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The Harmonization Process of Accounting within the European Union -

Are there indications of a convergence in the level of prudence between member states since the implementation of IFRS?

An empirical study of France, Germany, Sweden and the United Kingdom

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Abstract

Since 2005 it is mandatory for companies in the European Union, with shares traded at a regulated market, to present consolidated account statements in accordance with IFRS. The application of IFRS was supposed to lead to a more harmonized accounting practice within the Union, and thereby more transparent and comparable information available to the markets. This process of implementation was, however, not problem free. Previous research indicate that national differences in the appliance of IFRS and respective country's level of prudence still occur. Based on the previous findings, this thesis aims to study whether there has been any convergence in the level of prudence within the European Union since the implementation of IFRS. It is also going to be looked at whether possible differences can be linked to respective country's accounting tradition.

 The contribution of this thesis to the field of study is that it is done at a time where consolidated account statements have been drawn up in accordance with IFRS for *ten years* within the Union. Accordingly, this thesis has a longer string of data and therefore a longer time series available from which prudence can be derived. The purpose of this thesis is to examine whether the motive of the implementation of IFRS, the harmonization of accounting, with regard to the level of prudence, has been fulfilled. This study is based on a quantitative research methodology, and to measure the degree of prudence, Basu's (1997) model of asymmetric timeliness of earnings will be used. The degree of prudence is going to be examined and compared for four EU member states: France, Germany, the United Kingdom and Sweden, as they are believed to be representative for the different accounting traditions found in Europe. The study made has 702 companies participating, and the time series applied stretches for 20 years, from 1994 to 2014.

The results of the study conducted shows indications that France is the most prudent country, followed by the United Kingdom, Sweden and at last Germany. This is true for both before and after the implementation of IFRS. This was not in accordance with the predictions made based on respective country's accounting tradition, suggesting that the country factor cannot explain the differences observed between the member states. Furthermore, the gap between the least prudent country and the most prudent country increased during the subsequent years of the IFRS enforcement, meaning that a harmonization with regard to the level of prudence could not be identified between the countries studied.

Basu's (1997) model only captures a part of the total prudence in a firm. Although no evidence for a harmonized approach to prudence within the European Union could be found in the study conducted, it would be interesting to further study the subject by complementing Basu's model with other models measuring prudence to see if the results differ from only using the model of asymmetric timeliness of earnings. Alternatively, solely other models could be used to identify if any signs of a convergence in the level of prudence can be found.

Keywords: harmonization, IFRS, the European Union, prudence, accounting conservatism, accounting tradition

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1. Introduction

This chapter introduces the background and the problem analysis for this bachelor thesis. It starts with a brief overlook of the history and current situation of the legal requirements for financial reporting within the common market area of the European Union. It is followed by an introduction of three crucial concepts for the outlining of this report; prudence, de jure and de facto harmonization. Finally, the purpose along with the research questions and the delimitations of the study are presented.

1.1 Background

Since 2005 it is mandatory for companies in the European Union, with shares traded at a regulated market within the common market area, to present consolidated account statements in accordance with IASB's regulatory framework IFRS. The application of IFRS was supposed to lead to more transparent and comparable financial information to serve as basis for decision making by actors on the financial markets of the world. Another aim of the implementation was to harmonize the accounting procedures within the European Union and thus facilitate the comparison of listed companies within the common market area (IASB 2013). Before the IAS-regulation was adopted in 2005, accounting was regulated by directives from the European Commission, which thereafter had to be interpreted and implemented by the legislatures in every EU member state. This process of implementation was not problem free, due to the differences in the member states' legislation. Even if laws passed by the European Union stands above national law, a far from harmonized approach to adopting the directives was used. Another reason that has made the harmonization difficult is that the member states historically have had very different accounting traditions, and therefore different approaches to standards and principles. The law traditions that have been most recognized in current research and accounting literature is the Anglo-Saxon tradition and the Continental tradition (Lumsden et al. 2012).

The purpose of harmonization of accounting within the Union was therefore difficult to achieve. Previous research has studied the differences of the appliance of accounting principles and respective nations' accounting tradition to describe the differences in financial reporting between the European Union's member states. One of the principles that have been studied is the principle of prudence (e.g. Ball 2006; Callao et al. 2009; Nobes 2011; Palea 2013).

1.1.1 Definition of prudence

The principle of prudence has been present in accounting for centuries. Researchers have found different explanations to why prudence is such a significant principle in accounting, but the most established version is that it benefits the users of the financial reports (Watts 2003). The traditional definition of the principle of prudence is that assets and earnings should be recognized at the lowest possible value and not before it is certain that the underlying events have occurred. Liabilities and expenses, on the other hand, should be recognized at the highest possible value and be recorded as soon it is likely that the outflow of resources will occur. (Watts 2003) However, this view of prudence can be interpreted in different ways (see further down under chapter *2.1.1 "Conditional and Unconditional Conservatism"*). In order to clarify, it should be mentioned that the word prudence is a European term, while the American equivalent is accounting conservatism. In this thesis the two terms are used interchangeably, though prudence is more recurrent due to linguistic reasons.

1.1.2 Definition of harmonization

According to the Cambridge Business English Dictionary, the harmonization of a topic, e.g. accounting standards, is "the act of making systems or laws the same or similar in different companies, countries etc., so that they can work together more easily" (Cambridge University Press 2015). This is the definition applied throughout this thesis. When discussing the harmonization process of accounting standards it is, however, of vital importance to distinguish between two different types of harmonization. On one hand there is the formal harmonization, the harmonization of the regulation on the subject, which is called de jure harmonization. On the other hand, there is the actual or material harmonization, reflecting the practical attitude towards harmonization, meaning not only that the standards are applied but also how they are used in practice, which is called de facto harmonization (Lundqvist 2014). The implementation of IFRS in 2005 in Europe can thus be classified as an attempt at de jure harmonization within the Union. The question this thesis aims to answer is whether this attempt at de jure harmonization has succeeded in creating any de facto harmonization between the different member states.

1.2 Problem Analysis and Contribution to the Field of Study

It has now been ten years since the implementation of IFRS in consolidated account statements in the European Union. Several studies treating its effect on accounting practice and prudence within the Union have already been made. Findings of these studies indicate, amongst other things, that accounting prudence might foster earnings management (e.g. García Lara et al. 2005) and that a prudent approach to accounting in fact deters the quality of the information presented in financial statements. This, in its turn, may lead to greater information asymmetry between companies and investors on the financial markets (Leutz 2003). In 2010, IASB removed the principle of prudence from their conceptual framework as a result of the risk of the principle encouraging earnings management and the fact that the principle was believed to be in conflict with the requirement that the information presented in financial statements must be neutral (Lumsden et al. 2012).

One of the main topics of discussion since the implementation of IFRS has been whether it has occurred any de facto harmonization on the subject of accounting. The debate is still ongoing, but, a few years after the implementation, no signs of a de facto harmonization occurring can be found. It has, however, also been established that other studies need to be conducted in a few years' time due to potential time lags incorporated in the legal system (e.g. Ball 2006; Callao et al. 2009; Nobes 2011; Palea 2013;McLeay & Pope 2011). The contribution of this thesis is that it is done at a time where consolidated account statements have been drawn up in accordance with IFRS for *ten years* within the Union. Accordingly, this thesis has a longer string of data and therefore a longer time series available from which prudence can be derived in order to then see if there has been any convergence on the subject of harmonization in the common market area. The advantage of a longer time series is that it takes the potential time lag factor into account, that is, the delay from the point in time where de jure harmonization occurs to the point in time where de facto harmonization is achieved. Thus, with respect to the potential presence of time lags, the effect IFRS has had on member states' accounting practices, their approach to prudence, and whether there has occurred any de facto harmonization or not, may have changed since past studies were conducted.

1.3 Research Purpose

By merging a more quantitative approach to prudence, Basu's model of asymmetric timeliness of earnings (see further under chapter *3 "Method"*), with a more qualitative course of action, which is looking at accounting traditions as a potential explanation to differences in the level of prudence, this thesis is set out to provide a holistic perspective on the harmonization of accounting in the European Union. Consequently, the purpose of this thesis is to examine whether the motive of the implementation of IFRS, the harmonization of accounting, has been fulfilled. That is, to determine whether any de facto harmonization with regard to the level of prudence has occurred within the European Union.

1.4 Research Questions

As mentioned, several studies have been made in order to see whether accounting tradition and national law practice can explain differences between countries when it comes to the level of prudence under IFRS. With this in mind, this thesis is going to focus on the following research questions:

❖ Is there a difference in the level of prudence pre- and post-IFRS, and if so, to what extent can it be attributed to the implementation of the new framework?

❖ Are there any signs indicating that the level of prudence is converging within the European Union?

❖ Is there any indication that possible disparities in the level prudence can be linked to differences in accounting tradition, and finally, what is the effect on the harmonization process of all of the questions above?

1.5 Delimitations

In order to make the execution of this study feasible, the following delimitations have been made:

❖ Only consolidated account statements and listed companies on respective states' stock exchange will be studied, as the implementation of IFRS is only mandatory for listed companies and consolidated financial reports.

❖ The research is delimited to only study four EU-member states which are believed to be representative for the different accounting traditions in Europe (the Anglo-Saxon and the Continental tradition) and therefore have had different approaches to prudence. The states chosen for the study are Sweden, the United Kingdom, France and Germany (see chapter *2 "Frame of References"* for more information about the Anglo-Saxon and Continental accounting tradition as well as each respective country's traditions and established approach to prudence).

❖ Studied companies must have been public ten years before and ten years after the implementation of IFRS, thus studied companies have to have been public from 1994-2014.

❖ The model that is going to be used, the asymmetric timeliness of earnings model (Basu 1997), has four different hypotheses that are tested throughout Basu's paper. This thesis is only going to replicate the first hypothesis test due to practical limitations, the main reason being time restrictions (see chapter *3.3.1 "Basu's Asymmetric Timeliness of Earnings Model"* and *3.3.2 "Recreation of Basu's Regression"* for further explanation of the model and the research approach of the thesis).

❖ Another delimitation of the sample of companies used in this study is that the firms studied need to have all the variables for the regression analysis, from 1994-2014, available: earnings per share, market price per share and dividends per share (see chapter 3.3.1 "*Recreation of Basu's Regression*" for further information about the regression analysis applied in this thesis).

As the purpose of this thesis is to study prudence and harmonization between member states (and not prudence within a specific industry, stock index or any other business specific part of the economy) there will be no more delimitations concerning the sample used in the regression analysis than the ones mentioned above. Consequently, *all* listed companies from different industry sectors, cap-lists etc., that comply with the delimitations defined above will be included in the study.

2. Frame of References

In this chapter, earlier research concerning accounting traditions and the concept of prudence will be presented. Firstly, the concept of prudence will be introduced. This is followed by an introduction of the different historical accounting traditions in Europe, the Anglo-Saxon and the Continental practices, and an explanation of the accounting traditions in respective EU-member state (that is: Sweden, the United Kingdom, France and Germany). The different member states' historical views on prudence will also be accounted for. Thereafter, the regulatory framework IFRS will be presented and the approach to prudence in accounting under IFRS will be defined. For this part of the research, data from research papers and books on the subject will be used. The frame of references aims to serve as a foundation for the formulation of the hypotheses of this thesis, which are motivated and presented at the end of this chapter.

2.1 Earlier Research and the Concept of Prudence

Depending on which perspective is applied, two terms for the concept of prudence are used in existing research. Prudence is the European term for the cautious accounting behaviour described in the introduction while the American equivalent is accounting conservatism. In this section of the thesis the term conservatism will only be used when talking about conditional and unconditional conservatism because it refers to established concepts within the specific field of research.

2.1.1 Unconditional and Conditional Conservatism

Previous research divides conservatism into conditional ("income statement") conservatism and unconditional ("balance sheet") conservatism (Basu 1997). Both conditional and unconditional conservatism are ways that the firm responds to uncertainty. Until 1997, when Basu published his paper on asymmetric timeliness of earnings, the firm was assumed to respond to uncertainty solely by applying unconditional conservatism. That is, when faced with different values of shareholder equity, choose the lowest one. This way of dealing with uncertainty implies a systematic understatement of the book value of the firm compared to a more market value based approach (Ball et al. 2013a). Conditional conservatism, on the other hand, has to do with writing down the book value of net assets more timely, or quickly, when faced with "bad news" than when faced with commensurable "good news". It is also more "income statement related" because it is the earnings that are used and studied to determine whether there are any signs of conservative accounting or not, not the shareholder equity as in the unconditional conservatism case (Basu 1997).

In his paper, Basu (1997) argues that conditional conservatism is a more appropriate measure of conservatism than unconditional conservatism based on the fact that financial accounting has emphasized the income statement over the balance sheet since the mid-1930s. To support his claim he refers to the American Committee on Accounting Procedures' statement that "Conservatism in the balance sheet [*i.e. unconditional conservatism*] is of dubious value if attained at the expense of conservatism in the income statement, which is far more significant" (CAP 1939 as quoted in Basu 1997, p.8). Ball et al. argue that the key difference between conditional and unconditional conservatism is that conditional conservatism carries new information and therefore can be seen as more news-dependent. Furthermore they claim that it

also "... requires financial reporting behavior to be related to real economic income and, in particular, for financial statements to better reflect current economic losses" (Ball et al. 2013a, p.756). In a separate study made by the same authors they find that the Basu regression provides econometrically valid estimates of conditional conservatism (Ball et al. 2013b). In general, Basu's model of the asymmetric timeliness of earnings has become one of the principal models of the financial accounting literature.[1]

2.2 Traditional Accounting Principles

Many previous studies have been made concerning the effect traditional accounting traditions have on the harmonization process of accounting in the European Union. One of them is Nobes (2011), who has made a study about the persistence of accounting system classification after the implementation of IFRS. Despite 30 years of harmonization, the conclusion of his study of the largest listed companies in eight countries, which all were using the same reporting rules (IFRS), is that there is still a two-group classification of accounting principles: the Continental European principle and the Anglo-Saxon principle. Nobes finds three different reasons for the fact that international differences still occur between countries using IFRS: national differences in tax, financing and law. It has also been observed that countries maintain pre-IFRS practices because of inertia and the desire to minimize change for users and preparers (Nobes 2006). The effect of traditional accounting principles is, however, still debated. McLeay & Pope (2011), argue that there still are issues with the implementation process, such as the fact that the interpretation and enforcement of IFRS "...are far from uniform across Europe" (McLeay & Pope 2011, p. 233). This may be explained by "... preparer incentives and the effectiveness of local enforcement" (McLeay & Pope 2011, p. 233). Another study (Callao et al. 2009) has in opposition to Nobes found that difference in accounting amongst EU member states is not related with traditional accounting systems. The study clustered countries into groups with similar accounting behaviour and by doing so identified four different accounting groups. In these groups, Anglo-Saxon countries were in the same group as Continental countries.

The aim of this thesis is to grade the degree of prudence before and after the implementation of IFRS and thereby see if there has been any convergence in the usage of prudence between the chosen EU member states since the enforcement in 2005. It is assumed that traditional accounting principles have an impact on the degree of prudence in a country's accounting practices.[2] Because of this assumption, this study will continue with explaining the mentioned accounting principles above (the Anglo-Saxon and Continental principle) in more detail and then further explain each EU member states' accounting tradition.

2.2.1 The Anglo-Saxon Accounting Principle

The Anglo-Saxon principle is traditionally used in countries with a financing dominated by outside shareholders, and with a significant amount of equity shareholders. In the Anglo-Saxon countries, the national accounting principles are very influenced by the stock exchange. The law of Anglo-Saxon countries does not contain rules about the preparation of a company's annual

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[1] As of April 25th 2015, Basu (1997) has 2887 citations in Google Scholar and 502 citations in the Social Sciences Citation Index, making it one of the more highly referenced papers in the modern accounting literature.

[2] The assumption made is based on results from previous research made on the subject, e.g. Nobes (2011)

accounts or its behaviour. Instead they have an external standard-setting body to set those rules (Beke 2012). The Anglo-Saxon accounting principle has a strong focus on equity-holders' rights, and therefore the objective of financial reporting is to provide a "true and fair view" of the company reviewed. Accordingly, the concept of fair value and a rapprochement to market value based accounting are key features in the Anglo-Saxon accounting principle (Lhaopadchan 2010). Countries traditionally considered to be of the Anglo-Saxon accounting tradition are the United Kingdom and the United States (Nobes 2003).

2.2.2 The Continental Accounting Principle

The Continental principle is most common in countries with weak equity-holder rights and highly leveraged firms, where the financing is dominated by just a few major shareholders, such as family dynasties and major banks. This concentrated ownership structure has made Continental countries less prone to report information publicly, as major stakeholders can retrieve the information they need directly from the company. Due to the financial structure of the firms, the main focus of the markets, as well as of the regulation on the subject, has been to secure the reimbursement of the debt issued by the credit-holders. Thus, a more balance sheet oriented approach has been applied. Continental countries' accounting also tends to be more heavily influenced by taxation, which is the reason for standards being created by the local government rather than an external regulator (Beke 2012). As a result of companies being primarily financed by banks, which in general are more risk averse than equity holders, the accounting practice has been very resistant to value assets above historical cost and can thus be classified as more prudent than the Anglo-Saxon tradition (Lhaopadchan 2010). Continental accounting countries are, amongst others: Germany, France, Sweden, Italy and Belgium (Nobes 2003).

2.3 Accounting Traditions in Studied Member States

2.3.1 Traditional Accounting in the United Kingdom

Accounting in the U.K. has historically had a requirement that the financial statements should present a "true and fair view" with less focus on law, which has only provided general principles. The U.K. has a tradition of strong equity markets where the capital for entities is provided by numerous small shareholders. Accounting principles have emphasized the accurate reporting of profits, that is, choosing "a true and fair view" above prudence due to the structure of the capital markets. In order to satisfy the equity-holders' demand for information, accounting standards have been developed with an extensive focus on reporting financial information publicly (Joos & Lang 1994). There has also been a weak link between reported profits and taxation in the U.K., which according to Joos and Lang (1994) gives less incentive to report lower profits in order to reduce taxes. The financial reporting is only a starting point for the calculation of taxable income. In general, U.K. has had an Anglo-Saxon accounting philosophy which has historically focused on equity-holders. It has decoupled tax and financial reporting, and as long as the financial reports provide a "true and fair view", discretion is permitted in the preparation of financial statements (Joos & Lang 1994).

2.3.2 Traditional Accounting in Germany

Germany is often viewed as the opposite of the U.K when it comes to accounting tradition, and belongs to the Continental accounting practice. Due to its law tradition, Germany has a highly codified and prescriptive regulation system where credit-holders have been the main focus on the capital markets, as opposed to the U.K's equity focused perspective. This means that Germany has a tradition to be debt financed. The capital is provided by a small number of banks in general, which to a large extent are owned by prominent banking families. This has led to prudence in the accounting practice by primarily focusing on managing the balance sheet (i.e. unconditional conservatism) to make sure that the debtholders can repay their debt on time and with specified interest. Due to the concentrated ownership to a few large banks, which could retrieve information directly from the company, Germany has not had any strong tradition when it comes to reporting information publicly. Hence, the financial reporting of the firm tends to be less in-depth than among peers in the United Kingdom. As with many of the countries belonging to the Continental practice, Germany has a strong link between tax law and financial reporting. This creates incentives to report low profits in order to reduce tax (Joos & Lang 1994).

2.3.3 Traditional Accounting in France

Historically, France has been closer to Germany when it comes to accounting principles and still belongs to the Continental accounting practice, though recent studies show indications of them moving towards a more Anglo-Saxon accounting approach. Traditionally, France has, just like Germany, been mainly debt financed by large credit-holders; though prominent family dynasties have been relatively common compared to other European countries. As mentioned above this leads to little need to report information to the public through detailed financial reports. The stakeholders can receive this information, and in far more detail, directly from the company. One thing that signifies France is the additional focus on the government as a main stakeholder and one of the main players of the capital markets in the country. France has a unique demand to supply detailed information to the government in order to help the government manage the economy. As in the German case, France has a strong link between tax law and financial reporting, which is typical for Continental accounting practice (Joos & Lang 1994).

2.3.4 Traditional Accounting in Sweden

Sweden has a traditional accounting system and law practice that are both tax driven and dependent on international capital markets. It is not surprising that the accounting in Sweden, just like in Germany, has a strong link to taxation as the first professors of accounting in Sweden were either German or educated in Germany. Therefore, German accounting practice has had a strong influence on Swedish accounting practices as well as the principles themselves. It is a central part of Swedish accounting that accounts should be prepared in accordance with *God Redovisningssed*, which can be translated as "Sound Accounting Practice" or "Generally Accepted Accounting Practice", though specific accounting and taxation laws rank above it. Two conditions have to be met for "Sound Accounting Practice" to be achieved: A recognized authoritative body has to have made an accounting recommendation, and that a large and representative number of companies apply the accounting method (Blake et al. 1999; Wordfinder 2015). Sweden belongs to the Continental accounting practice, but is noticeably different from the rest of the group (Nobes 2011). While there is a strong linkage between taxation and

accounting in Sweden, there is also an external standard-setting body from the private sector which is trying to break that link (Akerfeldt et al. 1997).

2.4 The Accounting Tradition within IFRS

2.4.1 IFRS as a Regulatory Framework

IFRS is an equity market driven and principle-based accounting regulation. The principles of the accounting under IFRS are concluded from the IASB's Conceptual Framework. Principle-based accounting is more qualitative than rule-based accounting and therefore, it does not provide practitioners with strict guidelines about how to apply the accounting principles. Companies are instead empowered to make professional judgements of how certain standards should be applied in specific situations. The IASB is the standard-setting body which designs and publishes the IFRS standards. The IASB aims to be an independent standard-setter and the linkage between taxation and accounting is relatively low. Since 2005 it is mandatory for all listed companies in the European Union to draw up their consolidated annual accounts in accordance with IFRS, and today there are about 100 countries which allow or require accounting practice in accordance with IFRS. During the last decades, the equity market has become more important, even for countries which have traditionally been financed with capital from credit-holders. This trend has made the application of IFRS very useful in many EU member states which previously have had a more credit-holder driven accounting practice (Lumsden et al. 2012).

2.4.2 Motives behind Harmonization and Convergence in Financial Reporting

For a long period of time, the development and regulation of financial reporting have been executed on a national level. These different national developments and regulations have resulted in large differences in accounting practice between countries. Concurrent with the globalization, companies with different nationalities started to demand financial information from each other. This widespread exchange of financial information revealed a need for a harmonized financial reporting system. The different financial reporting systems made it difficult to compare companies from different countries which turned out to be a big problem for investors on the world's capital markets (Lumsden et al. 2012).

According to Ball (2006), no evidence or literature in favour of, or against, a mandated international accounting practice have been issued. There is thus good reason to be skeptical of the spokesmen and their statements for a global set of accounting standards. The increased cross-border integration in politics and markets is the source of international convergence in accounting. However, an integration of a global financial reporting system would dramatically reduce international transaction and information costs. The revolutionary globalization of markets has inevitably created a demand for international convergence and harmonization of accounting (Ball 2006). The European Union saw this demand for international convergence in accounting in the late 1990s and identified the IASC (the predecessor of IASB) as the natural choice of accounting practice to be mandatory for listed companies within the Union (Lumsden et al. 2012).

2.4.3 Prudence under IFRS

During 2010 the IASB published a new Conceptual Framework from which the principle of prudence was removed. The IASB's decision to remove the principle from its Conceptual

Framework was because they thought that it could encourage earnings management and that the principle was in conflict with the principle that information must be neutral. The IASB thought that the quality of neutrality in information was more important than prudence. The principle was removed while the IASB was working together in a convergence project with the FASB (the standard-setting body in the United States) and the FASB did not have an equivalent principle of prudence. While the principle of prudence has been removed from the Conceptual Framework, there are still elements of prudence in many standards of IFRS (Lumsden et al. 2012). A few of those standards are:

- ❖ IAS 36 - Impairment of Assets. An impairment review is needed at the end of each reporting period to discover any potential indications of impairment of the value of assets. Whenever the recoverable amount of an asset is less than its carrying amount, an impairment loss should be recognized.

- ❖ IAS 37 - Provisions, Contingent Liabilities and Contingent Assets. Contingent liabilities and provisions are recognized even when there has not yet been an impairment.

- ❖ IAS 2 - Inventories. The standard requires that inventories must be valued at the lower of net realizable value and value at cost (Lumsden et al. 2012).

One of the main differences between Continental accounting and IFRS is that IFRS make a large use of fair value accounting and conceive financial reporting in a more dynamic way. In Continental accounting practices and principles, historical cost is the basic criterion for accounting and prudence prevails over accruals (Palea 2013). Andre and Filip (2012) establish that because IFRS is more principle-based than rule-based, the accounting is more neutral than prudent. They give the following examples of IFRS's neutrality:

- ❖ There are clear rules of how and when to recognize provisions.

- ❖ The framework has a greater use of fair values.

- ❖ Impairment testing are used rather than amortization.

- ❖ There are possibilities to reverse prior impairments.

2.5 Formulation of Hypotheses

An accounting tradition with a strong capital market and a strong focus on the "true and fair view" and fair value concept, just like the Anglo-Saxon accounting principle, is considered to be more neutral than prudent (Andre & Filip 2012; Beke 2012; Lhaopadchan 2010; Lumsden et al. 2012; Palea 2013). Due to the emphasis on "true and fair view" in the United Kingdom's accounting tradition, the prediction of this thesis is that the prudence in the U.K will be the lowest of the countries studied. Germany, as an opposite to the U.K., with its credit-holder driven accounting tradition and with a focus on managing the balance sheet is therefore expected to be most prudent of the countries chosen in this thesis (Joos & Lang 1994). The Continental accounting tradition is dominant in Germany, and in accordance with the Continental accounting practice, prudence prevails over accruals (Joos & Lang 1994; Palea 2013). The prediction is that the U.K. will be least prudent and Germany will be most prudent both before and after the

implementation of IFRS due to desire to minimize change and inertia in the countries' accounting practices (Nobes 2006).

France and Sweden are, on the other hand, somewhere in between the Anglo-Saxon and the Continental accounting principle (Akerfeldt et al. 1997; Nobes 2011; Joos & Lang 1994). As a result of Sweden being heavily influenced by Germany in its accounting, Sweden is expected to be the second most prudent country (Blake et al. 1999). France has historically been close to Germany in its accounting, but due to France's rapprochement to the Anglo-Saxon accounting tradition it is predicted that France will be less prudent than Sweden and Germany but more prudent than the U.K. (Joos & Lang 1994). These predictions applies to both before and after the implementation of IFRS as a result of, as mentioned in the previous part, inertia and desire to minimize change in accounting practices (Nobes 2006).

IFRS as an accounting tradition is equity market driven and serves as an independent standard-setter. IFRS has also removed the principle of prudence from its conceptual framework (Lumsden et al. 2012). These elements are indicators of a neutral and dynamic accounting tradition, with less focus on prudence and with more focus on a "true and fair view" (Andre & Filip 2012; Lumsden et al. 2012; Palea 2013). Accordingly, it is expected that the more prudent countries (Germany and Sweden) should be *less* prudent after the implementation of IFRS, and thereby it is also predicted that the U.K. and France should be *more* prudent after the implementation. The prediction is that there has been a de facto harmonization in the usage of prudence between the member states after the implementation of IFRS. Thus, it is predicted that the degree of prudence have merged since 2005 between the countries.

To concretize and quantify the predictions developed above, three hypotheses have been formulated and are going to be tested throughout this thesis:

- ❖ Hypothesis 1 (H_1): The country factor is significant when it comes to explaining potential differences in the degree of prudence amongst the member states studied.

- ❖ Hypothesis 2 (H_2): The degree of prudence will differ within the member states over time.

- ❖ Hypothesis 3 (H_3): The difference in degree of prudence between the countries will be greater before the implementation of IFRS than after.

3. Method

In this chapter the intended approach of solving the problem and fulfilling the purpose of this thesis is introduced. Furthermore, arguments for the choice of research methodology and model are given and the outline of the working process with its decisions and adaptations is presented. The model used is also further explained and the recreation of Basu's (1997) regression and its variables are described and summarized. Furthermore, the chapter will contain how the regression will be adapted and applied throughout the study. Finally, some current criticism towards Basu (1997) will be accounted for, along with justifications for and limitations of the conducted study. The purpose of this chapter is to help the reader understand the underlying process of writing this paper and to provide a foundation upon which the reader can assess the reliability and validity of this thesis.

3.1 General Outline of Research Approach

To assess whether there has been any de facto harmonization within the European Union after the implementation of IFRS, the concept of prudence is going to be studied. To proxy for the harmonization within the Union, four countries have been chosen: Sweden, Germany, France and the United Kingdom. The reason for choosing these countries is that they are believed to be representative for the different accounting traditions in Europe (the Anglo-Saxon and the Continental tradition). The level of prudence within chosen countries of study before and after the implementation of IFRS will be identified in order to see if it has changed to be in accordance with the accounting prudence under IFRS.[3] To what extent the member states use prudence in their accounting is also going to be evaluated and the countries will be ranked from lowest to highest degree of prudence before and after the implementation of IFRS. This is done by measuring the degree of prudence using Basu's model (for further explanation about the process of measuring prudence see chapter *3.3.1 "Basu's Asymmetric Timeliness of Earnings Model"* and chapter *3.3.2 "Recreation of Basu's Regression"*). Then, hopefully, it is possible to see if there are any signs of convergence between member states regarding prudence after the implementation of IFRS.

3.2 Choice of Research Methodology

This study is based on a quantitative research methodology. As opposed to a qualitative research approach, which may be more appropriate when studying e.g. the behaviour of the firm, a quantitative research methodology makes it possible to study a greater amount of data retrieved from companies and therefore get a more statistically accurate and valid result. While the prudence in accounting is a result of the accounting choices the companies make (and thus in a sense their behaviour), the purpose of this thesis' empirics is to grade the level of prudence within chosen countries and how it has changed after the IFRS implementation. Thus, it is the *results* of the companies accounting choices and behaviour that is being studied, not the behaviour itself. The results are in the form of financial reports, or *quantitative data*, and therefore a more quantitative research approach has been chosen (Bell & Bryman 2015).

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[3]Although it has been removed in the conceptual framework, prudence is still a part of certain standards; see discussion under 2.4.2 "Prudence under IFRS".

3.3 Choice of Research Model

To measure the degree of prudence in companies, the model of asymmetric timeliness of earnings presented in an article by Sadiptu Basu in 1997 was used. His interpretation of prudence, so-called conditional conservatism, is that "good news" of a company is reflected slower in its earnings than "bad news" does. This asymmetry will lead to systematic differences between good and bad news in the timeliness of earnings. It should however be mentioned that Basu belongs to the school of the efficient market theory and this should be kept in mind because the theory has been heavily criticized for the last few decades (see further down under *3.3.3 "Criticism of the Asymmetric Timeliness of Earnings Model"*). Basu's model of asymmetric timeliness of earnings is presented more thoroughly below. To collect the data of companies in respective member state for the study, the Thomson Reuters database Datastream, the world's largest financial information database, will be used (Thomson Reuters 2015). The reason why a database and not financial reports was used in this study is the quantity of data easily accessible. With Datastream a much larger sample size could be attained.

3.3.1 Basu's Asymmetric Timeliness of Earnings Model

Basu's (1997) interpretation of prudence is that "bad news" is reflected more completely and quickly in earnings than "good news" does. His first prediction is accordingly that publicly available "bad news" is more timely reported in earnings. To proxy for "bad news" and "good news" and to test his prediction Basu uses negative and positive unexpected annual stock returns. Thus, negative stock returns is a proxy for "bad news" and positive stock returns is a proxy for "good news". It is solely this first hypothesis that is going to be tested in this thesis due to practical limitations, the main reasons being time and scope constraints.[4] His second prediction is that the concurrent earnings-return relation for publicly available "bad news" is comparatively stronger than the concurrent cash flow-return relation compared to publicly available "good news". The third prediction is that unexpected earnings declines have a temporary impact while unexpected earnings increases are prone to be persistent. The fourth and final prediction is that the market's reaction to unexpected earnings is greater for more persistent news, therefore it is predicted that the abnormal return per dollar of unexpected earnings is larger for "good earnings news" than "bad earnings news". All of these predictions are supported by empirical tests.

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[4] This bachelor thesis is the examination of a 15 ECTS course that runs from april-june 2015 at the School of Business, Economics and Law at the University of Gothenburg and the thesis itself has a page limitation of approximately 35 pages.

3.3.2 Recreation of Basu's Regression

Basu's (1997) regression for his first prediction have the following outline and variables:

$$X_{it}/P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it}$$

where;

X_{it} = The earnings per share for firm i in year t.

P_{it-1} = The price per share for firm i in year $t-1$.

α_0 and α_1 = The intersection coefficients. They are not relevant for this thesis (see explanation of variables below).

β_0 and β_1 = The slope coefficients. They are the variables used to calculate the level of prudence (see explanation of variables below).

R_{it} = Stock returns for firm i in year t = (Dividends per share for firm i in year t + Price per share for firm i in year t - Price per share for firm i in year $t-1$)÷Price per share for firm i in year $t-1$.

DR_{it} = The dummy variable. $DR_{it} = 1$ if $R_{it} < 0$, $DR_{it} = 0$ if $R_{it} \geq 0$.

Basu's (1997) theory, as mentioned above, is that under prudent accounting it is more likely that "bad news" about a company is recognized more immediate in its earnings than "good news" is recognized, using stock returns to proxy for "bad news" and "good news". Accordingly: the slope coefficient (β_1) for negative returns should be higher than the slope coefficient for positive returns (β_0) and, according to his prognostication, the explanatory power (adjusted R^2) should also be higher for negative returns than for positive returns. This prediction is illustrated in Chart 1 below. The correlation between positive stock returns ("good news") and earnings is illustrated in quadrant I in Chart 1. The intersection coefficient α_0 is the intercept on the X_{it}-axis and β_0 is the slope coefficient of the line in quadrant I. Hence, the correlation between positive stock returns ("good news") and earnings is illustrated in quadrant I in Chart 1. The intersection coefficient α_1 is the intercept on the R_{it}-axis and β_1 is the slope coefficient of the line in quadrant II and III. Consequently, the correlation between negative stock returns ("bad news") and earnings is illustrated in quadrant II and III. The variables that need to be solved for in order to calculate the level of prudence are the slope coefficients (β_0 and β_1). Basu (1997) subsequently calculates the grade of prudence with the formula: $(\beta_1+\beta_0) \div \beta_0$. The grade of prudence is high when the quota of the division is high. Thus, to measure the level of prudence only the slope coefficients of the regression analysis (the beta variables) are required. The intersection coefficients (the alpha variables) are irrelevant in the calculation of prudence.
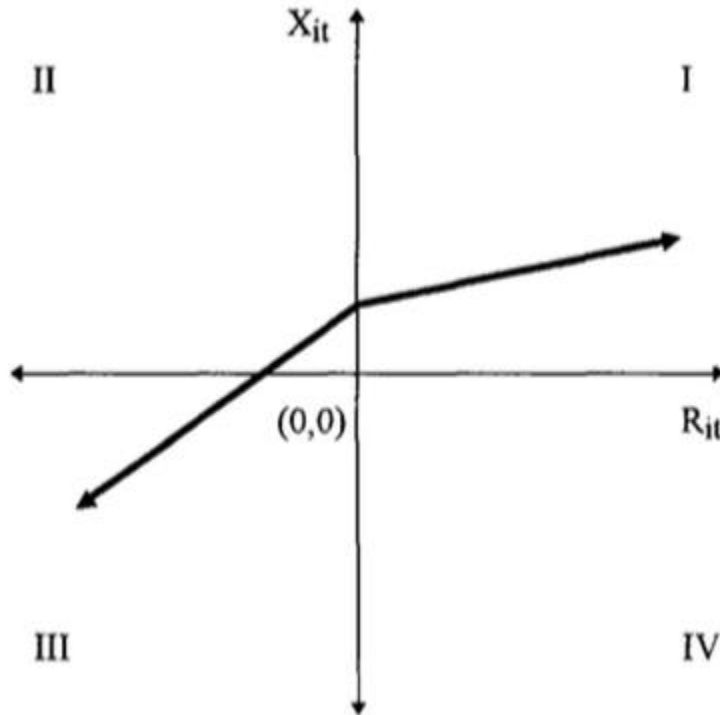
Chart of Basu's Prediction

Chart 1. Source: Basu (1997), p.12.
Quadrant I = Observations with positive earnings and positive returns.
Quadrant II = Observations with positive earnings and negative returns.
Quadrant III = Observations with negative earnings and negative returns.
Quadrant IV = Observations with negative earnings and positive returns.

Except for the variables in Basu's model mentioned above, the regression analysis in this thesis includes another dummy variable for year where:
DUM_{it}= 1 if year is > 2004, 0 if year is $\leq$ 2004.
This dummy variable consequently adds the effect IFRS has had on prudence in each member state, as the dummy variable will only contain data from years since the implementation of IFRS (2005-2014). The regression analysis was conducted as followed:

$$X_{it}/P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + \alpha_2 DUM_{it} + \alpha_3 DUM_{it} * DR_{it} + \beta_2 DUM_{it} * R_{it} + \beta_3 DUM_{it} * R_{it} * DR_{it}$$

The first part of the regression is identical to Basu's regression$(X_{it}/P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it})$ and measures the effect data from 1994-2004 has had on X_{it}/P_{it-1}. Accordingly, to measure the degree of prudence *before* IFRS, the same formula as Basu used to measure prudence was applied $[(\beta_1+\beta_0)\div \beta_0]$. The subsequent variables in the regression $\left(+\alpha_2 DUM_{it} + \alpha_3 DUM_{it} * DR_{it} + \beta_2 DUM_{it} * R_{it} + \beta_3 DUM_{it} * R_{it} * DR_{it}\right)$ are the effect data from years since the implementation of IFRS has had on X_{it}/P_{it-1}. To calculate the degree of prudence *after* IFRS, the slope coefficients of the variables added in the regression also need to be added in the grade of prudence formula. The grade of prudence after the enforcement of IFRS was then calculated as followed: $(\beta_0+\beta_1+\beta_2+\beta_3)\div(\beta_0+\beta_2)$.

The data needed to perform this regression are the following: earnings per share, market price of share and dividends per share for all companies listed from 1994-2014 in the studied EU member states. This data was downloaded from Datastream. The data was then adapted in Excel and the regression analysis was thereafter performed in the statistical program Stata. The regression was conducted for each of the EU member states.

3.3.3 Statistical Tests

In order to ensure that the results of the regression analyses made are statistically valid and thereby enhance the credibility of the study made, a t-test and a chi square test were conducted with a significance level of $\alpha=0.05$ and a confidence interval of 95%. Using a table of percentage points of the t-distribution with n=732 companies, the value for t is 1.96 ($\alpha=0.05/2 = 0.025$; df $\rightarrow \infty$). The chi square test was made in order to compare the coefficients given for the separate regression analyses between the different samples. That is, in order to be able to compare the beta coefficients for the four different countries and thereby be able to determine whether the differences observed between the countries are significant and therefore statistically reliable. The critical value, 9.35 in this case, is obtained by using a table of percentage points of the chi square distribution ($\alpha=0.05/2 = 0.025$; df = 4 categories (member states) - 1 = 3). In conclusion, the condition for the t-tests made in the empirics part of the thesis is that if $|t| \geq 1.96$, and the p-value (the probability that randomness is behind the observed values) for each country is $p \leq 0.05$, the test is deemed to be statistically reliable. If the chi square test is proved to be significant, that is if $\chi^2 > 9.35$, it means that the differences observed between the four samples are considered to be significant and further analysis may be of value (Montgomery & Runger 2006).

3.3.4 Criticism of the Asymmetric Timeliness of Earnings Model

Even if Basu's model is one of the most highly referenced papers in the modern accounting literature (see footnote 1), its validity is still debated. A more general type of criticism of the model of asymmetric timeliness of earnings concerns the fact that it assumes that the theory of efficient markets holds, and thereby that perfect information is available to the actors on the financial markets without any time lags. This means that there is supposedly no information asymmetry between the information given to the company and its accountants and the information given to the market. This theory has, however, been heavily criticized, mainly by researchers belonging to a more behaviouristic dogma on the subject e.g. Simon (1947) and Kahneman and Tversky (1979).

Dietrich et al. (2007) suppose in their research that the asymmetric timeliness research design cannot be comprehended as evidence of prudence. They further argue that results from former studies that have applied the model are attributable to biased test statistics. Because the biases originate in the asymmetric timeliness specification itself, Dietrich et al. (2007) are not able to identify any solutions to the problems discovered. As followed, they recommended other models to research prudence instead of Basu's model (e.g. change in cash investment, buildup of negative non-operative accruals and market-to-book ratio).

Another study made by Givoly et al. (2007) suggests that the use of the asymmetric timeliness of earnings model should be more qualified and selective in different research contexts. Features are identified in Basu's model that questions the model's ability to determine prudence. The model uses aggregated returns and earnings and this can cause an "aggregation effect".

Furthermore, when measuring prudence over shorter periods of time (e.g. quarterly), the model indicates a high degree of volatility though the degree of prudence is expected to be stable over periods of time. The asymmetric timeliness measure also fails to disclose prudence in cases where it is likely to exist. Prudence, when defined as the undervaluation of assets in relation to their economic value, has other dimensions than just the asymmetric timeliness in recognition of gains and losses. The authors propose that when measuring the degree of prudence in an examined sample, the asymmetric timeliness of earnings model should be used in conjunction with other measures of prudence. In conclusion, Givoly et al. (2007) argue that the asymmetric timeliness measure only captures a part of the total prudence in a firm.

3.3.5 Justification of Chosen Research Model and Limitations of the Study conducted

Although Basu's model of measuring prudence is old (from 1997) and has been criticized since its introduction, it has become a principal model in financial accounting literature (see footnote 1). In the literary review stage of this thesis, Basu's model of asymmetric timeliness of earnings was continuously recurrent. Because of the model being so highly referenced in accounting literature it was identified as the preferred model of measuring prudence in this thesis, despite its age and critic. However, by choosing Basu's model, this thesis is strictly limited to the definition of prudence that Basu gives. By limiting the research made to include only measures of conditional conservatism, unconditional conservatism is being overlooked. This does not mean that unconditional conservatism is a completely outdated and an irrelevant measure of prudence. The balance sheet and its posts is of great importance when it comes to determining whether a company is cautious in its valuation of its assets and potentially guilty of so-called earnings management (Lumsden et al. 2012). Many of the standards in IFRS treat the problem of trying to achieve an as true as possible view of the net assets and the economic situation of the company reviewed, in order to provide the market with relevant information for future decision making (see further under *2.4.2 "Prudence under IFRS"*). With that said, conditional conservatism is believed to be more closely related to real economic income and thereby more strongly linked to the performance of the firm and not as easy to manipulate as unconditional conservatism (e.g. Ball et al. 2013a). Another important issue to address is that even if the potential biases introduced by Dietrich et al. (2007) should not be ignored, they seem implausible to cause any problem in the outcome of the regression analyses in this study. As the aim of this thesis is to look at the *relative* prudence between studied member states, the model of asymmetric timeliness of earnings is thus equally biased for all four countries examined.

Although most of the criticism of the choice of research model can under current circumstances be dismissed, there are some limitations of the study made that need to be mentioned. The most noteworthy limitation is that, when delimiting the data used to listed companies that have all the needed variables available for a continuous time series of 20 years, in order to be able to run Basu's (1997) regression, the sample size of the study shrinks dramatically. A smaller sample size is not to be preferred due to potential biases. In this case, the delimitations made may result in e.g. a survival bias amongst the companies studied which can be very difficult to estimate and adjust for. Another limitation of the study is that not all countries in the European Union are included. The study can thus tend to be strongly generalizing and thereby miss potential national variations within the Union. There is also a small risk that the financial crisis has affected the results of this study, as most of the stock returns were negative for 2008 and a larger amount than

before the crisis stayed negative for the following year. This risk should however remain minimal due to the length of the time series studied.

4. Empirics and Regression Analysis

In the empirical study, the information was gathered through Thomson Reuters' Datastream, downloaded and formatted into an Excel file before the regression was done in the statistical program Stata. The type of regression used is a fixed effect OLS regression. This section starts with an overview in chapter 4.1 of the data collected followed by a presentation and explanation of the regression results for each country examined in chapter 4.2. In chapter 4.3 interpretations of the regressions' outcomes will be compiled in order to see possible indications of convergence or divergence in the level of prudence between the countries. Furthermore tests will be made to determine if the enforcement of IFRS has had a significant effect on the level prudence in each individual member state. Finally, in chapter 4.4, the grade of prudence before and after the implementation of IFRS are calculated and interpreted.

4.1 General Overview of Gathered Data

The number of observations and listed companies found for each country as well as in total from 1994-2014 are presented in Table 1.

Companies and Observations

	France	Germany	Sweden	The U.K.	Total
Number of Companies	90	80	273	289	*732*
Number of Observations	1 800	1 600	5 460	5 780	*14 640*

Table 1. Source: Appendix 1.

After all the delimitations were made, a total of 732 companies and 14 640 observations were identified (that is 20 years of individual observations for 732 companies: 732 x 20 = 14 640). Both the number of companies and the number of observations are noticeably larger for Sweden and the United Kingdom than for France and Germany. This could potentially result in a bias towards the values for Sweden and the U.K., but since the regression is run for each country individually and then compared with the other countries' output, this should not be an issue. The problem would arise if the regression was run for all 732 companies at once (Montgomery & Runger 2006).

4.2 General Overview of the Regression Analysis

The regression used in this thesis was executed as followed:

$$X_{it}/P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + \alpha_2 DUM_{it} + \alpha_3 DUM_{it} * DR_{it} + \beta_2 DUM_{it} * R_{it} + \beta_3 DUM_{it} * R_{it} * DR_{it}$$

where;
X_{it} = The earnings per share for firm i in year t.
P_{it-1} = The price per share for firm i in year t-1.
α_{0-3} = The intersection coefficients.
β_{0-3} = The slope coefficients.
R_{it} = Stock returns for firm i in year t = (Dividends per share for firm i in year t + Price per share for firm i in year t - Price per share for firm i in year t-1)÷Price per share for firm i in year t-1.
DR_{it} = The first dummy variable. $DR_{it} = 1 \ if \ R_{it} < 0, DR_{it} = 0 \ if \ R_{it} \geq 0$.
DUM_{it} = The second dummy variable DUM_{it} = 1 if year is > 2004, 0 if year is ≤ 2004.

The first part of the regression is an exact replica of Basu's (1997) regression to measure prudence ($X_{it}/P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it}$). This part of the regression measures only the level of prudence before the enforcement of IFRS. The subsequent variables that were added in the regression to fit the aim of this thesis ($\alpha_2 DUM_{it} + \alpha_3 DUM_{it} * DR_{it} + \beta_2 DUM_{it} * R_{it} + \beta_3 DUM_{it} * R_{it} * DR_{it}$) add the effect that the implementation of IFRS has had on the level of prudence (for further description of the regression, see chapter *3.3.2 "Recreation of Basu's Regression"*).

4.3 Regression Results

Separate regressions were run for each of the member states. The results from the regressions are presented below in Table 2. As the alpha coefficients are irrelevant in the calculations of the grade of prudence they will not be commented further in this thesis, and are therefore not included in Table 2 below. The beta coefficients are the only variables required to measure prudence (see further explanations about the formula for calculating prudence in chapter *3.3.2 "Recreation of Basu's Regression"*, and the results from the calculations made in this study in chapter 4.4 *"Grade of Prudence Before and After the Implementation of IFRS"*).

Results from Regression Analyses

	France	*Germany*	*Sweden*	*The U.K.*
β(0)	0.033	0.040	0.047	0.062
β(1)	0.165	0.140	0.183	0.267
β(2)	-0.001	0.073	0.184	-0.039
β(3)	0.146	-0.136	0.023	-0.062

Table 2. Source: Appendix 1.

4.3.1 Slope Coefficients Pre-IFRS

β_0 and β_1 are the slope coefficients reflecting prudence before the implementation of IFRS. β_0 is the slope coefficient for positive stock returns, while β_1 is the slope coefficient for negative stock returns. As illustrated in Chart 2 below, β_0 and β_1 do not vary significantly between the member states, which shows a low variation in the level of prudence between countries (Basu 1997). The only country that stands out from the rest with marginally larger β_0 and β_1 coefficients is the United Kingdom, indicating that earnings in the U.K. are more sensitive to changes in stock returns (i.e. a change in X-direction in Basu's graph, see Chart 1 under *3.3.2 "Recreation of Basu's Regression"*) than the other countries, especially when the returns are negative (i.e. for β_1). The lack of variation in the coefficients between the member states indicates thus that the level of prudence was relatively converged before the implementation of IFRS. (Basu, 1997).

Chart of β_0 and β_1
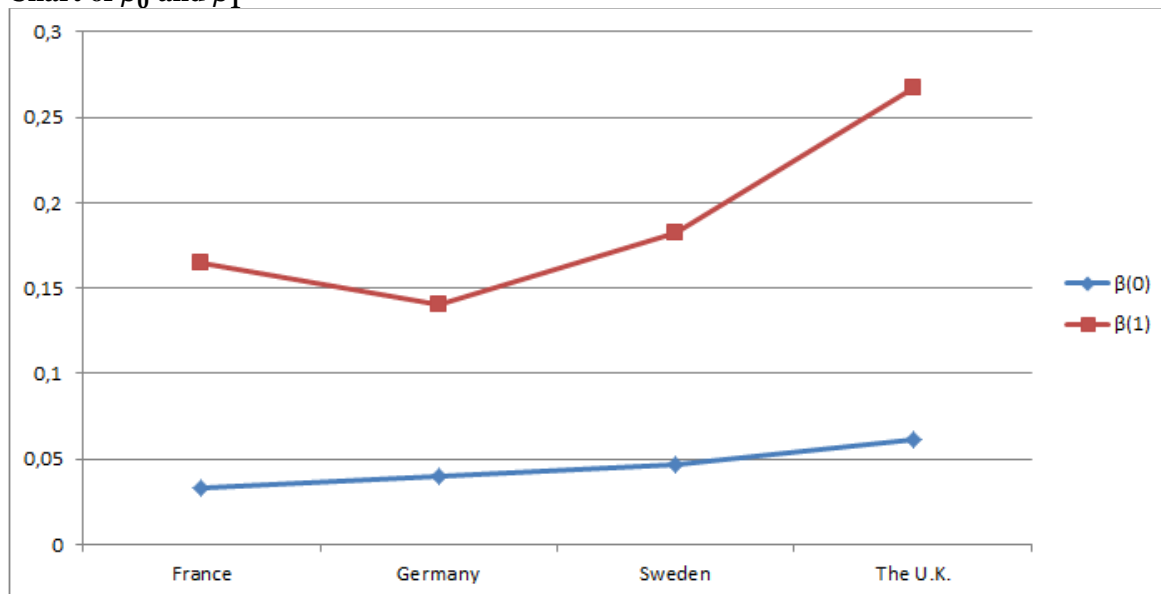
Chart 2. Source: Appendix 1.

4.3.2 Slope Coefficients Post-IFRS

β_2 and β_3 are the slope coefficients reflecting the effect IFRS has had on prudence. β_2 is the slope coefficient for positive stock returns after IFRS and β_3 is the slope coefficient for negative stock returns after IFRS. Both are illustrated in Chart 3 below. As seen in the illustration, there are more variations in the coefficients reflecting the period after the IFRS implementation than the coefficients preceding it (i.e. there are more variations in β_{2-3} than in β_{0-1}). These variations in the slope coefficients between member states show that the countries in fact has become *less* harmonized in their usage of prudence since the implementation of IFRS. The blue line (reflecting β_2) and the red line (reflecting β_3) are far from being horizontally straight between member states, which portrays that IFRS has had a divergent effect on the level of prudence within the European Union (Basu 1997).

Chart of β_2 and β_3

Chart 3. Source: Appendix 1.

4.3.3 Significance Test of the Effect of the Implementation of IFRS

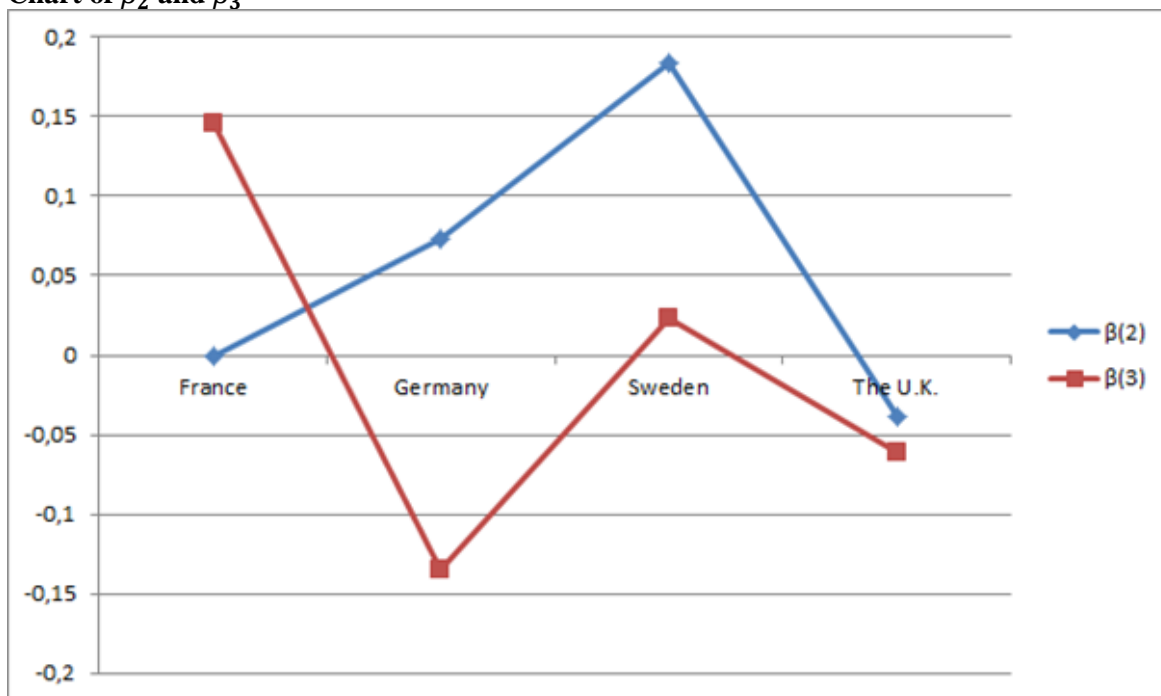In analyzing further, β_3 signifies the incremental effect on $X_{it}/P_{i\,t-1}$ when stock return (R_{it}) increase by one unit, given that the stock return is negative ($DR_{it} = 1$) and that the period of study is after the implementation of IFRS ($DUM_{it} = 1$). In other words, β_3 is the incremental change in earnings ($X_{it}/P_{i\,t-1}$) that can be attributed to the implementation of IFRS given the conditions stated above. Accordingly, when studying the *significance* of the effect that the implementation of IFRS has had on prudence, β_3 is the only coefficient that is relevant to analyse in more detail. Therefore, the t-value and p-value for β_3 were added in Table 3 below.

Results from t-tests for β_3

	France	*Germany*	*Sweden*	*The U.K.*
t- value	2.40	-2.00	0.30	-1.39
p-value>|t|	0.017	0.045	0.766	0.164

Table 3. Source: Appendix 1.

With a significance level of 5%, the implementation of IFRS is identified as a significant variable for the level of prudence in France and Germany (as both countries have absolute t-values that are greater than 1.96 and p-values below 0.05). Prudence in Sweden and the United Kingdom is, on the other hand, not as affected by the implementation of IFRS (their t-values are less than 1.96 and their p-values are greater than 0.05). The values for Sweden are especially noteworthy, implying that IFRS has had very little effect on the country's change in prudence (its t-value is 0.30 and p-value is 0.766).

A chi square test was also made in order to determine whether the differences observed in the level of prudence between the countries pre and post IFRS are economically significant. The test resulted in a chi square value of 4.64 (Appendix 2). As the value for chi square obtained was lower than the critical value (4.64 < 9.35), it is not enough deviations from the expected values in the different estimates for the test to be significant. This means that the differences observed in the level of prudence within the European Union cannot be statistically proven and thereby that the differences are not economically significant. Further studies need to be conducted to examine the subject further (see chapter 5.2 "*Suggestions for Further Research*").

4.4 Grade of Prudence Before and After the Implementation of IFRS

4.4.1 Calculation of the Grade of Prudence

For the grade of prudence pre-IFRS, the grade of prudence for each country was calculated in accordance with Basu's formula. The degree of prudence post-IFRS proceeded from Basu's original formula, but was altered to fit the adjustments made in the regression. The formulas to calculate prudence were drawn up as followed:

    (1) Grade of prudence before IFRS $= (\beta_1 + \beta_0) \div \beta_0$
    (2) Grade of prudence after IFRS $= (\beta_0 + \beta_1 + \beta_2 + \beta_3) \div (\beta_0 + \beta_2)$

A *high degree* of prudence defines a country as *prudent* in its accounting, and likewise does a *low degree* of prudence define a country as *non-prudent* in its accounting (Basu 1997). As the aim of the study is to examine if there has been any de facto harmonization of the level of prudence between the countries since the implementation of IFRS, no external benchmark or absolute grade of prudence will be used to define what constitutes a prudent country. The degree of prudence for each country will instead be compared to one another, as well as within each country to see the change over time. It is thus the *relative* change in the degree of prudence that is of interest in order to determine whether any de facto harmonization has occurred.

4.4.2 Results and Interpretations of Grade of Prudence
The results from the above made calculations are presented in Table 4 and illustrated in Chart 4.

Table: Grade of Prudence

	Prudence pre-IFRS	*Prudence post-IFRS*	*Change in Prudence*	*Change in Prudence (%)*
France	5.954	10.654	+4.700	+78.95%
The U.K.	5.328	9.842	+4.513	+84.70%
Sweden	4.865	1.890	-2.974	-61.14%
Germany	4.516	1.043	-3.474	-76.91%

Table 4. Source: Appendix 1.

As seen in Table 4 above, France was the most prudent country before the enforcement of IFRS, followed by, in subsequent order, the United Kingdom, Sweden and at last Germany, which was least prudent in its accounting by the countries studied. The ranking order from most prudent country to least prudent country has remained the same even after the implementation of IFRS, but even though the ranking order has stayed the same, the actual grade of prudence has not. Most noteworthy are the changes in the level of prudence for the U.K. as well as France. The degree of prudence has in France increased from 5.954 to 10.654, an increase of 78.95%, while in the United Kingdom the degree of prudence has increased with 84.70%, from 5.328 to 9.842. Following these two countries, there is a large gap in the degree of prudence for the subsequent nations, which is much larger than the coherent gap registered before IFRS. In fact, the level of prudence has decreased in Sweden and Germany. Sweden's degree of prudence declined with 61.14% and went from being 4.865 to 1.890. Germany is still the least prudent of the countries studied, and has since the IFRS enforcement become even less prudent. Its degree of prudence decreased with 76.91% from 4.516 to 1.043 after IFRS was implemented.

4.4.3 Illustration of the Development of the Grade of Prudence

In order to illustrate this variation in the development of the grade of prudence for the different member states, Chart 4 below was created.

Chart: Grade of Prudence
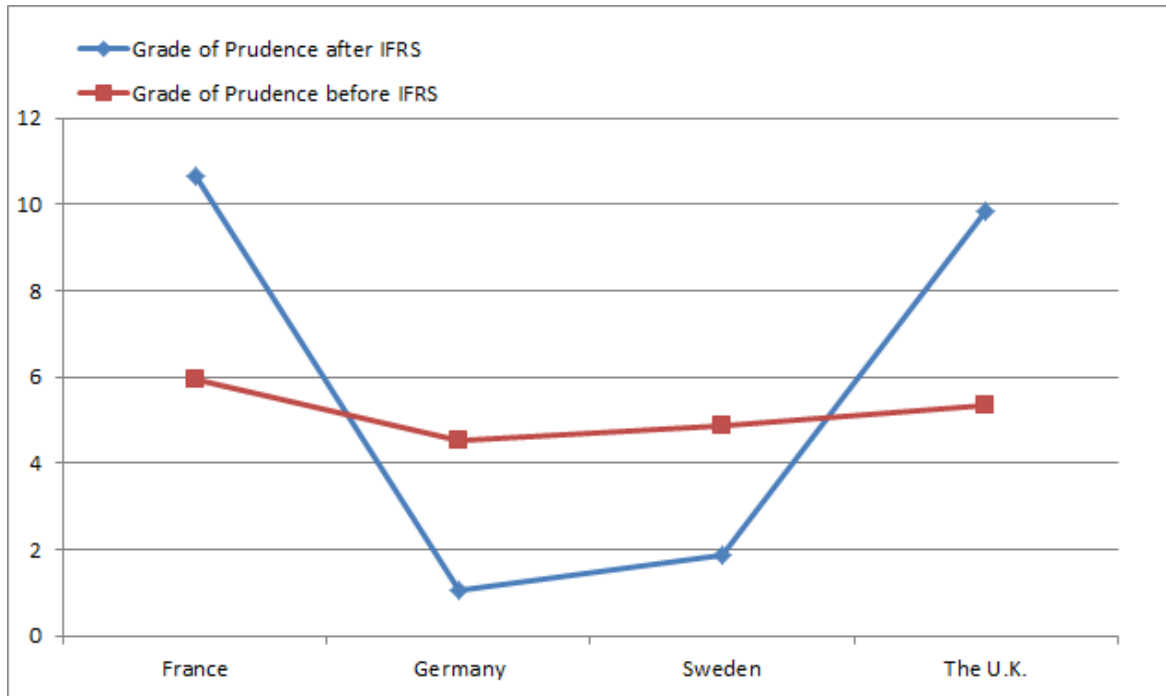
Chart 4. Source: Appendix 1.

As shown in the chart, the line for the grade of prudence *before* IFRS (the red line) is more aligned horizontally than the line for the grade of prudence *after* IFRS (the blue line). The degree of prudence went from vary within the span of 4.516-5.954 to vary between 1.043-10.654, which implies that the gap between the least prudent country (Germany) to the most prudent country (France) has increased during the subsequent years of the IFRS enforcement. This points to, in its turn, that the degree of prudence was in fact more harmonized before the implementation of IFRS and has since then diverged between the member states studied. Thus, a de facto harmonization with regard to the level of prudence cannot be identified between the studied member states.

5. Analysis and Discussion

In this chapter the concepts and models of the frame of references will be tied to the information from the empirical section and be analyzed further. The analysis aims to form the basis for the deduction of the research questions posed in the introduction of this thesis and the hypotheses formulated in the frame of references in order to fulfill the purpose of the study. As mentioned in the empirical study above, the chi square value for the test run was below the critical value, and therefore the disparities observed in the level of prudence between the member states studied cannot be statistically proven. The signs of differences actually occurring in the level of prudence between the countries in the empirical study of this thesis' are thus only indications that such discrepancies may in fact exist. With this in mind, the analysis and the deduction of this thesis are of a more qualitative approach, conducting a line of reasoning on underlying connections that these indications may imply.

As mentioned in the frame of references chapter in this thesis, it is important to clarify which definition of conservatism that is used, conditional or unconditional, as they are reflected in accounting in different ways. To be able to present a more holistic approach to prudence, by merging Basu's (1997) model and the theory of accounting traditions, both types of conservatism are present in the underlying research of this thesis. Basu (1997) looks solely at conditional conservatism in his paper, but the theory of accounting traditions is based on unconditional conservatism and it is accordingly the unconditional definition of prudence that is being used when discussing whether a country is prudent or not. Hence, it is possible that a country is deemed to be the least prudent under conditional conservatism, but the most prudent under unconditional conservatism. It is good to have in mind if a different definition of prudence was applied, a whole other result might have been obtained.

5.1 Discussion of the regression results

5.1.1 Discussion of the Results Obtained from the Regression Analyses Pre-IFRS
The empirical study shows that the slope coefficients do not vary significantly between the countries before the implementation of IFRS. The only country that just slightly stood out with marginally greater values of β_0 and β_1 was the United Kingdom, indicating that the U.K is more sensitive to changes in stock returns than the other countries. According to Joos & Lang (1994), the United Kingdom has a strong equity market with many small equity shareholders, leading the market to put emphasis on the information need of the investors. Thus the U.K. has a strong tradition in reporting financial information publicly. This might be an explanation to the elevated levels of the beta coefficients in the United Kingdom case. The higher levels for β_0 and β_1 may be a sign of the accounting tradition in the U.K. (the Anglo-Saxon accounting tradition) emphasizing fair value and a "true and fair view". This indicates that the U.K. has a more transparent approach to accounting, quickly reporting financial information due to high requirements regarding information set by the capital markets in the country (Lhaopadchan 2010). Opposed to this explanation, the accounting profession still tended to report negative stock returns more timely than positive ones (as illustrated in Chart 2 where $\beta_0 < \beta_1$). This is suggesting a more prudent approach to accounting, at least pre-IFRS (Appendix 1). This is true

for all countries studied, indicating that Basu's (1997) prediction of negative earnings being more timely reported than positive ones holds for the years 1994-2004.

5.1.2 Discussion of the Results Obtained from the Regression Analyses Post-IFRS
As indicated in Chart 3, there are clearly more variations in the coefficients reflecting the period after the IFRS implementation than the coefficients before it (i.e. β_0 and β_1) (Appendix 1). When assuming that β_2 is the equivalent of β_0 and β_3 is the equivalent of β_1 post IFRS, Basu's first hypothesis does not hold for the period after the implementation of IFRS. That is, negative earnings is not reported more timely than positive ones, except for in the French case where the condition $\beta_2 < \beta_3$ holds. In the U.K. case, as illustrated in Chart 3, $\beta_2 \approx \beta_3$ which means that both negative and positive stock returns are reported timely. As mentioned above in the analysis of the β_0 and β_1 coefficients, this might be explained by the U.K being more transparent in its accounting due to its accounting tradition and also in order to satisfy the high requirements on information posed by the capital markets. As both the β_2 and the β_3 are negative after IFRS, there are indications that the U.K., in line with its accounting tradition, is reporting financial information, both "good news" and "bad news", at the same pace.

Another interesting finding, shown in Chart 3, is that the variations in the slope coefficients between the member states actually indicate that the countries has become *less* harmonized in their usage of prudence since the implementation of IFRS. This indicates, in its turn, that the purpose of the implementation, the harmonization of accounting, has failed as there are no signs of any de facto harmonization occurring post IFRS. In fact, the empirical study in this thesis points to the opposite result, that IFRS has had a divergent effect on European accounting.

5.2 Discussion of the Results from Grade of Prudence Calculations
The results from the calculations of the grade of prudence, the percentage change in the level of prudence, the *observed* ranking order from most prudent country (1) to least prudent country (4) pre- and post-IFRS and the *predicted* ranking order based on respective nation's accounting tradition from most prudent (1) to least prudent (4) pre- and post-IFRS is presented below in Table 5. As illustrated in the table, the ranking order stayed the same pre- and post-IFRS, supporting Nobes (2006) theory of inertia and countries' desire to minimize change.

Prudence Grade and Ranking Order

	Prudence pre-IFRS	Prudence post-IFRS	Change in Prudence (%)	Ranking Order (pre- and post-IFRS)	Predicted Ranking Order (pre- and post-IFRS)
France	5.954	10.654	+78.95%	1	3
The U.K.	5.328	9.842	+84.70%	2	4
Sweden	4.865	1.890	-61.14%	3	2
Germany	4.516	1.043	-76.91%	4	1

Table 5. Source: Appendix 1. Predictions are formulated in chapter *2.5 "Formulation of Hypotheses"*.

5.2.1 Summary of the Two Accounting Traditions from the Frame of References

According to Nobes (2011) there are indications that a two group classification of countries, Anglo-Saxon and Continental, is still present despite the harmonization attempts made within the European Union. Countries has historically developed and regulated financial reporting on a national level (Lumsden et al. 2012). According to Nobes (2006), these differences in tax, financing and law (i.e. differences in accounting tradition) affects how IFRS is applied in countries, which consequently leads to national differences based on respective nation's accounting tradition. Based on these findings it was concluded in the frame of references part of this thesis that the Anglo-Saxon accounting tradition is in general less prudent than the Continental accounting tradition. The reasoning for this statement is that, as the Anglo-Saxon accounting is equity market driven and the financing is dominated by outside shareholders, the focus of financial reporting is thus to report a "true and fair view" of the company to the public (Beke 2012). This has led to the concept of fair value becoming a key feature in Anglo-Saxon accounting and thereby, based on Anglo-Saxon accounting's focus on neutrality, fair value and the "true and fair view" concept, the Anglo-Saxon principle was deemed less prudent than the Continental one (Lhaopadchan 2010). Continental accounting is, on the other hand, driven by credit-holders as companies in Continental countries are primarily financed by debt from just a few major shareholders, primarily banks or family dynasties (Beke 2012). This has resulted in an accounting practice that is resistant to value assets above historical cost, and where prudence prevails over accruals (Lhaopadchan 2010; Palea 2013). The Continental accounting tradition was thus identified as more prudent than the Anglo-Saxon tradition.

5.2.2 Results and Predictions made about France

With this in mind, France was predicted to be more prudent than the U.K., but less prudent than Sweden and Germany, as France is a member of the Continental accounting group, but with an increasing rapprochement to the Anglo-Saxon accounting practice (Joos & Lang 1994). Though, as it turned out, this prediction was not accurate. In fact, judging from the prudence calculations made in the empirics part of this thesis, France was identified as the most prudent member state both pre- and post-IFRS. The degree of prudence went from 5.954 to 10.654, an increase by 78,95%. Subsequently, as a result of the intended effect of harmonization that the implementation of IFRS was supposed to have, France was expected to be *more prudent* after the implementation of IFRS (Lumsden et al. 2012). The empirical study of this thesis suggests that this prediction, however, was accurate.

5.2.3 Results and Predictions made about the United Kingdom

As mentioned in the empirical study, the second most prudent country pre- and post-IFRS was the United Kingdom. The U.K. is considered to be of the Anglo-Saxon accounting tradition with its tendency to have strong equity markets and emphasis on the accurate reporting of profits. According to previous research, the U.K. has thus chosen accounting with a "true and fair view" above prudence, and has decoupled tax and accounting, suggesting that no incentive to report lower earnings should be found (Beke 2012; Joos & Lang 1994). The United Kingdom, as a representative of the Anglo-Saxon practice, was accordingly predicted to be the *least prudent* country both before and after the enforcement of IFRS. The result of the empirical study, however, implies that prediction to be false. It was thereafter predicted that the grade of prudence would increase post-IFRS, as a result of a de facto harmonization in the European Union (Lumsden et al. 2012). A part of this prediction seems to be accurate. Indeed, the degree of

prudence increased by 84.70% post IFRS and went from being 5.328 to 9.842, but the reason for the increase does not seem to be a de facto harmonization of the accounting practice within the Union. As mentioned in the previous chapter, no empirical indication of such a harmonization has been detected. Quite the opposite, the empirical results in this study suggests that maybe even a deharmonization has occurred.

5.2.4 Results and Predictions made about Sweden

Sweden was identified as the third most prudent country, both before and after IFRS was implemented in the empirics of this thesis. As Sweden is a member of the Continental accounting group, with an accounting heavily influenced by Germany, but also noticeably different from other countries in the Continental accounting group (e.g. Sweden has an external standard-setting body which is trying to break the link between taxation and accounting), it was predicted to be the second most prudent country of the member states studied (Akerfeldt 1997; Blake et al. 1999; Nobes 2011). This prediction is suggested to be false from the calculations made in this study. The grade of prudence was then predicted to decrease post-IFRS. This prediction was motivated by the fact that IFRS is equity market driven and principle-based. According to Palea (2013), IFRS make a large use of fair value accounting and Andre and Filip (2012) states that IFRS is more neutral than prudent because it is principle-based. This prediction was, with support in the empirical section of this study, partly suggested to be accurate. Before the enforcement of IFRS, Sweden had a grade of prudence of 4.865, the grade decreased thereafter with 61.14% to 1.890 after the implementation of the new regulatory framework. While the prudence calculations indicate that the level of prudence has decreased in Sweden, the t-test shows that this change is not attributable to the implementation of IFRS.

5.2.5 Results and Predictions made about Germany

Identified as the least prudent country of the member states studied, pre- and post-IFRS, was Germany. As claimed by Joos and Lang (1994), Germany has an tradition to be debt financed by a small number of banks. Companies have accordingly focused on managing the balance sheet, which has led to prudence in the accounting practice. Germany represents the Continental accounting tradition, and was thus predicted to be the most prudent country. This prediction was, however, suggested to be false according the empirics of this thesis. It was subsequently predicted that the grade of prudence would decrease after the enforcement of IFRS, because of IFRS being more neutral than prudent (Lumsden et al. 2012). This prediction was on the other hand suggested to be accurate. From the prudence calculations made, it was shown that Germany had a prudence grade of 5.516 pre-IFRS. The level of prudence thereafter decreased with 76.91% to a prudence grade of 1.043.

5.2.6 Results and Predictions made about Harmonization

It was then finally predicted that the level of prudence had de facto harmonized since the IFRS enforcement, and that the difference in degree of prudence would be greater before the IFRS implementation than after. This prediction was motivated by IFRS's intended effect of de facto harmonization in accounting within the European Union (Lumsden et al. 2012). Though this prediction suggests to be false according to this thesis' empirics. The prudence grade went from vary between 4.516-5.954 pre-IFRS to vary between 1.043-10.654 post-IFRS, thus is the gap in the degree of prudence *smaller* before the implementation of IFRS than after. The degree of prudence is accordingly suggested to have diverged between the studied member states.

Consequently, no indications of a de facto harmonization between the countries can be observed in this thesis.

5.3 Discussion of the Significance Tests

5.3.1 The T-test

As mentioned earlier when testing the economic significance of the β_3 coefficient, that is when testing whether the implementation of IFRS has had a significant and therefore a statistically reliable effect on the level of prudence in the countries studied, the implementation of IFRS was only confirmed to have a significant effect in France and in Germany (Appendix 1). This finding may be possible to connect to the two countries' accounting tradition. Both France and Germany have, according to Nobes (2011), a high level of government involvement and a strong connection between accounting and tax. This might be a reason for the implementation of IFRS having a significant impact on the level of prudence in the two nations. With a strong connection to governmental oversight it may not seem that farfetched that a regulation adopted by the European Union, which stands above national law within the common market area (Lumsden et al. 2012), has had such an important effect on the member states belonging to the Continental accounting tradition. Having said that, further studies need to be conducted in order to test if such a relationship exists. Even if there would be a connection between the accounting tradition of France and Germany and their accountants' attitude toward legislative authorities and the laws they pass, a legitimate question would be why Sweden is not showing the same results, despite the fact that they all belong to the Continental accounting tradition. Is it because Sweden is, according to Nobes (2011), noticeably different from the rest of the group and because it has an external standard-setting body for accounting principles (Akerfeldt 1997) Again, further research beyond the scope of this study need to be taken into account in order to examine the matter further.

As for the results from the significance test made, it is, as discussed above, proven that a significant part of the change in the level of prudence for France and Germany can be attributed to the implementation of IFRS, but no such link is detected for the two other countries (Sweden and the United Kingdom). This indicate, that while the U.K has shown signs of reporting all financial information more timely and thus becoming less prudent, this development cannot be statistically established to be attributable to the IFRS implementation. *Other factors*, unknown to this study, have probably caused the reformation in the United Kingdom. Another interesting finding was the extreme values for Sweden in the made t-test, the t-value being 0.30 and the p-value is 0.766 (Appendix 1). This implies that the test run is nowhere near significant in Sweden's case and there is a very high probability that a factor exogenous to the study made can explain the development of the degree of prudence in Sweden between 2005 and 2014.

5.3.2 The chi square test

Besides the t-test that was made, a chi square test, testing the differences observed in the level of prudence between the member states, was also run. As the chi square value was below the critical value, the differences observed in the level of prudence between the member states are not economically significant and thereby they cannot be statistically proven (Appendix 2). There is thus good reason to be cautious when declaring that there even are differences between the countries, for this to be certified further studies needs to be made. In this study, only indications that differences may exist are found.

5.4 Analysis of Differences between Results and Predictions

The difference in the predictions made about the ranking order of the countries studied (from the least prudent country to the most prudent country) and the outcome in the calculations of the prudence grades, could be due to literature on prudence within accounting traditions has been oriented towards unconditional conservatism. Basu's model of measuring prudence is, however, based on conditional conservatism (Basu 1997). This could explain the differences observed between the predictions about the ranking order on the level of prudence of the member states studied (based on respective state's accounting tradition) and the results from the regression analyses and the calculations of the prudence grades made in the empirics of this thesis.

However, all the predictions made about the direction of the level of prudence after the enforcement of IFRS for each member state was suggested to be accurate. These predictions were also based on respective country's accounting tradition and literature about IFRS and harmonization. Could it be that the countries that in previous literature have been perceived as more prudent according to their accounting traditions (i.e. unconditional conservatism), in this thesis identified as Germany and Sweden, felt the need to be *less prudent* after the implementation of IFRS in order to harmonize their accounting towards other member states within the European Union? Consequently, Sweden and Germany did not reflect "bad news" in its earnings as fast as they did before IFRS was enforced. This resulted in them being less prudent (in accordance with conditional conservatism) in their accounting after the implementation of IFRS, when they in fact were least prudent in their accounting pre-IFRS. Thus, the countries perceived as less prudent in previous literature (in this study identified as the United Kingdom and France) felt the need to be *more prudent* after IFRS was enforced to be more harmonized with other European countries' accounting. As a result, they reflected "bad news" in their earnings faster since IFRS was implemented. Thus, France and the U.K. (which prior the enforcement of IFRS was, according to conditional conservatism, most prudent in their accounting) ended up being even *more prudent* following the implementation of IFRS. This could also explain the indicated divergence in the grade of prudence between the member states studied post-IFRS.

6. Deduction

This chapter will include a deduction of this thesis' research questions and hypotheses, followed by suggestions for further research within the field of study.

6.1 Deduction Formulation of the Research Questions and Hypotheses

The aim of this chapter is to, based on the previous analysis and discussion of the results, formulate a deduction for the research questions and hypotheses previously presented in this thesis. As mentioned in the analysis above, a more qualitative approach has been applied in the two final chapters of this thesis (i.e. in the Analysis and the Discussion). The research questions and hypotheses that will be responded to in this chapter are presented below.

Research Questions

❖ Research Question 1 (RQ_1): Is there a difference in the level of prudence pre- and post IFRS, and if so, to what extent can it be attributed to the implementation of the new framework?

❖ Research Question 2 (RQ_2): Are there any signs indicating that the level of prudence is converging within the European Union?

❖ Research Question 3 (RQ_3): Is there any indication that possible disparities in the level prudence can be linked to differences in accounting tradition, and finally, what is the effect on the harmonization process of all of the questions above?

Hypotheses

❖ Hypothesis 1 (H_1): The country factor is significant when it comes to explaining potential differences in the degree of prudence amongst the member states studied.

❖ Hypothesis 2 (H_2): The degree of prudence will differ within the member states over time.

❖ Hypothesis 3 (H_3): The difference in degree of prudence between the countries will be greater before the implementation of IFRS than after.

6.1.1 Hypothesis 1 (H_1)

The predictions made for each member state about how their level of prudence would change after the implementation of IFRS, based on each member state's accounting traditions, shows indications to be accurate. Consequently, a linkage between respective nation's accounting tradition (i.e. the country factor) and the disparities in the level of prudence can be observed in this thesis, which suggests that H_1 is true. This also responds to RQ_3, as the differences can be linked to respective country's accounting tradition. The *consequence* of these differences in accounting tradition for the harmonization process is that it has resulted in a *divergence process*

or *deharmonization process*. The difference in accounting tradition, and the implementation of IFRS, has thus negatively influenced the *harmonization process* concerning the level of prudence. However, based on this thesis' empirics, all the predictions made about the ranking order pre- and post-IFRS did not show any indications to be true. Furthermore, the chi square test made shows that the observed differences in the level of prudence between the countries do not vary enough from the expected values and hence, they cannot be deemed to be economically significant. This contradicts H_1 and thus the hypothesis should be rejected.

6.1.2 Hypothesis 2 (H_2)

As the level of prudence changed for all member states after the implementation of IFRS (i.e. *over time*), it is implied that H_2 is true. To answer RQ_1, differences in the level of prudence are observed, both within member states and between member states, pre and post the enforcement of IFRS. The implementation of the new regulatory framework is, however, only attributed to the change in the level of prudence in two out of the four member states studied: France and Germany. Accordingly, the IFRS enforcement did not have a significant effect on the diversion in the prudence grade in the United Kingdom and Sweden. In these countries other factors, that are exogenous to this study, may explain the diversion.

6.1.3 Hypothesis 3 (H_3)

In the empirics of this study, it was shown that the gap in the degree of prudence between the member states was *smaller* before the implementation of IFRS than after. Consequently, H_3 is supposed to be rejected. To answer RQ_2, the study conducted shows no signs indicating that the level of prudence is converging within the European Union. This suggests that there are no signs of a de facto harmonization, with regard to the level of prudence, have occurred within the European Union. This, in its turn, discloses that the motive of the implementation of IFRS, the harmonization of accounting, has not been fulfilled.

6.1.4 The Authors' Final Comment on the Harmonization Process within the E.U.

The aim of the implementation of IFRS as a common regulatory framework for traded companies within the European Union was to create a uniform approach to accounting. This, in its turn, was supposed to lead to more transparent and comparable financial information to serve as basis for decision making and thereby make the comparison of listed companies within the common market area easier for actors on the financial markets of the world, (IASB 2013). Based on the findings in this thesis, however, the attempt to harmonize the accounting in Europe seems to have failed. It has now been ten years since the enforcement of IFRS and the consequences of IFRS adoption and the quality of implementation are far from uniform across Europe. Despite regulations and directives, national differences have survived, and the quality of accounting information today varies greatly between member states (McLeay & Pope 2011). How should the European Union address this problem? More regulations? Should they intervene in what today are questions of national sovereignty and dictate how the regulatory framework should be applied? IFRS is a principle based framework, but how do you implement such a framework in an area that has so many different principles and practices, not to mention different customs and traditions?

6.2 Suggestions for Further Research

According to Givoly et al. (2007), Basu's model of the asymmetric timeliness of earnings only captures a part of the total prudence in a firm. It could therefore be interesting to further study if there has been a de facto harmonization with regard to the level of prudence within the European Union since the implementation of IFRS, but to complement Basu's model of measuring prudence with other models. Alternatively, a study could be made using solely other models of measuring prudence. Since Basu's model focuses on measuring conditional conservatism, a suggestion would be to use a model (or models) that capture unconditional conservatism within a firm. A study with other models (than the asymmetric timeliness of earnings model) used could have deviating results than what was observed in this thesis. It could be possible that other models for measuring prudence indicates a convergence in the level of prudence between the countries studied since the IFRS enforcement, using the same time scope and the same delimitations in data as in this thesis.

To see if there has been a de facto harmonization in the level of prudence between member states in the European Union, further studies could also be done that include a larger scope of countries than the four states used in this thesis. The four countries chosen in this study may not be representative for the harmonization process within the European Union. Accordingly, there is a possibility that a study using Basu's model of measuring prudence, the same time-scope and other delimitations of data, but different member states, could show that there has been a de facto harmonization within the Union.

As this thesis observes that there has been a divergence in the level of prudence between the member states studied, and that the direction of the level of prudence post the IFRS implementation could be due to respective nation's accounting tradition, it would be interesting to further study *why* the level of prudence has changed between the countries. IFRS was only identified as a significant factor on the change in the level of prudence in France and Germany (Appendix 1). Then what was the significant variable in the change in the level of prudence in the United Kingdom and Sweden (Appendix 1)? Is it the accounting tradition that has affected the level of prudence, or can there be other factors involved in the prudence change? It could not be established in this study that the different accounting traditions has had a significant effect on the change in prudence, only a qualitative analysis could observe such a relation. Whether it was the accounting traditions, or other possible factors, would be interesting to study in further research to identify why there has been a divergence in the level of prudence.

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Appendix 1: Results from Data Gathering and Regression Analyses

	France	Germany	Sweden	The U.K.
$\alpha(0)$	0.0665704	0.0629062	0.0644369	0.0476449
$\alpha(1)$	-0.0077526	0.0150882	0.0176762	0.0310989
$\alpha(2)$	-0.0098457	-0.0287097	-0.0653666	0.022389
$\alpha(3)$	0.0302221	0.0002665	0.0775259	-0.0342901
$\beta(0)$	0.0332187	0.0399112	0.0472535	0.0617541
$\beta(1)$	0.1645662	0.1403362	0.1826244	0.2672998
$\beta(2)$	-0.0010307	0.0727486	0.1836202	-0.0385145
$\beta(3)$	0.1461917	-0.1355401	0.0229438	-0.0618266
$t\ [\beta(3)]$	2.40	-2.00	0.30	-1.39
$p>|t|\ [\beta(3)]$	0.017	0.045	0.766	0.164
Grade of Prudence before IFRS	5.954022885	4.516210988	4.864780387	5.328454305
Grade of Prudence after IFRS	10.6544644	1.04257153	1.890392453	9.841511902
Number of Companies	90	80	273	289
Number of Observations	1 800	1 600	5 460	5 780

Appendix 2: Result from Chi Square Test

Chi square test	
Chi square	4.64
Prob > chi square	0.1998