



Decision Usefulness of Accounting Information and Compliance with Accounting Standards

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Preface and Acknowledgements

The idea of pursuing a PhD first came to my mind in 2004, when I completed my Master's degree at the University of Leeds. I had taken the unusual path to take a year off my work as an auditor for KPMG Iceland and moved to the UK to pursue a MA. When I finished the master's program there, I continued my KPMG work, but was still drawn to academia and started part-time lecturing at the University of Iceland.

The audit industry is fertile ground for research ideas, specifically in Iceland where research in financial accounting and audit is almost unheard of. After a few years with KPMG, and teaching, I decided to submit a proposal for a research project and pursue a PhD. My plan was to work on the PhD project part-time, along with my work at KPMG. I saw this as an excellent opportunity to bridge the gap between academia and the accounting practice in Iceland. It has therefore been a guiding light from the start of this project to investigate practical questions and provide findings that have wide resonance, while at the same time contribute to the academic accounting literature.

The research topic I chose was based on my practical experience and since preparing financial statements and reporting financial information is a complicated, time consuming and expensive process. In recent years, this process has become even more challenging, with increasingly complicated accounting standards, more disclosure requirements and denser legislation and monitoring of financial information.

In the day-to-day work it is easy to get lost in all the details ensuring compliance. But sometimes the big question creeps in. How useful is this? Is anyone reading the financial statements and benefitting from all the demanding work involved in the financial reporting processes? I therefore framed a research proposal around these major questions and met with various academics in Iceland.

I discovered at the outset of this thesis that several contextual factors were not in my favour I had nearly abandoned the work. However, a former KPMG colleague, Professor Dr. Throstur Olaf Sigurjonsson, had faith in my project. Throstur is a true problem-solver and saw the potential in my plans. In the spring of 2016, he suggested that I present my research proposal to Dr. Stefan Wendt, who had recently moved to Iceland and joined Reykjavik University (RU). Stefan had the fortitude to become my supervisor and I was formally accepted into the PhD program at RU in August 2016. Meeting Stefan and have him as a supervisor was one of those life-changing events; without his tireless support and encouragement this project would never

have been possible. He has been relentless in ensuring that every step of this journey has been of the highest academic standard and granted me the flexibility to explore and pursue my own ideas and research interests. These two top academics formed my thesis committee, with Dr. Martin Quinn; their initiative and support has been extremely valuable.

Over the six years I have been on this journey, I have met many great people and fellow PhD candidates, who have been immensely helpful. I would like to particularly thank Dr. Catherine E. Batt and Dr. Kjartan Sigurðsson, and my fellow PhD candidate Illugi Hjaltalín, for their support and entertaining conversation and Ray Snider for assistance with editing of the thesis.

This project would not have been possible without KPMG's generous backing. I would like to especially thank managing partner Jón S. Helgason for giving me the opportunity and the necessary flexibility in my work schedule to focus on my studies. I would also like to thank the Institution of Financial Accounting in Iceland (FLE) for funding my study.

Last but not least, my deepest appreciations go to the most important people in the world - Lilja Rós, for always being there with her love and backing, and my children Anna Rós, Andri and Bjarki, who constantly brighten my day and remind me of the real purpose of life.

Reykjavík, 12 August 2022

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Abstract

The overall aim of this thesis is to investigate decision usefulness of financial accounting information and compliance with financial accounting standards. This thesis builds on three complementary studies, which explore the decision usefulness of fair value accounting information and compliance of private companies with financial accounting standards. The information perspective of accounting information provides the theoretical framework for the thesis. From this perspective, information content of financial information is useful if it has impact on the users of the accounting information.

The decision usefulness of fair value accounting (FVA) is analysed for two important user groups of financial statements, equity analysts and investors. The first study uses a case study approach and interviews with equity analysts to examine the usefulness of judgemental fair value adjustments (Level 3) and the impact that the implementation of IFRS 13 *Fair Value Measurement* had on the relevance of disclosures and disclosure practice. The second study focuses on investors and uses an event study methodology and regression analysis to examine the association between judgemental fair value adjustments recognised in the income statements and stock price reaction for listed European real estate companies. It also probes if increased disclosures about fair value following the implementation of IFRS 13 increased the relevance of the FVA. The third study examines the level of compliance with national accounting standards and factors which may influence the compliance level for a sample of Icelandic private companies.

The first study finds that equity analysts focus on cash-flow and do not incorporate Level 3 fair values as an input in their valuation. These results indicate that Level 3 fair value measurements or fair value disclosures have little relevance or information value for equity analysts. However, the fair value disclosures appear to have to some extent confirmative value as they provide analysts with comfort over their own fair valuation measurements and verify the credibility of management. The additional fair value disclosure requirements implemented with IFRS 13 have scant relevance for equity analysts. The results provide evidence that standard-setters, auditors and preparers of financial statements with significant Level 3 fair value adjustments should focus on predictive and forward-looking disclosures to evaluate future cash flows. Detailed disclosures about the management valuation process and sensitivity

analysis have limited relevance for the equity analysts. On the other hand, from the investors' perspective, the findings of the second study indicate that FVA are value relevant after implementation of IFRS 13 but not in the period before the implementation. In addition, the findings indicate that FVA recognised in semi-annual financial statements are more value relevant compared to annual accounts and positive FVA have more value relevance than negative FVA.

While the first two studies focus on the usefulness of accounting information, the third study goes a step further and explores management intentions to provide useful accounting information by analysing compliance with accounting standards. This study expands the literature by using management incentive theories to investigate compliance with national accounting standards by private companies, whereas prior research has mainly focused on publicly listed companies. The research reveals an overall compliance level of 75%, which demonstrates poor compliance, as the study is based on compliance with mandatory disclosures, where 100% compliance is required by law. Compliance is particularly low with mandatory disclosure requirements regarding investment in other companies, related party transactions and off-balance sheet liabilities. The overall results support concerns about lack of compliance, which have been raised by authorities, analysts, credit institutions and other consumers of Icelandic financial statements. Even though the information asymmetry in private companies appears to be resolved to some extent through private communications with different stakeholders, public financial statements play an important role. These findings have therefore direct implications for policy makers and regulators, as they highlight the importance of improving the enforcement and monitoring of compliance with the accounting regulation. Additionally, the study finds association between compliance levels and the size of a company, size of audit firm and sign-off date of financial statements. However, the age of a company, leverage or family ownership do not appear to influence compliance levels.

Introduction

The objective of financial reporting to be useful for decision-making is generally accepted by all standard-setting bodies in the major English-speaking countries and by those who interact with those standard setters (Staubus, 2000). Useful accounting information is communicated by management through financial statements, where accounting standards provide the language that is used to communicate financial information to the stakeholders (Healy and Palepu, 2001). In this sense, mandatory financial reporting reduces information asymmetry between the firm and its stakeholders¹ (Healy and Palepu, 1999) and force companies that wish to hide information to disclose it (Darrough, 1993). In a broader perspective, the important goal of regulating financial reporting is to preserve the stability of the financial system and confidence of investors and other market participants in financial markets (Leuz, 2010). The accounting and disclosure requirements for financial information are therefore heavily regulated in most countries to ensure greater transparency and accountability (Bozzolan, O'Regan and Ricceri, 2006).

The evolution of financial reporting standards raises two important questions, which are the backbone of this thesis. First, how useful is the mandatory accounting information which are reported in the financial statements? Secondly, how well do companies comply with the financial reporting standards? These questions are important both from academic and practical perspective. Extensive literature investigates these issues under different settings.

The concept of “usefulness” has been embedded in the definition of the objective of financial statements since the 1970’s (Deegan, 2003), but; the theory was largely developed during the third quarter of the twentieth century in America. There are different definitions of the decision usefulness theory in the accounting literature. Deegan (2003, p. 9) captures the essence of the theory when he states that “decision usefulness theory ascribes a particular type of information for particular classes of users on the basis of assumed decision-making needs”. Consistent with this definition, the Conceptual Framework (CF) of the International Accounting Standards Boards (IASB) states that financial reporting shall provide financial information about the entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity (CF paragraph 1.2).

¹ The stakeholders include groups such as investors, creditors, employees, customers, suppliers, government, competitors, trade unions and the communities at large (Antonelli et al. 2017).

One of the controversial issues with respect to usefulness of accounting information, which has provoked debate among academics and practitioners, is the use of fair value accounting for financial reporting (Laux and Leuz, 2009). Fair value accounting (FVA) is different from the traditional historic cost model, as it is based on measuring assets at a market price. Those in favor of fair value state that this means of accounting increases transparency, as book values based on this approach reflect current market conditions of assets and liabilities (Palea, 2014). On the other hand, those against the fair value approach argue it is not reliable and possibly misleading due to inefficient market prices or models that are subject to various underlying management assumptions. These are easy to manipulate and difficult to audit (Laux and Leuz, 2009; Barlev and Haddad, 2003). The literature has specifically questioned the usefulness of highly judgmental fair value estimates² (Landsman, 2007; Milburn, 2008; Marton, Rehnberg and Runesson, 2010).

In 2013, the International Accounting Standard Board (IASB) issued the accounting standard IFRS 13 *Fair Value measurement* to improve disclosures and provide guidance regarding fair value measurements. One of the key objectives of the standard is to “enhance disclosures about fair value measurements that will help users of financial statements assess the valuation techniques and inputs used to develop fair value measurement” (IFRS 13 paragraph BC6 8C). These objectives are aligned with the decision usefulness perspective, which is embraced within the Conceptual Framework of IASB. In order to increase the usefulness of the judgmental FVA, the IASB included in IFRS 13 detailed disclosures requirements about highly judgmental fair value adjustments (Level 3 inputs).

Academic evidence on the implication or value relevance of IFRS 13 is scarce. However, Sundgren, Mäki and Somoza-Lopez (2018) study disclosures and significant assumptions applied in determining fair values of investment properties under IFRS 13. Their findings suggest that disclosure quality is significantly higher under IFRS 13. On the other hand, by examining the impact of disclosures on analyst following and market liquidity, the results of their study do not show significant positive economic consequences following the adoption of IFRS 13. Their results therefore indicate that the detailed guidelines and the disclosure requirements in IFRS 13 did not solve any market imperfections and the alleged increase in transparency about fair values did not increase the usefulness of the FVA. These

² IFRS 13 defines a fair value hierarchy which gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1 inputs) and lowest priority to judgmental fair value inputs that consist of entity’s own data and unobservable inputs (Level 3).

results are surprising and raise the important question whether the increased length of disclosures has even marginally improved the quality of financial reporting. IASB has referred to these concerns as “the disclosure problem”³. The problem being not enough relevant disclosures, too much irrelevant information, and ineffective communication of the information provided.

Exploring the usefulness of accounting information in this context, with a focus on the FVA and the disclosure requirements of IFRS 13, is the starting point of this thesis. The first two studies underlying this thesis (Study 1 and Study 2) address this topic and are guided by the following two research questions:

Are fair value adjustments (FVA) and fair value disclosures useful for the users of the financial statements?

Did the implementation of IFRS 13 increase the usefulness of FVA for the users of financial statements?

Following Sundgren et al. (2018), listed real estate companies in Europe are the setting for exploring the usefulness of the FVA. This context is of interest for several reasons. First, the debate over FVA primarily focuses on financial assets, while the fair value of non-financial assets has received relatively little attention (Sellhorn and Stier, 2019)⁴.

The European Securities and Markets Authority (ESMA) has also raised the issue of the importance of fair value disclosures of non-financial assets (ESMA, 2015). This is especially the case for the listed real estate companies in Europe which measure majority of their real-estate portfolio at fair value which is based on judgmental estimates (Sellhorn and Stier, 2019). This means that their fair value accounting is not based on assets’ market prices but on market prices of similar assets or other valuation methods, which are used in circumstances where there is little or no market activity. The key inputs used for the FVA are therefore based on company-internal data or internally generated models, which are not necessarily observable for individuals outside of the real estate companies. This setting is also of particular interest as fair value adjustments of the investment properties have a significant impact on operating results and the financial position of the companies. Therefore, it is assumed that the FVA and

³ IFRS Disclosure Initiative <https://www.ifrs.org/investor-centre/project-summaries/>

⁴ Non-financial assets include operating assets that companies generally use in their operations such as investment property, biological assets, property, plant and equipment.

information about the underlying inputs and assumptions used for the measurement of the FVA are useful for users of the financial statements.

Gray, Laughlin and Bebbington (1996) divide academic studies on the decision usefulness of accounting information into two branches - the decision-makers and the decision-model emphases. The decision-makers emphasis relies on undertaking research that seeks to ask decision-makers what information they want. Once that is determined, this knowledge is used to prescribe what information should be supplied to the users of the financial statements. While the decision-makers emphasis analysis of the individual responses to financial reporting, the decision-model emphasizes the assessment of the aggregate effect of financial reporting on investors. By analysing share price reactions to financial information releases, the sum of individual investors decisions is captured in aggregate (Deegan, 2003).

Example of these types of studies are capital market research, which follows the Efficient Market Hypothesis (EFM) and assumes that if the capital market responds to information, the information must be useful. If a new account standard does not impact the market, then it is questionable whether the new accounting requirements are useful or necessary. Implementation of new accounting standards provide therefore an opportunity to investigate the usefulness of accounting information. The implementation of IFRS 13 also delivers the ideal “shock event” to explore the usefulness of fair value accounting and fair value disclosures.

From a research perspective, this thesis employs both the decision-makers and the decision models emphasis. Starting from the decision-makers approach, the purpose of the first study of this thesis (Study 1) is to investigate how disclosures about judgemental fair value measurements (Level 3) are used by equity analysts as one of the primary user groups of financial statements. The study also focuses on the usefulness of the fair value disclosure requirements of IFRS 13 for equity analysts and whether the implementation of IFRS 13 has enhanced the usefulness of fair value disclosures for them.

The second study underlying this thesis (Study 2) uses the decision-model approach with a sample of listed European real estate companies. *First*, whether the FVA, which are recognised in the income statements, are also reflected in the share value of real estate companies is analysed. As the FVA can have a significant impact on the income and financial position of these companies, it is assumed that the FVA are of particular interest for stock market participants. *Second*, the study investigates if more detailed disclosures about valuation techniques and inputs which followed with the implementation of IFRS 13 increased the usefulness of the FVA for investors.

Another theoretical and practical question which is closely linked to the usefulness of the accounting information is how well financial statements comply with the accounting principles and disclosure requirements of the financial accounting standards. This key step is of little use if companies do not follow the requirements set forth in the accounting standards. Considerable research has been conducted in this area, focused on disclosure practices and compliance of publicly listed companies with mandatory disclosures (Street and Gray, 2001; Glaum and Street, 2003; Devalle and Rizzato, 2013; Glaum, Street, Schmidt and Vogel, 2014; Tsalavoutas, André and Dionysiou, 2014; Cascino and Gassen, 2015; Tsalavoutas, Tsoligkas and Evans, 2020). These studies report average compliance levels in the range of 67% to 94% for selected IFRS for listed companies in Europe.

Even though the compliance of publicly listed companies is a well-established research topic, the accounting literature is relatively silent on compliance of private companies with accounting standards. However, they face very different agency problems⁵ in their disclosure practice as compared to publicly listed companies. Shareholders in private companies are generally fewer and the shareholding is more consistent over time compared to public companies. This situation facilitates the exchange of information among shareholders and between managers and shareholders, which reduces information asymmetry problems (Minnis and Shroff, 2017). In addition, private companies are more likely than public ones to communicate privately with other stakeholders such as creditors, employees, suppliers, customers and thereby reducing the demand for public financial reporting quality (Hope et al., 2017).

Consistent with the theoretical arguments, most academic studies document higher accounting and disclosure quality for public companies than private companies (Liu and Skerrat, 2015; Hope et al., 2013; Peek et al., 2010; Ball and Shivakumar, 2005). In addition, the disclosure requirements can often be quite judgmental; private companies, specifically smaller ones, often do not have the resources or the knowledge to prepare financial statements which fully comply with mandatory disclosure requirements (Ali, Ahmed and Henry, 2004). The management at private firms are potentially also not willing to disclose fully information on matters that they consider sensitive from the company's or management's perspective, even though they are mandated by law (Minnis and Shroff, 2017).

⁶The agency problem is a conflict of interest where one party is expected to act in another's best interest (Jensen and Meckling, 1976).

The purpose of the third study supporting this thesis (Study 3) is to contribute to the literature by investigating private companies' compliance with mandatory disclosure requirements and different variables which have been identified in the pertinent literature as associated with compliance levels. Variables that potentially influence the compliance level include company size, ownership structure, auditors, age and leverage. Most of these variables have been tested extensively in the public company setting (Inchausti, 1997; Dumontier and Raffournier, 1998; Glaum and Street, 2003; Chander and Kumar, 2007; Tsalavoutas, Tsoligkas and Evans, 2020) but less is known about their impact on private companies. Additionally, this study uses the number of days between the reporting date and the sign-off date of the financial statements as a measure of the timeliness of the disclosure – a variable that has not been used in the disclosure compliance literature so far. The variables are identified based on agency theory, political cost theory, signalling theory and voluntary disclosure theory.

The following research question guides Study 3:

What is the compliance level of Icelandic private companies with national financial reporting standards and what factors influence the compliance level?

Icelandic private companies are used as a setting to investigate the compliance levels. This is of interest for several reasons. *First*, all private companies in Iceland must file financial statements in accordance with national accounting standards (the Icelandic financial statements Act)⁶ which is built on directive of the European Union (EU)⁷. Hence the study invites European comparison and analysis of harmony of accounting practices and cross-country harmonisation⁸. *Second*, this context is of interest as Icelandic enforcement and monitoring of compliance with accounting regulations is weak. The Register of Annual Accounts (RSK, Ársreikningaskrá) is the official body responsible for this enforcement. While this study was being performed, the compliance review of some 36 thousand financial statements was being performed by only two employees. This work was performed manually and on a random basis. Non-compliance with the disclosure requirements or late filing carries minimum risk. In addition, various stakeholders such as the Register of Annual Accounts, Federation of Trade

⁶ Lög um ársreikninga nr 3/2006

⁷ A directive is a legal act of the EU. Iceland is not a member of the EU but is with Norway and Lichtenstein a part of the EEA Agreement and is required to incorporate EU Directives on company law in national legislation.

⁸ Nobes (1994) defined harmonisation as “the process of increasing the consistency and comparability of accounts in order to remove the barriers to the international movement of capital and exchange of information by reducing the differences in accounting and company law”.

and Service, credit institutions and analysts have criticized the lack of compliance with the mandatory disclosure requirements of the Icelandic financial statements Act (Pálsson, 2013). This is an appropriate point to explore the opportunistic behaviour of management of private companies and to understand what they decide to disclose or not disclose in their statutory financial statements. *Third*, information for mandatory disclosures must be prepared for shareholders and tax purposes and therefore minimum additional compliance cost is involved in preparing statutory financial statements for public filing. The compliance level is therefore incentive-driven instead of being driven by the regulatory framework, which opens opportunities to explore management incentive theories for private companies. *Fourth*, Iceland is rich in resources and offers multiple interesting opportunities for foreign investors. However, it has been a challenge to attract foreign investors to Iceland due to, among other factors, the lack of confidence in the Icelandic economy (Pálsson, 2013). Flagging where improvements in Icelandic financial statements are required is integral to improving these statements and related financial information produced by Icelandic companies and enhancing potential investor confidence.

1 Literature Review

1.1 Theoretical Background

This thesis adopts the informational and economic perspective of financial accounting theory, which views accounting information as an economic good. Within this perspective, accounting reports are perceived as one means of publishing financial and economic information to decision-makers and for monitoring accountability and the outcomes of such decisions (Beaver, 1981; Bromwich, 1992). The demand for financial reporting and disclosures arises from information asymmetry and agency problems (Healy and Palepu, 2001). The information asymmetry problem can be traced to parties undertaking business transactions with private information unknown from other parties, which they can use for their own benefit (Akerlof, 1970; Cooper and Keim, 1983).

Information is common knowledge if it is known to all parties, but information asymmetry means that the parties value the business transaction based on their own inputs (Bromwich, 1992). Akerlof (1970) argues that investors will not be able to distinguish between “good” and “bad” transactions and the capital market will therefore undervalue some “good”

transactions and overvalue “bad” transactions. Akerlof (1970) referred to this problem as the “lemons” problem, which could lead to breakdown of the capital market.

Healy and Palepu (2001) discuss some solutions to the “lemons” problem. These include, for example, optimal contracts between parties to commit to full disclosures of private information or regulation that require managers to fully disclose their privileged information. These solutions are built on the agency theory, which provides an important insight into the agency problem and the conflicting interest between parties that undertake business transactions. The agency theory was notably developed by Alchian and Demsetz (1972) and Jensen and Meckling (1976), who argue that firms can be regarded as a nexus of contracts between different parties wishing to maximize their own best interests, which will not necessarily coincide. Agency problems exist because one party (a principal) delegates some decision-making authority to another party (agent). Jensen and Meckling (1976) define this agency relationship as a contract between the principal and the agent. The problems with agency relationships arise because of information asymmetry between parties, which are presumed to seek to maximize their profits.

The relationship between shareholders and managers fits the definition of pure agency relationship (Jensen and Meckling, 1976). Shareholders will be interested in maximizing their wealth, while managers want to maximize their rewards for managing the company. Generally, managers have more pertinent information than shareholders and will therefore be able to manipulate them and other less-informed parties. Therefore, it is in the interest of the shareholders to structure a contract to monitor management to ensure that they operate in the best interests of the shareholder (Jensen and Meckling, 1976). They defined the costs of these activities as agency costs, which is the amount incurred by the principal (monitoring costs⁹), cost undertaken by the agent (bonding costs) and residual loss to the principal.

Agency theory has its origin in the information economics literature, in which information is placed into an explicit decision-making setting (Gaffikin, 2007). In this context, the definition of information is restricted to new information which leads to new decisions (Bromwich, 1992). Hence, additional knowledge which does not have an impact on a decision, is not classified as information when the information perspective is adopted. However, accounting not only applies to decision-making but also to accountability (stewardship) and potential distribution of profits. Rosenfield (1974, p. 26) defined accountability information as

⁹ Much of the monitoring costs will involve accounting (Gaffikin, 2007)

“reporting on the control and uses of resources by those accountable for their control and use to those whom they are accountable”. Accounting for decision-making and stewardship follows the same theoretical framework and definition of information. However, the criteria for selecting information for stewardship is more geared to controlling managerial performance and providing information about management actions, which may differ from the decision-making information (Gjesdal, 1981).

This information perspective provides the theoretical framework for Study 1 and Study 2. The information content of financial statements is analysed to investigate if financial accounting information impacts decisions made by the users of financial statements. These studies are guided by the decision-usefulness theory, which is further discussed in Chapter 1.2. While Study 1 and Study 2 focus on the use of accounting information, Study 3 goes a step further and provides insight into management intentions to provide accounting information. Agency theory, along with other management incentive theories which are further discussed in Chapter 1.3, are used as a framework for this analysis.

Supplementing the prior discussion, Figure 1, which is broadly adapted from Alberti et al.’s work (2012), provides an overall theoretical framework of the thesis and serves to link the three studies of the thesis. Accounting information is viewed under the information economics framework where it is an economic good, incorporating costs and benefits arising from information production and usage (Beaver, 1981; Bromwich, 1992). The framework derives from the free market theory (FMT) which assumes that the demand and supply forces are considered efficient to determine the optimal level of financial information to allocate economic resources (Beaver, 1981; Taylor and Turley, 1986; Riahi-Belkaoui, 2004). Market participants would then be willing to pay for information, which could be kept private, and which affects their decisions, provided that any benefits from this exceeded the cost of obtaining the accounting information (Bromwich, 1992). The FMT assumes an efficient market where market participants can be left to optimize the amount of accounting information they trade according to their preferences, without any need for accounting policy makers to make preferential judgements (Bromwich, 1985). In general terms, Fama et al. (1969), Bromwich (1992) and Adelegan (2003) defined an efficient market as one in which prices fully reflect available information and the market allocates resources efficiently.

Under ideal market conditions, financial reporting is the source of accounting information. By considering the users of accounting information as the demand force, and

companies as the supply force, these elements play an integral role in determining the quantity of financial information produced by corporations to meet demand at a level consistent with marginal costs and benefits (Cooper and Keim, 1983; Bromwich, 1992; Riahi-Belkaoui, 2004). Using the market to allocate accounting information is feasible, at least in the ideal world (Bromwich, 1992). However, the possibility of failure in the free market system, referred to as market failure, can result in a suboptimal allocation of resources (Beaver and Demski, 1979). There are implicit and explicit market failures with respect to efficient production and allocation of accounting information (Riahi-Belkaoui, 2004). The implicit market failure occurs because the company is the monopoly supplier of information about itself. This creates opportunities for restricted production of information and monopolistic pricing, which could lead to withholding of information and monopolistic prices (Beaver, 1981).

There are two main sources of explicit market failures: the public good theory problem and information asymmetry (Cooper and Keim, 1983). It has been argued that accounting information shares the characteristics of public goods and that such goods are not dealt with efficiently by the market (Atkinson and Stiglitz, 1980; Bromwich, 1992). The joint supply characteristic of public goods means that their supply is not, as with normal goods, reduced by their consumption (Samuelson, 1966). The consumption of accounting information by one user does not restrict its subsequent use by others. In addition, when accounting information becomes available, market participants can use the information for free and can pass it to others (Grossman, 1977, Grossman and Stiglitz, 1980). The market participants benefiting from the information without paying are usually called “free riders”. Public goods are therefore underproduced in a free market because the producers are not able to impose the production costs on all users of the good (Grossman, 1977; Bromwich, 1992).

The information asymmetry on the market for accounting information can be analysed under agency theory as well as the concepts of adverse selection and moral hazard (Arrow, 1984). Adverse selection refers to the “lemon” problem and the unfavorable characteristics of accounting information, as the external consumers of the accounting information may not be able to economically assess the quality of the information (Akerlof, 1970; Bromwich, 1992). High costs and difficulty in obtaining information may make it impossible to distinguish between high- or low-quality information.

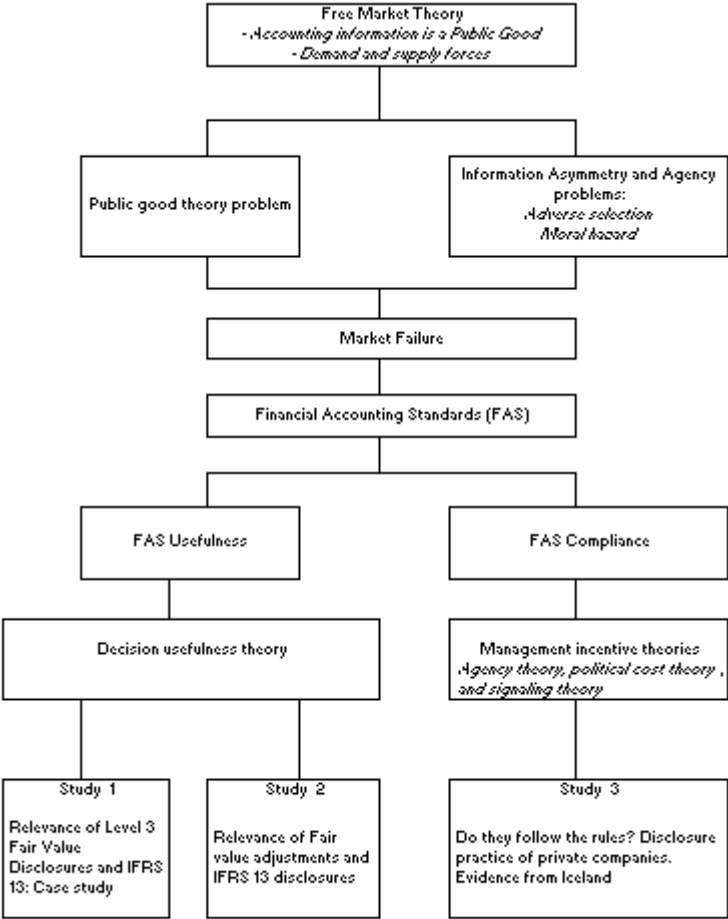
Those managers who provide quality accounting information will not be rewarded if the users cannot evaluate the quality of the accounting information; they will join those who

provide less costly and lower quality information. It has been claimed that this phenomenon reduces the efficiency and the and the size of the market (Bromwich, 1992). The moral hazard relates to the problem that arises between the separation of ownership and control of companies and how shareholders manage to measure managerial performance (Arrow, 1984). This problem can be analyzed under the agency model and the information asymmetry between managers who control the company (the agent) and the shareholders (principals). Managers can determine to a degree the outcome of their actions, as shareholders cannot perfectly monitor their actions. They can take action in their own interest by, for example, hiding relevant accounting information or choosing accounting methods that maximize their compensation. Shareholders are normally unable to effectively evaluate or monitor the actions of managers (Bromwich, 1992). In summary, this opportunistic behavior by managers reveal moral hazard and exposes unfavorable or hidden actions, while adverse selection refers to the characteristics of accounting information.

This brief overview of market failures on the market for accounting information provides arguments for regulatory intervention and implementation of financial accounting standards (Healy and Palepu, 2001, Alberti et al., 2012). There are still advocates for the free-market perspective who argue that there are economic incentives for companies to produce accounting information voluntarily and that imposing financial reporting standards leads to costly inefficiencies (Bromwich, 1992). However, regulation of financial accounting is necessary to protect the interest of the public (public interest theory) and to reduce the information asymmetry in an imperfect market.

Figure 1

Theoretical framework of the thesis



1.2 Decision Usefulness of Accounting

Staubus (2000) gave us the history of the decision usefulness theory and explains how its development played a major role in the evolution of accounting thought. The decision usefulness theory was mostly developed during the third quarter of the twentieth century in America; its nucleus is the decision-usefulness objective which Staubus (2000, p. 6) defines as: “a coherent set of general statements summarizing the essence of a specified body of knowledge or beliefs (a theory), in particular, one starting with the objective of providing financial information regarding an enterprise for use in making economic decision”. On a similar note,

Deegan (2003) states that decision usefulness theory ascribes a particular type of information for particular classes of users based on assumed decision-making needs.

The goal of financial reporting to be useful for decision-making is generally accepted by standard-setting bodies and by those who interact with those standard-setters (Staubus, 2000). The decision usefulness perspective has been embraced within the Conceptual Framework of IASB, which states that financial reporting shall provide financial information about the entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity (CF paragraph 1.2). This framework is considered to be a normative theory of accounting, given that they employ value judgements and affirm how things should be done, e.g., that accounting records should be based on fair value instead of historic cost (Deegan, 2003).

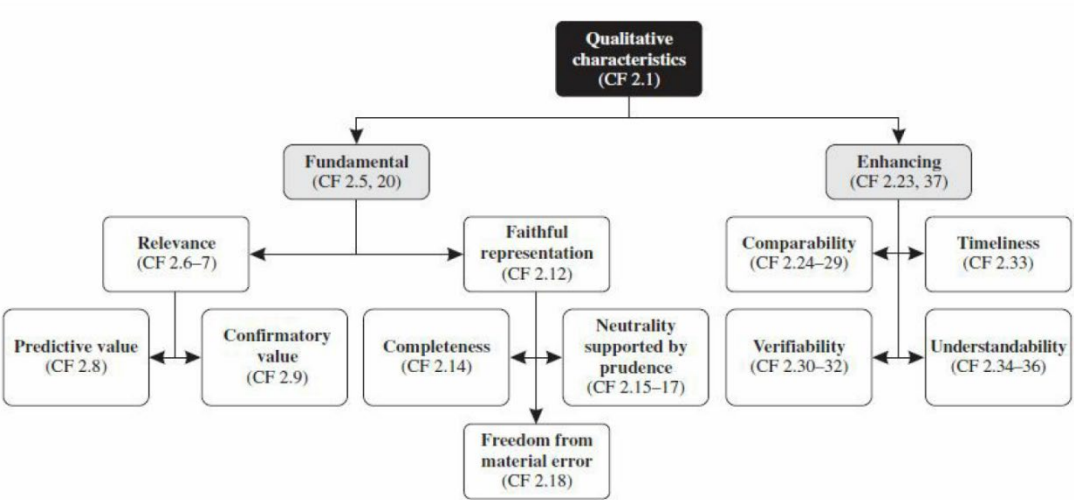
To make educated decisions, users assess prospects for future net cash inflows to the entity along with management's stewardship of the entity's economic resources (CF paragraph 1.3). The focus of the cash flow model can be traced to Miller and Modigliani (1961), which shows that the value of the firm is equal to the present value of future expected net cash flows. Miller and Modigliani's cash flow model was originally a certainty-equivalent model but has been extended to a more general model reflecting the uncertainty of future operating cash flow (Miller and Rock, 1985). The attractiveness of the cash flow valuation model for accounting is that it links to the accounting system which is based on measuring cash flow. The international standard setters have therefore implicitly adopted the cash flow valuation model, as it aligns with the decision usefulness objective of financial reporting to assess future cash flow (Wolk et al., 2016). Furthermore, the FASB states that accrual accounting systems, and accrual income numbers in particular, are more useful for this purpose than simpler cash-based systems. There is empirical evidence that predicting future cash flows is better with accrual data than with cash-flow data (Bowen, Burgstahler and Daley, 1986).

Building on these assumptions, the CF defines the desirable characteristics of useful accounting information, as is presented in Figure 2. The characteristics of useful accounting information is defined in the CF but this thesis focuses specifically on relevance as one of the key characteristics of useful accounting information. According to the CF, relevant accounting information has both *predictive* and *confirmative* value for users. Financial information has predictive value if it can be used as an input to processes employed by users to predict future outcomes (CF paragraph 2.8). On the other hand, confirmative value means that the financial

information provides feedback about previous evaluations (CF paragraph 2.9). In this context, fair value is considered relevant in the decision making for investors and other users of the financial statements because they reflect present economic conditions and the future cash flow that the assets will generate (Barth, 2006). Linking this objective to the CF, the question is whether fair value accounting is relevant for investors and other users of the financial statements to estimate future cash-flow. In this context, Study 1 and Study 2 investigate these questions using the theoretical framework provided by the decision usefulness theory and the CF of IASB.

Figure 2

Definition of qualitative characteristics of useful accounting information according to the Conceptual Framework of IASB



1.3 Compliance with Accounting Standards

A strong stream of literature analysis variations in levels of compliance with mandatory disclosures requirements of financial accounting standards (Street and Gray, 2001; Glaum and Street, 2003; Devalle and Rizzato, 2013; Glaum, Street, Schmidt and Vogel, 2014). The main purpose of these studies is to determine the compliance level and understand why management of some companies follows the mandatory disclosure requirements better than others. The research questions are generally analysed under the agency theory, where managers can take actions in their own interest by deciding what disclosures are included in the financial statements and what information is hidden.

Other common management incentive theories that play a role in this perspective are the political cost theory and the signaling theory. Political cost theory refers to costs that may arise due to attention from particular sectors, such as government or lobbyists (Deegan, 2003). Such attention may result in increased taxes, wage payments and product boycotts, so that firms might adopt accounting and other policies that lead to reduced profits (Alberti et al., 2012). The signaling theory was originally developed to clarify information asymmetry in the labor market (Arrow, 1972; Spence, 1973) but has been used in the accounting literature to explain how management can use disclosures to signal that their companies are better than others (Omran and El-Galfy, 2014). The compliance level is generally hypothesized based on these management incentive theories and company characteristics such as size, auditors, age, leverage, ownership structure etc. The management incentive theories are classified as positive accounting theory (PAT) in the accounting literature as they seek to explain accounting practice and predict particular phenomena (Deegan, 2003). Watts and Zimmerman (1986, p7.) provide the following explanations about PAT, which “is concerned with explaining accounting practice. It is designed to explain and predict which firms will and which firms will not use a particular method, but it says nothing as to which method a firm should use”. The positive accounting theory contrasts normative accounting theories which state how things should be done, as was discussed in chapter 1.2.

Extensive research has been performed on the disclosure practice and compliance of publicly listed companies with mandatory disclosures (Street and Gray, 2001; Glaum and Street, 2003; Devalle and Rizzato, 2013; Glaum, Street, Schmidt and Vogel, 2014). Public companies are generally motivated to provide information to capital providers for decision making. On the other hand, private companies confront different agency problems than public companies, which can potentially impact their disclosure practices and compliance levels (Minnis and Shroff, 2017). The exchange of financial information in private companies is usually done on a private basis between the managers, who often are also the majority shareholders, and other stakeholders such as banks and other creditors (Minnis and Shroff, 2017). This reduces the demand for quality in financial reporting (Hope et al., 2017).

The literature on disclosure practice and compliance of private companies with mandatory disclosure requirements is sparse. The purpose of Study 3 is to fill in that gap in the literature, investigate disclosure practices of private companies and analyze different variables which have been identified in the literature associated with compliance levels.

2 Methodology

2.1 Research Position

Saunders, Lewis and Thornhill (2003) discuss two opposite views about research philosophies which dominate the accounting literature: positivism and interpretivism. Positivism is based on the stance of natural science, which works with an observable social reality; the end product of such research is a law-like generalisation (Remenyi et al., 1998). There will be an emphasis on a highly structured methodology to facilitate replication and on quantifiable observations that lend themselves to statistical analysis (Gill and Johnson, 1997). The positivist approach remains the most prominent in the financial accounting literature (Smith, 2017).

Interpretivists argue that the social world of accounting and management is too complex to lend itself to theorising by definite law in the same way as physical science (Saunders et al., 2003). Under the interpretive perspective, the researcher seeks to understand the subjective reality of those that they study to make sense of and understand their motives, actions and intentions. The task of the research goes beyond measurement to develop an understanding of the situation, which often requires active participation rather than detached observation.

Another important question which concerns the design of a research project is to determine whether the research should use the deductive approach (theory to observation) or an inductive approach (observation to theory) (Saunders et al., 2003). Following the positive perspective of research philosophy, the deductive approach has its origin in natural science and starts with the theory and proceeds to generate specific predictions, which follows from its applications (Smith, 2017). The focus is on explaining causal relationship between variables and the predictions can be tested from subsequent observations. On the other hand, inductive reasoning examines or tests data, usually a sample from population and formulates a theory as a result of the data analysis (Wolk et al., 2016). A study using the inductive approach would be particularly concerned with the context of the study; a qualitative approach with a smaller sample size might be more appropriate than large numbers (Saunders et al., 2003). In contrast, the deductive approach is characterised by generalization and use of large quantitative datasets to verify conclusions.

The financial accounting literature on compliance and usefulness of accounting information is dominated by quantitative research methods, which provide statistical

generalization and model relationship between variables (Smith, 2017). In contrast, the qualitative approach in accounting provides practical understanding on behaviours in actual settings, asking how and why people react as they do (Smith, 2017). In other words, the purpose of quantitative research in accounting is to generalize or “zoom-out” while qualitative research “zooms-in” on effects and more practical issues.

Table 1 provides an overview of the research methodology applied in the three studies supporting this thesis. Study 1 uses inductive and qualitative approaches to investigate what information is sought by equity analysts, as one of the primary user groups of financial statements. The assumption is that the information that is desired should be supplied. This is done by a “zoom-in” on how analysts use and process fair value disclosures using qualitative research methods. Chapter 2.2 includes further discussion and justification of the qualitative research methods employed in Study 1. Study 2 and Study 3 “zoom-out” using deductive and quantitative research methods. The focus of Study 2 is to predict and explain the relevance of fair value adjustments and disclosures for investors using a dataset which is sampled over time (*longitudinal*). Study 3 uses management incentive theories to predict and explain factors that impact on compliance levels with accounting standards using a dataset, which is a snapshot of point in time (*cross-sectional*). Further discussion of quantitative research methods and data collection used for Study 2 is included in Chapter 2.3.

Table 1.

Research methodology applied in the studies

	Type of research	Methodology applied to the research	Sample
Study 1	Qualitative/ Inductive	Multiple case study which involves in-depth analysis of fair value disclosures of listed estate companies and interviews with equity analysts.	Three listed real estate companies and 12 equity analysts.
Study 2	Quantitative/ Deductive	Event study method and panel regression used to investigate stock price reaction to accounting information.	Longitudinal data. Sample of 1,038 annual and semi-annual accounts in the period from 2008-2019
Study 3	Quantitative Deductive	A comprehensive checklist used to calculate a compliance level index with accounting standards for Icelandic financial statements. Ordinary least square regression used to identify factors that have impact on the compliance level	Cross-sectional data. Sample of 90 financial statements of Icelandic private companies for the year 2015.

2.2 Qualitative Research Methods

Study 1 – Research Methods and Data Collection

Gray et al. (1996) divide academic studies on the decision usefulness of accounting information into two branches i.e., the decision-makers and the decision-model emphases. The decision-makers emphasis relies on undertaking research on what information they want. Once that is determined, this knowledge is used to prescribe what information should be supplied to users of financial statements. Study 1 follows the decision-makers emphasis with a focus on a

how equity analysts use FVA and FVA disclosures. The research lens is also directed towards current accounting practices following the implementation of new accounting standards. The tension in the study is based on literature (Sundgren et al., 2018) which indicates that the additional disclosures about fair value that accompanied the implementation of IFRS 13 do not have any positive economic impact. These results are unexpected and raise the question why these additional disclosures did not have positive impact. This situation justifies inductive research, i.e., going into the field and collecting data using the case study approach and conducting interviews with analysts. The purpose is to understand how analysts process and use FVA disclosures and understand why the additional FVA disclosures implemented with IFRS 13 were not deemed useful.

Robson (2002, p. 178) defines case study as “a strategy for doing research which involves an empirical investigation of particular contemporary phenomenon within its real-life context using multiple sources of evidence”. This strategy will be of particular interest for gaining understanding of the context of the research and the process being enacted (Morris and Wood, 1991). The case study strategy also can answer the question “why” and “how” analysts process and use fair value disclosures. In addition, the case study method is a clever way to explore existing strategy in addition to challenging existing theory and providing new hypotheses (Smith, 2017).

The selection of the cases in the sample was based on a critical case, as it is defined in the framework of purposive sampling (Flick, 2009). Patton (2002) describes critical case as those “in which the relations to be studied become especially clear or which are particularly important for the functioning of a program to be evaluated”. This view is also supported by Yin (1984), who emphasizes that cases must not be chosen just because they are representative; theoretical generalisations are more important. Iceland-listed real estate companies provide a prime case study about the usefulness of the fair value disclosures as most of their assets are measured based on fair value calculations¹⁰ and fall under the Level 3 measurements (judgemental estimates). The FVA are also critical because they are fully calculated by management based on internally developed assumptions and valuation models. On top of that, there is an uncertainty in the valuation due to the unstable economic environment in Iceland, with periods of high inflation and significant fluctuations of the national currency. Comprehensive and detailed fair value disclosures are assumed to be particularly relevant under

¹⁰ Real estate assets (investment properties) measured at fair value account for 93% - 97% of the total assets.

these circumstances. The listed real estate companies provide fertile soil for a case-based interview study of the usefulness of FVA and FVA disclosures. The three listed real estate companies account for approximately 10% of the total market for commercial real estate in Iceland measured by square meters (Arion Bank, 2021). All of them have a diverse portfolio of investment properties in various industries such as offices, industrial warehouses, hotels, consumer retail, sports and entertainment. The market capitalization of the three listed commercial real estate companies is around 8% of the total capitalization of Nasdaq OMX Iceland (Arion Bank, 2021). They have just over two thousand shareholders with the Icelandic pension funds as the largest shareholders. Historically the underlying operation of the real estate companies has been fairly stable with annual growth in rental prices in line with inflation and constant cost structure (Croisette 2021).

The understanding of usefulness of FVA and FVA disclosures was obtained through interviews with equity analysts. The interviews were recorded and analysed according to different themes and concepts using a data structure recommended by Gioia, Corley and Hamilton (2013). Figure 2 in Study 1 presents an overview of the data structure used for the coding which is divided into aggregated themes, 2nd order themes and 1st order concepts. The research questions in the paper provide the framework for the aggregated themes. The 1st order concepts and 2nd order themes are built on definitions in the CF. The model used for analysing the data was developed in Excel where different categories were created for aggregated themes, 2nd order themes and 1st order concepts. The responses from the interviewees were classified into each of the categories in the Excel model. The overall analysis and conclusions were drawn for each category when all the interviews had been fully coded and categorised. Twelve equity analysts were interviewed in the study. A saturation point was reached after 7 to 8 interviews as the interviewees provided similar responses to the questions and consistent themes emerged from the interview data. The additional interviews which were conducted as a part of the study did not add new significant information to the findings, but they support the overall results of the study and were included in the final analysis.

2.3 Quantitative Research Methods

Study 2 - Research Methods and Data Collection

Study 2 adopts the decision-model emphasis by investigating the impact of FVA on the market value of a company. Unlike the decision-makers emphasis used in Study 1, the decision model emphasis does not ask decision-makers what information they want but concentrates on the types of information considered useful for decision-making. These types of studies generally examine the correlation between accounting information or an event and share price returns (Deegan, 2003). They date back to a study by Dolley (1933), who analysed stock price reaction to stock splits (Corrado, 2011). The event study methodology was first introduced to a broad audience of accounting and financial economists in two landmark papers by Ball and Brown (1968) and Fama et al. (1969). The success of these papers and the event study methodology can be explained by their use of the market model patterns after the then recently-developed capital asset pricing model¹¹ (CAPM) and the expanding use of computer systems and statistical software newly used for collecting and analysing data. Thousands of event studies have been published over the last decades; they continue to be an important part of capital market research (Corrado, 2011).

Deegan (2003, p. 360) provides following description of event study:

This type of research is often used to examine equity market reactions to announcements of company information, and to assess the relevance of alternative accounting and disclosure choices for investors. If security prices change around the time of the release of particular information, and assuming that the information and not some other event caused the price change, then it is considered that the information was relevant and useful for investment decision making.

Event study research is commonly accepted as evidence in deciding whether insiders benefit from their use of private information and in determining the magnitude of their gain (Corrado, 2011). It relies on the Efficient Market Hypothesis, which assumes that the capital market adjusts efficiently to new information. If the information is useful for investors in reassessing the future cash-flow, share prices will rapidly adjust to new information (Fama et al., 1969). At the same time, it can be difficult to determine cause and effect between information and security prices because new information is continuously arriving on the market (Wolk et al., 2016). In addition, companies can disclose information through various other

¹¹ See Sharpe (1964), Lintner (1965) and Mossin (1966)

channels such as press releases, websites and other reports besides financial statements. However, judgemental FVA recognised in income statements has a significant impact on the return of real estate companies, particularly as the majority of their assets is measured at fair value. Furthermore, the detailed fair value disclosures which are being prepared under IFRS and which are examined in this study are generally only included in the financial statements.

This research approach posits that short-window event studies can be used to establish the information content of financial reporting information (Sellhorn and Stier, 2019). Based on these arguments, it is reasonable to assume that that significant FVA, along with detailed FVA disclosures included in financial statements, affect stock prices in the short-term, particularly around the publication date of the financial statements

As noted earlier, the event study method is keyed to detecting market reactions to the announcement of an event (for example reporting of FVA). A stock price reaction to the FVA reported in financial statements would indicate a value relevance to investors. The event date (day 0) in this study is the filing date of the annual/semi-annual accounts, as they include both the recognition of the FVA in the income statement and full disclosure of management's assumptions about the FVA, in accordance with the disclosure requirements of IFRS. The sample includes European publicly-traded real estate companies that use the fair value model for their investment properties. Financial information on the real estate companies was collected from the Capital IQ database and includes annual and semi-annual financial accounts from January 2008 to April 2019. The sample does not include the period before the 2008 financial crisis, as the economic conditions then included an economic bubble that could distort the results.

MacKinlay (1997) provides step-by-step guidance and framework on how to conduct an event study. A central to an event study is modelling the expected return of a stock and measurement of an abnormal return of the stock. The event study divides the period related to the event into two periods: an estimation window and event window. The event window is the short-term period around the publication date of the annual/semi-annual accounts. On the other hand, the estimation window is used to measure parameters estimates (betas) for modelling the expected return of the stock. The statistical model used for the calculation of the expected return is the Fama-French three factor model, as follows:

$$E[r_{i,t}] - R_{f,t} = \alpha + \beta_1(R_{m,t} - R_{f,t}) + \beta_2SMB_t + \beta_3HML_t + \varepsilon_{i,t}$$

$R_{m,t}$ is the market return and $R_{f,t}$ is the risk-free rate and SMB_t and HML_t are factors which measure the historic excess returns of small market capitalization over big market capitalization companies and value stocks over growth stocks, respectively. Factors for the Fama-French three-factor model are collected from Kenneth French's data library.¹² The measures which are referred to as betas ($\beta_1, \beta_2, \beta_3$) are estimated during the estimation window, which for this study was one year prior to the event window.

There are several other statistical models available for calculation of the expected return, but the factor model reduces the variance of abnormal returns by explaining more of the variation in the expected return (MacKinlay, 1997). However, MacKinley (1997) also reports that adding more factors to the model has limited gains, as the marginal explanatory power of additional factors is small and there is modest reduction in the variance of the abnormal return.

An abnormal return is unanticipated profits or loss generated by a stock and is measured as the difference between the actual returns that the expected returns. The formula for the daily abnormal stock price return for a real estate company i on day t is as follows:

$$AR_{i,t} = r_{i,t} - E[r_{i,t}]$$

Where $r_{i,t}$ is the actual return of stock i on day t and $E[r_{i,t}]$ is the corresponding expected return. The sum of the AR is referred to as cumulative abnormal return (CAR). In the absence of an event, the AR should randomly fluctuate around zero and the CAR should not show any upward or downward trend (MacKinley, 1997). CARs are calculated for different periods (event windows) around the event dates, to capture the impact of the price effects of the publication on the event day and on the days before and after the event date using following model:

$$CAR_{i,t1,t2} = \sum_{t1}^{t2} AR_{i,t}$$

Daily abnormal returns (AR) are determined for the period from ten trading days before the filing of the financial information (the event date) to ten trading days after the filing date and cumulative abnormal returns (CAR) are calculated accordingly. The window is restricted to ten days before and after the filing date because long-term effects are likely to be diluted by other events. The purpose of analysing CAR for different periods before and after the event date is to explore if the effect of the FVA is already included in the stock price in the short-term

¹² https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

event window before the event date or if the publication of the FVA had price impact after the event date. Five windows are selected, where three windows include the event date itself, one window for the period before the event date and one window for the period after the event date. A positive or negative abnormal return is interpreted as a positive or negative price reaction, respectively. T-tests are used to determine whether the CAR are different from zero at a statistically significant level. In addition, the dataset was split between positive and negative FVA to examine if there is a difference in the pricing impact of positive and negative FVA.

Panel regression analysis is used to determine which factors influence the CAR. FVA of investment properties as recognised in the income statement and net income excluding fair value adjustment (NIEFVA) are the primary independent variables in the regression model. Both FVA and NIEFVA are scaled by total assets at the beginning of the period. To capture the impact of the implementation of IFRS 13, we included a dummy variable, D_IFRS13 , with a value of one for the annual and semi-annual accounts after the implementation of IFRS 13, i.e., from 2013 onwards, and zero for the period before the implementation. The dummy variable D_ANNUAL assumes a value of one for annual financial statements and zero for semi-annual financial statements, to capture whether FVA recognised in annual accounts has a different impact on CAR compared to semi-annual accounts.

The data are analysed based on four different regression models are. Model 1 (M1) regresses CAR on FVA and NIEFVA. In Model 2 (M2) the dummy variable D_IFRS13 and the interaction terms between D_IFRS13 and FVA are added to the model. Model 3 (M3) includes FVA, NIEFVA and the dummy variable D_ANNUAL and the interaction terms between D_ANNUAL and FVA as explanatory variable. Model 4 (M4) is the full regression model and includes all the independent variables and is specified as follows¹³:

$$CAR_{i,t1,t2} = \alpha + \beta_1 FVA_i + \beta_2 NIEFVA_i + \beta_3 D_IFRS13 + \beta_4 D_ANNUAL + \beta_5 D_IFRS13 * FVA_i + \beta_6 D_ANNUAL * FVA_i + Company$$

Study 3 - Research Methods and Data Collection

Study 3 follows the deductive approach, with statistical analysis on compliance with accounting standards and factors associated with compliance levels. Studies on compliance with accounting standards is a well-established research topic in the disclosure literature (Street and Gray, 2001; Glaum and Street, 2003; Devalle and Rizzato, 2013; Glaum, Street, Schmidt

¹³ The time subscript is omitted for the explanatory variables for the sake of readability.

and Vogel, 2014; Tsalavoutas, André and Dionysiou, 2014; Cascion and Gassen, 2015; Tsalavoutas, Tsoligkas and Evans, 2020). The standard approach in these studies is to use checklists to measure the compliance level of financial statements with financial reporting standards. In this study, the checklist was based on mandatory disclosure requirements of the Icelandic Financial Statements Act. The sample consist of 90 financial statements of Icelandic private firms. Each financial statement was reviewed and every item on the checklist coded as “disclosed”, “not disclosed” or “not applicable”. The results of the checklists were used to develop a compliance level index (CLI) where the number of items disclosed was divided by number of applicable items to be disclosed. This approach follows prior studies on compliance level such as Glaum and Street (2003). The CLI is the dependent variable. Ordinary Least Square (OLS) regression is used to determine which independent variables are significantly associated with the CLI. The selection of the independent variables was based on the management incentive theories, as seen in Chapter 1.1. The variables that potentially influence the compliance level and are included in the regression model are company size, ownership structure, auditors, age, leverage and number of days between the reporting date and the sign-off date of the financial statements.

The main regression model is specified as follows.

$$CLI = \alpha + \beta_1 \text{Size}_j + \beta_2 \text{Auditors}_j + \beta_3 \text{Age}_j + \beta_4 \text{Family ownership}_j + \beta_5 \text{Leverage}_j + \beta_6 \text{Days}_j + \mu$$

The results of the regression model are further supported by subsample analysis which involves comparison on the average CLI between the top 30 and bottom 30 companies in terms of size, age, leverage and number of days from financial year end to sign-off date. The subsample analysis is also used for comparing the average compliance level between the Big 4 vs. non-Big 4 accounting firms, audit financial statements vs. non-audit financial statements and family-owned companies vs. other ownership structures. In the subsample analysis, t-tests for equality of means are used for statistically testing the difference between the CLI values.

2.4 Research Ethics

Ethical concerns will emerge throughout all stages of the research, from planning, seeking access to data, collection, analysis and reporting of the results (Saunders et al. 2003). The term “research ethics” refers to a wide variety of values, norms and institutional arrangements that can help constitute and regulate scientific activities. It is important to use a

formal ethical code of conduct as a guiding light to resolve the ethical issue that arise during the research process. The European Federation of Academies and Science (ALLEA) has issued the European Code of Conduct for Research Integrity, which describes professional, legal and ethical responsibilities and provides a framework for self-regulation for the research community. This code applies to research in all scientific and scholarly fields and is recognized as the reference guide by the European Commission for research integrity for all EU-funded research projects. The code is based on following fundamental principles of research integrity:

- Reliability in ensuring quality of research, reflected in the design, the methodology, the analysis, and the use of resources.
- Honesty in developing, undertaking, reviewing, reporting, and communicating research in a transparent, fair, full and unbiased way.
- Respect for colleagues, research participants, society, ecosystems, cultural heritage, and the environment.
- Accountability for the research from idea to publication, for its management and organizations, for training, supervision, and mentoring, and for its wider impact.

This thesis followed the ethical guidelines and the fundamental principles ALLEA. Specific attention was given to the ethical issues in data collection process of Study 1, which was interview-based. The participants in the interview study were contacted via email with information about the purpose of the research and asked to participate. At the beginning of every interview, the interviewees were asked for permission to record; it was also confirmed that their names and responses would be anonymous in the paper. It was also made clear that they could decline to respond to any question. The data collection did not include any data which would fall under the Personal Data Protection Act.

Being involved in practical work as a part-time employee at KPMG was one of the issues that needed to be addressed. Another ethical issue was funding from the Institute of Certified Accountants in Iceland (ICAI) of Study 1 and Study 3. Both matters could invoke independence issues, but neither KPMG nor ICEA had any influence on the conduct of the research or my interpretation of the results.

3 Studies of the Thesis

This part of the thesis includes the three studies of the thesis with references, but appendices are at the end of this thesis. Table 2 provides an overview of the three studies and publications and presentations for each study.

Table 2

Studies supporting the thesis

	Title	Publications and presentation in conferences
Study 1	Usefulness of Level 3 Fair Value Disclosures and IFRS 13: A Case Study	Presented at the Annual Congress of the European Accounting Association, May 2021. Published in International Journal of Disclosure and Governance 18(4), 378-390, DOI 10.1057/s41310-021-00119-z
Study 2	Relevance of Fair Value Adjustments and IFRS 13 Disclosures: Evidence from European real estate companies	Presented at the Nordic Accounting Conference 2021, Copenhagen, DK, November 2021. Submitted to International Journal of Accounting.
Study 3	Do they follow the rules? Disclosure practices of private companies: Evidence from Iceland	Revised and re-submitted to Accounting in Europe.

3.1 Study 1: Relevance of Level 3 Fair Value Disclosures and IFRS 13: Case Study

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Abstract

Purpose: This paper studies the relevance of Level 3 fair value disclosures in financial statements for equity analysts. The research also examines the impact that implementation of IFRS 13 *Fair Value Measurement* had on the relevance of disclosures and disclosure practice.

Design/methodology/approach: Semi-structured interviews with equity analysts and fair value disclosures of three listed real estate companies are used to analyse relevance of fair value disclosures.

Findings: Equity analysts focus on cash-flow and do not incorporate Level 3 fair values as an input in their valuation. These results indicate that Level 3 fair value measurements or fair value disclosures have little relevance or information value for analysts. However, the fair value disclosures appear to have to some extent confirmative value as they provide the analysts with comfort over their own fair valuation measurements and verify the credibility of management. The additional disclosure requirements implemented with IFRS 13 have scant relevance for equity analysts.

Practical implications: The results provide evidence that standard-setters, auditors and preparers of financial statements with significant Level 3 estimates should focus on predictive and forward-looking disclosures to evaluate future cash flows. Detailed disclosures about the management valuation process and sensitivity analysis have limited relevance for the analysts.

Originality/value: This study links together the analysts and disclosures literature and provides insights into relevance of fair value disclosures and understanding how analysts process and use fair value disclosures.

Keywords: IFRS 13, relevance of disclosures, fair value

1. Introduction

Fair value accounting has been a controversial issue among practitioners and academics (Busso, 2014). Those in favour of fair value state that this means of accounting increases transparency, as book values reflect current market conditions of assets and liabilities (Palea, 2014). On the other hand, those against the fair value approach argue it is not reliable and possibly misleading due to inefficient market prices or models that are subject to various underlying management assumptions. These are easy to manipulate and difficult to audit (Laux and Leuz, 2009; Barlev and Haddad, 2003). The literature has specifically questioned the relevance of highly judgemental fair value estimates (Landsman, 2007; Milburn, 2008; Marton, Rehnberg and Runesson, 2010). To address these issues, in 2013 the International Accounting Standard Board (IASB) issued accounting standard IFRS 13 *Fair Value measurement*. One of the key objectives of the standard is to “enhance disclosures about fair value measurements that will help users of financial statements assess the valuation techniques and inputs used to develop fair value measurement” (IFRS 13 BC6 8C).

The purpose of this study is to evaluate whether the implementation of IFRS 13 has met the objective as it is defined by the IASB. First, I will investigate how disclosures about judgemental fair value measurements (Level 3)¹⁴ are used by equity analyst as one of the main user groups of financial statements. Second, I will study the relevance of the fair value disclosure requirements of IFRS 13 for equity analysts and whether the implementation of IFRS 13 has enhanced the relevance of fair value disclosures for the users of financial statements.

Relevance of accounting information in the valuation process for equity analysts is at the core of this research. The study uses the term “relevance” which is based on the definition found in the Conceptual Framework of IFRS (CF). According to the CF, the purpose of financial reporting is to provide financial information that is relevant to existing and potential investors, lenders and other creditors in making decisions. Relevant accounting information has both *predictive* and *confirmative* value for users. Financial information has predictive value, if it can be used as an input to processes employed by users to predict future outcomes (CF 2.8). On the other hand, confirmative value means that the financial information provides feedback about previous evaluations (CF 2.9). Decisions about relevant accounting information also involve assessment whether information is material for the primary users of the financial

¹⁴ IFRS 13 defines a fair value hierarchy which gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1 inputs) and lowest priority to fair value inputs that consist of entity’s own data and unobservable inputs (Level 3).

statements. Information is material if omitting, misstating or obscuring it influences decisions that are made based on the financial statements¹⁵. Relevance forms one part of qualitative characteristics of useful financial information which is further explained and defined in the CF¹⁶. The idea of usefulness has been central in the definition of the objective of financial statements since the 1970's (Deegan, 2003). The theory of decision usefulness ascribes a particular information for classes of users based on assumed decision-making needs (Deegan, 2003). The decision usefulness objective underpins the CF of IASB.

The most common methodology to assess the relevance of financial information is to statistically analyse the association between key financial report items and other market variables such as share prices, returns, analysts following, market liquidity etc. (Lev, 2018). Following this approach, Sundgren, Mäki and Somoza-Lopez (2018) studied European real estate companies and what impact IFRS 13 had on disclosures, analyst following and market liquidity. Their findings suggest that disclosure quality is significantly higher under IFRS 13. However, by examining the impact of disclosures on analyst following and market liquidity the results of the study did not show significant positive economic consequences following the adoption of IFRS 13. The results indicate that the detailed guidelines and the disclosure requirements in IFRS 13 did not solve any market imperfections. This study will take a different approach and use interviews with equity analysts to explore this issue in more detail. The relevance of the specific disclosure requirements of IFRS 13 will be addressed in the interviews, along with understanding how fair value disclosures are used by the analysts in the valuation process. The overall results will be used to map the gap between relevant information, from the analyst's perspective, and the actual disclosure practice based on the disclosure requirements of IFRS 13.

Equity analysts are of significant interest as a user group due to their prominent role in analysing, interpreting and disseminating information to capital market participants such as investors and lenders (Brown, Call, Clement and Sharp, 2014). To the author's knowledge, it has not yet been explored in the academic literature how analysts use and process fair value information in financial statements. However, there is evidence that analysts use financial statements to verify information but not as a primary source of information (Cascino et al.,

¹⁵ IFRS Practice Statement 2 *Making Material Judgements* provides a guidance on how to make materiality judgements.

¹⁶ The qualitative characteristics of useful accounting information are: *Relevance* and *faithful representation* (fundamental characteristics) and *comparability*, *verifiability*, *timeliness* and *understandability* (enhancing characteristics).

2014; Smith and Heijden, 2017). These results can be associated with the *Confirmation Hypothesis* proposed by Gigler and Hemmer (1998). The *Confirmation Hypothesis* assumes that accounting information is backward-looking, while stock prices are forward-looking and that most, if not all, of the information contained in the financial reports is pre-empted by management's voluntary disclosures. Hence, the audited financial statements have a confirmatory role in providing credibility to management's more revealing voluntary disclosures. However, Level 3 fair value measurements and disclosures are grounded on management assertions about the future, which transform the financial accounting information from past to future focused. This study explores whether increased emphasis on forward looking disclosure in the financial statements has increased the relevance of financial statements and changed the use of the financial statements from being confirmative to a primary source of information.

Bischof, Daske and Sextroh (2014) conclude that fair value measurement and use of disclosures are context specific and that there is no standard way for analysts or investors process to use fair value related information. Hence a qualitative research approach will be taken, using interviews to gain a deeper understanding of the relevance of fair value disclosures.

Prior studies have also used interviews to evaluate perceptions and relevance of accounting information for analysts and other users of financial statements (Mardini, Crawford and Power 2015; Smith and Heijden, 2017; Ahmed et al., 2018). The research is also directed to current accounting practice, following implementation of new accounting standards. Cooper and Morgan (2008) suggest that the case study approach is useful where the researcher is investigating actual accounting practices (e.g., changes in accounting regulation) or complex and dynamic phenomena.

This study uses the critical case of fair value disclosures of three listed real estate companies in Iceland to test the relevance of fair value disclosures for equity analysts. This setting is critical and therefore of interest because fair value measurements of the real estate properties have significant impact on operating results and the financial position of the real estate companies. Real estate assets account for 93%-97% of the total balance sheet of the listed companies; they all fall under the Level 3 measurements¹⁷. The Icelandic setting is also critical as the fair value adjustments of the Icelandic real estate companies are Level 3 measurements, fully calculated by management based on internally developed assumptions and valuation models. In addition, the Icelandic economic environment has been unstable, with periods of

¹⁷ Based on information in the 2018 financial statements.

high inflation and significant fluctuation of the Icelandic Krona, which increases the uncertainty of the valuation. Comprehensive and detailed fair value disclosures are particularly relevant under these circumstances. The listed real estate companies provide therefore a fertile field for a case-based interview study of the relevance of fair value disclosures.

The results achieved provide a valuable contribution to the current literature about the relevance of fair value disclosures and insight and implications for preparers, standard setters, auditors, IFRS enforcement and other users of financial statements. *First*, this study links together the analyst literature and the fair value literature by looking into how analysts process fair value information. The results provide insights into the relevance of information about fair value for equity analysts with a specific focus on IFRS 13 and Level 3 disclosures. *Second*, the study explores whether the increased emphasis on fair values and forward-looking information in audited financial statements changes the use of the financial statements from being confirmative to being used as a primary source of information for predicting future cash flow. *Third*, the study speaks directly to the post-implementation review for IFRS 13 by analysing where improvements are required with respect to fair value disclosures. And *fourth*, the research questions contribute to the current debate whether more detailed disclosures are beneficial for the users of the financial statements or if increased length of disclosures has made the financial statement more complex and done little to improve quality. IASB has referred to these concerns as “the disclosure problem”¹⁸.

The problem is the paucity of relevant disclosures, excessive irrelevant information and ineffective communication of the information provided. Finding the right approach to the disclosure requirements and applying materiality judgements when making decisions about disclosures is a constant challenge for standard setters, preparers and auditors of financial statements. This study explores this field in more detail to gain deeper understanding how analysts use and process information about fair value. Better understanding of relevance of fair value disclosures will enable the standard setters to produce quality accounting standards for this complicated matter. The results will also contribute to understanding on how information influence decisions of equity analysts which are one of the primary user groups of the financial statements.

The remainder of this paper is organized as follows: Section 2 contains the background and overview of IFRS 13. Section 3 surveys the relevant literature and provides the theoretical

¹⁸ IFRS Standards Project Summary <https://www.ifrs.org/investor-centre/project-summaries/>

framework. Research methods are described in Section 4, while the findings are found in Section 5. The final Section 6 summarises the discussions and conclusions.

2. IFRS 13

IFRS 13 was implemented in 2013 to establish a single framework which defines fair values and provides guidelines how to measure and disclose fair value in financial reporting. The fundamental definition of fair value, according to the standard is:

The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (IFRS 13.IN8)

The standard outlines three valuation techniques which are required to be used to measure fair value: market approach, cost approach and income approach (IFRS 13.91). Market approach is based on using prices and other available market information for comparable assets to determine the fair value (IFRS 13.B5). This can, for example, be accomplished by employing a comparison to publicly traded guidelines or by an analysis of actual transactions of similar assets (DiGabriele and Riley, 2018). Cost approach reflects the amount that would be required to replace the asset (IFRS 13.B8). The third method, income approach, establishes fair value by discounting projected future cash-flow by a discount rate that reflects the expected market rate of return, market conditions and the risk of the asset (DiGabriele and Riley, 2018). IFRS 13 also provides guidelines regarding the use of inputs in the valuation models. Highest priority is given to inputs which are based on quoted prices in active markets for identical assets and liabilities (Level 1 inputs) and lowest priority to fair value inputs that consist of entity's own data and unobservable inputs (Level 3 inputs)¹⁹. Level 3 inputs should only be used to measure fair value when observable inputs are not available (IFRS 13.87). The three listed real estate companies in this study use the income approach to determine the fair value of their real estate assets. The use of the income approach is based on management's own assumptions and is therefore classified as Level 3 input, according to the requirements of IFRS 13.

¹⁹ Level 2 inputs are observable inputs other than quoted price which are included within Level 1 such as quotes price for similar assets.

The standard includes detailed descriptions and an overview of the key terms used in the concept of the fair value such as definitions of assets and liabilities under the scope of the standard, transactions, price, market participants, measurement date, etc. There is also a specific section devoted to the disclosure requirements, which are the focus of this research. The purpose of disclosures about fair value is (a) to help the users of the financial statements to assess the valuation techniques and inputs used to develop fair value and (b) for unobservable inputs (Level 3), to assess the effect of the measurements on profit or loss or other comprehensive income for the period (IFRS 13.91).

3 Literature Review and Theoretical Framework

3.1 Literature Review

A stream of literature has explored the relevance of fair value accounting and disclosures. Landsman (2007) reviewed the writings; his overall findings suggest that disclosures and fair values are informative to investors. However, the relevance is affected by the level of judgement associated with the fair value and the amount of measurement error. Landsman also raises the issue of lack of relevance of Level 3 fair value estimates because investors will be concerned about managerial manipulation and measurement errors: “Whether investors find SFAS 157 disclosures useful in assessing the relevance and reliability of fair value estimates is an empirical matter that will undoubtedly be the subject of much future study by accounting research” (Landsman, 2007, p. 27). This is in line with Milburn (2008, p. 312), who states that the concept of fair value can “be considered to comprise a family of current value measurement bases ranging from reasonably efficient market values to current cost and present values bases that are significantly dependent on entity expectations – all described as fair value”. He is also critical about the valuation techniques, which can be a crude and rough basis for estimating fair values, especially for non-contractual assets with highest and best uses in revenue generating process. This view is further supported by a survey on decision usefulness of financial accounting measurement conducted by Gassen and Kristina (2010). Their findings suggest that investors do not see fair value as a homogenous concept. The mark-to-market fair value (Level 1) is considered relevant while mark-to-model (Level 3) is rated as the overall least relevant measurement concept. Gassen’s and Kristina’s (2010) results also indicate that verifiability of accounting measures matters; this is one of the key issues with the use of the unobservable inputs in the internally generated fair value models.

Marton et al. (2010) provide a comprehensive review of the empirical and theoretical literature in a comment letter to the exposure draft of IFRS 13. So and Smith (2009) and Hodder, Hopkins and Wahlen (2006) find evidence that there is a value relevance for financial instruments and non-financial assets even though markets prices are not readily available, and markets are thin. However, Marton et al. (2010) note that this is a controversial issue and conclude that at the core of the issue is the debate about relevance of fair value in situations when the fair value becomes more of an estimate than a measurement and the relevance of Level 3 inputs is specifically questioned (Danbolt and Reese, 2008; Nissim, 2003; Dietrich et al., 2000; Aboody et al. 1999).

In summary, the literature reveals that the merits of Level 3 inputs should be questioned. One of the IASB's efforts to address this issue is to include in IFRS 13 detailed disclosure requirements about Level 3 inputs to reduce information asymmetry. As IFRS 13 has only been in effect since 2013, few empirical studies have been published about the impact of IFRS 13 or if the implementation has met the objective as it is defined by the IASB. Sundgren et al. (2018) find that disclosure quality is significantly higher under IFRS 13, but their analysis did not identify positive economic consequences following the adoption of IFRS 13. The results indicate that the detailed guidelines and the disclosure requirements in IFRS 13 did not solve any market imperfections.

One of the key problems with respect to the relevance of fair value disclosures is highlighted by Bischof et al. (2014). They examine analyst requests using a sample of conference calls and find that the relevance of fair value measurement is context-specific and there is no standard method how analysts process or use fair value related information. The decision process analysts employ has been described as a "black box" (Brown et al., 2014). Pinto, Robinson and Stowe (2019) conclude in the same way that surprisingly few papers focus on the valuation methods used by equity analysts. However, most surveys which have been conducted among analysts and finance practitioners reveal that discounted cash flow (DCF) and market multiple approach are the most common valuation methods (Bancel and Mittoo, 2015; Brown et al., 2014). To my knowledge, it has not been explored specifically in the academic literature how analysts and investors use and process fair value information in financial statements. However, Cascino et al. (2014) reviewed the literature and find clear evidence of use of financial information as a verified, standardized and objective anchor to evaluate more timely information from other sources.

Smith and Heijden (2017) find in an interview study with equity analysts that they use financial statements to verify figures since they were first announced, but not as a source of

information. This is in line with a model proposed by Gigler and Hemmer (1998) where audited financial reports serve a confirmatory role in providing credibility to management's more informative and timely voluntary disclosures. This hypothesis assumes that accounting information is backward-looking, while stock prices are forward-looking, and most if not all the information contained in the financial reports is pre-empted by management's voluntary disclosures. However, the increased use of fair value changes the financial accounting information from being backward-looking to being forward-looking. The question remains unanswered whether increased emphasis on forward-looking disclosure in the financial statements has changed the use of the financial statements from being confirmative to being used as a primary source of information for predicting future cash-flow. This study tries to answer that question by linking together the analyst literature by looking into the "black box" on how analysts process fair value information and the literature on fair value accounting by providing insights into the relevance of information about fair value.

The purpose of the first research question is to obtain a general understanding how equity analysts value real estate companies:

RQ1. What valuation methods and inputs do equity analysts use in their valuation process?

The second research question links the valuation methods and inputs used by the analysts in the valuation process to the relevance of the Level 3 fair value disclosures provided in the financial statements.

RQ2. Do the fair value disclosures in the financial statements of the real estate companies represent relevant accounting information as it is defined in the Conceptual Framework of IASB?

The third research question is directed to the impact that IFRS 13 had on relevance of the Level 3 fair disclosures.

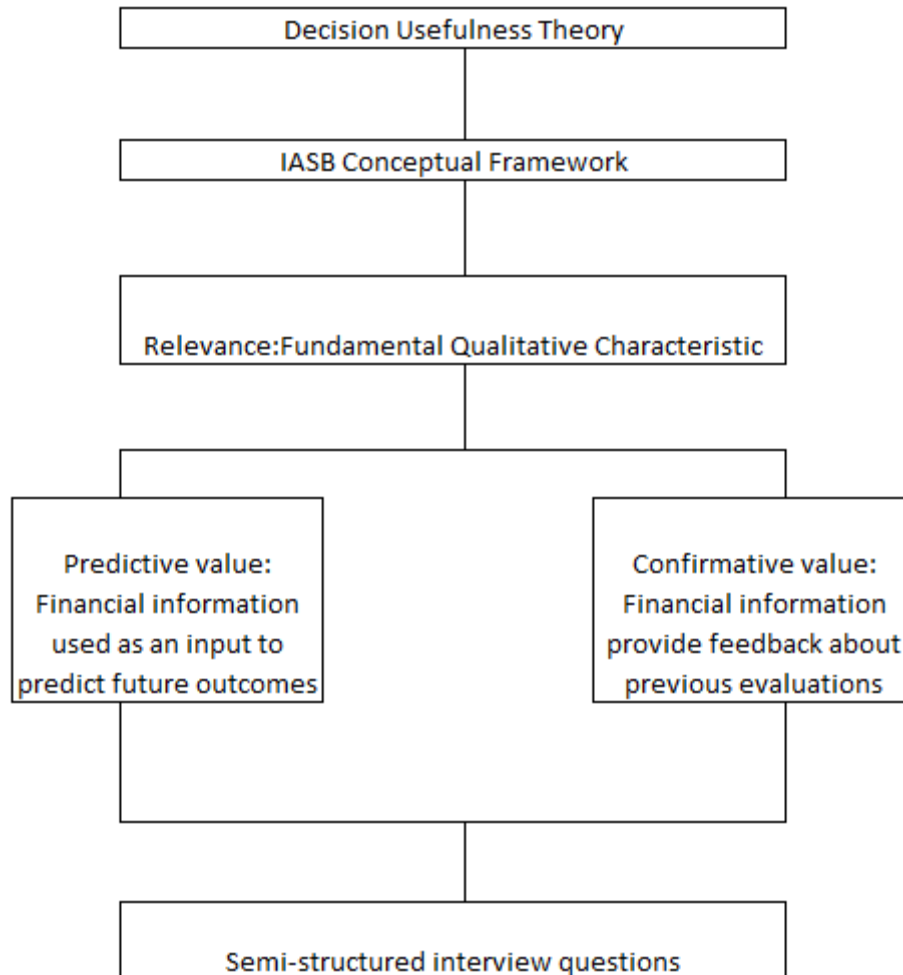
RQ3. Did the additional disclosure requirements following the implementation of IFRS 13 have impact on the relevance of the Level 3 fair value disclosures?

3.2 Theoretical Framework

Figure 1 presents the conceptual and theoretical framework of the study, which is drawn from decision usefulness theory and the Conceptual Framework of IASB. The model is broadly based on Ahmed, Mardini, Burton and Dunne (2018). The purpose of the Conceptual Framework (CF) is to assist the IASB to develop accounting standards that are based on consistent concepts (CF SP1.1). The CF discusses the concepts that underlie the preparation and presentation of financial statements (CF 1.2.10). According to the CF, the general objective of financial reporting is to provide financial information about the entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. To make the decisions, users assess prospects for future net cash inflows to the entity and management's stewardship of the entity's economic resources (CF 1.3). Based on the principles of the decision usefulness theory, the CF defines qualitative characteristics of useful accounting information. Relevance is embedded in the decision usefulness theory and is classified as one of the fundamental qualitative characteristics of useful financial information. The term is further defined in the CF: relevant financial information can make a difference in the decisions made by users (CF 2.6). Financial information can also make a difference in decisions if it has predictive and confirmatory value or both (CF 2.7). Financial information has predictive value if it can be used as an input to processes employed by users to predict future outcomes (CF 2.8). On the other hand, confirmatory value means that the financial information provides feedback about previous evaluations (CF 2.9). The predictive value and confirmatory value of financial information are interrelated²⁰.

²⁰ Revenue information is taken as an example in IFRS 13 for information that can have both confirmatory and predictive value. The revenue can be used as the basis for predicting revenues in future years but also be compared with revenue predictions for the current year that were made in past years (CF 2.10)

Figure 1. *Theoretical and conceptual model of the study*



4. Research Methods

4.1 Case Selection

In case research, the case becomes the instrument through which we test theory (Smith, 2017). Yin (1984) emphasizes that cases must therefore not be chosen just because they are representative; theoretical generalisations are more important. This view is supported by Ryan and Theobald (2002) who suggests that a critical case or extreme case would provide preferable selection options if interesting findings are to be generated.

The sample for this case-based interview study consists of the three commercial real estate companies listed on Nasdaq Iceland: Reginn, Eik and Reitir (case companies). They prepare their financial statements in accordance with IFRS and are analysed by equity analysts on a regular basis. The case companies provide a good setting to test the relevance of fair value disclosures due the significant impact that the Level 3 fair value adjustments have on the income statement and financial position. This is reflected in Table 1 which presents the key financial figures for the case companies for the year 2018. The size of the Level 3 fair value measurement recognised in the income statement is 19%-35% of rental income. The book value of the investment properties (real estates) which are measured at fair value is 93%-97% of total assets.

Table 1. Case companies - Key financial figures for the year 2018

	<i>Eik</i>	<i>Reginn</i>	<i>Reitir</i>
Rental income	8.108	8.288	11.421
Fair value measurement	1.501	2.910	-3.132
Profit for the year	2.572	3.226	110
Investment properties	90.302	128.748	138.524
Total assets	96.723	132.877	143.696
Total liabilities	65.824	90.853	96.782
Book value of equity	30.899	42.024	46.914
Market Capitalisation	28.685	38.255	50.577
Fair value measurement/Rental income	19%	35%	-27%
Investment properties/Total assets	93%	97%	96%

Key financial figures from the financial statements for the year ended 2018.

All amounts are in millions of ISK. The exchange rate for ISK at the end of 2018 is EUR 1 = ISK 133

The Level 3 disclosures of the case companies are also critical because the fair value measurements are fully calculated by management based on internally developed assumptions and valuation models. On top of that, there is an uncertainty in the valuation due to the unstable economic environment in Iceland, with periods of high inflation and significant national currency fluctuations. The critical case of fair value disclosures in the 2018 financial statements for the case companies is used to test the relevance of fair value disclosures for the equity analysts. The equity analysts are presented with these disclosures in the interviews to gain understanding on the relevance of the fair value disclosures²¹. The fair value disclosures in the 2018 financial statements are also analysed to determine how well they comply with the

²¹ Example of fair value disclosure for one of the case companies (Reginn hf.) is included in Appendix 3.

disclosure requirements of IFRS 13 and to evaluate the impact of the additional disclosure requirements of IFRS 13.

4.2 Checklist Approach

The compliance with the fair value disclosure requirements of IFRS 13 in the 2018 financial statements for the case companies was assessed before the interviews with the purpose of identifying missing disclosure items. A standard checklist approach was used where a checklist with ten mandatory disclosures was prepared to analyse the compliance with IFRS 13²². In the interviews, it was investigated whether disclosing these missing disclosure items would enhance the relevance of the fair value disclosures.

Further, the relevance of the additional disclosures that were implemented with IFRS 13 was also examined. That was done by analysing the fair value disclosures in the financial statements before and after implementation of IFRS 13 to identify the new fair value disclosure that were added to the financial statements following the implementation of IFRS 13²³. The relevance of the additional disclosure items was addressed in the interviews.

4.3 Interview Approach

Twelve semi-structured interviews with equity analysts in the real estate sector in Iceland were conducted to evaluate the relevance of the fair value disclosures. The sample of interviewees is homogenous and based on criteria for sample sizes from Braun and Clarke (2013) the acceptable range of sample sizes is 10-15 interviews. The original sample of interviewees was selected by contacting all Icelandic equity analysts that formally analyse the listed real estate companies in Iceland. In total, 18 experienced equity analysts were contacted and 12 accepted to participate in the study. The interview responses reached saturation after 7-8 interviews, but additional interviews were taken to support the overall findings. Table 2 reports an overview of the analysts.

²² The disclosure checklists for the case companies are included in Appendix 2

²³ IFRS 13 was implemented in 2013 and the financial statements for the 2012 were therefore used to analyse the fair value disclosure before the implementation of IFRS 13.

Table 2. List of interviewees

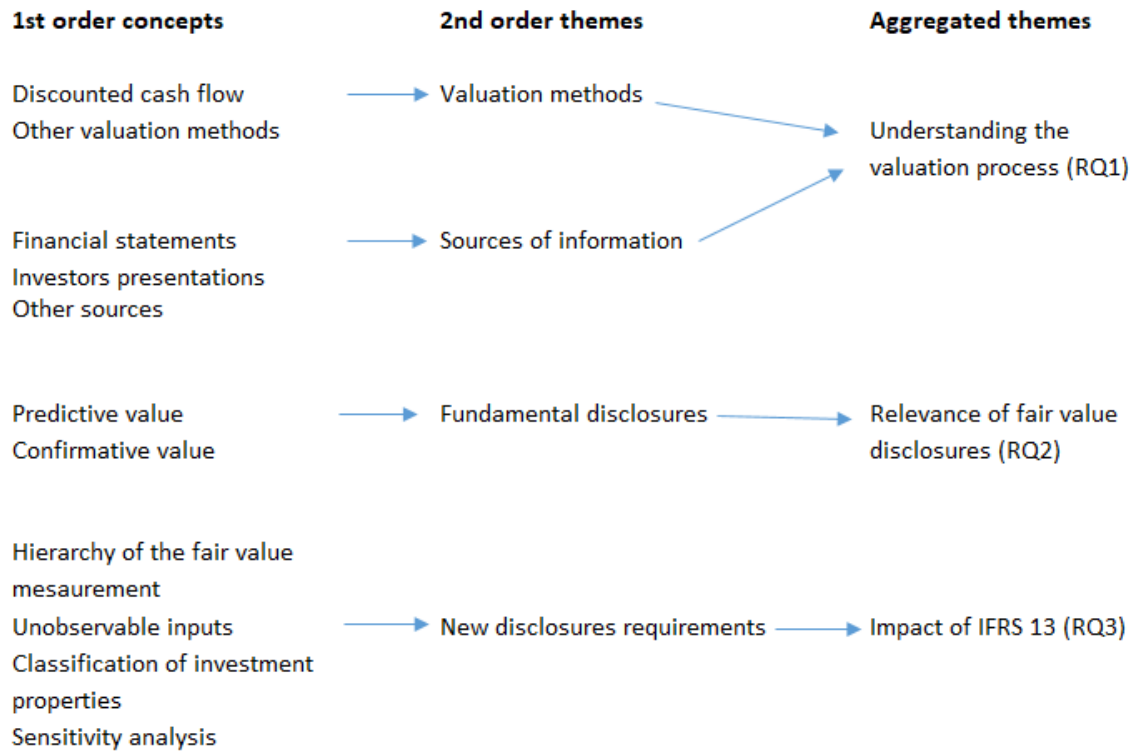
Interviewee			
Code	Gender	Age	Company
A1	M	46-50	Bank
A2	M	36-40	Investment fund
A3	M	30-35	Bank
A4	M	36-40	Bank
A5	M	41-45	Investment fund
A6	M	41-45	Independent analyst
A7	M	36-40	Investment fund
A8	M	41-45	Independent analyst
A9	M	46-50	Independent analyst
A10	M	56-60	Independent analyst
A11	M	41-45	Investment fund
A12	M	36-40	Investment fund

An interview guide was used to direct the interviews into three parts based on the research questions²⁴. All interviews started with addressing the first research question by focusing on understanding the valuation process, methods and main sources of information used by the analysts. For the second research question, the interviewees were presented with the fair value disclosures of the case companies for 2018. Detailed questions were asked about the relevance of the fair value disclosures. The questions about the relevance were developed from the decision-usefulness objective through the lens of the IASB Conceptual Framework, as is presented in Figure 1. Under the second research question, the results of the compliance analysis were presented to the interviewees to explore whether lack of compliance with mandatory disclosure requirement had an impact on the relevance of the fair value disclosures. The third part of the interview addressed the relevance of the fair value disclosures that were added to the financial statements following the implementation of IFRS 13.

The interviews were conducted in Icelandic and recorded, transcribed and analysed according to the different themes and concepts of the research. Data structure used for coding is illustrated in Figure 2. This structure is broadly based on recommended structure by Gioia, Corley and Hamilton (2013). The CF provides the definitions for 1st order concepts and 2nd order themes. Figure 2 presents the different themes with a link to the data structure and coding.

²⁴ See Appendix 1 for the interview guide

Figure 2. Data structure for coding



5 Findings

5.1 Understanding the Valuation Process, Methods and Sources (RQ1)

All the respondents use the discounted cash flow method for the analysis of the real estate companies. There are different methods used to discount the cash flow, but we did not enter into the finer details of those differences in this study. However, the general use of cash flow by analysts is in line with other studies which addresses the importance for preparers of financial statements to provide information to predict future cash flow (Smith and Heijden, 2017; Bancel and Mittoo, 2015; Brown et al., 2014):

“We use a valuation method that is built on identifying the machine in business. We pull out all accounting exercises, for example the fair value adjustments and focus on the underlying business and what generates the cash flow.” (A9)

“The fair value adjustment in the income statement does not have any impact on my fair value calculations, it is only the cash-flow that matters.” (A6)

“We are forward thinking and interested in the future instead of historic numbers, the foundation is the cash-flow today and then the outlook for the next 1-2 years and then for the future.” (A4)

“I do not use the information about unobservable inputs, we use our own assumptions.” (A7)

The financial statements provide only one part of the sources used for the valuation process. Investors’ presentations, press releases, and official guidelines were generally considered as equally important source of information. Other sources were also used such as private meetings with management and the more specialised analysts also mentioned the importance of visiting some of the key real estates to gain deeper understanding of the asset portfolio:

“The first stop for information is the management presentation, they are clear, but you also need the financial statements for the details.” (A1)

“I do not have time to go into any details in the financial statements, but I look at the targets and if they are changing.” (A2)

5.2 Relevance of Fair Value Disclosures (RQ2)

In the interviews the analysts were presented with the fair value disclosures of the case companies. When presenting the fair value disclosures to the analysts it came clear that most of them were not familiar with the fair value disclosures. As explained earlier is the information content of the disclosures based on the requirements established in IFRS 13. The analysis on compliance with the disclosure requirements of IFRS 13 revealed that the information disclosed is consistent across the case companies. The lack of interest in the fair value disclosures was

unexpected and explored further during the interviews. This was done by reviewing the disclosures in detail with a focus on what was relevant and irrelevant. The review of the fair value disclosures with the respondents revealed that too many important details are missing. Specific examples from the respondents include: the impact of inflation on the valuation model, length of the rental contracts, vacancy rates, details about the model used for discounting the cash-flow, etc. The key assumptions are also generally reported in ranges or averages and therefore not useful as an input in the cash-flow analysis.

“I would like to see more breakdown and predictive information; you only get the key parameters and the final results.” (A7)

“You cannot use the inputs disclosed in the financial statements about fair value, because the information provided are mostly averages and in ranges which are too broad to be useful.” (A1)

Those aspects of the fair value disclosure that provoke interest during the interview had predictive value and gave insights into management’s mind about the future. Examples of these were the categorisation of the real estate portfolio and in some instances information about estimated rental income. There was also a call for more detailed analysis of income, expenses and investments to prepare accurate cash-flow forecast. Notwithstanding these comments, the respondents had quite positive outlook on the overall financial information provided by the case companies:

“I am generally happy with the information they provide.” (A6)

“There have been significant improvements on the disclosure over the past 5-10 years.” (A1)

However, there were some specific negative responses regarding lack of disclosures that are important from individual analyst perspectives:

“There is a lack of information about the maintenance cost which I believe is underestimated in the fair value model.” (A9)

“I would like to see details about occupation metrics for different categories of investment properties.” (A2)

“The operating expenses of investment properties in the income statement is a black-box which requires further breakdown.” (A9)

“The companies do not explain enough the impacts of new investments on future cash-flows.” (A8)

“The assumptions about market rental used in the model following the termination of lease is missing but that is one of the key information in the fair value estimate.” (A2)

The common theme here is disclosures that have predictive information value for the future cash flow. However, going deeper in the valuation process with the respondents revealed that the fair value disclosures have a confirmative value. The valuation process is based on forecasting the future cash-flow and discounting using the analysts own parameters. The respondents generally compare their overall results with the fair value measurement recognised in the financial statements. If there are significant differences in the outcome, the next step is to review the fair value assumptions made by management and compare the key underlying assumptions of the management which is the WACC, market rental and future growth with the analysts' own assumptions. The difference in the assumptions is analysed and reconciled.

Respondents had different opinions and examples about good and bad disclosure practice across the three case companies. Example of good disclosure practice was Reitir's breakdown of rental income and expenses down to classes of real estates and detailed disclosures about impairment of accounts receivables included in the financial statements of Eik and Reitir. All these disclosures increase the predictability of the accounting information. Specific examples about bad disclosure practice are Reginn's lack of disclosures on future impact of big investments, thin disclosures in Reginn's interim accounts and lack of disclosures about aging analysis of accounts receivables. The last point regarding the disclosures of the aging analysis of accounts receivable is an interesting observation from materiality perspective as the impairment of accounts receivable is a quantitatively immaterial amount for all the case

companies²⁵. However, this finding highlights the importance of qualitative considerations in assessing the relevance of information disclosed in the financial statements. The respondents' view is that development of the aging analysis is an important indicator about the risk in the cash-flow forecasts. This again reflects the importance of the predictive information in the financial statements; management must be careful excluding predictive information based on the quantitative materiality assumptions.

Overall, the results of the interviews reveal that even though the information content is not predictive, there is a confirmative value in the essential information provided in the fair value disclosure. These disclosures are used by the analysts to both obtain comfort over their own valuation measurements and verify the credibility of management. The conclusion drawn here is that even though there is some confirmative value in the fair value disclosure, the information value of the fair value disclosure would increase with more details in predictive financial information.

There is a limited guidance in IFRS 13 regarding presentation of financial information in the disclosures. However, it is stated that quantitative disclosures shall be presented in a tabular format unless another format is more appropriate (IFRS 13. 99). The interviews demonstrated the importance of clear and focused presentation of financial information:

“More tables mean that I am happier with the presentation.” (A8)

“It is important for analysts that the presentation of the information is simple, and the decision will probably not be better even though you spend a week analysing the information.” (A1)

“I think there is a significant difference between disclosures whether they are in text format or in tables. I seldom read the text disclosures.” (A2)

These results address the importance for the preparers of financial statements to present key financial disclosures in table formats. Important information gets easily lost in the text.

²⁵ Receivables accounts for 0,2-0,4% of total assets of the case companies.

There were mixed views when asked about the credibility of the fair value adjustment. Some respondents had not much faith in the fair value measurements made by management:

“As I see it, the fair value adjustment is just some bubble which they recognise in the income statement.” (A8)

“It would increase credibility of the fair value measurement if they were performed by external valuation specialists. I do not trust the management of all the companies to do it fairly.” (A6)

“Seeing both positive and negative fair value adjustments increase the credibility of the fair value measurements.” (A1)

Detailed fair value disclosures and compliance with the disclosure requirements of IFRS 13 should reduce information asymmetry and enhance the relevance and credibility of the fair value disclosures. To explore that issue in more depth an analysis was performed on the fair value disclosures of the case companies prior the interviews. A checklist which includes 10 mandatory disclosures items is used to analyse the compliance with IFRS 13. The analysis reveals that the format and content of the fair disclosures is similar across the case companies. All the three case companies were missing to some extent the following disclosure requirements of IFRS 13:

- Description of the valuation process used by the entity for Level 3 measurement categories (IFRS 13 93g)
- A narrative description of the sensitivity of the fair value measurement to changes in the unobservable inputs (IFRS 13 93(h) (i))
- If changing one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, then state that fact and disclose the effect of those changes (IFRS 13 93(h) (ii))

The poor compliance with these disclosures for the case companies was addressed in the interviews. What these disclosures have in common is they provide details about management’s own assumptions related to the fair value measurements. However, the

interviews with the analysts revealed the importance of predictive value of financial disclosures and less value in supporting information about management's assumptions or valuation process. These findings provide evidence that full compliance with the requirements of IFRS 13 do not impact the relevance of the accounting information in the financial statements.

5.3 Impact of IFRS 13 (RQ3)

Impact of new disclosure requirements

Prior to the implementation of IFRS 13 there was no comprehensive IFRS standard regarding fair value measurements or disclosures. However, International Accounting Standard on investment properties (IAS 40) provided the real estate companies with some guidance on fair values. An analysis on the disclosures of the financial statements of the case companies prior to the implementation of IFRS 13 revealed that they already disclosed detailed information about the fair adjustments. The following disclosures were added to the fair value disclosures after the implementation of IFRS 13:

- Classification of fair value assets in Level 1, Level 2 or Level 3 categories.
- Sensitivity analysis on the impact of changes in unobservable inputs
- Classification of the investment properties with respect to nature, characteristics and risk.

All the respondents were presented with these disclosures for the case companies in the interviews to get their views on the relevance of these additional disclosure items. Classification of investment properties had some confirmative value for the respondents but did not have direct impact on the valuation. On the other hand, classification of fair value assets in different measurement categories and a sensitivity analysis have little relevance for the analysts. These disclosures have limited forward-looking and predictive value but instead focus on management's assumptions with the respect to the fair value estimates. As discussed earlier, these kinds of disclosures have limited relevance to analysts. These results are particularly interesting in light of the results of Sundgren et al. (2018), who suggest that disclosure quality is significantly higher under IFRS 13. However, the results of their study did not show significant positive economic consequences following the adoption of IFRS 13. This study supports their findings and provides evidence that the detailed guidelines and the disclosure requirements in IFRS 13 did not solve any market imperfections.

6 Discussion and Conclusion

This paper investigates the relevance of Level 3 fair value disclosures for equity analysts. At the core of the research are the disclosure requirements of IFRS 13 and how equity analysts process and use fair value information. This is a case study which uses the fair value disclosure of three listed real estate companies and semi-structured interviews with equity analysts to analyse the relevance of the fair value disclosures. The analysis is performed through the lens of the decisions-usefulness objective and relevance of accounting information as the Conceptual Framework of the IASB defines it.

Following is a summary of the main findings:

- Equity analysts use a discounted cash flow as their main valuation methods and do not incorporate Level 3 fair values as an input in their valuation.
- The fair value disclosures appear to have to some extent confirmative value as they provide the analysts with comfort over their own fair valuation measurements and verify the credibility of management.
- Disclosures about management's valuations techniques and own assumptions are in most parts overlooked by the equity analysts.
- Companies with significant Level 3 assets should focus on detailed information with predictive value. Preparers and auditors must be careful to exclude information with predictive value based on quantitative materiality assumptions and numerical guidelines. Qualitative considerations with respect to nature and expected relevance of the information disclosed are also important factors in determining materiality.
- Full compliance with IFRS 13 does not appear to increase the relevance of financial statements for the analysts.
- Presenting predictive financial information in tabular formats should be the basic framework for the preparers of the financial statements. Complicated text disclosures and detailed information about management's own valuation methods, unobservable inputs and backward-looking information appear to have little relevance for the analysts.

In line with prior pertinent literature, we find that equity analysts use a discounted-cash flow method as a key valuation method (Bancel and Mittoo, 2015; Brown et al., 2014). As a result, financial disclosures with predictive value about future cash flows have significant relevance for this user group. However, the results also reveal that equity analysts have little

interest in the management's fair value measurements or the related fair value disclosures. Fair value measurements are based on management calculations about estimated market value of the assets at the reporting date. The key focus for the analysts is the cash flow generation of the underlying business. Information about current fair value of the assets is therefore of limited relevance for the analysts.

Disclosures about fair values in financial statements are based on the disclosure requirements of IFRS 13. The fair value adjustments of the real estate companies are Level 3 measurements; there is considerable emphasis in IFRS 13 on disclosures about management's valuations techniques and assumptions about the fair value measurements. These disclosures are for the most part overlooked by the equity analysts. The explanation is twofold: First, there is a lack of relevance of the fair value disclosure as discussed earlier because the analysts focus is on future cash-flow. Second, the analysts use their own parameters and inputs in the cash-flow model but not managements' assumptions. Examples of these assumptions are future growth, risk-free interest rates, premium on risk free rates, market rental, etc. Still, some aspects of the fair value disclosure give valuable insights into management's mind about the future, which could be relevant for the analysts, for example, disclosure about future rental rates and occupations metrics. However, observing these disclosures with the respondents revealed that these assumptions were disclosed on a broad range or in average terms and were therefore not useful input in the valuation process. These findings have direct implications for preparers and auditors as they address the importance of predictive value of information and to provide enough details for the financial disclosure to enhance the usefulness of the fair value disclosures. The findings suggest that the relevance of the fair value disclosures improves with more predictive information.

The increased use of fair values changes the financial accounting information from being backward-looking to being more forward-looking. However, the results of the study indicate that increased emphasis on fair value disclosures and forward-looking information has not changed the role of disclosures in audited financial statements. The use of the financial statements appears to be confirmative instead of being used as a primary source of information for predicting future cash-flow. The respondents generally compare their results with the fair value adjustments recognised in the financial statements. Significant differences in outcomes are analysed with comparison to some of the fair value parameters provided in the fair value disclosures. The findings suggest that even though the fair value disclosures do not have predictive value for the analysts there is to a certain extent a confirmative value in the key information provided in the fair value disclosure. The confirmative value provides the analysts

with comfort over their own valuation measurement and verify the credibility of management. This is in line with a model proposed by Gigler and Hemmer (1998) where audited financial reports serve a confirmatory role in providing credibility to management's more informative and timely voluntary disclosures.

The results of the study relate directly to what the IASB has referred to as the "disclosure problem". Finding the right balance between relevant and non-relevant information and avoid information overload is a constant challenge for preparers, auditors and standard setters. It can be concluded based on the interviews that presenting predictive financial information in tabular formats should be the basic framework for the preparers of the financial statements. Complicated text disclosures and detailed information about management's own valuation methods, unobservable inputs and backward-looking information appear to have little relevance for the analysts. Defining appropriate disclosure materiality is one of the priorities of IASB to reduce information overload. The findings suggest that even though financial information is not quantitatively material from the financial statements perspective they might have an important predictive value. That was for example addressed in a lack of information about impairment of accounts receivable, which are not material financial information for the case companies but have from the analyst perspective important predictive value. This highlights the importance of predictive value of disclosures; the key finding here is the importance of the predictive disclosures even though they are not numerically material from management's perspective. The lesson is that preparers and auditors must be careful to exclude information based on quantitative materiality assumptions and numerical guidelines. Qualitative considerations with respect to nature and expected relevance of the information disclosed are also important factors in determining materiality.

Other studies question the usefulness and relevance of highly judgemental fair value measurements (Level 3 measurements) in financial statements (Landsman, 2007; Milburn, 2008; Danbolt and Reese, 2008; Nissim, 2003; Dietrich et al. 2000; Aboody et al. 1999). The findings of this study provide further evidence that the fair value measurements and related disclosures have limited relevance for the analysts and that the merits of level 3 inputs should be questioned. One of the purposes of the implementation of IFRS 13 was to address this issue and reduce information asymmetry with mandatory and detailed disclosure requirements. The analysis finds increased fair disclosures for the case companies following the implementation of IFRS 13, which was expected and was consistent with the findings of Sundgren et al. (2018). However, to my knowledge academic studies have not been able to provide evidence that the implementation of IFRS 13 solved any market imperfections, despite increased disclosures. For

example, Sundgren et al. (2018) examined the impact of IFRS 13 on market liquidity and analysts following and did not find positive economic consequences after the implementation of IFRS 13. The analysis on the new disclosure requirements implemented with IFRS 13 revealed that they are focused on management's own assumptions and have limited forward-looking and predictive value. Referring to the earlier discussion about the importance of predictive value of information, it can be concluded that these additional disclosures have little information value for investors. The implications for preparers, auditors and regulators are that companies with significant Level 3 assets should focus on detailed information with predictive value for the user, importantly to indicate where the business is going.

This study explores the impact missing mandatory disclosure items have on the relevance of financial statements. It can be concluded, by analysing the characteristics of the missing disclosures items, that they have confirmative value as they are related to disclosures about management's valuations and own assumptions. However, the interviews with the analysts showed the importance of the predictive value of financial disclosures and reveal less value in supporting information about management's assumptions or valuation process. These results suggest that full compliance with IFRS 13 does not appear to increase the relevance of financial statements for the analysts. However, not following the accounting standards can give a negative signal to the market and reduce the credibility of management. There is a research opportunity to explore this issue in more detail, i.e., to investigate the role of compliance with accounting standard with respect to the relevance of financial statements and management trustworthiness.

The analysis also revealed that the format and content of the fair disclosures is similar across the case companies. These results are consistent with Tarca et al. (2011) which provide evidence from interviewing the preparers of financial statements that disclosures become normalised through the process of monitoring competitors. This can also be explained within the framework of the agency theory, where the sector drives the information asymmetries (Smith and Heijden, 2017).

This research has focused on the relevance of fair value disclosures for equity analysts in the valuation process. However, there are other important consumers of financial statements such as shareholders, creditors, suppliers, customers, trade unions, and government, to name a few. These users may have other perspectives on the relevance of the fair value disclosures. Further development of this theme would be an investigation on the usefulness of the fair value disclosures for different user groups. The study also focusses on fair value disclosures for non-

financial assets in just one industry and is limited to one country, Iceland. There is ample scope to conduct this research in other countries, include financial assets and other industries.

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3.2 Study 2: Relevance of Fair Value Adjustments and IFRS 13 Disclosures: Evidence from European Real Estate Companies

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Abstract

Purpose: This paper studies the relevance of judgemental fair value adjustments (FVA) for investors. It also examines if increased disclosures about fair value following the implementation of IFRS 13 increased the relevance of the FVA.

Design/methodology/approach: We use an event study methodology and regression analysis to examine the association between judgemental FVA recognised in the income statements and stock price reaction, measured as cumulative abnormal returns, for listed European real estate companies using data covering the period from 2008 to 2019.

Findings: Our findings indicate that FVA are value relevant after the implementation of IFRS 13 but not in the period before the implementation. The findings suggest that the increased fair disclosures that followed with the implementation of IFRS 13 have had relevance for investors. We also find more relevance for FVA recognised in semi-annual financial statements compared to annual accounts and that positive FVA have more value relevance than negative FVA.

Originality/value: The study analyses the relevance of FVA for non-financial assets, whereas so far, most of the literature has focused on FVA for financial assets. Furthermore, this study provides unique empirical evidence on the value relevance of the fair disclosure requirements of IFRS 13.

Keywords: IFRS 13, relevance of disclosures, fair value

1 Introduction

The increased use of fair value accounting continues to be a controversial topic among regulators, accounting researchers, investors and other market participants (Christensen and Nikolev, 2013; He, Wright and Evans, 2018; Laux and Leuz, 2009). The debate primarily focuses on financial assets, while the fair value of non-financial assets has received relatively little attention (Sellhorn and Stier, 2019).²⁶ While fair value accounting is considered relevant for investors in principle (Barth, 2006) in a sense that it can have an impact on decisions made by the investors (see the Conceptual Framework of IFRS, paragraph 2.6 for the definition of relevance of accounting information), research has not been able to provide a clear-cut picture about the determinants and economic consequences of fair value adjustments (FVA) of non-financial assets (Sellhorn and Stier, 2019).

The purpose of this study is to contribute to the debate by investigating the value relevance of FVA and fair value disclosures for non-financial assets. In general, accounting information is considered value relevant if it captures the impact on the market value of the company. We use a sample of listed European real estate companies. *First*, we analyse if FVA, which are recognised in the income statements, are reflected in the stock price of the real estate companies. As the FVA have significant impact on the income and financial position reflected in the financial statements of the real estate companies, we assume that these FVA are of particular interest for stock market participants. *Second*, we investigate if more detailed disclosures about valuation techniques and inputs which are used to measure the fair value, so-called fair value disclosures, increase the value relevance of the FVA.

The listed European real estate companies provide a good setting for this study as the majority of them use judgemental estimates for their FVA (Sellhorn and Stier, 2019). Addressing the value relevance of FVA might appear to be a tautology. On the contrary, however, the majority of the listed European real estate companies do not use Level 1 fair values, which would reflect market prices of the assets, because property markets may not be sufficiently mature for a fair value model to work satisfactorily (Sundgren, Mäki and Somoza-Lopez, 2018; Lourenco and Curto, 2008). Instead, they use judgemental estimates, this means Level 2 or Level 3 fair values which are not based on assets' market prices. Level 2 fair values are based on market prices of similar assets and Level 3 fair value measurement is used in circumstances where there is little or no market activity for assets or liabilities. The FVA are

²⁶ Non-financial assets include operating assets that companies generally use in their operations such as investment property, biological assets, property, plant and equipment.

therefore based on inputs which are not necessarily observable for individuals outside of the real estate companies, but on company-internal data or internally generated models (IFRS 13:86). In addition, the listed real estate companies provide an interesting setting to explore the value relevance of disclosures about the FVA as they must comply with the International Financial Reporting Standards (IFRS). In 2013, the disclosure requirements regarding judgemental FVA were increased with the new accounting standard on fair values, IFRS 13. The purpose of disclosures about fair value is to reduce information asymmetry by assisting the users of financial statements assess the valuation techniques and inputs used to determine fair value and to assess the effect of the FVA on profit or loss for the period.

Prior research on fair value disclosures in the real estate industry finds evidence that increased fair value disclosures reduce information asymmetry by using bid-ask spread as a measure for information asymmetry (Vergauwe and Garemynck, 2019; Müller, Riedl and Sellhorn, 2011). However, empirical evidence on the usefulness of the increased disclosure requirements of IFRS 13 is scarce. Sundgren et al. (2018) study disclosures and significant assumptions applied in determining fair values of investment properties under IFRS 13. Their findings suggest that disclosure quality is significantly higher under IFRS 13²⁷. However, by examining the impact of disclosures on analyst following and market liquidity the results of their study do not show significant positive economic consequences following the adoption of IFRS 13. Their results therefore indicate that the detailed guidelines and the disclosure requirements in IFRS 13 did not solve any market imperfections and the alleged increase in transparency about fair values did not reduce information asymmetry.

Our study provides a valuable contribution to the literature and implications for investors, standard setters, auditors, preparers and other users of financial statements. *First*, recent research has focused primarily on the impact of FVA of financial instruments on banks and other financial institutions, specifically in the US. However, the fair value measurement of operating assets has received relatively little attention and the academic evidence on financial assets may not necessarily translate into non-financial assets (Sellhorn and Stier, 2019). We enhance the understanding of the relevance of fair values for non-financial assets in the growing sector of European real estate companies. *Second*, we analyse how investors price FVA of non-financial assets in the stock market and whether this pricing changed after the implementation of IFRS 13. We also investigate whether there is a difference in value relevance between FVA

²⁷ Before the implementation of IFRS 13 the real estate companies followed the disclosure requirements of IAS 40 which had very limited guidance regarding disclosure of methods and assumptions applied in determining FVA.

recognised in annual financial statements compared to semi-annual accounts and if there is a difference between positive and negative FVA. *Third*, our findings are important as they contribute to the current debate whether more detailed disclosures are beneficial for the users of the financial statements or if increased extent of disclosures has made the financial statement more complex and done little to improve quality. *Fourth*, compared to Sundgren et.al. (2018) we use a bigger sample and a different methodological approach to investigate the value relevance of the IFRS 13 disclosures.

This study uses an event study methodology and regression analysis to test the association between FVA and stock price. The measurement of the stock price reaction is based on cumulative abnormal returns (CAR). A stock price reaction to financial information would indicate value relevance of the financial information to investors. Our findings indicate that FVA are value relevant after the implementation of IFRS 13. However, we do not find evidence on the value relevance of FVA before the implementation of IFRS 13. Hence, these findings suggest that the increased fair value disclosures that followed with the implementation of IFRS 13 have had value relevance. We also find more value relevance for FVA recognised in semi-annual financial statements than in annual accounts. The results of the study also indicate that positive FVA have more value relevance than negative FVA.

This paper is organized as follows: Section 2 surveys related literature and derives the hypotheses. Research methods and data are described in Section 3. The empirical results are presented in Section 4. We discuss our findings and conclude in Section 5.

2 Literature Overview and Hypothesis Development

2.1 Relevance of FVA

From a theoretical perspective, information asymmetry and the agency problem provide a fundamental justification for financial reporting and corporate disclosures (Healy and Palepu, 2001). The primary objective of financial information is to reduce information asymmetry and aid investors and other users of financial statements in making economic decisions (Barth, 2006). This objective of financial reporting is further defined in the Conceptual Framework (CF) of the International Accounting Standards Board (IASB) which states that financial reporting shall provide financial information about the entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. The idea of usefulness has been central in the definition of the objective of

financial statements since the 1970s (Deegan, 2003) and the decision usefulness objective underpins the CF. The theory of decision usefulness ascribes a particular information for classes of users based on assumed decision-making needs (Deegan, 2003). To make the decisions, users assess prospects for future net cash inflows to the entity and management's stewardship of the entity's economic resources (CF 1.3). Fair values are considered relevant in the decision making for investors and other users of the financial statements because they reflect present economic conditions and the future cash-flow that the assets will generate (Barth, 2006). Fair value accounting is therefore assumed to have value relevance for investors.

The value relevance literature is based on the efficient-market-hypothesis (EMH) and the assumption that market prices eventually reflect all publicly available information (Wolk, Dodd and Rozycky, 2016; regarding the EMH, see Fama, 1970, 1991). The economic implications investigated in value relevance studies as part of the fair value literature include the association between financial reporting information and stock returns, predictive ability of fair value measurements, information asymmetry and analyst forecasts (Sellhorn and Stier, 2019). Overall, the literature finds evidence for the relevance of fair value accounting for investors (Sellhorn and Stier, 2019; Marton and Runeson, 2010). However, investors do not seem to see fair value as a homogenous concept (Gassen and Schwedler, 2010) and its relevance is affected by the level of judgement associated with the fair value and the amount of measurement error (Barth and Clinch, 1998). The mark-to-market fair value is considered very useful while mark-to-model is rated as the overall least decision useful measurement concept (Gassen and Schwedler, 2010). Moreover, verifiability of accounting measures matters and is one of the key problems with the use of unobservable inputs in the internal fair value models. This is in line with Goh, Li, Ng and Yong (2015) who find that internally valued financial instruments are generally less value relevant compared to mark-to-market assets. Landsmann (2007) and Milburn (2008) raise the issue of lack of relevance of judgemental fair value estimates due to risk of managerial manipulation and valuation techniques which can be crude and rough bases for estimating fair values. Lack of verifiability of fair value measurements can adversely affect their decision usefulness for investors (Hitz, 2007).

Many studies in the fair value literature focus on relevance of FVA of financial instruments for banks and other financial institutions. Barth (1994), Barth, Beaver and Landsman (1996) and Eccher, Ramesh and Thiagarajan (1996) find that fair values of particular financial instruments can explain share prices for financial institutions. Recent academic studies have narrowed down the focus specifically to the value relevance of highly judgemental fair value adjustments (Level 3) of financial assets in the US. These studies yield mixed results.

Song, Thomas and Yi (2010) and Goh et al. (2015) find evidence that Level 3 assets are less value relevant than Level 1 and Level 2 assets. On the other hand, Lawrence, Siriviriyakul and Sloan (2016) find evidence that Level 3 assets are equally value relevant as Level 1 and Level 2 assets after controlling for potential correlated variables.

The literature provides some evidence on the value relevance of fair value measurement for non-financial assets. Using a sample of UK companies Aboody, Barth and Kasznik (1999) find that annual revaluation amounts are positively associated with stock returns. Also, in a UK setting, Danbolt and Rees (2008) find that fair value measurements provide more explanatory power for stock price changes than historical cost-based income. They also find that fair value changes have more explanatory power for investment trusts than for real estate companies. In the same way, Barth and Clinch (1998) find that revalued amounts are weakly associated with stock prices for non-financial Australian firms and Choi, Pae, Park and Song (2013) find that asset revaluation is associated with abnormal returns in a sample drawn from South-Korea. On the other hand, Emanuel (1989), Jaggi and Tsui (2001) and Barlev, Fried, Haddad and Livnat (2007) do not find evidence about association between asset revaluation and abnormal returns.

Other value relevance studies have analysed the difference between recognizing fair value adjustments in the income statement compared to not recognizing the FVA in the income statement but instead just presenting the fair value in the disclosures. Israeli (2015), Müller, Riedl and Sellhorn (2015) and Cotter and Zimmer (2003) find that the association between fair value changes and stock prices is stronger for FVA recognized in the income statement relative to those presented in the disclosures. Additionally, So and Smith (2009) conclude that fair value adjustments in income statement have more impact on market returns than fair value changes in the revaluation reserve.

Even though few studies do not find an impact of asset revaluation on stock prices, the literature largely provides evidence for value relevance of the fair value measure and Hypothesis 1 (H1) is therefore stated as follows:

H1: Fair value adjustments (FVA) are positively associated with abnormal stock returns.

Fiechter, Novotny-Farkas and Renders (2019) find that Level 3 losses are more relevant than gains in a sample of US banks which is in line with Bertomeu and Marinovic (2016) who find evidence that losses are more credible than gains. This is consistent with prior studies which find bad news disclosures generally more credible than good news disclosures,

specifically in a context where measurement is subjective and difficult to verify. There is also evidence that firms mitigate investors' concerns regarding judgemental fair values by recognizing unrealized losses more timely than unrealized gains. Building on these arguments the second hypothesis (H2) is stated as follows:

H2: Negative FVA are more strongly associated with abnormal returns than positive FVA.

Oberholster, Zulu and Klerk (2017) find for a sample of non-financial companies that interim financial statements appear to have higher value relevance compared to annual financial statements. These findings support the earlier results of Firth (1981) and Rippington and Taffler (1995) who state that interim reports are more useful to investors than annual reports as they are issued timelier. Following these arguments, we formulate Hypothesis 3 (H3) as follows:

H3: FVA recognised in semi-annual accounts are more strongly associated with abnormal stock returns than FVA in annual accounts.

2.2 Relevance of Fair Value Disclosures

There is an ongoing debate whether more detailed disclosures are beneficial for the users of the financial statements or if increased length of disclosures has made financial statements more complex and done little to improve quality. The IASB has referred to these concerns as “the disclosure problem”²⁸. For the case of fair value disclosures, the question is whether more disclosures about valuation techniques and inputs used to determine the FVA can increase the reliability and relevance of fair value measurement. This is specifically relevant for judgemental fair value estimates which are based on unobservable inputs (Laux and Leuz, 2009).

With the issuance of IFRS 13 in 2013, the IASB responded to significant criticism from both academics and practitioners on the fair value model after the financial crisis. The key objective of the standard has been to set out a single framework for measuring and disclosing information about fair value. The standard includes very detailed disclosure requirements about Level 3 inputs with the purpose of reducing information asymmetry. Few empirical studies have been published about the impact of the implementation of IFRS 13 or if its implementation has met the objective as defined by the IASB. Sundgren et al. (2018) study the disclosure of the

²⁸ IFRS Standards Project Summary <https://www.ifrs.org/investor-centre/project-summaries/>

methods and significant assumptions applied in determining fair values of investment properties under IFRS 13. Their findings suggest that disclosure quality is significantly higher under IFRS 13. However, by examining the impact of disclosures on analyst following and market liquidity the results of the study do not show significant positive economic consequences following the adoption of IFRS 13. Consistent with these results Vergauwe, Gaeremynck and Stoke (2018) do not find evidence that valuation-related disclosures increase the relevance of fair value estimates for European investment properties. Sangchan, Jiang and Bhuiyan (2020) investigate the impact of fair value disclosures on cost of capital. Their findings suggest that the use of Level 3 inputs in fair value estimates for investment properties does not affect the information usefulness of fair value adjustments and that extensive fair value disclosures do not appear to have impact on the cost of capital. These results are supported by Vergauwe and Garemynck (2019) who do not find evidence about price impact of fair value disclosures in the European real estate industry. These findings indicate a limited relevance of fair value disclosures for investors. On the other hand, Vergauwe and Garemynck (2019) find association between the extent of fair value disclosures and bid-ask spread. Additionally, Müller, Riedl and Sellhorn (2011) find that increased disclosures about fair values following the implementation of IAS 40 *Investment Property* decreased bid-ask spreads, which indicates that increased information about critical accounting valuation reduces information asymmetry.

Despite mixed findings in the literature, our fourth hypothesis (H4) is based on the arguments that support the idea that more disclosure reduces information asymmetry (Vergauwe and Garemynck, 2019 and Müller et al., 2011) and that the implementation of IFRS 13 with increased disclosure requirements about fair values has positive economic impact:

H4: FVA are more strongly associated with abnormal returns after the implementation of IFRS 13.

3 Data and Methodology

3.1 Sample

The sample includes European publicly traded real estate companies that use the fair value model on their investment properties. The financial information of the real estate companies was collected from the Capital IQ database and includes annual and semi-annual financial accounts from January 2008 to April 2019. The sample does not include the period

before the financial crisis in 2008 as the economic conditions in that period were characterised by an economic bubble that could possibly distort the result. The original sample included 2,663 accounting records, 1,007 records were removed from the sample because the FVA adjustment was not reported and further 621 were removed because other financial data were missing or the filing date of the financial statements was not aligned with the reporting period. The final sample used for the analysis includes 1,038 financial statements from 85 companies in Europe.

Daily stock prices were obtained from the Refinitiv database. Factors for the Fama-French three-factor model are collected from Kenneth French's data library.²⁹ To be consistent with the Fama-French factors, all financial information is converted to USD.

3.2 Event Study

An event study methodology is applied to investigate stock price reaction to the publication of the financial statements which includes the recognition of the FVA in the income statement. The Event date (day 0) is the filing date of the annual/semi-annual accounts. We determine daily abnormal returns (AR) for the period from ten trading days before the filing of the financial information to ten trading days after the filing date and calculate cumulative abnormal returns (CAR) accordingly. The window is restricted to ten days before and after the filing date because long-term effects are likely to be diluted by other events. Our approach followed the idea that short-window event studies can be used to establish the information content of financial reporting information (Sellhorn and Stig, 2019). CAR is a good proxy for the relevance of FVA of investment properties because investment properties measured by fair value are the most material assets for the real estate firms and FVA has significant impact on the income statement. Additionally, we expected that increased disclosure about the underlying assumptions behind the FVA reduce information asymmetry which results in a lower risk premium and a positive price impact.

We calculated abnormal stock price return, $AR_{i,t}$, i.e. the abnormal price reaction of stock of the real estate company i on day t as:

$$AR_{i,t} = r_{i,t} - E[r_{i,t}]$$

²⁹ https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Where $r_{i,t}$ is the actual return of stock i on day t and $E[r_{i,t}]$ is the corresponding expected return. The expected return is based on the Fama-French three factor model as follows:

$$E[r_{i,t}] - R_{f,t} = \alpha + \beta_1(R_{m,t} - R_{f,t}) + \beta_2SMB_t + \beta_3HML_t + \varepsilon_{i,t}$$

Where $R_{m,t}$ is the market return and $R_{f,t}$ is the risk-free rate. SMB_t and HML_t are factors which measure the historic excess returns of small market capitalization over big market capitalization companies and value stocks over growth stocks, respectively. For each event window we used one year prior to the event window as the estimation window.

Cumulative abnormal returns (CAR) are calculated for different periods within the event window in order to capture the impact of the price effects of the publication on the event day and on the days before and after the event date. The purpose of analysing different periods before and after the event date is to investigate if the effect of the FVA is already included in the stock price before the event date or if the publication of the FVA has actual price impact after the event date. First, we selected windows that include the event date itself and one, three and ten days before and after the event date by calculating $CAR(-1,1)$, $CAR(-3,3)$ and $CAR(-10,10)$, respectively. Additionally, we determined $CAR(-10,-2)$ to examine potential price impact before the event. Similarly, we calculated $CAR(2,10)$ to investigate potential price impact after the event. CAR for real estate company i for the different sub-periods within the event window were calculated as follows:

$$CAR_{i,t1,t2} = \sum_{t1}^{t2} AR_{i,t}$$

Given that the distribution of the CAR included few outliers, we followed prior research (Dixon, 1960; Vergauwe et al., 2018, and Fiechter et al., 2019) and winsorize at the 99% level. A positive or negative abnormal return is interpreted as a positive or negative price reaction, respectively. We performed t-tests to determine whether the CAR are different from zero at a statistically significant level. In addition, the dataset was split between positive and negative FVA in order to examine if there is a difference in pricing impact of positive and negative FVA.

3.3 Regression Analysis

We ran a panel regression analysis to determine which factors influence the CAR. As primary independent variables we included the FVA of investment properties recognised in the

income statement and net income excluding fair value adjustment (NIEFVA). Both FVA and NIEFVA are scaled by total assets at the beginning of the period. To capture the impact of the implementation of IFRS 13, we included a dummy variable, D_IFRS13, with a value of one for the annual and semi-annual accounts after the implementation of IFRS 13, i.e., from 2013 onwards, and zero for the period before the implementation. The dummy variable D_ANNUAL assumes a value of one for annual financial statements and zero for semi-annual financial statements to capture whether FVA recognised in annual accounts has different impact on CAR compared to semi-annual accounts. Table 1 provides descriptive statistics of the independent variables.

Table 1 Descriptive statistics

Panel A: Main explanatory variables

	Mean	Standard Deviation	Median	Min	Max
NIEFVA -Net income excluding FVA	1.475	7.36	5.06	-87.0	48.5
FVA – Fair value adjustment	3.54	7.42	2.43	-40.8	39.7

Panel B: Dummy variables

	Yes	No
D_IFRS13	749	289
D_ANNUAL	536	502

Notes: This table describes the independent variables. FVA is the fair value adjustment of the investment properties which is recognised in the income statement. NIEFVA is the net income according to the income statement excluding the FVA. Both variables are scaled by total assets by beginning of the period to address the normality issues. The use of IFRS 13 is measured as a dummy variable (D_IFRS13) coded 1 for the annual and semi-annual accounts after the implementation of IFRS 13 and 0 for the period before the implementation. D_ANNUAL is a dummy variable coded 1 for annual financial statements and 0 for semi-annual financial statements.

We apply four different panel regression models. Model 1 (M1) regresses CAR on FVA and NIEFVA. In Model 2 (M2) the dummy variable D_IFRS13 and the interaction terms between D_IFRS13 and FVA are added to the model. Model 3 (M3) includes FVA, NIEFVA and the dummy variable D_ANNUAL and the interaction terms between D_ANNUAL and FVA as explanatory variable. Model 4 (M4) is the full regression model and includes all the independent variables and is specified as follows³⁰:

³⁰ The time subscript is omitted for the explanatory variables for the sake of readability.

$$CAR_{i,t_1,t_2} = \alpha + \beta_1 FVA_i + \beta_2 NIEFVA_i + \beta_3 D_IFRS13 + \beta_4 D_ANNUAL + \beta_5 D_IFRS13 * FVA_i + \beta_6 D_ANNUAL * FVA_i + CompanyFE$$

All panel regression models include company-fixed effects, CompanyFE.

4 Results

4.1 Main Findings

The analysis of CAR for different event windows reveals a significant association between positive FVA and CAR for CAR(-1,1), CAR(-3,3), and CAR(2,10). However, the analysis does not provide evidence of significant causal relationship between negative FVA and CAR. Overall, these findings support the value relevance of (positive) FVA and support for H1. On the other hand, H2 which predicted more value relevance for the negative FVA compared to positive FVA is not supported.

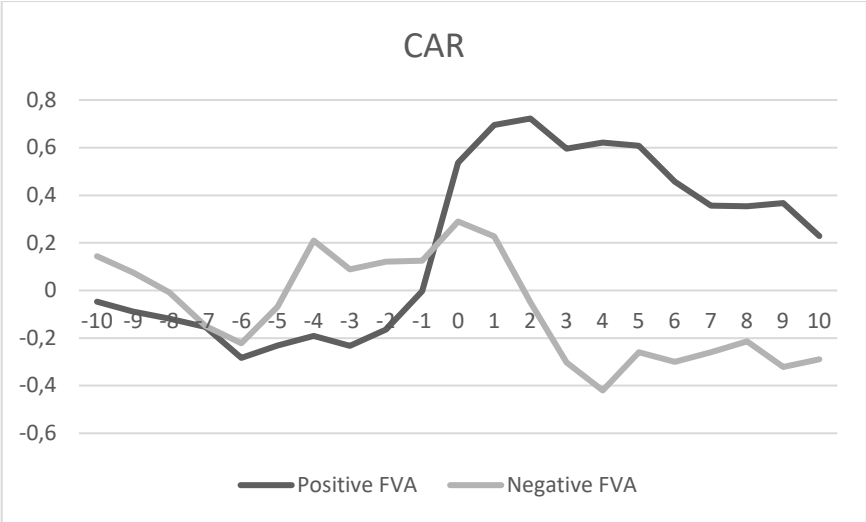
The regression analysis finds that FVA positively influence CAR(-1,1), CAR(-3,3) and CAR(-10,10) after the implementation of IFRS 13, which supports the idea that FVA is value relevant. We also find some effect on CAR(-10,-2), i.e. already prior to the publication of the financial statements. We do not find an impact of FVA on CAR(2,10) which means that the information is priced in prior to and immediately at the publication of the statements, but no delayed pricing effect occurs. The findings provide evidence that FVA in semi-annual accounts have more relevance compared to FVA in annual financial statements, which supports H3. The findings also indicate that IFRS 13 increased the value relevance of the FVA, which supports H4.

4.2 Event Study Results (H1 and H2)

The dataset was split into two subsamples in order to analyse potentially different impact of positive and negative FVA on CAR. The size of the CAR is presented in Table 2 and is in the range of -0.516 to 0.858. Figure 1 demonstrates the development of the CAR for both positive and negative FVA from day -10 to day +10. The horizontal axis displays the timeline where 0 is the publishing date of the annual or semi-annual accounts. The vertical axis displays CAR during this event window. As shown in Table 2, the CAR for the positive FVA reveal significant and positive association between FVA and abnormal returns except for CAR(-10,10) and CAR(-10,-2). These results indicate that positive FVA have an impact on stock return. On

the other hand, the analysis does not find support for a significant impact of negative FVA. Our hypothesis about the value relevance of FVA (H1) is therefore supported. However, the results do not support H2 which stated that negative FVA are more strongly associated with abnormal returns than positive FVA. In contrast, our findings suggest that positive FVA are more value relevant than negative FVA. Still, these results must be interpreted with some caution as the subsample of negative FVA is smaller (224 observations) than the subsample including positive FVA (814 observations) which could influence the results.

Figure 1. Development of CAR for positive and negative FVA during the event window



Notes: This exhibit demonstrates the development of the cumulative abnormal stock returns (CAR) for both positive and negative FVA from day -10 to day +10. The horizontal axis displays the timeline where 0 is event date and the vertical axis displays CAR in percent.

Table 2 Stock price return for different sub-periods

	Positive FVA (N=814)	Negative FVA (N=224)
CAR (-1,1)	0.858***	0.106
CAR (-3,3)	0.786***	-0.511
CAR (-10,10)	0.228	-0.288
CAR (-10, -2)	-0.164	0.120
CAR (2,10)	-0.466***	-0.516

Notes: This tables shows the cumulative abnormal return (CAR) for different sub-periods around the publishing date of the annual or semi-annual accounts. *** denotes statistical significance at the 1% level and is based on two-sided t-test.

4.3 Regression results

4.3.1 Impact of FVA and Implementation of IFRS 13 (H1 and H4)

Panels A and B in Table 3 present the regression results of the windows (-1,1) and (-3,3), respectively. The results for M1 and M3 indicate a positive impact of FVA on the CAR. These results are significant at 1% and 5% level with coefficients in the range of 0.048 to 0.172. However, including the interaction terms between FVA and D_IFRS13 in M2 and M4 changes the results as the significance in these models shows in the interaction terms but not the FVA variable itself. For CAR(-1,1), the interaction term between FVA and D_IFRS13 is significant at the 1% level for M2 and at the 5% level for M4. The results for CAR(-3,3) as dependent variable do not show as strong significance for the interaction terms between FVA and D_IFRS13, or 5% significance level for M2 and 10% significance level for M4. These findings suggest that the implementation of IFRS 13 had positive impact on the value relevance of the FVA for these two windows. Panel A reveals only weak association between NIEFVA and CAR(-1,1) for M4 but none for the other models. However, there is a significant association at the 1% level between NIEFVA and CAR(-3,3) in Panel B with coefficients in the range of 0.099 to 0.118. The explanatory power of the models in Panels A and B might be considered low with adjusted R-squared in the range of 0.048 to 0.072, however the models are significant with F statistics in the range of 1.29 to 1.89.

Panel C includes the regression results for CAR (-10,10). For our main model (M4), the results are mostly consistent with Panel A and Panel B. M4 reports 1% significance level for the interaction term between FVA and D_IFRS13. This is supported by M2 which finds the

interaction term between D_IFRS13 and FVA significant at 1% significance level. However, adjusted R-squared is very low or in the range -0.005 to 0.021 and the F-statistic reveals only a significance for M4 (10% significance level) but no significance is reported for the other models. The low explanatory power of the models is not unexpected as this is a longer window and therefore other information might dilute the effect.

Panel D presents the regression results in the period before the event date (-10,-2). M4 reports significant association at 5% level for the interaction term between D_IFRS13 and FVA which is in line with the other windows with a positive coefficient of 0.14. Other results regarding the FVA are also consistent with the other event windows except M1 and M2 which show negative coefficients for the FVA.

The period between the two to ten days after the event date is presented in Panel E. None of the models finds impact of the FVA and the interactions between FVA and D_IFRS13 for this period indicating that the impact is restricted to the period before and around the event date. These findings indicate that the market efficiently incorporate the information about the FVA and the IFRS 13 disclosures in the narrow event window around the publication date.

4.3.2 Different impacts of FVA in Annual and Semi-Annual Accounts (H3)

The different impact of FVA in annual accounts compared to semi-annual accounts is captured with the interaction term between D_ANNUAL and FVA in M3 and M4. Both models find the interaction terms significant at 1% level for all the event windows which include the event date, namely (CAR-1,1), CAR (-3,3) and CAR (-10,10). The results for M3 also indicate a 1% significance level for the event window before the event date (-10,-2) and M4 finds 5% significance level for the same window. However, there is no evidence of significance of the interaction terms in the period after the event date CAR (2,10). The coefficient of the dummy variable D_ANNUAL is negative for all event windows. In summary, these results indicate that FVA in semi-annual accounts has more impact on CAR compared to annual accounts.

Table 3 Regression results

Panel A: Dependent variable: CAR (-1,1)								
	Model 1		Model 2		Model 3		Model 4	
Intercept	0.489 ***	[3.14]	0.648 **	[2.14]	0.237	[1.12]	0.375	[1.19]
FVA**	0.048 **	[2.24]	-0.037	[-0.95]	0.148 ***	[5.04]	0.076	[1.64]
NIEFVA	0.026	[1.10]	0.039	[1.62]	0.038	[1.61]	0.046 *	[1.95]
D_ANNUAL					0.484 *	[1.69]	0.383	[1.32]
D_ANNUAL*FVA					-0.177 ***	[-4.85]	-0.164 ***	[-4.43]
D_IFRS 13			-0.419	[-1.23]			-0.270	[-0.79]
D_IFRS 13*FVA			0.124 ***	[2.71]			0.096 **	[2.07]
Adj. R squared	0.048		0.054		0.069		0.072	
F-statistics	1.61 ***		1.67 ***		1.88 ***		1.89 ***	
Panel B: Dependent variable: CAR (-3,+3)								
	Model 1		Model 2		Model 3		Model 4	
Intercept	0.066	[0.32]	0.315	[0.90]	0.228	[0.82]	0.534	[1.29]
FVA	0.083 ***	[2.98]	-0.003	[-0.05]	0.172 ***	[4.42]	0.083	[1.36]
NIEFVA	0.099 ***	[3.2]	0.114 ***	[3.60]	0.106 ***	[3.44]	0.118 ***	[3.76]
D_ANNUAL					-0.339	[-0.90]	-0.479	[-1.25]
D_ANNUAL*FVA					-0.149 ***	[-3.09]	-0.131 ***	[-2.68]
D_IFRS 13			-0.562	[-1.26]			-0.526	[-1.17]
D_IFRS 13*FVA			0.129 **	[2.13]			0.119 *	[1.95]
Adj. R squared	0.023		0.026		0.038		0.040	
F-statistics	1.29 **		1.32 **		1.46 ***		1.48 ***	
Panel C: Dependent variable: CAR (-10,10)								
	Model 1		Model 2		Model 3		Model 4	
Intercept	-0.031	[-0.09]	0.998 *	[1.80]	0.237	[0.54]	1.433 **	[2.21]
FVA	0.027	[0.60]	-0.176 **	[-2.20]	0.220 ***	[3.60]	0.005	[0.05]
NIEFVA	0.036	[0.74]	0.076	[1.52]	0.053	[1.08]	0.086 *	[1.74]
D_ANNUAL					-0.568	[-0.96]	-0.963	[-1.60]
D_ANNUAL*FVA					-0.326 ***	[-4.29]	-0.277 ***	[-3.61]
D_IFRS 13			-2.009 ***	[-2.85]			-1.927 ***	[-2.75]
D_IFRS 13*FVA			0.318 ***	[3.33]			0.297 ***	[3.10]
Adj. R squared	-0.019		-0.005		0.009		0.021	
F-statistics	0.78		0.95		1.112		1.250 *	
Panel D: Dependent variable: CAR (-10, -2)								
	Model 1		Model 2		Model 3		Model 4	
Intercept	0.138	[0.65]	0.361	0.99	0.474 *	[1.65]	0.784 *	[1.84]
FVA	-0.050 *	[-1.74]	-0.147 ***	-2.80	0.041	[1.02]	-0.065	[-1.04]
NIEFVA	-0.043	[-1.34]	-0.027	-0.84	-0.037	[-1.15]	-0.023	[-0.72]
D_ANNUAL					-0.685 *	[-1.76]	-0.846 **	[-2.14]
D_ANNUAL*FVA					-0.149 ***	[-3.00]	-0.129 **	[-2.56]
D_IFRS 13			-0.544	-1.18			-0.548	[-1.19]
D_IFRS 13*FVA			0.145 **	2.31			0.141 **	[2.24]
Adj. R squared	0.014		0.018		0.034		0.037	
F-statistics	1.17		1.22 *		1.41 **		1.45 ***	

Table 3 continued

Panel E: Dependent variable: CAR (2,10)

	Model 1		Model 2		Model 3		Model 4	
Intercept	-0.658 ***	[-3.08]	-0.011	[-0.03]	-0.474	[-1.61]	0.274	[0,63]
FVA	0.029	[1.00]	0.008	[0.15]	0.031	[0.75]	-0.006	[-0,09]
NIEFVA	0.053	[1.64]	0.064 *	[1.94]	0.052	[1.59]	0.063 *	[1,89]
D_ANNUAL					-0.367	[-0.92]	-0.500	[-1,24]
D_ANNUAL*FVA					0.001	[0.01]	0.016	[0,32]
D_IFRS 13			-1.046 **	[-2.24]			-1.109 **	[-2,36]
D_IFRS 13*FVA			0.049	[0.77]			0.059	[0,92]
Adj. R squared	0.024		0.028		0.023		0.027	
F-statistics	1.30 **		1.3 **		1.28 **		1.32 **	

Notes: This table presents the results of the regression analysis of the four regression models used in this study. FVA is the fair value adjustment of the investment properties which is recognised in the income statement. NIEFVA is the net income according to the income statement excluding the FVA. The use of IFRS 13 is measured as a dummy variable (D_IFRS13) coded 1 for the annual and semi-annual accounts after the implementation of IFRS 13 and 0 for the period before the implementation. D_ANNUAL is a dummy variable coded 1 for annual financial statements and 0 for semi-annual financial statements. Model 1 (M1) regresses CAR on FVA and NIEFVA. In Model 2 (M2) the dummy variable D_IFRS13 and the interaction terms between D_IFRS13 and FVA are added to the model. Model 3 (M3) includes FVA, NIEFVA and the dummy variable D_ANNUAL and the interactions terms between D_ANNUAL and FVA. Model 4 (M4) is the full regression model and includes all the independent variables. All models include company fixed effects ***, **, * denote statistical significance at the 1%, 5% and 10% level, respectively.

5 Discussions and Conclusions

In this study, we use an event study methodology and regression analysis to examine the impact of judgemental FVA on stock prices for listed European real estate companies. To measure the stock price effect, we determine CAR for different periods around the publishing date of annual and semi-annual accounts. Our findings indicate that FVA are value relevant after the implementation of IFRS 13. However, we do not find evidence for the value relevance of FVA before the implementation of IFRS 13. Hence these findings suggest that the increased fair disclosures that followed with the implementation of IFRS 13 reduced information asymmetry and have value relevance for investors. Other studies on the fair value disclosures of the listed real estate companies provide mixed results on this topic. While Sundgren et al. (2018) find no evidence of positive economic impact of the implementation IFRS 13 for the listed real estate companies, Vergauwe and Garemynck (2019) and Müller et al. (2011) find association between the extent of fair value disclosures and reduced bid-ask spread. To our knowledge our study provides the first empirical evidence on the value relevance of the increased fair disclosure requirements of IFRS 13 for listed real estate companies in Europe.

In line with prior studies, we find more value relevance for FVA recognised in semi-annual financial statements compared to annual accounts. These findings can be explained by

fact that semi-annual financial statements are issued timelier than annual reports (Firth, 1981; Rippington and Taffler, 1995, and Oberholster et al., 2017).

Further, we find evidence that positive FVA have more value relevance than negative FVA. These findings are somewhat surprising as prior research indicates that negative FVA are more relevant and more credible than positive FVA (Fiechter, Novotny-Farkas and Renders, 2019; Bertomeu and Marinovic, 2016). One possible explanation for these findings is that the impact of negative FVA is already priced in the stock price during the year, i.e. before the publishing of the financial results. Investors, however, wait for confirmation in the financial statements before pricing in the positive FVA. Put differently, investors account for negative information as early as possible, but wait for confirmations in case of positive information. Such difference in sensitivity between positive and negative FVA might reflect cautious behaviour.

There is a research opportunity here to investigate the different pricing impact of positive and negative FVA. Further research opportunities include an analysis of whether FVA for other types of non-financial assets are value relevant and if similar effects as documented in our study for real estate companies can be found also in other industries.

Our study has an important limitation in the sense that our sample focuses on information in annual and semi-annual financial statements only. Companies can disclose information through various other channels such as press releases, information on websites and other reports outside the financial statements. However, we assume that the fair value disclosures which are being prepared under IFRS 13 and are examined in this study are generally only included in the financial statements.

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3.3 Study 3: Do they follow the rules? Disclosure Practices of Private Companies: Evidence from Iceland

Árni Claessen

Abstract

This paper examines the level of compliance with national accounting standards of private companies and factors which may influence compliance levels. A comprehensive checklist is used to calculate a compliance level index (CLI). This study expands the literature by analysing compliance with national accounting standards by private companies whereas prior research has mainly focused on publicly listed companies. The research reveals an overall compliance level of 75%, which indicates a poor compliance as the study is based on compliance with mandatory disclosures where 100% compliance is required by law. Compliance is particularly low with mandatory disclosure requirements about investment in other companies, related party transactions and off-balance sheet liabilities. This study finds significant association between compliance levels and size of a company, size of auditor and sign-off date of financial statements. However, the age of a company, leverage or family ownership do not appear to influence compliance levels.

Keywords: Financial reporting, audit, compliance, national accounting standards

1. Introduction

Disclosure requirements for financial information are heavily regulated in most countries, essentially to ensure greater transparency and accountability of financial information (Bozzolan, O'Regan and Ricceri, 2006). The purpose of financial reporting is to reduce agency problems and agency costs between the company and its stakeholders. In this sense, mandatory disclosures reduce information asymmetry between the firm and its stakeholders³¹ (Healy and Palepu, 1999) and force companies that wish to hide information to disclose it (Darrrough, 1993). Accounting standards regulate accounting choices and disclosures in financial statements and provide language that managers can use to communicate financial information to stakeholders, (Healy and Palepu, 2001) which is essential to be able to provide external stakeholders with useful and comparable financial information.

Extensive research has been performed on disclosure practices and compliance of publicly listed companies with mandatory disclosures (Street and Gray, 2001; Glaum and Street, 2003; Devalle and Rizzato, 2013; Glaum, Street, Schmidt and Vogel, 2014; Tsalavoutas, André and Dionysiou, 2014; Cascino and Gassen, 2015; Tsalavoutas et al., 2020). The disclosure practice and compliance with mandatory disclosures for public companies is motivated by providing information to shareholders and other capital providers for decision-making (Minnis and Shroff, 2017). However, less is known about compliance of private companies with mandatory disclosures particularly as far as they face disparate agency issues³² in their disclosure practice. Shareholders in private companies are generally fewer and the shareholding is more consistent over time, compared to public companies. This situation facilitates the exchange of information among shareholders, and between managers and shareholders, which reduces information asymmetry problems (Minnis and Shroff, 2017). In addition, private companies are more likely than public companies to communicate privately on an insider basis with other stakeholders such as creditors, employees, suppliers, customers and thereby reducing the demand for public financial reporting quality (Hope et al., 2017). However, there are number of stakeholders such as suppliers, customers, trade unions, government, and competitors, who generally do not have access to internal information and rely on external inputs in financial statements for decision-making, data analysis etc.

³¹ The stakeholders include groups such as investors, creditors, employees, customers, suppliers, government, competitors, trade unions and the communities at large (Antonelli et al. 2017).

³² Agency problem is a conflict of interest where one party is expected to act in another's best interest (Jensen and Meckling, 1976).

Consistent with the theoretical arguments, most academic studies document higher accounting and disclosure quality for public companies than private companies (Liu and Skerrat, 2015; Hope et al., 2013; Peek et al., 2010 and Ball and Shivakumar, 2005). Lower quality and demand for financial reporting of private companies bring into question how they comply with mandatory disclosures requirements. The literature on compliance of private companies with disclosure requirements is scarce. This paper will contribute to the literature by investigating private companies' compliance with mandatory disclosures and different variables which have been identified in the disclosure literature to be associated with the compliance level. In this sense, this study follows the ideas of positive accounting research, which is concerned with explaining accounting practices (Watts and Zimmerman, 1986). Variables that potentially influence the compliance level include company size, ownership structure, auditors, age, and leverage. Most of these variables have been tested extensively in the public company setting (Inchausti, 1997; Dumontier and Raffournier, 1998; Glaum and Street, 2003; Chander and Kumar, 2007; Cascion and Gassen, 2015; Tsalaoutas et al. 2020) but less is known about their impact on private companies. Additionally, this study uses the number of days between the reporting date and the sign-off date of the financial statements as a measure of the timeliness of the disclosure – a variable that has not been used in the disclosure compliance literature so far. The variables are identified based on agency theory, political cost theory, signalling theory and voluntary disclosure theory.

The setting for this study is private companies in Iceland and their disclosure practice in statutory financial statements. Using the Icelandic setting is of interest for several reasons. *First*, all private companies in Iceland must prepare and file financial statements in accordance with national accounting standards (the Icelandic financial statements Act)³³ which is built on a European Union (EU) directive³⁴. Hence the study invites European comparison and analysis of harmony of accounting practices and cross-country harmonisation³⁵. *Second*, this setting is of interest as the official enforcement and monitoring of compliance with accounting regulation is weak in Iceland. The Register of Annual Accounts (RSK Ársreikningaskrá) is the official body responsible for this enforcement. However, while this study was being performed, only two employees reviewed some 36,000 financial statements. This work was performed manually

³³ Lög um ársreikninga nr 3/2006

³⁴ A directive is a legal act of the EU. Iceland is not a member of the EU but is with Norway and Lichtenstein a part of the EEA Agreement and is required to incorporate EU Directives on company law in national legislation.

³⁵ Nobes (1994) defined harmonisation as “the process of increasing the consistency and comparability of accounts in order to remove the barriers to the international movement of capital and exchange of information by reducing the differences in accounting and company law”.

and on a random basis. Non-compliance with the disclosure requirements or late filing bears therefore minimum risk. Even though the disclosure requirements are mandatory, there is evidence of a lack of compliance and inferior quality of disclosures. Various stakeholders such as Register of Annual Accounts, Federation of Trade and Service, credit institutions and analysts have criticized the lack of transparency in Icelandic financial statements (Pálsson, 2013). Hence, Iceland is a fertile ground to explore the opportunistic behaviour of management of private companies and to digest what they decide to disclose or not disclose in their statutory financial statements. *Third*, information for mandatory disclosures must be prepared for shareholders and tax purposes and therefore minimum additional compliance cost involved in preparing statutory financial statements for public filing. The compliance level is therefore incentive-driven instead of being driven by the regulatory framework, which opens opportunities to explore management incentive theories for private companies. *Fourth*, Iceland is rich in resources and interesting investment opportunities. However, it has been a challenge to attract foreign investors to Iceland due to, among other factors, the lack of trust in the Icelandic economy (Pálsson, 2013). Investigate and understand the current quality of Icelandic financial statements, to identify where improvements are required, is important part in the process of improving financial statements and financial information produced by Icelandic companies.

This study contributes to the literature in several ways. *First*, compliance of private companies with mandatory disclosure requirements of accounting standards is explored. Prior research has mainly involved exploring compliance level for public companies; however they face different agency issues and motivations in their disclosure practices. Given the relevance of financial statements of private companies, this paper provides insight for the external stakeholders and suggests more research and international comparison of these types of companies. *Second*, while prior research in the European context has focused on compliance with IFRS, this study analyses compliance with the mandatory disclosure requirements of national accounting standards. The results provide policymakers, auditors, and companies with evidence where improvements are required with respect to mandatory disclosures in financial statements. *Third*, this paper examines if companies' characteristics and other variables influence the compliance level of private companies. An important contribution to the family ownership literature is the association between family ownership and compliance level. This is of particular relevance for the Icelandic setting as many private companies in Iceland are owned and controlled by founders and family members.

The research reveals an overall compliance level of 75%, which indicates a poor compliance, as the study is based on compliance with mandatory disclosure requirements where 100% compliance is required by law. Compliance is particularly low with mandatory disclosures of investment in other companies, related party transactions and off-balance sheet liabilities. This study finds positive association between compliance levels and the sizes of a company and size of the auditor. The study also finds evidence of negative association between compliance levels and number of days from fiscal year end to the sign-off date of financial statements. Put differently, companies that sign off their financial statements late have lower compliance levels compared to those that sign off earlier in the year. However, the age of a company, leverage or family ownership do not appear to have an influence on compliance levels.

The paper is organized as follows: Following this introduction, Section 2 contains the theoretical and institutional background of the study. Section 3 provides an overview of pertinent prior research and discussion of the hypothesis. Section 4 describes the dataset and research methods. The empirical findings are presented in Section 5. Section 6 includes the main findings and conclusions.

2. Theoretical and Institutional Background

Jensen and Meckling (1976) consider companies to be nexus of contracts embodying the property rights of all stakeholders of the company. A corresponding acknowledged premise in empirical accounting research is that managers possess specific information to which the other contracting parties have limited access, and that the interests differ between the parties (Jensen and Meckling, 1976; Fama and Jensen, 1983). This agency conflict creates outside stakeholders' need for financial information about the company (Jensen and Meckling, 1976). If a stakeholder lacks the negotiating power to privately obtain a firm's financial statements, disclosure regulation will be potentially beneficial (Minnis and Shroff, 2017). The preparation of financial statements and compliance with mandatory disclosure requirements is therefore recognised in the literature to be an important mechanism to facilitate efficient contracting and reduce information asymmetry between the company and its stakeholders (Armstrong, Guay and Weber, 2010).

The European Union requires minimum mandatory financial reporting and disclosure requirements for both public and private limited liabilities companies. The financial reporting requirements for limited liability companies are set forth in EU directives which have been in place since 1978³⁶. These obligations are general and stakeholder-orientated, to ensure a basic level of transparency (Lipton, 2020). There are several arguments in the accounting directives for the importance of consistent presentation and disclosure of limited liabilities companies across the member states. Having harmonized accounting legislation facilitates cross-border transactions and allows companies to finance their activities outside their home country. In addition, providing comparable and equivalent public information is considered important when companies are competing in the same markets. Protecting external stakeholders is also an important argument, as the only safeguard that limited liability companies provide are their assets. Put differently, owners of limited liability companies are assumed to benefit from this legal form and should in turn disclose enough information to the external stakeholders.

Iceland, which is used as a setting for this study, implemented EU accounting directives in 1994. Iceland's legal and institutional framework follows the other Scandinavian countries. Leuz (2010) described the institutional features of these nations as "insider economies" which are characterised by small stock markets, high ownership concentration, weak investor protection and low disclosure levels.

3. Prior Research and Hypothesis Development

3.1 Compliance Level

Corporate disclosures can be divided into two broad categories i.e., mandatory disclosures and voluntary disclosures (Omar and Simon, 2011). Mandatory disclosures are an obligation to provide the minimum amount of information in corporate reports and which are governed by regulatory agencies. On the other hand, voluntary disclosures are the provision of additional information beyond mandatory disclosure. Extensive academic literature exists on measuring voluntary and mandatory disclosures. A customary practice in the disclosure literature is to use a self-constructed disclosure index to capture the existence of the disclosures (Popova et al., 2013). In the European context, which is of relevance for this study, prior

³⁶ The Directive for individual financial statements (78/660/EEC) was implemented 1978 and for consolidated financial statements in 1983 (83/349/EEC). In 2013 these two Directives were merged in one Directive, 2013/34/EU.

research on compliance with the mandatory disclosure requirements has mainly involved compliance of public companies with the international accounting standards (IFRS). Compliance studies that focus on compliance with multiple IFRS accounting standards in Europe report average compliance levels in the range of 70% to 90% with a substantial number of companies scoring below 70% (Tsalavoutas et al. 2020). However, the results of the compliance research for public companies cannot be generalized to private companies due to different agency problems as already discussed. Another crucial factor to consider is that even though the disclosure requirements of IFRS are mandatory, the inadequacies in IFRS disclosures can in many cases be explained by materiality assumptions, which are not possible for an outside reviewer to assess (Glaum et al., 2014). However, the focus of this study is basic mandatory disclosures where 100% compliance is required by law and where no exemptions are allowed, such as excluding disclosures based on materiality considerations.

Table 1. Variable measurement

<i>Independent variables:</i>	<i>Measurement Technique</i>
Size	LN of total assets in thousands of ISK
Leverage	Ratio of equity to total assets
Age	Age of company in years
Days	Number of days from financial year end to sign-off date of financial statements
Family ownership	Dummy variable: Family company=1 Other ownership structure = 0
Auditor	Dummy variable: Big 4 auditor=1 Non-Big 4=0
<i>Dependent variable:</i>	
Compliance level	Ratio of number of items disclosed to total applicable items

Notes: All values and information is collected from financial statements for the year 2015.

Table 2. Descriptive Statistics for independent variables

<i>Dummy variables</i>	<i>Yes</i>	<i>No</i>
Family ownership	49	41
Auditor: Big 4	75	15

<i>Variable</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
Size	10,420,116	27,034,586	1,894,309	40,647	203,973,510
Leverage	38.5%	30.5%	39.5%	-75.2%	90.9%
Age	26	14	23	2	54
Days	128	67	108	20	363

Notes: All values and information is collected from the financial statements for the year 2015. Size is an absolute value but logged values are used in the regression analysis. Leverage is the ratio of equity to total assets. Days are the number of days from financial year end to sign-off date of the financial statements. Family ownership is 1 for companies where founders or family members own more than 20% of shares and 0 otherwise. Auditors is 1 for firms audited by Big 4 audit firms and 0 otherwise.

3.2 Factors Associated with Compliance Level

This section includes an overview of factors which have been identified in the disclosure literature as impacting the compliance levels. The factors are based on management incentive theories, e.g., agency theory, political cost theory and signalling theory. These variables include company size, auditors, age, leverage, ownership structure and number of days from reporting date to sign-off date of the financial statements. Prior research has focused on the impact of these variables on compliance level for public companies (Inchausti, 1997; Dumontier and Raffournier, 1998; Glaum and Street, 2003; Chander and Kumar, 2007 Cascion and Gassen, 2015, Tsalavoutas, Tsoligkas and Evans, 2020). Testing these variables for private companies have mostly been overlooked in the literature.

Size

Overall, the compliance literature suggests that compliance level of publicly listed companies is positively associated with firm size (Inchausti 1997; Ali et al., 2004; Chander and Kumar 2007; Cascion and Gassen, 2015; Ajili and Bouri (2018); Tsalavoutas et al. 2020). However, little is known about the relationship between size and compliance in the private company setting. From a theoretical perspective, it can be argued that large companies are more likely to have widespread shareholding and therefore higher agency cost (Watts aZimmerman, 1986). Compliance with mandatory disclosure requirements helps to reduce potential agency costs. Dumontier and Raffournier (1998) discuss several other reasons why size could affect

compliance level. One of their arguments is based on the political costs theory (Watts and Zimmerman, 1986). Large companies may be more sensitive to scrutiny and a low compliance level can motivate governmental attention. They can reduce their political costs and increase confidence in their financial statements with higher compliance levels. Firth (1979) argues that financial statements are often the main source of information for the competitors of small companies. Hence, small companies could be reluctant to disclose certain information. Based on the theoretical arguments and the overall findings of the literature, (Inchausti 1997; Ali et al.; 2004; Chander and Kumar 2007; Cascion and Gassen, 2015; Ajili and Bouri (2018); Tsalavoutas et al. 2020) the hypothesis between the association between size and compliance level is as follows:

H1: There is a positive relationship between the size of a company and the compliance level.

Size of a company can be measured in many ways. Wallace and Naser (1995), Chander and Kumar (2007), Dumontier and Raffournier (1998), Ali et al. (2004) and Taplin et al. (2002) use total assets as a proxy. Other measures have been used as well, for example total sales and total market value. This study will use total assets due to lack of data about other proxies.

Auditors

Large and well-known audit companies encourage their clients to disclose augmented information, mainly because they have higher reputation capital than the smaller audit companies (Singhvi and Desai, 1971). This argument is supported by Watts and Zimmerman (1986) who argue that independence is one of the key factors of auditors' reputation. Large audit companies signal their independence and increase their reputation capital by forcing clients to increase their compliance level. Dumontier and Raffournier (1998) also state that large audit companies have a competitive advantage over small companies because of superior international training of their employees. Prior studies generally categorize audit firms based on whether they are a part of the big international audit firms or not (Hossain, 1994; Alsaeed, 2006; Glaum and Street, 2003; Sellami and Tahari, 2017). KPMG, Deloitte, PWC and EY (the Big 4) are the largest audit firms in Iceland, and they form a set, which is compared against all other auditors or accountants (non-Big 4) when testing the impact of auditors on compliance level.

Many of the prior disclosure studies find support for the theoretical arguments and find evidence on the association between the size of auditors and compliance with mandatory

disclosures (Street and Gray, 2001; Glaum and Street, 2003; Tsalavoutas, 2011; Sellami and Tahari, 2017; Tsalavoutas et al., 2020). Hypotheses 2 is therefore stated as follows:

H2: Financial statements which are signed by one of the Big 4 audit firms have higher compliance level compared with financial statements signed by non-Big 4 audit firms.

Age

Camfferman and Cooke (2002) identify corporate age as a variable to test due to the possibility that companies improve their financial reporting over time. Younger companies are more prone to failure and their accounting controls are generally weaker compared to older companies (Hope and Langli, 2010). Additionally, voluntary disclosure theory suggests that older companies stress higher levels of compliance to better manage their reputations (Sellami and Tahari, 2017). Alsaeed (2006) argues that testing for age broadens the disclosure literature and increases the understanding of variation in compliance with disclosure requirements. Owusu-Ansah (1998), Alsaeed (2006), Popova et al. (2013) and Sellami and Tahari (2017) find a positive association between age of a company and compliance level. Hypothesis 3 is therefore stated as follows:

H3: There is a positive relationship between the age of a company and the compliance level.

Leverage

Agency theory argues that companies with high leverage have a higher financial risk and therefore more agency costs than companies with low leverage. High leverage firms can reduce agency costs by providing additional disclosure in their financial statements. Hence, agency theory suggests a positive relationship between leverage and compliance level. Chander and Kumar (2007) also point out that highly leveraged companies have more long-term creditors to inform and that they would be likely to demand more information to monitor their investments.

Empirical studies about the association between leverage and mandatory and voluntary disclosure levels have focused on public companies and the results have been mixed. Bradbury (1992), Jaggi and Low (2000) and Lucas and Lourenço (2014) find positive association between disclosure levels and leverage. However, Hossain (1994), Raffournier (1995), Wallace and Naser (1995), Chander and Kumar (2007), El-Gazzar, Finn and Jacob, (1999) and Ali et al. (2004) find limited or no evidence of association between leverage and disclosure levels.

The hypothesis proposed in this study follows the predictions of the agency theory and the findings of Bradbury (1992), Jaggi and Low (2000) and Lucas and Lourenço (2014) as follows:

H4: There is a positive relationship between leverage of a company and the compliance level.

Ownership Structure

When we look beyond the agency problems that exist between the manager and the owner, there is also agency conflict between the controlling and non-controlling shareholders (Jensen and Meckling, 1976). When the ownership reaches a certain level, the incentives and the opportunities of the controlling owner to monitor management's actions increase along with the preferences of the owners (Jensen and Meckling, 1976). In this situation, the controlling owner can decide to exclude mandatory disclosures from financial statements, specifically in an environment with weak enforcement, where lack of compliance has no expensive consequences. The impact of ownership structure on accounting quality and disclosure practices has been studied extensively in the context of public companies (Vural, 2018; Mäki, Somomoza-Lopez and Sundgren, 2016; Wang, 2006). However, less is known about the impact of ownership structure on compliance levels in the private setting. One variable under research in these studies is the impact of family ownership on disclosure practice. This is of particular relevance for this study, as many private companies in Iceland are owned and controlled by founders and family members. Prior research on these companies shows that family firms have lower levels of overall disclosures and corporate governance disclosures (Vural, 2018; Chau and Grey, 2010; Ali et al., 2007). This study then focuses on private companies with the following hypothesis:

H5: There is a negative relationship between family ownership and the compliance level.

This study follows Vurtal (2018) and classifies family companies those companies where the founder or family members is the controlling shareholder and own more than 20% of the shares. The threshold of 20% ownerships is also supported by general criteria in the Icelandic accounting standards, which state that the owner of more than 20% of shares is considered to have considerable influence on a company's operation and management.

Sign-off Date

The association between the timeliness of the release of financial reporting and various companies' characteristics such as size, industry, debt, age, profitability and corporate governance has been thoroughly investigated. Prior studies have focused on public companies; there is evidence in the literature that size and age have influence on the timeliness of financial reports (Owusu-Ansah, 1998; Efobi and Okougbo, 2014; Sufiyati, 2017) but those other factors yield mixed results. The literature is noticeably quiet on the association between compliance level and release of financial reporting for both public and private companies.

Icelandic private companies generally sign-off and release their statutory financial statements very late (Pálsson, 2013) but no research has been conducted on the reason for this late filing habit. A possible explanation is that private companies are more likely than public companies to communicate privately with stakeholders and thereby reducing the pressure on making their financial reporting publicly available. Other explanatory factors could be that the owners and the managers do not want to reveal financial information to their competitors or do not want to expose their high profit or bad financial position to the public. Bean and Bernardi (2003) suggest that the attitude of corporate managers is the major impediment of the timeliness of financial reports. The following hypothesis has been developed with respect of the association between compliance level and release of financial statements:

H: There is a relationship between the sign-off date of financial statements and the compliance level.

Positive or negative relationship are not expressed in the hypothesis due to a lack of research on the association between the compliance level and release of financial information are. Following Karim, Ahmed and Islam (2006) the timeliness of financial reports is the number of days between the financial reporting date and the sign-off date of the financial statements.

4. Research Methods

4.1 Data Collection and Independent Variables

The selection of the sample of financial statements in this study is based on an official list of the largest companies in Iceland³⁷. The analysis was limited to one year because

³⁷ List from the magazine Frjáls verslun (Free trade) 2015.

disclosure practices tend to be consistent over time (Botosan, 1997). 2015 was chosen as it was recent, with no major events or changes in the legislation that could have impacted the results. Due to the specific disclosure requirements of financial companies, they are not included in the sample. The sample size in comparable studies range from 35 companies (Cooke, 1992) to 350 companies (Popova et al., 2013). The sample size in this study is 90 private companies. For this research and sub sample analysis, the sample is divided into three equal categories, depending on company size:

Category 1 – Sample of the largest 30 private companies on the list

Category 2 – Sample of the smallest 30 private companies on the list

Category 3 – Random selection of 30 private companies between the largest and the smallest 30 companies

The Register of Annual Accounts in Iceland provides the financial statements of the companies in the sample. Descriptive statistics for the independent variables are presented in Table 2. There is a wide variation within the sample for all the independent variables. Total assets are used as a proxy³⁸ for size. The total assets for the smallest company amount to ISK 41 million (EUR 0.3 million³⁹) while the total assets for the largest company amount to ISK 203,973 million (EUR 1,671 million). The natural log of total assets is used in the regression analysis to avoid heteroscedasticity following Chander and Kumar (2007) and Ali et al. (2004). All other variables were screened for potential outliers but none were identified.

There is a considerable variation in leverage across the sample, ranging from a negative equity ratio of 75% to a positive equity ratio of 91%⁴⁰. The difference between the number of days from the financial year-end to sign-off date of the financial statements ranges from 20 to 363. The oldest company in the sample was established 54 years ago while the youngest is 2 years old. Mirroring prior research, dummy variables are used for family ownership and auditor.

All financial statements include reports from auditors or accountants. Icelandic companies under certain size are excluded from mandatory audit. Instead, their financial statements include a compilation report which is signed by accounting firms, auditors or

³⁸ It is also common to use sales or number of employees as measures of size. Total assets are used in this study as information about sales is not available for companies that file condensed financial statements. Using the number of employees instead of total assets as a proxy for size does not significantly alter the results of the analysis.

³⁹ Based on the exchange rate EUR 1 = ISK 122

⁴⁰ Leverage is measured as equity to assets and high leverage means therefore low equity ratio.

accountants, usually stating that professional assistance has been provided with the preparation of the financial statements but no audit work conducted. Hence, the sample of the financial statements includes audit reports and compilation reports. The Big 4 audit firms KPMG, Deloitte, PWC and EY are the largest in Iceland. They form a category which is compared against all other auditors or accountants (non-Big 4) when testing the impact of auditors on compliance level.

4.2 Measuring the Compliance Level

A comprehensive checklist, based on the Financial Statements Act (FSA) is developed to measure compliance level. Only disclosure items which are possible for an outside reviewer to identify and confirm to be applicable in financial statements are included in the checklist. Items which are excluded on that basis are, for example, disclosures about subsequent events, significant changes in the operation, off-balance sheet guarantees, etc. In many cases, it is not possible for an outside reviewer, without access to internal information, to confirm whether these items should be disclosed or if they are not relevant and therefore not disclosed. In total 60 items are deemed to meet the criteria to be possible for an outside reviewer to confirm to be applicable. To not bias the overall results, an additional 16 disclosure items were excluded from the final analysis, after all the companies had been scored with the checklist as they only applied to ten companies or less ⁴¹. Therefore, the final checklist includes 44 mandatory items⁴².

Regulations in Iceland allow companies under a certain size to file condensed financial statements⁴³. The same checklist is used for full scope financial statements and condensed financial statements as the basic disclosure requirements are the same, except for three disclosure items regarding salaries. Therefore, the different disclosure requirements between condensed financial statements and full scope financial statements have no impact on the analysis or the results as explained in more detail here below.

The analysis of the disclosures in the financial statements is based on coding each item in the checklist as disclosed, not disclosed or not applicable. The method used to code the

⁴¹ Example of items which apply to less than ten companies are disclosures about financial instruments, convertible bonds, minority interest and treasury shares.

⁴² See Appendix 1 for the full checklist. All the items included in the checklist are required to be disclosed without consideration to materiality.

⁴³ Companies that file condensed financial statements are for example not required to disclose information about sales, costs and salaries.

disclosures and calculate the average compliance level for company j follows Glaum and Street (2003):

$$\text{Total number of applicable items}_j (TA_j) = \sum_{i=1}^n t_i$$

where $t=1$ if the item is applicable and $t=0$ if the item is not applicable and n is the total number of the mandatory items on the checklist which must be disclosed for each financial statement.

The model for disclosed mandatory items for company j is as follows:

$$\text{Total number of disclosed items}_j (TD_j) = \sum_{i=1}^n d_i$$

where n is the total number the mandatory items on the checklist which must be disclosed, $d=1$ if the item is disclosed in accordance with FSA and $d=0$ if the item is not disclosed or presented even though it is applicable.

A compliance level index (CLI) is developed for each section of the checklist and the overall compliance level is measured by the number of items disclosed divided by number of applicable items that must be disclosed.

$$\text{Compliance Level Index}_j = TD_j/TA_j * 100$$

This means for example that a compliance level index value of 70 reflects 70% compliance with the disclosure requirements.

A two-stage approach is implemented in the coding of the financial statements. The coding was performed by multiple coders. The results for each checklist were reviewed independently by the author to minimize errors, reduce subjectivity, and ensure consistency. Following Glaum et al. (2014) the companies are given the benefit of doubt if it is not clear whether an item is applicable or not. However, this is likely to result in an upward bias of the compliance index. Following widespread practice in this field, all items

on the checklist have equal weight. This issue is discussed by Glaum et al. (2014) but they conclude that studies which use both weighted and unweighted CLI usually generate comparable results (Zarzeski, 1996; Hodgdon et al., 2008).

Most studies about compliance levels with accounting standards are based on statistical analysis and checklists. Cairns (2002) is critical about these statistical approaches and over-reliance on the use of checklists. There could also be valid explanations why companies do not include certain disclosures which cannot be analysed or explained sufficiently by statistically analysing checklists. Valid explanations could for example be based on materiality assumptions or cost-benefit constraints. In our setting, we would expect 100% compliance as these are basic mandatory disclosure requirements. The disclosures are stakeholder-oriented and are not prepared for investment decisions specifically. There are no legal provisions to exclude disclosure based on materiality considerations. In addition, there is no additional cost, as the companies must produce all this information for tax purposes.

4.3 Subsample and Regression Analysis

Subsample analysis is performed to support the hypothesis testing and the findings of the multiple regression analysis. The subsample analysis involves comparison of the average CLI values between the top 30 companies and bottom 30 companies in terms of size, age, leverage, and number of days from fiscal year end to sign-off date. The subsample analysis is also used for comparing the average compliance level between Big 4 vs. non-Big 4 accounting firms, audit financial statements vs. non-audit financial statements and family-owned companies vs. other ownership structures. In the subsample analysis, t-tests for equality of means are used for statistically testing the difference between the CLI values.

Ordinary Least Square (OLS) regression is used to determine which independent variables are significantly associated with the CLI as dependent variable. The model is specified as follows:

$$\text{Compliance level} = \alpha + \beta_1 \text{Size}_j + \beta_2 \text{Auditors}_j + \beta_3 \text{Age}_j + \beta_5 \text{Family ownership}_j + \beta_6 \text{Leverage}_j + \beta_8 \text{Days}_j + \mu$$

Explanations for the independent variables are presented in Table 1.

High correlation between two or more of the independent variables can have a damaging impact on the results of the regression. Two different methods are used to identify correlation between variables. Firstly, Pearson correlation analysis is used as a standardized measure of a strength of a relationship between two variables (Field, 2015). Cohen (1988) provides some guidelines regarding valuation of the strength of the relationship. Correlation coefficient between 0.1 and 0.3 is considered to reflect small correlation, 0.3-0.5 medium/moderate correlation and 0.5-1 strong correlation.

Table 3 presents the results of the Pearson correlation analysis. There is no evidence of a strong correlation between any independent variables. However, there are moderate correlations between auditor, size, and the number of days from reporting date to sign-off date of the financial statements. These results are supported by the Variance Inflation Factor (VIF) which indicates whether a predictor has a strong linear relationship with other predictors (Field, 2015). Bowerman and O’Connel (1990) conclude that if the largest VIF is greater than 10 there is a cause for concern and that if the average VIF is substantially greater than 1 the regression may be biased. All the VIF are in the range between 1.0 and 1.7 with the average of 1.2 signalling no significant issues with multicollinearity in the model.

Table 3 Pearson Correlation Coefficient

	<i>Auditor</i>	<i>Days</i>	<i>Size</i>	<i>Leverage</i>	<i>Family ownership</i>	<i>Age</i>
Auditor	1					
Days	-0.408***	1				
Size	0.472***	-0.252**	1			
Leverage	0.024	-0.195*	0.050	1		
Family ownership	0.010	0.071	-0.195	-0.068	1	
Age	0.192	-0.216**	0.245**	0.126	0.044	1

*** Correlation is significant at the 0.01 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

5. Empirical Findings

5.1 Overall Compliance Level and Subsample Analysis

The overall compliance level and the results of subsample analysis are detailed in Table 4. The mean value of the compliance level index (CLI) for all companies is 75, with a maximum of 97 and a minimum of 22. Panel B in Table 4 includes the results of the subsample analysis between top 30 and bottom 30 companies, based on the independent variables Size, Age, Leverage and Days. The difference between the average CLI value of small and large companies is statistically significant at the 1% level; these results support hypothesis H1 (Size). There is also a strong support for hypothesis H2 (Auditor) where the average CLI value for financial statements signed-off by one of the Big 4 auditors is 79 compared to 55 for non-Big 4 accounting firms. This difference is statistically significant at the 1% level.

The difference of the average CLI value for the top 30 companies with the earliest sign-off date compared to the bottom 30 companies with the latest sign-off date is statistically significant, at the 5% level. These results indicate a support for hypothesis H7 (days). There is a significant difference in the average compliance level between audited (CLI 81) and non-audit financial statements (CLI 59).

Table 5 presents the CLI values for different sections of the accounting legislation. The CLI value is lowest for disclosures about related parties (CLI 48) and investments in other companies (CLI 51). These results indicate that companies on average do not disclose sufficient information about financial interests outside the normal operation and transactions with related parties. There is also a low compliance with disclosing information about off-balance sheet liabilities (for example rental obligations). The CLI values for other sections of the accounting legislation range from 74 to 100.

Table 4 Compliance level index for full sample and sub-samples

Overall compliance level index						
	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
Full sample	90	75.1	15.1	78.5	21.7	97.4
Panel B:						
Sub-sample analysis						
	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>
Big four	75	79.3***	8.9	80.0	52.4	97.4
Non-big four	15	55.1	20.9	52.4	21.7	88.5
Audited FS	66	81.1***	7.7	82.2	60.0	97.4
Non-audited FS	24	59.3	17.5	63.6	21.7	88.5
Family owned	49	74.3	13.6	76.9	30.0	96.9
Other ownership	41	76.4	15.9	81.1	21.7	97.4
Size - top 30	30	82.8***	6.6	82.4	71.9	97.4
Size - bottom 30	30	63.9	17.2	67.7	21.7	88.5
Age: 30 oldest	30	80.6	7.35	80.0	65.4	97.4
Age: 30 youngest	30	75.3	18.36	81.9	21.7	96.3
Leverage: top 30	30	73.9	12.0	74.5	42.1	93.6
Leverage: bottom 30	30	74.6	17.1	80.1	21.7	96.3
Days: Top 30	30	78.6**	8.9	80.0	52.4	96.3
Days: Bottom 30	30	70.4	19.9	75.9	21.7	97.4

Panel A presents the results of the overall compliance level index for the 90 companies included in the sample. Panel B presents the results of the subsample analysis. T-tests for equality of means are used for statistically testing the difference between the subsamples. Due to the small sample size, non-parametric tests were also performed. The results of the non-parametric test are consistent with the t-test with the exception that differences with respect to days and auditors are not statistically significant.

*** Significant at 1% level

** Significant at 5% level

* Significant at 10% level

Table 5. Compliance level index for different sections of the accounting legislation

<i>Financial statements act</i>	<i>No. items</i>	<i>CLI</i>
1. General information	10	74
2. Fixed assets and current assets	8	90
3. Investments in other companies	2	51
4. Equity and own shares	2	98
5. Liabilities and pledges	3	52
6. Income tax	3	85
7. Related Parties	2	48
8. Consolidation	5	83
9. Salaries	3	76
10. Cash flow	5	81
11. Other items	1	100

Number of applicable items and compliance level index (CLI) for each section of the Icelandic FSA See Appendix 1 for the checklist.

5.2 Regression Results

Table 6 includes the results of the OLS regression of three models. In Model 1, which includes all independent variables, the F value of 12,557 is significant at $p < 0.000$ and the adjusted R^2 is 0.44 which indicates a well specified model. Auditor and size are the most important explanatory factors and are both statistically significant at the 1% level. These results support hypothesis H1 (Size) and H2 (Auditor). Model 1 also finds an association between the number of days from reporting year-end to sign-off date of the financial statements (H7). These results are statistically significant at the 5% level. There is no evidence that other independent variables have impact on the CLI. Hence, hypotheses H3 (Age), H4 (Leverage) and H5 (Family ownership) are rejected.

The tests of the correlation between the independent variables revealed a moderate correlation between size and auditors. To analyse the impact the correlation of the two variables had on the results, these variables are excluded in Model 2 (size) and Model 3 (auditors). Excluding these variables from the regression did not have significant impact on the results.

Table 6 Regression analysis

Variable	Model 1 All variables	Model 2 Excl. size	Model 3 Excl. auditors
Size	2.72*** 0.257		4.537*** 0.427
Auditor	0.415*** 4.277	0.525*** 5.761	
Age	0.043 0.508	0.085 0.994	0.053 0.576
Leverage	-0.116 -1.424	-0.116 -1.373	-0.139 -1.550
Family ownership	-0.023 -0.278	-0.076 -0.910	0.022 0.244
Days	-0.183 -2.031**	-0.189 -2.028**	-0.314 -3.368**
Adjusted R square	0.438	0.395	0.322
F change	12.557***	12.627***	9.462***

Model 1 examines whether the independent variables (size, auditor, age, leverage, family ownership and days) influence the compliance level with mandatory disclosures. In Model 2 and Model3, the variables size and auditors are excluded from the regression to examine the impact of correlation between these variables on the results as they correlate with each other. The coefficients and the corresponding t-value is reported below each coefficient. ***, ** and denote statistical significance at the 1% and 5% levels, respectively.

6. Discussion and Conclusions

This paper investigates the level of compliance with mandatory disclosures requirements of private companies in Iceland and examines factors associated with the compliance level. The overall value of the compliance level index (CLI) is 75, with the lowest score of 22 and the highest score of 97. To the author's knowledge, there have been no other studies on compliance level with mandatory requirements of national accounting standards by private companies in Europe. The results of this study suggest that on average 25% of the mandatory disclosures are missing from the financial statements of the private companies. These results indicate poor compliance as the focus of this study are basic mandatory disclosure requirements where 100% compliance is required by law.

The following factors have been outlined to explain the reasons for the lack of compliance for the private companies.

- The companies in the sample do not have listed equity or debt instruments and therefore do not have the information pressure from the stock market. These companies rely on internal financing instead of raising capital in the public financing market. In this

system, the shareholders and the banks have access to internal information and information asymmetry is resolved through private information channels (Leuz, 2010).

- The institutional features of Iceland as one of the Nordic countries has been described as “insider economics” which is characterized by weak investor protection and low disclosure levels. The official enforcement of compliance with the accounting regulation is weak in Iceland for private companies where the Register of Annual Accounts reviews manually an exceedingly small number of financial statements. Filing a financial statement with low compliance has therefore little or no consequences for the owners or management of the private companies.
- Included in the sample are small companies and the study reveals size as an important explanatory factor for CLI. The average CLI values for the 30 of the smallest companies are 63 compared to 81 for the 30 of the largest companies. Hence, the small companies drag down the average compliance level. On the other hand, the average CLI for the 30 of the largest companies is 83, which is more in line with results from other studies for large publicly listed companies.
- There are sections of the accounting legislation that drive down the average CLI. Compliance with mandatory disclosure about transactions with related parties (CLI 48) and investment in other companies (51) are low. These disclosures are often given special attention by tax authorities with respect to inspection of tax structure and transfer pricing policies. Compliance with disclosure requirements about off-balance sheet liabilities is also low even though they are important for the evaluation of companies’ financial position and the going concern assumptions.

The overall results support the concerns about a lack of compliance which have been raised by authorities, analysts, credit institutions and other users of Icelandic financial statements. Even though the information asymmetry in private companies appears to be resolved to some extent through private communications with different stakeholders, the public financial statements play a key role. There are important stakeholders such as suppliers, customers, trade unions, government, and competitors which do not have access to the internal information and rely on external information in financial statements for decision making, data analysis, etc.

From the stakeholders’ perspective it is important to increase compliance levels in order to reduce information asymmetry and protect the external stakeholders who have interests in

the actions and decision of the companies. These findings have therefore direct implications for policy makers and regulators as they highlight the importance of improving the enforcement and monitoring of compliance with the accounting regulation. It should be considered to provide the Register of Annual Accounts with more resources and implement efficient data and analytical software to perform larger-scale reviews to identify non-compliance.

In accordance with prior literature, this study uses agency theory, political costs theory, signalling theory and voluntary disclosure theory to hypothesize and test whether size, auditors, age, family ownership and sign-off date of the financial statements have impact on compliance level. The study reveals size as a crucial factor in determining compliance level. This is in line with agency theory, which predicts larger companies to be more likely to have higher agency cost, which can be reduced by compliance with the mandatory disclosure requirements (Watts and Zimmerman, 1983). Financial statements of large companies are also more widely used and scrutinised compared to smaller companies. Higher compliance increases confidence in the financial statements and decreases the risk of governmental attention, as predicted by the political cost theory.

Prior research on public companies reveals that family firms provide less disclosures than non-family firms (Vural, 2018; Mäki, Somomoza-Lopez and Sundgren, 2016 and Wang, 2006). However, the results of this study do not find evidence that family ownership, with the presence of controlling ownership of individual shareholder, has an impact on the compliance level with the mandatory disclosures. One explanation is that private companies resolve information asymmetry through privileged information channels. These findings suggest that both agency conflicts between owners and managers and the agency conflicts between controlling and non-controlling shareholders are resolved through other sources than the financial statements.

The results support a positive relationship between financial statements which are signed-off by the Big 4 audit firms (CLI 79) compared to non-Big 4 accounting firms (CLI 55). The key role of the auditor is also reflected in better compliance of audited financial statements compared to non-audited financial statements. However, the findings have implications for both Big 4 and the non-Big 4 accounting firms which must improve the quality of the review of financial statements to increase compliance and quality of disclosures with a specific focus on the smaller companies

The relationship between the sign-off date of the financial statements and CLI is introduced as a new variable to test. There is evidence that companies that have early sign-off date provide higher CLI compared to those which sign-off late. Put differently, companies that choose to sign-off their financial statements late provide less compliance with disclosure requirements. To my knowledge, this is the first evidence about this relationship in the literature; further research is required to explore this area. These results also indicate that enforcement should focus on and monitor specifically companies that sign-off and file their financial statements late.

This research is limited to one year; suggestions for future research would be to analyse development of compliance levels and associated factors over more time. A further extension to this study would be a trans-national comparison and analysis to determine if these results for private companies are consistent with other European countries, which base their national accounting legislation on EU directives.

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4 Discussion and Conclusions

4.1 Objective of the Thesis

The overall aim of the three studies of this thesis is to investigate decision usefulness of accounting information and compliance with financial accounting standards. The information perspective of accounting information provides the theoretical framework for the thesis. From this perspective, information content of financial information is useful if it has impact on the users of the accounting information.

The first two studies of the thesis contribute to the purpose of thesis by investigating the decision usefulness in the context of judgemental fair value accounting information (FVA) through the lens of the decision usefulness theory and the Conceptual Framework of IASB (CF). Characteristics of useful accounting information is defined in the CF but this thesis focuses specifically on relevance as one of the key characteristics of useful accounting information. Following the definition of relevance, accounting information must have predictive and confirmative value to be useful for decision making. The usefulness of FVA is studied for two important user groups of financial accounting information, equity analysts and investors. The setting used for the analysis is the fair value accounting of listed real estate companies but most of them base their fair values on judgemental fair value assumptions (Level 3). The literature review of the thesis demonstrates how the usefulness of judgemental fair value adjustments has been questioned by both academia and practice. In a response to this issue, IASB published IFRS 13 *Fair Value measurement* where the objective of the standard was to “enhance disclosures about fair value measurements that will help users of financial statements assess the valuation techniques and inputs used to develop fair value measurement” (IFRS 13, paragraph BC6 8C). Providing more disclosures about judgemental fair values should from a theoretical perspective reduce information asymmetry and aid investors and other users of financial statements in making economic decisions (Healy and Palepu, 2001; Barth, 2006). However, the literature review concludes that even though disclosure quality is significantly higher after the implementation of IFRS 13 there is a lack of academic evidence whether the detailed guidelines and the disclosure requirements in IFRS 13 did have impact on decision making and enhance the usefulness of judgemental fair value accounting.

This thesis investigates the usefulness of FVA by employing both decision makers emphasis and decision model emphasis as defined by Gray et al. (1996). Study 1 is based on the decision makers emphasis and uses interviews with equity analysts and fair value disclosures of listed real estate companies to analyse the usefulness of the fair value disclosures

and how equity analysts process and use fair value information. On the other hand, Study 2 follows the decision model emphasis by using event study methodology to examine the relevance of FVA by testing the association between judgemental FVA recognised in the income statements and stock price reaction. Accounting information is considered value relevant if it captures the impact on the market value of the company as is further explained in Chapter 2.3. The mandatory fair value disclosure requirements which followed with the implementation of IFRS 13 *Fair Value measurement* plays an important role in both studies as this event is used to analyse if the increased fair value disclosures had impact on the usefulness financial accounting information.

While Study 1 and Study 2 focus on the usefulness of mandatory accounting information the contribution of the third study is to investigate compliance with accounting standards. The literature review provides the theoretical arguments for regulating financial reporting with implementation of financial accounting standards. However, regulating useful accounting information through financial accounting standards is of little use if companies do not follow the requirements of the accounting standards. Study 3 contributes to the overall aim of the study by analyzing compliance with mandatory disclosures requirements and provides insights into management intention to provide accounting information. Different management incentive theories are used to predict and explain association between compliance level and variables that have been identified in the disclosure literature to be associated with the compliance level. These variables include company size, ownership structure, auditors, age and leverage. The management incentive theories which provide the framework for the analysis are the agency theory, political cost theory, signalling theory and voluntary disclosure theory. Extensive research has been conducted on compliance levels for public companies but studies on compliance level of private companies has been overlooked in the literature. Study 3 fills in that gap and contributes to the literature by study compliance level and test different variables that are potentially associated with compliance level for private companies.

Overall, the findings of the three studies of the thesis provide valuable contribution to theory and practical insights into decision usefulness of accounting information and compliance with financial accounting standards.

4.2 Implication for Theory

Decision Usefulness of Accounting Information

Interviews with equity analysts revealed that they use a discounted-cash flow method as a key valuation method. These findings are in line with prior literature (Bancel and Mittoo, 2015; Brown et al., 2014). As a result, financial disclosures with predictive value about future cash flows have significant relevance for this user group. However, the surveys also reveal that equity analysts have little interest in management's fair value measurements or the related fair value disclosures. Fair value measurements are based on management calculations about estimated market value of the assets at the reporting date. The key focus for the analysts is the cash flow generation of the underlying business. Information about current fair value of the assets is therefore of limited relevance to the analysts.

The interviews also revealed that use of the financial statements appears to be confirmative instead of a primary source of information for predicting future cash flow. The respondents generally compare their results with the fair value adjustments recognised in the financial statements. Significant differences in outcomes are analysed with comparison to some of the fair value parameters provided in the fair value disclosures. The findings suggest that even though the fair value disclosures do not have predictive value for the analysts, there is to a certain extent a confirmative value in the key information provided in the fair value disclosure. The confirmative value provides the analysts with comfort over their own valuation measurement and verify the credibility of management. This is in line with a model proposed by Gigler and Hemmer (1998) where audited financial reports serve a confirmatory role in providing credibility to management's more informative and timely voluntary disclosures.

In summary, the conclusions of this work point to the limited usefulness of fair value adjustments and related disclosures for the equity analysts. On the other hand, this thesis finds evidence that FVA and FVA disclosures are useful for investors after the implementation of IFRS 13. However, there is no evidence for the value relevance of FVA before the implementation of IFRS 13. These findings suggest that the increased fair disclosures that followed with the implementation of IFRS 13 reduced information asymmetry and have value relevance for investors. The overall results indicate a different information value of FVA for these two user groups. However, as the FVA are built on management's estimation of discounted future cash flow it can be concluded that FVA and FVA disclosures should also have value relevance for equity analysts. One possible explanation for this imbalance of value relevance between these two user groups is that management does not provide enough details in the disclosures about their assumptions regarding their cash flow calculations to be useful

for the equity analysts in their work. Providing more details about the FVA in the disclosures with specific focus on predictive information should therefore enhance the usefulness of the FVA for equity analysts. On the other hand, our results indicate that investors are not as sensitive to the lack of FVA disclosures as equity analysts. This means that FVA recognised in the income statement, combined with detailed FVA disclosures which are included in the financial statements, are value relevant for investors in the market. This data is not just used to confirm information that is already published or available through other communication channels. These results are consistent with Vergauwe and Garemynck (2019) and Müller et al. (2011), who find association between the extent of fair value disclosures and reduced bid-ask spread. However, Sundgren et al. (2018) find no evidence of a positive economic impact of IFRS 13 implementation for the listed real estate companies.

In line with prior studies, this thesis finds more value relevance for FVA recognised in semi-annual financial statements compared to annual accounts. These findings could be explained by the fact that semi-annual financial statements are issued in a more timely way than annual reports; interim reports may allow investors to act pre-emptively on some of the information in the annual report (Firth, 1981, Rippington and Taffler, 1995, and Oberholster et al., 2017).

Further, we find evidence that positive FVA have more value relevance than negative FVA. These findings are remarkable, as prior research indicated the opposite (Fiechter et al., and Bertomeu and Marinovic, 2016). One possible explanation for these findings is that the impact of negative FVA is already priced in the stock price before the publishing of the financial results. Investors appear to wait for the confirmation in the financial statements before they recognise the impact of the positive FVA in the share price.

Compliance with Accounting Standards

The third study backing up the thesis evaluates basic mandatory disclosure requirements of private companies where full compliance is required by law. However, the overall value of the compliance level index (CLI) is 75, which means that on average 25% of mandatory disclosures are missing from the financial statements of private companies. These results indicate poor compliance, as 100% compliance is required. The thesis provides several theoretical explanations for the low compliance with the mandatory disclosure requirements. *First*, the companies in the sample do not have listed equity or debt instruments and therefore do not have the information pressure from the stock market. These companies rely on private

financing instead of raising capital in the public financing market. In this system, the shareholders and the banks have access to internal information and information asymmetry is resolved through private information channels (Leuz, 2010). *Second*, one of Iceland's institutional features has been described as "insider economics", characterized by weak investor protection and low disclosure levels (Leuz, 2010). The enforcement of compliance with accounting regulations is weak in Iceland for private companies, where the Register of Annual Accounts reviews manually a very small number of financial statements. Filing of financial statements with low compliance has therefore little or no consequences for the owners or management of private companies. *Third*, the thesis reveals size as an important factor in determining the compliance level. This is consistent with agency theory, which predicts that larger companies will be more likely to have higher agency costs, that can be reduced by compliance with the mandatory disclosure requirements (Watts and Zimmerman, 1983). Financial statements of large companies are also more widely used and scrutinised compared to smaller companies. Higher compliance increases confidence in the financial statements and decreases the risk of governmental attention, as is predicted by the political cost theory.

Prior research on public companies reveals that family firms provide less disclosures than non-family firms (Vural, 2018; Mäki, Somomoza-Lopez and Sundgren, 2016 and Wang, 2006). However, the results of this thesis do not indicate that family ownership with the presence of controlling ownership of individual shareholder, has an impact on the compliance level with the mandatory disclosures. One possible explanation is that private companies resolve information asymmetry through private information channels. These findings suggest that both agency conflicts between owners and managers and the agency conflicts between controlling and non-controlling shareholders are resolved through other sources than the financial statements. This study also finds evidence that financial statements signed off by one of the Big-4 audit firms have higher compliance level (CLI 79) compared to non-Big 4 accounting firms (CLI 55). The important role of the auditor is also reflected in better compliance of audited financial statements compared to non-audited financial statements.

This thesis introduces the relationship between the sign-off date of financial statements and CLI as a new variable to test. There is evidence that companies that have early sign-off dates provide higher CLI compared to those which do so late. Bean and Bernardi (2003) suggest that the attitude of corporate managers is the major impediment of the timeliness of financial reports. These results indicate that managers that sign-off financial statements late are also

likely to provide less disclosure, as they might not want to reveal financial information to their competitors nor expose their profits or poor financial position to the public.

4.3 Implication for Practice

Decision Usefulness of Accounting Information

Fair value disclosures about management's valuations techniques and assumptions are for the most part overlooked by equity analysts. The explanation is twofold: First, there is a lack of relevance of the fair value disclosure, as was discussed earlier, because the analysts' focus is on future cash-flow. Second, analysts use their own parameters and inputs in the cash-flow model, but not managements' assumptions. Examples of these assumptions are future growth, risk-free interest rates, premiums on risk-free rates, market rental, etc. Still, some aspects of fair value disclosure provide valuable insight into management's expectations about the future, which could be relevant for the analysts, e.g., disclosure about future rental rates and occupations metrics. However, observing these disclosures with the equity analysts during the interviews revealed that these assumptions were disclosed broadly or in average terms and were therefore not useful input in the valuation process. These findings have direct implications for preparers and auditors as they address the importance of predictive value of information and to provide enough detail for the financial disclosure to enhance the usefulness of the fair value disclosures. The findings suggest that the relevance of the fair value disclosures improves with more predictive information.

The practical implications of the thesis also relate directly to what the IASB has referred to as the "disclosure problem". Finding the right balance between relevant and non-relevant information and avoiding information overload is a constant challenge for preparers, auditors and standard setters. It can be concluded, based on the interviews, that presenting predictive financial information in tabular formats should provide the framework for the preparers of the financial statements.

Defining appropriate disclosure materiality is one of the priorities of IASB to reduce information overload. The findings suggest that even though financial information is not quantitatively material from the financial statements perspective they might have an important predictive value. That was, for example, reflected in a lack of information about impairment of accounts receivable in the financial statements of the case companies which are excluded as they are not material. However, this is an important information from the analyst perspective, as they have predictive value. This highlights the importance of predictive value of disclosures;

the key finding here is the importance of predictive disclosures even though they are not numerically material, from management's perspective. The lesson is that preparers and auditors must be careful to exclude information based on quantitative materiality assumptions and numerical guidelines. Qualitative considerations with respect to the nature and expected relevance of the information disclosed are also important factors in determining materiality.

Compliance with Accounting Standards

The overall results support the concerns about a lack of compliance which have been raised by authorities, analysts, credit institutions and other consumers of Icelandic financial statements. Even though the information asymmetry in private companies appears to be ameliorated through private communications with stakeholders, public financial statements also play an important role. There are important stakeholders such as suppliers, customers, trade unions, government and competitors which generally do not have access to the internal information and rely on external information in financial statements for decision making, data analysis etc. From their perspective, it is important to increase the compliance level to reduce information asymmetry and protect those who have interests in the actions and decisions of the companies.

These findings have direct implications for policy makers and regulators, as they highlight the importance of improving the enforcement and monitoring of compliance with the accounting regime. In that regard, the Register of Annual Accounts should be provided with more resources and should acquire and implement efficient data and analytical software to perform larger-scale reviews to identify non-compliance. It is recommended that policymakers provide the Company Register in Iceland with more authority and instruments to take actions against non-compliance. Examples of such actions would be to reject non-compliant financial statements and implement penalties for non-compliance. The ultimate consequence of not filing compliant financial statements and not complying with the requirements would be to formally dissolve the company.

The results of the study also reveal that companies that choose to sign-off their financial statements late are less compliant with disclosure requirements. These results have other implications for the Register of Annual Accounts, which should focus on and monitor specifically companies that sign-off and file their financial statements late, as they are most likely to file non-compliant financial statements. In addition, the results have implications for

both the Big 4 and non-Big 4 auditors, which must improve the quality of the review of financial statements to increase compliance and quality of disclosures with a specific focus on the smaller companies.

4.4 Limitations and Suggestions for Future Research

This thesis focuses on the relevance of fair value disclosures for equity analysts and investors. However, there are other important consumers of financial statements such as creditors, suppliers, customers, trade unions, and government, to name a few. These user groups may have other perspectives on the relevance of the fair value disclosures. Further development of this theme would include an investigation on the usefulness of the fair value disclosures for different user groups.

The thesis focuses on judgemental fair values and fair value disclosures for one type of assets. There is ample scope to conduct similar research to include other types of financial and non-financial assets measured at fair values such as financial instruments, assets available-for-sale, biological assets etc. There is also a research opportunity to investigate the value relevance of liabilities measured at fair value. Listed real estate companies are used as a setting for investigating the relevance of the FVA but there is a research opportunity to expand the setting to other industries. Further research would also explore the reason for lower value relevance for Level 3 fair values for example whether it is due to uncertainty in measurement or possible management bias in measuring the Level 3 fair values. There is also a scope for analysing the relationship between value relevance and other variables and companies' characteristics such as risk profile of the underlying assets, corporate governance, geographical location etc. Our results indicate that relevance of Level 3 FVA has increased following the implementation of IFRS 13. However, there is a possibility that other factors play role such as a development of better understanding on FVA over time by market participants increases the relevance of the fair value adjustments. There is a research opportunity to explore these factors in more detail.

Study 2 has an important limitation in the sense that the sample only covers information in annual and semi-annual financial statements. Companies can disclose information through various other channels such as press releases, information on websites and other reports beyond financial statements. However, we assume that the fair value disclosures which are prepared under IFRS 13 and which are examined in this study are generally only included in the financial statements. There is a research opportunity here to investigate the different pricing impact of positive and negative FVA.

This thesis provides ground-breaking evidence about the association between sign-off date and compliance levels. There is an opportunity for further research in this area, including an analysis of the association between sign-off date and compliance level for public companies and an investigation whether public companies that file their financial accounts late are also less compliant. That situation could lead to public companies withholding negative information which could lead to a stock price crash risk.

The compliance with the disclosure requirements of national accounting standards is limited to one year; future research could analyse development of compliance levels and associated factors over more time. Further study could encompass a cross-country comparison and analysis to determine if these results for private companies are consistent with other European countries, which base their national accounting legislation on EU directives.

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6 Appendices

6.1 1: Interview Guide used for Study 1

Relevance of Level 3 Fair Value disclosures and IFRS 13

Part 1 (RQ 1). What valuation methods and inputs do investors and analysts use in their valuation process of the listed real estate companies?

The first step in the process of analysing the usefulness of the fair value disclosures is to understand what methods and inputs investors and analysts use in their valuation and decision making process. Following questions will be asked:

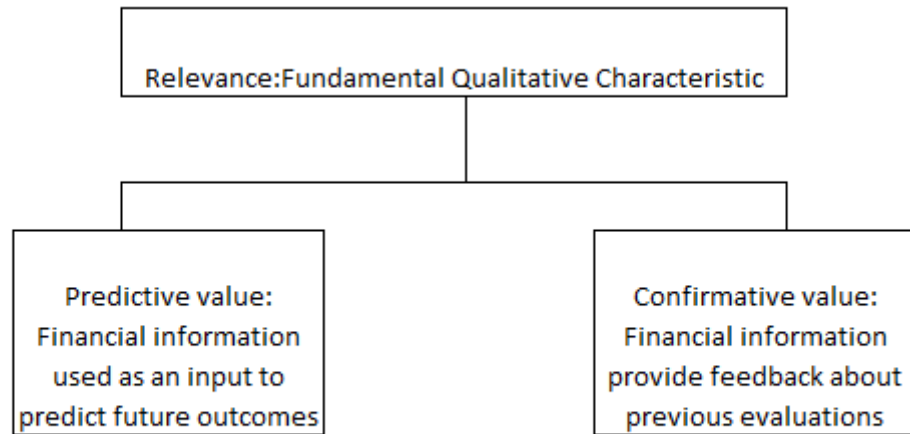
1.1 What valuation methods do you use for the valuation of the real estate companies?

1.2 What are the main inputs which are used in your valuation process of the companies? What is main sources of information used in the analysis?

1.3 What impact does the available data have on the valuation methods? Is the choice of valuation methods driven by the disclosures?

Part 2 (RQ 2) RQ2. Do the fair value disclosures in the financial statements of the real estate companies represent relevant accounting information as it is defined in the Conceptual Framework of IASB?

In the Conceptual Framework there is a discussion and definitions about what constitutes a relevant accounting information. The characteristics of relevant accounting information are classified as follows in the CF.



2.1 What fair value assumptions and information which are disclosed in the financial statements do you process in your analysis of the company?

2.2 What fair value assumptions and information which are disclosed in the financial statements do you not use or are not relevant in your analysis?

2.3 What additional information regarding fair value would be useful to have in the analysis?

2.4. What impact would it have on your valuation process and the outcome of the valuation if the fair value calculations of the investment properties were performed by external valuation specialists instead of internally? Would it increase confidence in the fair value adjustments?

*2.5 Would it increase relevance and faithful representation of the fair value disclosures if additional disclosures about **the valuation process** were included in the financial statements?⁴⁴*

2.6 Are there any aspects of the information in the disclosures that is not understandable?

2.7 How do you verify the information in the fair value disclosures?

⁴⁴ Analysis on compliance of the fair value disclosures with the disclosure requirements revealed a lack of compliance regarding description of the valuation process. There was also a lack of compliance with disclosures about sensitivity analysis which is explored in Part 3 of the interview guide.

2.8 Do you have any issues with the timeliness of the information based on the sign-off date of the financial statements?

Part 3 (RQ 3). Did the additional disclosure requirements following the implementation of IFRS 13 have any impact the relevance of the Level 3 fair value disclosures? An analysis was performed on the fair value disclosures in the financial statements of the real estate companies before and after the implementation of the IFRS 13. The purpose was to identify the impact that IFRS 13 had on the fair value disclosures and if these additional disclosures influenced the decision made by the users of the financial statements. Following additional fair value disclosures were included in the financial statements after the implementation of the standard.

- Definition and classification of fair value assets in level 1, level 2 and level 3 (IFRS 13 93a).
- More detailed sensitivity analysis on the impact of changes in key inputs for level 3 disclosures (IFRS 13. 93h).
- Classification of the investment properties with respect to the nature, characteristics and risks (IFRS 13 94a).

These results produced following questions

3.1 *What impact has the fair value measurement hierarchy on the valuation process– (Level 1, Level 2 and Level 3)*

3.2 *How relevant is the current sensitivity analysis for level 3 disclosures in the financial statements*

3.3 *How relevant is the analysis of impact of significant unobservable input for Level 3 disclosures in the financial statements?*

3.4 *What impact has the classification of the investment properties with respect nature, characteristics and risks on the valuation process.*

6.2 Appendix 2: Checklist used for Study 3

DO THEY FOLLOW THE RULES? DISCLOSURE PRACTICE OF PRIVATE COMPANIES: EVIDENCE FROM ICELAND

Appendix 1 - Checklist

			Yes	No	N/A
	Reference Act on annual Accounts 144/1944	General information			
1	Article 65 (1)	Main activities of the company			
2	Article 65 (1)	Development in the operation and financial position during the year			
3	Article 65 (2)	Average number of full-time employees during the year			
4	Article 65 (2)	Information about allocation of profit/loss for the year			
5	Article 65 (3)	Number of shareholders at the beginning of the year and at the end of the year			
6	Article 65 (5)	Information about the group in parent company's account			
7	Article 66 (1)	Provide information about market risk, interest risk, currency risk, investment risk and liquidity risk in the operation			
8	Article 3 (2)	The report of the Board of Directors formally approved by the Board and CEO			
9	Article 3 (3)	The financial statements approved one week before the annual general meeting			
10	Article 44 (2)	Exchange rates used for translation of amounts in foreign currencies			
		2. Fixed assets and current assets			
11	Reg. 696/1996 Article 7	Specification of fixed asset: Cost of asset, depreciations, new additions, sold, re-valuation and book value			
12	Article 30	Provide information if fixed assets have been re-valued based on market prices			
13	Article 31	If fixed assets have been re-valued, provide information about depreciation of the re-valued assets and adjust the re-valuation account accordingly			
14	Article 44	Information about methods used for estimation of each item of balance sheet, including methods used for re-valuation of fixed asset.			
15	Article 54	Official valuation and insurance value of fixed assets			
16	Article 24	Information about amortization of intangible assets which should not be amortized over more than 20 years. If intangible assets are not amortized, provide information about impairment methods.			
17	Article 33	Methods used for valuation of inventories			
18	Reg. 696/1996 Article 8	Specification of intangible assets: Cost of asset, amortizations, new additions, sold, re-valuation and book value			
		3. Investment in other companies			
19	Article 46 (3)	Market value of investments in subsidiaries and equity accounted investments			
20	Article 48	Names, addresses and form of subsidiaries and equity accounted investments. Information about shareholding, equity for each investment and operating results the last financial year.			
		4. Equity and own shares			
21	Article 61	Specification of changes in equity during the year			
22	Article 60 (1)	Amount and nominal value of own shares and their proportion of total shares			
		5. Liabilities and pledges			
23	Article 52 (1)	Annual instalment of liabilities over the next 5 years from the reporting date			
24	Article 52 (2)	Total amount of collaterals and book value of pledged assets. Total amounts of collateral provided to subsidiaries or other group companies shall be disclosed specifically.			
25	Article 52 (4)	Disclose the total amount and payment schedule for long-term rental liabilities which are not recognized on the balance sheet.			
		6. Income tax			
26	Article 57 (1)	Total amount of income tax payable due to operation in the year			
27	Article 57 (3)	Total amount of deferred tax asset/liability			
28	Article 57 (4)	Specification of deferred tax asset/liability			

Appendix 1 - Checklist

		7. Related parties			
29	Article 53 (1)	Disclose loans, collaterals and pledges provided to owners, managers or other related parties. In addition, specify interests, payment schedule and other terms of the agreements.			
30	Article 63 (1)	Disclose related party transactions and explain the nature of relationship between the parties.			
		8. Consolidation			
31	Article 62	Company which is a part of group shall disclose the name and address of the parent company and the ultimate parent company			
32	Article 84	Provide following information for each subsidiary: 1. Name and address 2. Shareholding of the subsidiary 3. Reasons why subsidiary is included in consolidated accounts if shareholding and voting power is not the same 4. Provide arguments if subsidiary is not included in consolidated accounts.			
33	Article 84	Provide following information for each equity accounted investment: 1. Name and address 2. Shareholding of the subsidiary 3. If equity method is used to account for the investment			
34	Article 82	Consolidated financial statements shall disclose accounting policies like all group companies were a single entity			
35	Article 82	Book value of goodwill and accounting polices for goodwill accounting			
		9. Salaries			
36	Article 58	Total salaries and average number of employees during the year. Same information for the comparative year shall be provided as well.			
37	Article 59	Provide specification of salary related expenses such as pension charges, social security expenses and other payroll related expenses.			
38	Article 59	Total salaries and other benefits paid to managers for the year. Same information for the comparative year shall be provided as well.			
		10. Cash-flow statement			
39	Article 28	Provide statement of cash-flow showing in- and outflow of cash during the year			
40	Article 28	The cash flow statement should be presented as: cash from operating activities, investment activities and finance activities. The statement should also analyse changes in cash at the beginning of the year to the end of the year			
41	Article 28	Cash-flow statements shall include comparative figures from prior year.			
42	Article 28	Specify cash in- and out flow of interest of long and short-term liabilities, interest income and received dividend.			
43	Article 28	Specify cash impact of income taxes			
		Other items			
44	Article 6	Every item on the income statement and balance sheet shall include comparative figure from prior year.			

6.3 Appendix 3: Co-author declarations

Date: 10 August 2022

To: Reykjavik University, Department of Business Administration

From: Dr. Stefan Wendt

RE: Co-author Declaration

I am co-author with Árni Claessen on the paper entitled "*Relevance of Fair Value Adjustments and IFRS 13 Disclosures: Evidence from European Real Estate Companies*". I hereby confirm that Árni Claessen contributed 75% of the work involved in writing this paper. More specifically, he contributed as described below

	Description of PhD student's contribution
Research Model	70%; set-up of first approach and further development based on supervisor comments and suggestions..
Data collection	85%; collection, assembling and preparation of data for empirical analysis
Data Analysis	70%; statistical analysis and interpretation of results
Article section/chapter: Introduction	80%; framed the paper and the contribution
Article section/chapter: Literature Overview and Hypothesis Development	90%; literature research, drafting literature review
Article section/chapter: Data and Methodology	70%; Drafting description of data and methodology,
Article section/chapter: Results	70%; description and interpretation of the results
Article section/chapter: Discussions and Conclusions	80%; drafting conclusions and discussion of the results


Dr. Stefan Wendt