the correlation matrix does not indicate any multicollinearity issues except Total_Fees with Ln_NAF. The correlation between those two variables is 0.838, which was expected. The correlation matrix shows that nearly all variables except BUSY are statistically significant at 1% to Ln_AF.

To conclude if we have a multicollinearity issue, we have conducted a VIF test. A rule of thumb for the VIF test is that if the VIF > 10 indicates a severe multicollinearity independent variable issue, a VIF > 4 should lead to more investigation (Ellis, n.d.; Craney & Surles, 2002). We suspect that Ln_NAF and Total_Fees may have high values in the test since they are highly correlated with Ln_AF from the correlation matrix.

Variance inflation factor

	VIF	1/VIF
Total Fees	3.754	.266
Ln NAF	3.519	.284
IFRS	1.667	.6
ROA	1.56	.641
SIZE	1.511	.662
Board Size	1.399	.715
LEVERAGE	1.346	.743
LOSS	1.296	.771
Five Own	1.296	.771
Tenure	1.27	.787
INVAREC	1.207	.829
Pre IFRS	1.171	.854
BIG5	1.116	.896
OneYear	1.114	.898
TwoYear	1.092	.916
Private Own	1.089	.918
ThreeYears	1.084	.923
Change IFRS Auditor	1.076	.929
State Own	1.075	.93
CUR RATIO	1.041	.96
BUSY	1.026	.974
Mean VIF	**1.462**	.

Table 4.7: VIF-test output when conducting an OLS regression for Ln_AF as the dependent variable.

We can do the VIF test by performing an ordinary least squares (OLS) regression with Ln_AF as the dependent variable. We may infer from the VIF tests that there is no multicollinearity issue. The variables with the highest VIF values are Total_Fees and Ln_NAF. However, given how closely related the variables are, that is to be expected. When performing an OLS regression with Ln_NAF as the dependent variable, the VIF value for Total_Fees and Ln_AF are lower compared to Table 4.7. The VIF tables for Ln_NAF and Total_Fees as the dependent variable are in the Appendix Section 3. We did not have any multicollinearity issues from these tables as well.[2]

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[2] Appendix, pages 76 and 77: STATA Table 1 for Ln_NAF VIF test and STATA Table 2 for Total_Fees VIF test.

5. Main Tests

5.1 Main Test 1

Auditor Fee Analysis

Explanatory variables	Model 1 (Ln_AF)		Model 2 (Ln_NAF)		Model 3 (Total_Fees)	
	Coef.	t-value	Coef.	t-value	Coef.	t-value
Intercept	0.9195	5.28***	-2.9076	-13.04***	-2.5799	-9.92***
IFRS	-0.3799	-9.08***	1.281	24.21***	2.0951	33.96***
SIZE	0.2205	21.78***	0.1215	9.21***	0.3086	20.57***
BIG5	0.1668	2.71***	0.0858	1.22	0.1243	1.35
CUR_RATIO	-0.0008	-2.34**	0.0001	0.31	-0.0003	-0.56
LEVERAGE	0.1379	3.56***	0.0426	0.86	0.1688	2.91***
ROA	-0.1618	-3.59***	-0.0434	-0.75	-0.1643	-2.43**
INVAREC	1.008	8.53***	-0.6688	-4.39***	-0.0556	-0.31
Ln_NAF	0.2845	47.84***				
Ln_AF			0.4708	47.84***		
LOSS	0.0017	0.05	0.0284	0.69	0.0707	1.46
Tenure	-0.0203	-4.98***	0.0715	13.74***	0.1265	20.85***
BUSY	-0.0465	-0.39	0.0824	0.54	-0.1865	-1.05
Pre_IFRS	-0.1397	-2.61***	0.5579	8.11***	0.8919	11.12***
OneYear	0.2208	4.47***	0.456	7.18***	0.3923	5.31***
TwoYear	0.2363	4.71***	0.3697	5.73***	0.5232	6.97***
ThreeYears	0.1778	3.48***	0.3066	4.67***	0.4541	5.93***
Five_Own	0.0803	5.14***	-0.0629	-3.13***	-0.0619	-2.65***
Ten_Own	-0.0667	-2.72***	0.0928	2.93***	0.0833	2.26**
Board_Size	0.005	0.52	0.1091	8.81***	0.0901	6.24***
State_Own	-0.0194	-1.58	0.0227	1.44	0.0095	0.51
Private_Own	0.0088	1.22	-0.017	-1.83*	-0.0111	-1.02
Firm fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
Number of observations	16 158		16 158		16 158	
F-test	192.63***		293.67***		279.38***	
R²	0.2995		0.297		0.2066	
* p<0.10, ** p<0.05, *** p<0.01						

Table 5.1: The regression output for models 1,2, and 3.[3]

In Table 5.1, we present three regression models with different dependent variables. We have done this to see the potential impacts of various factors on different types of fees. Model 1 has Ln_AF as the dependent variable, offering insight into factors affecting audit fees. Model 2 has Ln_NAF as the dependent variable, broadening our understanding of factors affecting non-audit fees. Finally, model 3 has Total_Fees as the dependent variable, disclosing the perspective of total fee

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[3] Pages 32 and 33 describe the Models.

implications. We have made additional models with the same dependent variables where we have stripped the models for variables. We have done this to see if other variables significantly impact the IFRS variable.

The main objective of these models is to examine the impact of IFRS adoption on different fee structures. In addition to analyzing factors such as firm size, financial ratios, ownership structure, and auditor characteristics, our study specifically investigates the effects of the switch to IFRS on audit, non-audit, and total fees. This multi-model approach enables a comprehensive understanding of the variations and differences observed in various fee structures.

Model 1's R² values of 29.95% indicate that the independent factors account for 29.95% of the variation in Ln_AF. The F-statistic is 192.63, meaning some independent variables are statistically significant.
Model 2's R² values of 29.70%. The independent factors account for 29.70% of the variation of Ln_NAF. The F-statistic is 293.67, indicating that the independent variables are statistically significant.
Model 3's R² explains about 20.66% of the variance of the dependent variable, Total_Fees. The F-statistic is 279.38, which indicates that some independent variables are statistically significant. All models have 16,158 observations.

The variable of interest is the IFRS variable. We can disclose several significant findings from our models in our investigation of the impact of changing accounting language from NGAAP to IFRS on auditors' fees. The IFRS variable is statistically significant in all three models at conventional levels.
The IFRS variable is positively associated with Ln_NAF and Total_Fees. This suggests that while the transition to IFRS reduces audit fees, it tends to increase non-audit- and total fees.

In all three models, the coefficients for OneYear, TwoYear, and ThreeYears are positive, which indicates fees are increasing after IFRS has been implemented. All of the variables in all three models are statistically significant.

The variable BIG5 is only statistically significant in model 1 with a positive coefficient value, which indicates that companies who are being audited by a Big 5

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firm are paying higher audit fees than companies who are not being audited by a Big 5 company.

In the Stripped Models, the direction of the effects remains largely the same, although there are some changes in the magnitude and significance levels. For example, in Stripped Model 1, the IFRS variable has a positive coefficient on audit fees and is statistically significant for all levels. For the other models, the result on the IFRS variable is largely the same compared to Table 5.1 output. The tables and output for the models can be looked at in Appendix Section 4.[4]

Our findings illustrate strong evidence that the transition from NGAAP to IFRS affects both audit- and non-audit fees, but surprisingly we find a negative effect on audit fees. The explanation for this is that auditors may charge less for the audit, but the transition period increases the need for non-audit services. These services are advisory and support services to help with the transition. We also find evidence that audit companies may charge higher fees in the subsequent years after transitioning to IFRS. This aligns with prior studies' findings (Raffournier & Schatt, 2018; Guindy & Trabelsi, 2020; De George et al., 2013). These results show that we do not have enough evidence to support hypothesis 1, that switching to IFRS increases audit fees. However, we have evidence supporting hypothesis 2, that audit fees will increase in the following years after implementing IFRS.

5.2 Main Test 2

Auditor Switch Analysis

We used the Heckman Two-Stage Method analysis in our investigation to reveal whether companies are changing their auditors before, after, and during the initial year of the implementation of IFRS. A statistical method known as the Heckman selection model is used to account for selection bias, which develops when a sample is not chosen at random (Heckman, 1979). We have used this technique because the model does not account for several circumstances that might have affected the evolving auditor and accounting terminology. We may use Heckman to account for

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[4]Appendix Section 4: Regression Table 1, page 77:
Stripped Model 1: We have removed Ln_NAF, OneYear, TwoYear, and ThreeYears.
Stripped Model 2: We have removed Ln_AF, OneYear, TwoYear, and ThreeYears.
Stripped Model 3: We have removed OneYear, TwoYear, and ThreeYears.

this selection bias and get more precise estimates of the correlation between IFRS and auditor switch and the impact of other variables on audit fees.

In stage 1, we have an auditor choice model presented in Section 4.1. The dependent variable is BIG5, indicating whether or not a company has changed its auditor in connection with implementing IFRS. The variable of interest is IFRS. We utilize the outcome of this estimation to calculate the IMR variable, which is the inverse Mills ratio. This was accomplished in a Lennox et al. (2012) study. The second stage will use the inverse Mills ratio (IMR) variable to control for selection bias. In model 4, we have taken company-specific effects into account. Because of that, the number of observations is 4,448.

Explanatory variables	Model 4 (BIG5)	
	Coef.	z-value
Intercept	-3.2132	-5.19***
IFRS	0.3661	5.34***
SIZE	0.2351	13.18***
Ln_NAF	0.0389	2.98***
LOSS	0.1811	2.57***
ROA	-0.1322	-1.78**
LEVERAGE	0.0465	0.69
CUR_RATIO	-0.0008	-1.11
INVAREC	0.2701	1.23
BUSY	0.2683	1.11
Tenure	0.1036	8.78***
Change_IFRS_Auditor	0.2684	3.05***
Firm fixed effects	Yes	
Number of observations	4 448	
Likelihood Ratio	-1638.2811	
Pseudo R²	0.3631	
* p<0.10, ** p<0.05, *** p<0.01		

Table 5.2: Probit selection regression model when BIG5 is the dependent variable. We have included indicator variables for company-specific effects. The tabulate for the companies is separate from the table.

The first step was to run a probit regression model (4)[5] to calculate the probability of being audited by a BIG5 company. We also included multiple control variables that are standard to use in an auditor-choice model (Lennox et al., 2012).

The model we have presented shows that overall statistically significant, indicating that the independent variables we have included have some effect on the probability of auditor switch. The pseudo-R² is 36.31%, which suggests that the independent variables have a great explanation factor for the variation of BIG5.

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[5] Page 33 describes Model 4.

The IFRS variable shows a positive coefficient of 0.3661, which shows that the transition from NGAAP to IFRS has a positive association with BIG5. This suggests that companies adopting IFRS are more likely to choose a Big 5 company, supporting our third hypothesis, that switching to IFRS could make clients switch to Big 5 auditors. This aligns with the findings in the study conducted by Wieczynska (2016). She also found that clients tended to switch to a big auditing company in the adoption year.

We have findings that Ln_NAF has a coefficient of 0.0389, meaning companies with high non-audit fees are likely to choose a Big 5 company. The variable Tenure has a coefficient value of 0.1036, which means companies with the same auditor over a longer period are less likely to switch auditors. The variable LOSS has a positive coefficient of 0.1811 and is statistically significant for all levels. Companies that report a loss in their financial statements are more likely to choose a Big 5 company.

Explanatory variables	Model 5 (Ln_AF)	
	Coef.	t-value
Intercept	0.6944	2.87***
IFRS	-0.3157	-4.25***
SIZE	0.2319	10.40***
Ln_NAF	0.3497	28.48***
LOSS	0.1334	2.02**
ROA	-0.1914	-2.93***
CUR_RATIO	-0.0015	-1.90*
INVAREC	0.9697	4.57***
Tenure	-0.0210	-1.51
IMR	-0.0198	-0.56
Firm fixed effects	Yes	
Year fixed effects	Yes	
Number of observations	4 448	
F-test	162.31	
R²	0.3141	
VIF (IMR)	1.88	
* p<0.10, ** p<0.05, *** p<0.01		

Table 5.3: Second Stage Heckman Selection Model Results. The dependent variable is Ln_AF.

Table 5.3 presents the results for Model 5, the second-stage regression model. The dependent variable is Ln_AF[6]. In stage two, we are showing how the auditor change impacts Ln_AF.

The R² in Model 5 is 31.41%, indicating that approximately 31.41% of the variation in the dependent variable (Ln_AF) can be explained by the included independent variables in the analysis. The IFRS variable coefficient is -0.3157 and statistically significant for all levels. Other variables like SIZE, LEVERAGE, Ln_NAF, and INVAREC are associated with higher audit fees and are statistically significant for all levels. The variable Tenure has a negative coefficient, which indicates that a long-lasting relationship with the auditor leads to lower audit fees. However, the variable is not statistically significant for any level.

The IMR variable for Model 5 provides evidence of non-random self-selection, which is in line with Heckman's two-step process and supports the application of the approach. Mill's ratio has a negative coefficient of -0.0198 and is not statistically significant for any level. Lennox et al. (2012) warn that including the inverse Mills' ratio in Heckman's two-stage analysis, which results in a biased estimation, may cause the second-stage model to have a multicollinearity issue. This worry is insignificant since, from Table 5.3, the VIF value is 1.88 for IMR.

It is important to understand that from the model we have presented, we have shown the decision to switch auditors to a Big 5 company because IFRS leads to lower fees. Lower audit fees might lead to the companies deciding not to switch their auditor, whereas higher audit fees might lead to switching auditors.

Our findings from stage one show that companies that adopt IFRS as their accounting language are more likely to change their auditor to one of the Big 5 companies. In stage two, we find evidence that IFRS reduces auditor fees, similar to the results we found in Main Test 1. The results are consistent with our third hypothesis.

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[6] Page 34 describes Model 5.

To determine if companies are changing their auditor to a Big 5 firm. We look at the variables BIG5 and Change_IFRS_Auditor from the probit regression models and conduct a chi-square test. This is feasible since both variables we want to use in this test are categorical (Ugoni & Walker, 1995).

Companies may change to a Big 5 company because of the expertise and knowledge the Big 5 have of this kind of implementation. The Big 5 is also recognized worldwide and has a good reputation. Having a globally recognized auditor firm might increase credibility in their financial statements. We can use the cross-tabulation function with "chi2" in STATA to determine if companies are switching their auditor three years before, after, and after the initial year of implementation of IFRS.

Change_IFRS_Auditor	BIG5		Total
No	1,409	114	1,523
Yes	13,956	679	14,635
Pearson chi2 0.000	15,365	793	16,158

Table 5.4: Change_IFRS_Auditor and BIG5

From Table 5.4, we have used the Pearson chi-square test to determine the association between BIG5 and Change_IFRS_Auditor. Based on the analysis, we have a P-value of 0%, which means the relationship between the variables is statistically significant for all levels. Based on our data, the likelihood of companies changing their auditor because of the implementation of IFRS is significant. This is consistent with our results from the Heckman Two-Stage Method.

5.3 Additional Analysis

We extend our analysis to control for other effects that could have an impact when transitioning from NGAAP to IFRS. Mainly, we will control for regional variations' effects on audit fees when implementing IFRS. Moreover, we also include the effect of using Big 5 firms to check for the differences in audit fees taken from "big" audit firms.

Geographic Location

Earlier studies that have been completed in Sweden and London have stated that there are differences in living costs between cities in the same countries and that

this could affect the audit fees taken from auditors (Sundgren & Svanström, 2013; Kharuddin & Basioudis, 2018). Norway is a country that experiences differences in living costs between cities, and therefore we find it interesting to check for this effect (*Huseierne*, n.d.). Specifically, due to increased living costs in Oslo, we expect to find an effect on audit fees, and the fees are higher here than in other places in Norway.

Explanatory variables	Model 6 (Ln_AF)	
	Coef.	t-value
Intercept	4.2115	4.81***
IFRS	0.3663	10.85***
DISTRICT		
Agder	0.1517	0.69
Innlandet	0.2769	0.68
Møre og Romsdal	0.4425	1.89*
Nordland	0.8814	3.56***
Oslo	0.2250	3.38***
Rogaland	0.1192	0.90
Svalbard	1.8664	2.21**
Troms og Finnmark	0.6331	2.15**
Trøndelag	0.2572	1.40
Vestfold og Telemark	0.2069	1.08
Vestlandet	0.0669	0.53
Viken	0.3972	4.81***
Firm fixed effects	Yes	
Year fixed effects	Yes	
Number of observations	16 158	
F-test	11.47	
R²	0.0080	
* p<0.10, ** p<0.05, *** p<0.01		

Table 5.5: Regression output with districts in Norway when the dependent variable is Ln_AF. The DISTRICT variable is an indicator for all of the districts in Norway. The tabulation output for all districts is in the table.

Table 5.5 shows a regression model where we have Ln_AF as the dependent variable. The variable of interest here is IFRS, and DISTRICT in this analysis discloses which districts in Norway charge higher audit fees when companies report according to IFRS.

From the regression model in Table 5.5, we can see Møre og Romsdal are statistically significant at a 10% level, and the coefficient value is positive 0.4425. Nordland has a positive coefficient value of 0.8814 and is statistically significant for all levels. The result indicates that companies stationed in Nordland's district are being charged higher fees. The district of Oslo, the capital city in Norway, has a

positive coefficient of 0.2250 and is statistically significant for all levels. The reason for the result is that Oslo is the economic center of Norway. It is home to national and international businesses, financial institutions, and headquarters. The district Troms og Finnmark has a coefficient value of 0.6331 and is statistically significant for the 5% level. This indicates that companies stationed in Troms og Finnmark are being charged higher audit fees. Svalbard, a Norwegian territory, has a positive coefficient value of 1.8664 and is statistically significant at the 5% level, indicating it is expensive for companies to be audited in Svalbard. This makes sense since the knowledge of IFRS may be a shortage of. The district of Viken has a positive coefficient of 0.3972, which is statistically significant at all levels. This indicates that companies stationed at Viken are being charged higher audit fees.

To sum up, there seem to be regional differences in the fees charged. In general, Nordland, Viken, Trøndelag, Oslo, and Troms og Finnmark are the districts that seem to charge higher fees. Rogaland, Agder, and Vestlandet charge lower fees based on the information from the output, but the results are not statistically significant for any levels. This may be a subject of further study.

Big 5

Additionally to geographic location, we will examine the effects on audit fees when choosing a Big 5 auditor instead of a smaller audit company. Prior studies find a "premium" in audit fees when using a Big 5 audit company. They argue that this premium could occur due to a better reputation, higher quality, and more experienced personnel (Che et al., 2020). This premium has been widely studied in multiple countries, and also Norway (Che et al., 2020). Our analysis will use an approach similar to the one used in Guindy and Trabelsi's (2020) research paper to determine if Big 5 companies charge higher fees when companies are reporting in line with IFRS.

Explanatory variables	Model 7 (BIG5 == 1)		Model 8 (BIG5 == 0)	
	Coef.	t-value	Coef.	t-value
Intercept	1.3303	6.94***	0.7793	0.99
IFRS	-0.2526	-6.64***	-0.1559	-1.28
Ln_NAF	0.2810	46.08***	0.3105	13.99***
Tenure	-0.0274	-6.62***	-0.0461	-3.12***
SIZE	0.2002	17.29***	0.2426	9.98***
LEVERAGE	0.1404	3.20***	0.0867	1.04
ROA	-0.1297	-2.57***	-0.3303	-3.37***
INVAREC	1.0730	8.40***	0.2463	0.79
BUSY	0.0964	0.78	-0.4375	-0.58
LOSS	-0.0147	-0.44	0.1514	1.45
Firm fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
Number of observations	14 635		1 523	
F-test	326.44***		46.06***	
R²	0.2659		0.3817	
* p<0.10, ** p<0.05, *** p<0.01				

Table 5.6: Regression models when BIG5 equals 1 and 0 when Ln_AF is the dependent variable.

In Table 5.6, we estimate two separate regression models based on the value of the BIG5 dummy variable: Model 7 for BIG5 == 1 and Model 8 for BIG5 == 0.

For the model when BIG5 == 1, most variables are statistically significant for all levels. The F-test value is 326.44. This indicates that the independent variables collectively significantly impact the dependent variable. The variable of interest is IFRS for both models.

When BIG5 == 1, the coefficient value is -0.2526, and -0.1559 when BIG5 == 0. This indicates that Big 5 companies charge lower audit fees associated with reporting under IFRS than non-Big 5 companies. The IFRS variable is not statistically significant for any levels when a non-BIG5 company audits companies. The independent variable Ln_NAF coefficient value when BIG5 == 1 is 0.2810 and 0.3105 when BIG5 == 0. Both variables are statistically significant, indicating that non-Big 5 companies are charging higher non-audit fees when companies are reporting according to IFRS. The variable Tenure coefficient value when BIG5 == 1 is -0.0274, and when BIG5 == 0 is -0.0461. Both are statistically significant for all levels. The result indicates that longer tenure is associated with lower audit fees, but the fee is lower for companies audited by a non-Big 5 firm. The intercept for both models is statistically significant for all levels. The intercept coefficient value is 1.3303, suggesting that Big 5 companies are charging higher baseline audit fees

compared to non-Big 5 companies, with an intercept coefficient value of 0.7793 charging a lower baseline for audit fees.

In the Stripped Models in Appendix Section 4[7], we get very different results when removing the independent variable, Ln_NAF. The most significant result is the IFRS variable. The coefficient value is positive for both models but is statistically significant for all levels when BIG5 == 1 and statistically significant at the 10% level when BIG5 == 0. We can interpret this as evidence that non-Big 5 companies are charging higher audit fees when their clients are reporting according to IFRS, but much more uncertain compared to the variables that are statistically significant at a lower level.

Based on the regression analysis and the statistical significance of the variables, including the IFRS variable, our findings indicate that there is no evidence to support Big 5 companies charging higher audit fees compared to non-Big 5 companies. The negative coefficient value for the IFRS variable in both models indicates that Big 5 companies actually charge lower audit fees associated with reporting under IFRS. The conclusion is that there is no indication that Big 5 companies are charging higher audit fees.

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[7] Appendix Section 4: Regression Table 4, Page 79.

6. Conclusion and Recommendation for Future Research

In this master thesis, we have investigated the effect of IFRS on audit, non-audit, and total fees. We also investigate whether adopting IFRS triggers companies to switch their auditor to a Big 5 company.

We found strong empirical evidence that IFRS leads to lower audit fees and that audit fees increase after the initial year of implementation. We also discovered that non-audit fees increase when companies are implementing IFRS, and the result shows that fees increase after IFRS is implemented. The empirical evidence is much stronger for non-audit fees compared to audit fees.

We also found strong empirical evidence that companies implementing IFRS are likely to change their auditor to a Big 5 company. We also discovered that other financial variables, such as firm size and financial ratios, influence decisions. The result from the test shows us that high fees are the motivator why companies are changing their auditor.

Our findings from the additional analysis show that different districts in Norway pay higher audit fees when companies implement IFRS. Specifically, audit fees are higher in Nordland, Viken, Trøndelag, Oslo, and Troms og Finnmark districts. We also found that Big 5 companies do not charge higher audit fees compared to non-Big 5 companies when companies report in line with IFRS regulations.

Our study contributes to the existing literature on the effects of audit fees when switching to IFRS from NGAAP in the Norwegian context. We also look at the effect switching to IFRS will have on auditor choice. Using a sample of firms in Norway from 2003 to 2020, we provide empirical evidence on the impact of various variables on audit fees, non-audit fees, total fees, and auditor choice. We also extend our analysis to examine the years surrounding the implementation to check for pre-adoption and post-adoption effects. Furthermore, our study also investigates whether audit fees vary based on factors such as tenure and audit affiliation, considering the presence of low-balling or premiums. The findings in our study could have important implications for firms considering implementing IFRS and

for regulators interested in seeing the impact and cost implications of such a transition.

Similar to prior research, our study does have some limitations. The first limitation is time availability, where lack of time restricts us from completing a more in-depth study and exploring additional variables. This is also related to our second limitation, which is the possibility of not having included variables or proxies of measurement that would be more relevant to our study. Even though we have considered a vast amount of variables, there is a possibility that we have excluded relevant variables, such as cash flow, measures for audit quality, or more proxies for complexity or size. The third limitation is the generalizability of our findings. In our study, we have controlled for firm-fixed effects and year-fixed effects. Since we have used firm-fixed effects, we have corrected for industry affiliation, but our findings are not necessarily generalizable to all industries. The fourth limitation is that we experienced missing values in our data set. The best way to handle missing values can be up to debate, and other studies may cope with these in different ways and possibly get different results than our study. Lastly, the exclusion restrictions that we used in the second stage of the two-Stage Heckman selection mode can be discussed. Lennox et al. (2012) highlighted the importance of carefully considering the variables we exclude from the model. The exclusion of some variables could lead to a more fragile model and non-robust results.

We acknowledge that there is a scope for expanding this research in the future. For instance, from the limitations in our study, future research could delve deeper into different industry effects. Industries experience differences in, for example, regulations, capital intensity, market structures, and risk profiles; therefore, the effects of audit fees will differ. Including this in a future study would be an interesting avenue for research. Additionally, researching the impact on different ownership structures, such as international exposure, could be fascinating and will contribute to a deeper understanding of the effects of switching to IFRS. Also, based on our additional analysis of audit pricing in various districts in Norway, this subject may serve as a potential area for future research. Focusing on investigating what factors are behind the biggest differences in audit pricing across districts. Lastly, an interesting future approach could be to rather focus on the effect that IFRS adoption has on total fees, as the transition period increases non-audit fees more than audit

fees. By doing this, the study could also take into consideration a longer period after the implementation to get a more accurate estimate of the effects on total fees.

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8. Appendix

7.1 Definition of Variables

Beginning_Date	The variable includes the starting point of the fiscal year for the companies.
Ending_Date	The variable includes the companies' ending points for the fiscal year.
Year	The variable represents the calendar year in which the observation was recorded.
ÅrendrettilIFRS	The variable represents the year the companies changed their accounting language to IFRS.
cid	The variable represents the organizational number for the companies in the dataset.
Orgform	The variable represents the organizational form of the companies in the dataset.
Sales	The variable includes the overall revenue from the sale of products and services that the companies in the dataset generated during a specified time period.
Operating_Income	The variables include the income generated by a company's core business operations.
Cost_Of_Goods	The variable represents the COG for the companies. COG is the total of all direct expenses incurred in the production of a good.
Salary	The variable represents the total salary expenses for the companies. Salary includes wages, bonuses, and other monetary benefits.
Depreciation	The variable represents the depreciation cost for the companies. Depreciation is an accounting method used to allocate the cost of a tangible asset over its useful life.
Operating_Profit	The variable represents the profit generated by a company's core business operations.
Ordinary_Profit_b_Tax	The variable represents the profit generated by a company's ordinary business activities before accounting for income tax expenses.
Net_Income	The variable represents the company's total earnings or profit after accounting for all revenue, expenses, gains, and losses during the specific period.
Dividend	The variable represents the total amount of money paid out by the company to its shareholders as a distribution of its profits during a specific period.
Deferred_tax_Assets	The variable represents the amounts recognized by a company on its balance sheet as a result of temporary differences between the tax and accounting treatment of certain items.
Total_Immaterial_Assets	The variable represents the combined value of a company's intangible assets recorded on the balance sheet.
Fixed_Assets	The variable represents the long-term tangible assets owned by a company and used in its operations to generate income.
Sum_Fixed_Assets	The variable represents the sum of the long-term tangible assets owned by the company.
Inventories	The variable represents the value of the company's raw materials, work-in-process, production efficiency, and finished goods.
Account_Receivable	The variable represents the outstanding amounts owed to a company by its customers for goods or services provided on credit.

Overdraft	The variable represents the amount by which a company's withdrawals from its bank account exceed the available balance.
Total_Current_Asstes	The variable represents the sum of all assets a company expects to convert into cash, sell, or consume within a short period.
Deferred_Tax	The variable represents the amounts recognized by a company on its balance sheet due to temporary differences between certain items' tax and accounting treatment.
Equity	The variable represents the total equity on the company's balance sheet.
Convertible_loans	The variable represents the outstanding debt issued by a company that can be converted into a predetermined number of shares of the company's common stock.
Bonds	The variable represents the debt securities issued by a company to raise capital from investors.
Financial_inst	The variable represents the outstanding debt obligations that a company owes to various financial institutions.
Subordinated_loan_capital	The variable represents the debt issued by a company that ranks below its senior debt in order of priority for repayment in the event of bankruptcy or liquidation.
Other_Long_Term_Liabilities	The variable represents the non-current obligations of a company that are not specifically classified under any other category.
Total_Long_term_Debt	The variable represents the sum of all debt obligations a company has with a maturity period.
Account_Payable	The variable represents the outstanding amounts owed by a company to its suppliers, vendors, or other service providers for goods or services received on credit.
Payable_Tax	The variable represents the outstanding tax liabilities that a company owes to various tax authorities.
Dividend_Debt	The variable represents the amount of declared dividends that the company owes to its shareholders but has not yet paid.
Total_Current_Liabilities	The variable represents the sum of all short-term obligations a company is expected to settle within one year.
af	The variable represents the reported audit fees from the companies.
naf	The variable represents the reported non-audited fees from the companies.
Big5	The variable represents which audit firm the company is using as its auditor: BDO, PWC, EY, Deloitte, and KPMG.
Total_Debt	The variable represents the total debt on the balance sheet.
Total_Assets	The variable represents the total asset on the balance sheet.
Company_Age	The variable represents the age of the companies.
District_Number	The variable represents both the district number in Norway and where the companies are located.
Industry_Codes	The variable represents the industry code in which the company operates.
Parent	The variable is a dummy variable that equals 1 if the company is a parent and 0 otherwise.
Subsidiary	The variable is a dummy variable that equals 1 if the company is a subsidiary and 0 otherwise.

7.2 Random sample - Fees from annual report

Elopak

Fees to external auditors

	2020
Audit fee	269
Other assurance services	46
Tax advisory services	45
Other non-audit services	0

https://www.elopak.com/app/uploads/2022/03/Arsrapport_2021_FINAL_WEB-1.pdf

Landkreditt SA

REVISJONSKOSTNADER	2019
Godtgjørelse til revisor	286
- hvorav ordinær revisjon	212
- Skatt og rådgivning	74
- hvorav andre attestasjonsoppgaver	0
- Andre tjenester utenfor revisjon	0

Beløpene er inklusive merverdiavgift.

https://www.landkredittbank.no/globalassets/documents/lkb/omoss/investorinformasjon/rapporter/2019-aarsrapport/2019_lk_konsern-_-sa_arsrapport.pdf

EVINY AS

Beløp i 1000 kr

Honorar til revisor (kostnadsført)	2018
Lovpålagt revisjon	403
Honorar annen bistand fra revisor	649
Sum	1 052

Beløp eks. mva

https://northenergy.no/wp-content/uploads/2016/09/north_energy_annual_report_2013.pdf

North Energy AS

Amounts in NOK 1 000	2013
Audit	409
Attestations	28
Accounting assistance	11
Due diligence, share issues and prospectus	0
Other assistance	34
Total, excl VAT	482

https://northenergy.no/wp-content/uploads/2016/09/north_energy_annual_report_2013.pdf

NRC Group ASA

Compensation to auditors

Amounts in NOK million	2019
Statutory audit	0.7
Other assurance engagements	0.0
Tax related services	0.1
Other services	0.0
Total excluding VAT	**0.8**

https://cms.nrcgroup.com/assets/Annual-Report-2019.pdf

Hafslund Produksjon Holding AS

Kostnadsført honorar til revisor i 2012 for Hafslund ASA utgjør 1 million kroner

- Lovpålagt revisjon 0,7 millioner kroner (1 million kroner).
- Skatterådgivning 0,1 millioner kroner (0,3 millioner kroner).
- Annen rådgivning 0,2 millioner kroner (0,3 millioner kroner).

https://s3.eu-north-1.amazonaws.com/hafslundeco/images/Hafslund_aarsrapport_2012.pdf

Moelven industrier

22.8 – Godtgjørelse til revisor

Beløp i NOK mill. utbetalt i regnskapsåret	2007
Lovpålagt revisjon	0,3
Andre attestasjonstjenester	0,0
Skatterådgivning	0,1
Andre tjenester utenfor revisjonen	0,0
Sum	**0,4**

https://www.moelven.com/globalassets/konsern/finansielle-rapporter/arsrapporter/2007-arsrapport.pdf

Nordkraft AS

Tall i 1 000 NOK	2015
Godtgjørelse til revisor	
Ordinær revisjon	173
Andre tjenester	855
Sum revisjonskostnader	**1 027**

https://www.nordkraft.no/getfile.php/132760-1467202270/Nordkraft%20dokumenter/Arsrapporter/%C3%85rsrapport%202015

MPC Container Ships ASA

Compensation to auditors (in USD thousand)	
Fees related to audit services	330
Fees related to other services	30
Fees booked towards equity	11

https://www.mpc-container.com/investors/financial-reports/

Grieg Seafood ASA

BREAKDOWN OF AUDITOR'S FEES NOK 1 000	2019
Statutory audit	994
Other certification services	514
Tax advisory fee	302
Other services	173
Total	1 983

https://cdn.sanity.io/files/1gakia31/production/8a7be59216389c66d08733c39404d5b4e7800592.pdf

7.3 STATA Table

Variance inflation factor

	VIF	1/VIF
Total Fees	1.961	.51
Ln AF	1.865	.536
IFRS	1.7	.588
ROA	1.561	.641
SIZE	1.553	.644
Board Size	1.424	.702
LEVERAGE	1.347	.742
LOSS	1.297	.771
Five Own	1.293	.773
Tenure	1.278	.782
INVAREC	1.216	.823
Pre IFRS	1.173	.853
BIG5	1.123	.891
OneYear	1.11	.901
TwoYear	1.091	.916
Private Own	1.089	.918
ThreeYears	1.084	.923
Change IFRS Auditor	1.077	.928
State Own	1.076	.929
CUR RATIO	1.044	.958
BUSY	1.023	.978
Mean VIF	**1.304**	.

STATA Table 1: VIF-test output when conducting an OLS regression for Ln_NAF as the dependent variable.

Variance inflation factor

	VIF	1/VIF
Five Own	2.26	.442
Ten Own	2.012	.497
ROA	1.563	.64
IFRS	1.553	.644
SIZE	1.492	.67
Board Size	1.369	.73
LEVERAGE	1.346	.743
LOSS	1.295	.772
INVAREC	1.22	.82
Tenure	1.167	.857
Pre IFRS	1.166	.858
BIG5	1.115	.897
OneYear	1.106	.904
Private Own	1.095	.913
TwoYear	1.087	.92
ThreeYears	1.076	.929
State Own	1.075	.93
CUR RATIO	1.04	.961
BUSY	1.022	.978
Mean VIF	**1.319**	.

STATA Table 2: VIF-test output when conducting an OLS regression for Total_Fees as the dependent variable.

7.4 Regression Table

Explanatory variables	Stripped Model 1 (Ln_AF)		Stripped Model 2 (Ln_NAF)		Stripped Model 3 (Total_Fees)	
	Coef.	t-value	Coef.	t-value	Coef.	t-value
Intercept	-0.0086	-0.05	-2.9914	-12.43***	-2.6439	-10.12***
IFRS	0.1384	3.71***	1.3455	27.91***	2.0206	38.62***
SIZE	0.2975	27.66***	0.2716	19.56***	0.3234	21.46***
BIG5	0.239	3.61***	0.2376	2.75***	0.178	1.92*
CUR_RATIO	-0.0009	-2.54**	-0.0004	-0.8	-0.0004	-0.74
LEVERAGE	0.1698	4.07***	0.1141	2.12**	0.1563	2.67***
ROA	-0.2017	-4.15***	-0.1457	-2.33**	-0.1761	-2.59***
INVAREC	0.9563	7.51***	-0.2365	-1.44	-0.0898	-0.5
LOSS	0.0141	0.41	0.0399	0.89	0.077	1.58
Tenure	-0.0086	-2.02**	0.0628	11.47***	0.1238	20.83***
BUSY	0.0053	0.04	0.0867	0.53	-0.2088	-1.17
Five_Own	0.0805	4.79***	-0.0152	-0.7	-0.05	-2.12**
Ten_Own	-0.0561	-2.12**	0.0528	1.55	0.0639	1.73*
Board_Size	0.0515	4.98***	0.1452	10.89***	0.1051	7.26***
State_Own	-0.022	-1.67	0.0055	0.32	0.0011	0.06
Private_Own	0.0003	0.04	-0.0198	-1.98**	-0.0141	-1.29
Firm fixed effects	Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes	
Number of observations	16 158		16 158		16 158	
F-test	82.53***		190.23***		334.95***	
R²	0.1532		0.1452		0.1997	
* p<0.10, ** p<0.05, *** p<0.01						

Regression Table 1: The dependent variable for Stripped Model 1 is Ln_AF. Stripped Model 2 is Ln_NAF. Stripped Model 3 is Total_Fees. All three models have excluded OneYear, TwoYear, and ThreeYears. Stripped Model 1 has excluded Ln_NAF, and Stripped Model 2 has excluded Ln_AF.

Explanatory variables	Stripped Model 4 (BIG5)		Stripped Model 5 (BIG5)	
	Coef.	z-value	Coef.	z-value
Intercept	-3.3407	-5.47***	-2.9699	-5.36***
IFRS	0.4587	6.83***	0.4446	6.68***
SIZE	0.2498	14.26***	0.2481	14.24***
Ln_NAF	0.0541	4.26***	0.0541	4.26***
LOSS	0.1551	2.25**	0.1540	2.23**
ROA	-0.1469	-2.02**	-0.1490	-2.05**
LEVERAGE	0.0589	0.89	0.0520	0.79
CUR_RATIO	-0.0007	-0.88	-0.0007	-0.355
INVAREC	0.2714	1.26		
BUSY	0.3407	1.44		
Firm fixed effects	Yes		Yes	
Number of observations	4 448		4 448	
Likelihood Ratio	-1681.0992		-1682.889	
Pseudo R²	0.3464		0.3457	
* p<0.10, ** p<0.05, *** p<0.01				

Regression Table 2: Heckman Stage-one auditor-choice probit regression models. Stripped Model 4 has removed the variables Tenure and Change_IFRS_Auditor. Stripped Model 5 has removed Tenure, Change_IFRS_Auditor, INVAREC, and BUSY.

Explanatory variables	Stripped Model 6 (Ln_AF)		Stripped Model 7 (Ln_AF)	
	Coef.	t-value	Coef.	t-value
Intercept	0.5591	2.18**	0.7698	3.06***
IFRS	-0.3329	-3.99***	-0.3716	-4.46***
SIZE	0.2427	9.00***	0.2395	8.76***
Ln_NAF	0.3506	26.10***	0.3479	25.70***
LOSS	0.1460	2.21**	0.1362	2.05**
ROA	-0.1973	-2.98***	-0.1934	-2.11**
CUR_RATIO	-0.0015	-1.97**	-0.0016	-2.11**
INVAREC	0.9934	4.66***		
IMR	-0.0455	-1.01	-0.0403	-0.87
Firm fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
Number of observations	4 448		4 448	
R²	0.3083		0.3297	
VIF (IMR)	1.45		1.45	
* p<0.10, ** p<0.05, *** p<0.01				

Regression Table 3: Heckman Stage-two regression models. Stripped Model 6 is based upon Stripped Model 4, and Stripped Model 7 is based upon Stripped Model 7. Stripped Model 4 inverse Mills ratio is calculated for Stripped Model 6. The case is the same for Stripped Models 5 and 7.

Explanatory variables	Stripped Model 8 (BIG5 == 1)		Stripped Model 9 (BIG5 == 0)	
	Coef.	t-value	Coef.	t-value
Intercept	0.5215	2.54**	-0.0725	-0.09
IFRS	0.1305	3.27***	0.2145	1.66*
Tenure	-0.0117	-2.62***	-0.0136	-0.86
SIZE	0.2929	23.85***	0.3177	12.40***
LEVERAGE	0.2006	4.24***	-0.0118	-0.13
ROA	-0.1630	-3.00***	-0.4658	-4.41***
INVAREC	1.0536	7.66***	0.1860	0.55
BUSY	0.1216	0.92	0.0248	0.03
LOSS	-0.0013	-0.04	0.0981	0.87
Firm fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
Number of observations	14 635		1 523	
F-test	87.84***		23.38***	
R²	0.0894		0.2771	
* p<0.10, ** p<0.05, *** p<0.01				

Regression Table 4: In both Stripped Models, the variable Ln_NAF has been removed.

BI Norwegian Business School – Preliminary Thesis Report

‑IFRS adoption and the effect it has on auditor fees and auditor choice‑

GRA 19702 – Master Thesis

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Preliminary thesis report

Introduction

The European Union (EU) decided in 2002 that all publicly traded companies within the European Economic Area (EEA) must report their consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) as of 2005. This decision was made in response to IAS Regulation EC No. 1606/2002 (*IFRS-forordningen: Bruk Av Internasjonale Regnskapsstandarder | Europalov*, n.d.). The purpose of IFRS is to provide rules on the specific sorts of transactions and events that must be recorded in financial statements (IFRS: International Financial Reporting Standards, n.d.).

International Accounting Standards (IAS), published between 1973 and 2001 by the board of the International Accounting Standards Committee (IASC), were in use prior to IFRS. IASC was replaced by the International Accounting Standards Board (IASB) in 2001. IFRS are created and approved by the IASB, an independent nonprofit organization (Acca, 2020). The original idea for IFRS was for corporations to have comparable accounting rules so that financial statements would be standardized, trustworthy, and comparable across all firms in any countries that apply IFRS (International Financial Reporting Standards, n.d.). Which businesses are required to use IFRS is up to the jurisdiction in the country the company operates in. As for Norway, companies who go public must implement IFRS as its accounting language to be allowed to be traded today inside the European Economic Area (EEA) by laws from the EU. Unlisted domestic companies in Norway can use IFRS if they want. Companies that are not listed on the stock exchange but have debt securities at the Oslo stock exchange must implement IFRS (Use of IFRS by Jurisdiction, 1970; kkg@dib.no, 2022). As of data received from Brønnøysundregisteret 2020 there are 372,983 registered companies. Of those, 464 companies use IFRS in their consolidated financial statements, and 353 use IFRS in their financial statements. Some of the companies from the document are using both, 120 in total.

Several empirical studies have been conducted since the mandatory adoption of IFRS for publicly listed companies within the European Economic Area (EEA).

These studies have identified the different costs and benefits of switching from GAAP to IFRS and the effect it can have on auditor fees. The relevant literature is mentioned in the literature review. In this Master Thesis we will provide additional evidence on the topic by investigating the change in auditors' fees when Norwegian businesses change from Norwegian Generally Accepted Accounting Principles (NGAAP) to IFRS as their accounting language. We will also be looking at the choice of auditor between the Big 4 and a smaller audit company when changing accounting languages from GAAP to IFRS and how this could affect the auditors´ fees.

Before businesses adopt IFRS, we will also take a look at the auditor selection process. Companies typically switch from a smaller audit firm and choose an auditor from one of the Big 4 firms. We will look into this to determine if the auditor's fees rise as a result of this.

The research questions for our Master Thesis will be the following:

"Do auditors' fees increase when companies adopt accounting language from NGAAP (GRS) to IFRS?"

Research topic

According to earlier studies, the auditors' fee increases while moving from GAAP to IFRS (Raffournier & Schatt, 2018; De George et al., 2013). For this Master Thesis, we will conduct a study on this in the Norwegian context to see if there is an effect on the auditor's fees and if the change of auditor happens before or after adoption.

Consider the fact that IFRS has more complicated regulations than GAAP in order to get a clearer sense of why the auditor's fees can rise. Before the auditor may audit the company, a significant amount of time must be spent familiarizing themselves with the rules. Higher standards are set for the auditor's expertise and desire to audit IFRS due to the complexity of the system.

We will examine companies that have changed from NGAAP to IFRS with the data provided from Brønnøysundregisteret between 2005 and 2020, and then we will gather data that we will analyze to disclose an effect on auditor fees. We will provide similar research to what Raffournier and Schatt (2018) did in their paper.

The paper will also disclose why companies want to change their accounting practices, the benefits of it, and the costs. Adoption of IFRS has been growing for a few years, and we found this kind of research highly relevant for the present situation in the professional field (Partner et al., 2021).

The research questions for our Master Thesis will be the following:

"Do auditors' fees increase when companies adopt accounting language from NGAAP (GRS) to IFRS?"

Our hypotheses are based on findings from previous studies that we have described in the literature review. We find these hypotheses relevant to our research question and believe they will help us create a good basis for our analysis in the Norwegian context.
These hypotheses are momentary and can be changed at a later time if we find more relevant hypotheses for our research.

H1: Changing accounting language from NGAAP to IFRS will increase audit fees.

H2: The choice of auditor before changing accounting language will have an effect on audit fees.

Why is it interesting

The rules and IAS regulations, as well as its implications for corporate reporting, costs, and effects, are the key topics of necessary IFRS study. As shown in our research literature, there have been several studies about this topic and the cost of IFRS, but the research has not been extended into the Norwegian context.

Businesses have a uniform language to use when preparing their financial statements thanks to a set of accounting regulations known as IFRS. This makes it simple for analysts, investors, and other stakeholders to analyze the financial performance of businesses across many nations and sectors. Anyone working in finance, accounting, or business should be familiar with IFRS because it can help them make better decisions and comprehend a company's financial health.

Understanding these standards is crucial for anyone conducting business in such nations, as many of them have adopted IFRS as their national accounting language. That is the reason why we want to investigate the research question: to build a better understanding of and knowledge about IFRS. The competency of IFRS is in high demand since businesses are getting more and more complex and investors want more transparency, and the disclosing of the cost of adopting IFRS. Given the increased demand for knowledge of these accounting languages, we think that researching the topic will give significant insight into a topic that is much needed in Norway.

Literature Review

Previous studies have looked at the expense of changing from GAAP to IFRS and how it will affect the auditor's fee.

Auditor fees

Raffournier and Schatt (2018) investigated how the fees from the auditors have been affected by companies that have adopted IFRS. The research was based on data collected of 1,651 firm-year from 122 companies in Switzerland with a year observation of 15 years. They discovered the auditor fees increased for companies that are using IFRS, and the firms experienced additional fees the year IFRS was implemented. The cost of adopting IFRS is limited. Since the expense of preparing IFRS consolidated financial statements accounts for 0.05–0.31% of turnover in the year of adoption and 0.008–0.06% of turnover in the years that follow, The paper discloses that 67% of auditors recognize the additional fees they are charging for going through financial statements under IFRS. Therefore, it is not surprising that financial statement preparers rank audit charges as one of the highest direct expenses associated with the adoption of IFRS. Since the research in this paper is comparable to what we intend to perform, we want to employ the same methodology in our Master Thesis. The study makes several dependent variables about the fees the auditor charges its clients and changes in auditors'. The paper also discloses variables about companies to measure the overall impact of adopting IFRS.

De George, Ferguson, and Spear (2013) investigated the cost of adopting IFRS and fees from auditors in Australia. The data the authors used in this study is for all companies that are listed on the stock exchange. According to the data, the auditors' fee jumped 23% from the mean the year before IFRS was adopted. The report found an 8% pre-IFRS anomalous rise in auditor costs. Additional research shows that IFRS-related audit fees are disproportionately higher for small businesses. Empirical studies imply that enterprises exposed to more complicated audits have bigger increases in compliance costs as they make the switch to IFRS. The authors of the article specifically note that adopting IFRS is costly for businesses due to the increased effort, knowledge, and information systems needed to implement the new standards, as well as the increased effort needed to manage the risk of material omissions in IFRS-compliant financial statements. The study also states that there would be two key driving forces for the auditors. The auditor will need more information concerning IFRS to ensure that the adoption has been properly executed, which is the first justification. Because the auditor wants to charge more for the audit in order to recoup the cost of the effort. The second reason is that auditors are likely to increase audit work to minimize the risk that financial statements will be misstated after IFRS adoption or the litigation risk related to the effects of financial statements that are misstated.

Higgins et al. (2016) took a longer post-adoption time into consideration. They demonstrated consistently higher audit fees in the year of adoption and the years that followed using data from 2002 to 2012, demonstrating that the increase in audit costs is not a transient phenomenon. The premise that voluntary adopters invest in higher audit quality is supported by the fact that early adopters charge higher audit fees than required adopters.

Voluntary adoption of IFRS
Bertrand et al. (2021) discovered the benefits for companies that choose to voluntarily change their accounting language to IFRS. IFRS were formally adopted by publicly traded companies in 2005 to help harmonize accounting procedures. However, in some nations, IFRS is still a choice for unlisted companies. The paper looked into whether privately held businesses in Europe can increase their borrowing capacity by voluntarily reporting their consolidated financial data in accordance with IFRS as opposed to their national accounting

language. The paper demonstrates that IFRS adoption causes more non-listed enterprises to issue private debt by using fixed effects regressions on 8,391 firms across 22 European Union (EU) nations from 2005 to 2018. This accounting method might be especially beneficial for businesses that operate in murky industries or in nations with common laws. The findings the authors add to the conversation on European accounting languages are from unlisted companies.

Switching auditor

Khlif and Achek (2016) conducted a review of the empirical research literature pertaining to IFRS and auditing. The impact of the adoption of IFRS on audit fees, the audit market and report lag, the impact of auditor selection on IFRS compliance, and other conclusions are all mentioned in the paper. 26 empirical studies served as the foundation for the conclusions presented by Khlif and Achek (2016). Five preceding studies form the basis for the auditor's selection based on the same research. The article makes reference to the study Wieczynska (2015) conducted on the effect of IFRS implementation on the market for auditors. She examined how the adoption of IFRS affects the likelihood and direction of auditor switching during shifts from 1998 to 2010 in a sample of enterprises from five European Union (EU) countries, including the UK, Germany, Italy, Spain, and Poland. The author looked into whether larger auditing companies, such as the Big 4, BDO, and Grant Thornton, had an edge in terms of experience when accounting standards changed. In the year of IFRS adoption, clients were more inclined to switch to multinational auditing companies, which gives the companies an advantage over the smaller audit firms, according to her research. In other words, the implementation of IFRS favors the Big 4, BDO, and Grant Thornton since they have the expertise of IFRS.

The earlier research that was referenced above demonstrates the connection between auditor fees and IFRS adoption and the need to change auditors when adopting IFRS. In the context of Norway, we will carry out a comparable study. The articles do not account for additional fees the auditor charges clients that are unrelated to the audit. The same subject—the connection between auditor fees, the introduction of IFRS, and the change of auditor—will be our focus.

The cost of IFRS adoption

There are a few factors to consider when deciding whether to switch from GAAP to IFRS. One reason is that IFRS are increasingly being used globally, and many businesses find that adopting IFRS makes it simpler to conduct business abroad (Lee, 2019).

Furthermore, some experts think that IFRS offers a more open and standard foundation for financial reporting, which might make it simpler for investors to compare financial statements from various organizations. Not to mention, some companies may see IFRS adoption as a way to simplify their accounting processes and minimize compliance costs (De George et al., 2013).

There are a few reasons why companies may be concerned about the potential increase in auditor fees when adopting IFRS from GAAP.

Furthermore, IFRS implementation can be challenging and time-consuming since it requires firms to review and, in some cases, rework their financial statements to conform with the new regulations. The company's auditors might have to perform additional work as a result, which might raise their fees (El Guindy & Trabelsi, 2020).

IFRS and GAAP have some differences in their accounting rules and practices, which can create additional challenges for auditors when evaluating a company's financial statements. For example, IFRS may require more judgment and estimation in the preparation of financial statements, which could increase the audit risk and require more effort from the auditors (Dinh & Piot, 2014).

Companies may be concerned about the potential impact on their financial statements when adopting IFRS (Pawsey, 2016). For example, IFRS may result in different reported amounts for certain items, such as revenue and assets, which could affect the company's financial performance and investors' perceptions. This may require additional audit procedures to ensure the accuracy and completeness of the financial statements, which could increase audit fees.

To sum up, while the adoption of IFRS may bring benefits, such as increased comparability and transparency, it may also come with additional costs, including increased auditor fees as described above and other costs the auditor incurs.

IFRS and auditor choice

Due to IFRS's reputation for being more complex, as mentioned above, the global audit firms (PwC, KPMG, EY, and Deloitte) may maintain a better position as compared to smaller audit firms (Dinh & Piot, 2014). The "Big 4" are said to have an edge over local audit firms since they are more versed in IFRS. By doing this, the "Big 4" auditors might give public firms a safer way to adopt IFRS (Dinh & Piot, 2014).

According to our knowledge, companies rarely change auditors before changing accounting rules (Dinh & Pilot, 2014). The board of directors is responsible for selecting the company's auditor. The choice is made based on the particular needs and circumstances of the firm. The transition to change accounting language from GAAP to IFRS is one of several factors a company may consider when selecting an auditor (Raffournier & Schatt, 2018).

Companies consider the auditor's qualifications and experience, standing and credibility, fees and charges, or position of independence and objectivity when choosing or replacing their auditor (Hudaib & Cooke, 2005). Companies may replace their auditor if they believe the quality of the audit services is insufficient or if they have any doubts about the independence or objectivity of the auditor.

We will argue that selecting an auditor for a company is a big decision that needs to be properly considered. If the company is not satisfied, switching auditors can be time-consuming and have an impact on its financial statements and investor relations. The financial statement is likely where we can find the information whether the company has changed auditors.

Methodology

We will mainly be using regression analysis when examining our research question, but we will also use descriptive statistics to present our data. The data used in our study will be gathered from firms' financial statements from the period that they changed from NGAAP to IFRS. Since the data is numerical, the most suitable research approach for our study is a quantitative approach (Apuke, 2017). Our analysis will be conducted using STATA, a statistical data program.

Descriptive statistics

We will be using descriptive statistics in our Master Thesis. Using descriptive statistics would allow us to describe and compare the variables' numerical data values, giving us the opportunity to summarize and give an overview of the different data that we are using and explain how the data will be used (Saunders et al., 2019, p. 597). We can also use this to investigate if there are other patterns or effects that we should take into consideration or that should be further investigated in future research.

Regression analysis

In our research, we will be looking for the effect and cause of increased audit fees due to the adoption of IFRS and the effect that the choice of auditor can have on these fees. This is exactly what we get from using regression analysis as our main analysis, where we will be using a multiple regression analysis and a logarithmic regression analysis to calculate coefficients and significance between the variables (Saunders et al., 2019, p. 618). The RQ indicates that the variable that we will have on the left side (dependent variable) is the amount of audit fees the firm experienced, measured by its natural logarithm. The right side of the model will contain multiple control variables (independent variables) where we can look at how different variables can affect the audit fees.

Regression models

In our literature review, we mentioned that there has been conducted multiple research on the topic of IFRS adoption and auditor fee. Many of these studies have used an audit fee model when completing their analysis, for example the research conducted by Raffournier and Schatt (2018) and De George, Ferguson, and Spear (2012). The traditional audit fee model is the model that we will base

our model on since we want our research and its results to be comparable to other research conducted on the topic. This model includes variables that can affect the amount of audit fees that the firm's experience, and we find it relevant to include different factors that can influence our results. Some of these variables encompass different firm attributes such as size and profitability, auditor attributes such as the use of the Big 4, and what year the change is completed. We also include variables that will show the effect on audit fees the year prior to the change, the year they made the change, and the year after. The variables will be explained more thoroughly in the Master Thesis.

This is how our regression model is momentarily looking, and can be changed if we find other variables that are more significant or some of those included are unnecessary.

$\Delta.LN.AUDIT.FEES = a_0 + a_1 NGAAP\_to\_IFRS_{it} + a_2 PRE\_NGAAP\_TO\_IFRS_{it} + a_3 POST\_NGAAP\_TO\_IFRS_{it} + a_4 \Delta\_LN\_ASSETS_{it} + a_5 \Delta\_CURRENT\_ASSETS_{it} + a_6 \Delta\_TOTAL\_DEBT_{it} + a_7 \Delta\_CURRENT\_RATIO_{it} + a_8 \Delta\_ROA_{it} + a_9\_BIG4_{it} + a_{10}\_AUDIT\_CHANGE_{it} + U_{it}$

where the subscript "i" is the firm and the subscript "t" is the year.

Plan for the thesis progression

Deadlines (delivering the thesis to supervision)

To ensure a tidy process when working on the thesis and to keep track of everything we want to complete, we find it essential to set some deadlines for our work. The deadline for sending in our first draft is towards the end of April, and the plan is that we will also have a temporary conclusion ready at this point. The second deadline is the end of May, and the last deadline is that we have completed the Master Thesis before June 30. Between the deadlines we will have time to work on the feedback that we have gotten from our supervisor, and make adjustments if we find parts of our paper to need improvement.

Data manipulation

From Brønnøysundregisteret, we gathered data on all companies that have reported their annual reports from 2005 until 2020 and gathered an overview of which firms have used IFRS and which have used NGAAP as their accounting language. The data that we need to gather before we can continue our research are the firms´ financial statements from the period that they switched to IFRS, and we need to get data that we can use to run our regression model in a satisfactory way. This data is fundamental before we can start our data manipulation, and it is what we will prioritize acquiring at the beginning before starting our analysis.

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