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A thesis submitted to the University of Gävle, Sweden, in partial fulfillment of the degree of Master’s of Accounting

January 2009
Statement of Original Authorship

I declare that the work contained in this thesis is my own, and has been carried through the University of Gävle, Sweden. This thesis contains no material that has been previously submitted for a degree at any other university.

I also certify that to the best of my knowledge, the thesis includes no material previously written by another person except where due references are given.

Signed                      Date
Ahmed Mahmoud Abd Allah        20/1/2009
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Abstract

Objective: The IFRSs are getting more popularity all over the world. IAS 39 is one of the most sophisticated standards included in the IFRS jurisdiction, which mainly addresses the recognition and measurement of financial instruments and hedge accounting. When these instruments had been off-balance sheet hidden, accounting scandals were the consequences. Capturing these risky instruments in the body of the financial statements, according to IAS 39, implies diverse accounting choices where the selection is tied to managers’ judgment.

The Swedish GAAPs have been criticized in the literature of being less conservative than the US GAAPs. Sweden as an EU member has mandated the adoption of IFRSs in the consolidated financial statements of all listed companies, since 2005. No published research has studied the effect of IAS 39 diverse accounting practices on de facto harmonization and comparability in Sweden. The current study fills this gap in the literature, and goes beyond to investigate whether the selected accounting choices are associated with the industry sectors.

Methods: A sample of 50 companies listed in NASDAQ, Stockholm in the financial and the industrial sectors is selected. Secondary data are obtained from the 2007 annual reports of the selected companies. Six accounting practice categories are detected under the standard. Herfindahl (H) index and Chi-square test are applied on the data.

Results: The results show a relatively low harmonization and comparability in most of the accounting practices, and variation in associations between accounting practices and sectors. This infers to the risk of producing non-comparable financial statements that may distort the value of accounting numbers, the content of financial statements and negatively affect market participants.

Conclusion: Much effort is still needed to enhance de facto harmonization and comparability of financial reporting. Further research is also motivated in order to develop a harmonization theory that support standard setters in revising the existing standard to eliminate inconsistencies in accounting choice selection and enhance comparability.

Keywords: Accounting practices, Accounting choices, IAS 39, de facto harmonization, comparability, IFRS.
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ASB</td>
<td>Accounting Standards Board</td>
</tr>
<tr>
<td>CICA</td>
<td>Chartered Accountants of Canada</td>
</tr>
<tr>
<td>DCF</td>
<td>Discounted Cash Flow</td>
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<tr>
<td>EAA</td>
<td>European Economic Area</td>
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<tr>
<td>EC</td>
<td>European Commission</td>
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<tr>
<td>ED</td>
<td>Exposure Draft</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FAS</td>
<td>Financial Accounting Standards</td>
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<td>FASB</td>
<td>Financial Accounting Standards Board</td>
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<tr>
<td>FV</td>
<td>Fair Value</td>
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<tr>
<td>FVO</td>
<td>Fair Value Option</td>
</tr>
<tr>
<td>FVTPL</td>
<td>Fair value through profit or loss</td>
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<tr>
<td>GAAP</td>
<td>Generally Accepted Accounting Principles</td>
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<tr>
<td>H index</td>
<td>Herfindahl index</td>
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<tr>
<td>IASB</td>
<td>International Accounting Standards Board</td>
</tr>
<tr>
<td>IASC</td>
<td>International Accounting Standards Committee</td>
</tr>
<tr>
<td>IASs</td>
<td>International Accounting Standards</td>
</tr>
<tr>
<td>IFRIC</td>
<td>International Financial Reporting Interpretations Committee</td>
</tr>
<tr>
<td>IFRSs</td>
<td>International Financial Reporting Standards</td>
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<tr>
<td>JWG</td>
<td>Joint Working Group</td>
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<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>NASDAQ</td>
<td>National Association of Securities Dealers Automated Quotation</td>
</tr>
<tr>
<td>OTC</td>
<td>Over The Counter</td>
</tr>
<tr>
<td>SFAS</td>
<td>Statement of Financial Accounting Standards</td>
</tr>
<tr>
<td>SIC</td>
<td>Standing Interpretations Committee</td>
</tr>
<tr>
<td>SPE</td>
<td>Special Purpose Entity</td>
</tr>
<tr>
<td>TB</td>
<td>FASB Technical Bulletin</td>
</tr>
<tr>
<td>TC</td>
<td>Transaction cost</td>
</tr>
<tr>
<td>$x^2$</td>
<td>Chi-square</td>
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Chapter 1

Introduction

1.1 Introduction

Sweden has been one of the growing numbers of countries adopting the International Financial Reporting Standards (IFRS) since January 2005. The shift from the Swedish Generally Accepted Accounting Principles (GAAP) to the IFRS has been expected to improve the usefulness of financial statements. The IFRS have been published as an attempt for international harmonization of accounting standards for adopted countries.

The IFRS have addressed the accounting for financial instruments imposing complex accounting practices, specifically IAS 39. The standard provided guidance on the recognition and measurement of diverse financial instruments. Classifying different financial instruments has been tied to the management intention. Mixed accounting measurement attributes apply for different classifications and categories. Similar financial instruments issued or acquired by companies can be accounted for in diverse manners and look so different under IFRS. Different accounting practices have been introduced for the same financial instrument - as Fair Value Option and separation or FV designation of compound instruments - which may vary from a company to another in terms of application.

The literature differentiated between two forms of accounting harmonization: de jure harmonization and de facto harmonization. Mandating the IFRS in the consolidated financial statements of Stock exchanges listed companies enhances de jure harmonization due to compliance with a single set of standards. De facto harmonization is a form of harmonization that can be seen as an increase in the degree of comparability due to exercising the same accounting practices by different companies (Van der Tas, 1988). Therefore, de facto harmonization is affected by the selected accounting choices in different companies.

Comparability is one of the qualitative characteristics of accounting information. It implies that the accounting information should be in a comparable manner, so that financial statements users
can compare the performance of different companies in the same industry to be able to make their credit and investment decisions.

‘Whether harmonized accounting standards lead to harmonized accounting practices and increase comparability’ has been a controversial issue in the literature. Recent studies have addressed the problem under IFRS caused by allowing some flexibility to managers to select among different accounting choices. Some studies argued that using managerial intention as a criterion for differentiating among different classes of securities may raise serious comparability problems. On the same side, Paananen (2008) investigated the effect of adopting IFRS in Sweden on the accounting quality and had pessimistic results. On the other side, some studies proved that under the IFRS, companies accounting practices were harmonized. The IASB assures that its standards are of high quality and help capital market participants to make their investment decisions due to transparent and comparable information.

The debate is not resolved and a lot of studies attempted to examine the effect of different accounting practices on de facto harmonization and comparability. Different measures have been used to determine the level of harmonization and comparability.

No study was identified that examined the degree of material harmonization and comparability within the financial instruments accounting practices under IFRS in Sweden. This thesis aims to empirically investigate the effect on de facto harmonization and comparability caused by different accounting practices permitted under IAS 39. The IAS 39 is broken down into six accounting practice categories, and each category has possible accounting policy choices that are examined through the current study in the context of de facto harmonization and comparability.

This motivates to investigate whether the attempt for international accounting standards harmonization has created a dis-harmonization and raised comparability problems for financial instruments reporting, and to test for an association between the sector and the selected accounting practices. The contribution of the study lies in the sophisticated area of financial instruments and derivatives it examines in terms of comparability, since capturing financial instruments in the body of the balance sheet and recognition of gains and losses in either the income statement or stockholder’s equity statement impact the financial position, performance and stockholder’s equity, combined with the fact that both recognition and measurement of
financial instruments are the output of the employed accounting practices. When the accounting practices are harmonized, similar financial instruments will have the same effect on the financial statements of different companies which is expected to enhance the usefulness of accounting information due to producing comparable financial statements.

The significance of the study is paramount as it contributes valuable empirical evidence of the ability of a recently mandated jurisdiction to enhance the quality of accounting in the Swedish capital market. It also reveals how accounting practices selected are distributed among different companies in both the financial and the industrial sectors. It goes into the depth of financial statements and related disclosers to bring evidence from the complicated dark side of financial instruments practices and their effect on comparability.

1.2 Statement of the Problem

The problem can be clearly stated as to investigate the effect of different financial instruments accounting practices under IFRS on material harmonization and comparability of financial reporting in Sweden. This requires going further to test for the association between the industry sector and the employed accounting practices.

1.3 Objective of the Study

The main objective is to investigate the effect of adopting the financial instruments accounting standard IAS 39, which implies using different accounting practices and measurement attributes, on de facto harmonization and comparability in Sweden. The effect is to be examined within a specific period of time, for two major industry sectors: financials and industrials, and measured using an industrial economic index – H index – combined with a statistical tool – Chi square- to test for significance and association.
1.4 Hypotheses

In order to examine the effect of IAS 39 accounting practices on material harmonization and comparability, the following two null hypotheses are to be tested:

Null Hypothesis 1: There is no difference in the accounting practices selected by different companies in the sector.

Null Hypothesis 2: There is no association between the industry sector and the selected accounting practices.

Each null hypothesis is broken down into more sub-hypotheses specific for each accounting practice category examined in the study.

1.5 Limitations

The study has the following limitations:

1. The study is limited to two sectors in NASDQ stock exchange in Stockholm: the financials and the industrials. Though both sectors are heavy users of financial instruments, due to the nature of operations they are engaged in, different sectors may have their specific features.

2- There are statistical assumptions inherent with Chi-square that limited its application in some accounting practice categories; therefore the H index was solely applied in such cases.

3- The computed value from the H index has no cut-off level; therefore no benchmark is available concerning the level of harmonization.

4- The use of Chi-square in contingency tables to test for association doesn’t describe the sort of association between the variables.

5- An accounting practice category – hedge effectiveness test models- has not been disclosed in most financial statements, therefore its impact on comparability couldn’t be investigated.
1.6 Delimitations

The delimitations utilized by the researcher are set on the purpose and the aim of the study, as following:

1- Investigating the effect of financial instruments regulations under IFRS, with no regards to the effect of other standards in the IFRS jurisdiction.

2- The effect is examined in the Swedish market (a Country level), therefore only companies that had their home exchange in Stockholm, and were not multiple listed had the probability of being included in the sample.

3- The research is delimited to *de facto* harmonization and comparability as a qualitative characteristic of accounting information.

1.7 Structure of the Thesis

The thesis is presented in six chapters. The first chapter is an introduction to the study; it describes the research problem, significance, purpose, scope and the hypotheses that will be tested in the study. The methodology chosen to test the hypotheses is presented in the second chapter.

The literature review is presented in two chapters: chapter three and four. Chapter three is regarded as the ground of the research as it discusses the financial instruments provisions under the IFRS, and IAS 39 in a specific manner. Chapter four covers both the accounting choice literature and the harmonization literature which are the independent and dependent variables of the study.

The empirical study and its results are presented in chapter five for each accounting practice category effect on *de facto* harmonization and comparability. A discussion, conclusion and summary of the study are provided in chapter six.
The thesis structure is depicted in the following figure:

Figure 1–1: Structure of the Thesis
Chapter 2

Methodology

2.1 Introduction

This chapter describes the methodology used to collect the data and test the hypotheses. It presents the nature of the study, sampling techniques used and the statistical tools selected. It has ten sections. Section 2.1 is an introduction to the chapter. Section 2.2 and 2.3 describes the research design and approach, respectively. Sample selection and techniques are presented in two sections: section 2.4 and section 2.5. Data collection is dealt with in section 2.6. Section 2.7 indicates the statistical methods used in the study, followed by section 2.8 that is organized into two sections to evaluate the validity and reliability of the measurement tools. Section 2.10 is the conclusion of the chapter.
2.1 Introduction

2.2 Research Design

2.3 Research Approach

2.4 Sample selection

2.5 Sampling Approach

2.6 Data and Evidence Collection

2.7 Research Statistical Analysis Methods

2.8 Time Horizon

2.9 Instrumentation

2.9.1 Validity

2.9.2 Reliability

2.10 Conclusion

Figure 2–1: Structure of chapter two
2.2 Research Design

The research design is”...the blueprint for the collection, measurement and analysis of data...” (Phillips, 1971). It is”... the plan and structure of investigation so convinced as to obtain answers to research questions...” (Kerlinger, 1986)

The design of the research should be relevant to the underlying research problem. The research problem addressed in this thesis concerns the effect the financial instruments accounting practices have on de facto harmonization and comparability. Therefore the research design can be shaped by the following descriptors (Blumberg, et al., 2003, Ghauri & Gronhaug, 2002):

1) The research is designed to conduct a formal study starting with a research question and hypotheses, collecting relevant data and testing hypotheses to answer the research question.

2) An ex post facto design is employed where the researcher has no control over the variables of the study and the results are merely documentation of what is observed in the actual environment circumstances.

3) In terms of topical scope, the research is a statistical study where a sample is drawn to infer to the population and hypotheses are quantitatively tested.

4) The existence of real environment conditions rather than manipulated ones implies that the research is a field study research rather than a laboratory research. This is apparent in conducting the study in Sweden where the IFRS financial instruments accounting standards are adopted.

5) The research encompasses both inductive and deductive approaches. The tendency to move from specific observations and measures to generalizations seeking to formulate a theory about the effect of the financial instruments accounting practices proposed under the IFRS on the comparability of financial reporting is an inductive process. Deduction occurs when the hypotheses are tested to confirm or reject the proposed effect of the independent variables (the IAS 39 accounting practices) on the dependent ones (material harmonization and comparability).
2.3 Research Approach

Since the research nature and question drive the research design (Blumberg, et al., 2003), therefore the research design requires the selection of a relevant approach to answer the underlying research question.

The current research is an empirical study of the effect of certain accounting choices on a particular process and a quality of accounting information. The empirical study “…should be fundamentally rooted in theory and it is impossible to conduct such research in a meaningful way without the researcher taking a theoretical standpoint” (Remenyi, et al., 2000), therefore in the sense of empiricism the research collects observations of the different accounting choices selected by different companies in the sample, quantifies the collected observations and analyzes them statistically. This is combined with the relevant provisions of the IAS 39, the surrounding theories and writings of other authors being clarified, analyzed and criticized from a theoretical perspective. This combination of both empirical and theoretical models is relevant to the nature of the research, where assessing the impact of accounting policies on de facto harmonization and comparability requires deeply reviewing both the independent and dependent variables in terms of related standards and relevant literature (a theoretical standpoint) and measuring the degree of effect by quantifying the observations and running an industrial economic model and a statistical model (an empirical standpoint).

This empirical research is an uncontrolled interventions positivist approach. Remenyi, et al. (2000) argued that positivism is a form of the empirical approach that quantifies observations, expresses models in mathematical terms and runs a statistical analysis. This positivist approach has three strategies: passive observation, uncontrolled interventions and deliberate intervention. The uncontrolled intervention is the one that is employed when the researcher seeks to assess the effect of a change in an independent variable in the environment on one or more dependent variables. This strategy may require investigating the effect both before and after the event. Though Remenyi, et al. (2000) argued that in an uncontrolled intervention positivist approach, the event should be studied both before and after it is intervened, however the ex ante effect is delimited in the scope of this research and only an ex post effect is studied. This could be
relevant to the nature of the research, because the research objective is to investigate the effect on the process of material harmonization after the introduction of the new standards rather than a comparison between the effect under the old and new applicable standards. It is an IFRS based research that assesses the impact on the state of harmony and the process of harmonization under the IFRS environment in Sweden, rather than its development or deterioration over time. Therefore a post event study is the relevant one that matches the nature of the current research.

2.4 Sample Selection

The application of this research requires a selection to be made on three levels:

1- The accounting period: since the IFRS was obligated in the consolidated financial statements of listed companies from 2005, therefore a choice had to be made among the financial years 2005, 2006 and 2007.

The financial year 2005 was the first year for applying the IFRS in most consolidated financial statements of listed companies. The first time adoption of the standards and the transition from the previously applied standards to the IFRS might have an effect on the results, and since the research was not aimed to measure the degree of harmonization in the transition period, this year was not selected.

The choice was therefore limited to the financial years 2006 and 2007 because the annual reports of 2008 had not yet been issued when the study was conducted. The IFRS 7 financial instruments: disclosures had an effective date for annual periods after 1 January 2007. The standard requires more disclosures related to financial instruments and its principles are complementary for the principles of recognition and measurement of financial instruments in IAS 32 and IAS 39 (IFRS 7.1). This fact led to the selection of the financial year 2007.

2- The industry sector: the objective of this study is to determine the effect on harmonization and comparability. The comparability of financial reporting is seen from a sector basis, because to be comparable the same accounting methods are to be used in the same industry. Ten industry sectors were identified in NASDAX Stock Exchange: Energy, materials, industrials, consumer discretionary, consumer staples, health care, Financials, information technology,
telecommunication services, and utilities. The utilities sector was excluded because no companies in this sector were traded in the Stockholm Exchange.

Two sectors have been chosen, the financials and industrials. The financial sector contains companies in the field of banking, brokerage, finance, investment banking, corporate lending, financial investment or real estate (Omx Nordic Exchange, 2008). Such activities require heavy use of financial instruments and hedging. This will lead to more financial instruments accounting practices to be employed and set the need for comparability in financial reporting on a high priority. The industrial sector contains companies involved in activities as the manufacture and distribution of capital goods, commercial services and transportation services including airlines and marine.

In 2007, the industrials had the highest number of companies traded on Stockholm Exchange comparing to other sectors. Around 25 % of all companies listed in NASDAQ Stock Exchange, Stockholm in 2007 were industrial. The sector companies also occupied the highest proportion in terms of large cap segmentation after the financial sector, and the highest proportion in the mid cap (Omx Nordic Exchange, 2008).

Besides the magnitude of the capital traded in the industrial sector, the activities in which the companies are involved in require the use of financial instruments including derivatives. The degree of harmonization and comparability is also of great importance to this sector interested investors.

2.5 Sampling Approach

Sampling techniques are categorized into probability sampling and non-probability sampling. Ghauri and Gronhaug (2002) pointed out to the drawbacks of non-probability sampling because they could be unrepresentative of the population and not valid in statistical analysis and hypotheses testing, therefore they may be more relevant in a qualitative research when a phenomenon is studied. The authors recommended the use of probability sampling when the aim is to evaluate unknown parameters and generalize the results to the population.
The population in the current study is the companies listed in NASDAQ Stock Exchange, Stockholm at the end of 2007 in both the financial and industrial sectors. Each sector has three segments: Large cap, mid cap and small cap, and different companies are included in each of these segments.

A proportional stratified probability sampling approach is used on two levels. The first level is to equally divide the parent population into two mutually exclusive strata: the financials and the industrials. The second level is to break down each stratum- the financials and the industrials- into three strata: large cap, mid cap and small cap according to a proportion based on the relative population size of each stratum. The last step is to extract a simple random sample from each second level stratum. Riley, et al. (2000) wrote that the stratified sampling technique aims to ensure that the sample selected from the population is highly representative.

Ghauri and Gronhaug (2002) pointed out to the high precision given by the use of this technique and its ability to decrease the standard error of estimates. This is relevant to the current study because the statistical model used doesn’t take into account the standard error, though this standard error has been considered as negligible for the applicable model by Taplin (2003), a reduction in its effect will also contribute to the external validation of the research.

Riley, et al. (2000) wrote that the sample size determination is a matter of judgment based on cost benefit analysis in terms of cost and time consumption against desired accuracy and aim of the study. The authors argued that there are no hard rules of how large the sample size is to be, and related it to other factors of costs and benefits. Therefore a sample size of 50 companies was expected to be sufficient and was drawn from both the financial and industrial sectors combined.

2.6 Data and Evidence Collection

The financial statements published in the 2007 annual reports of the companies selected in the sample are the main source of data representing the inputs for the industrial economics and statistical models applied in the thesis. This kind of data is known as secondary data and was defined by Hair (2007) as “data used for research that was not gathered directly and purposefully for the project under consideration”.

The secondary data collected were obtained from each company included in the sample. The financial statements and a reasonable assurance of non-inclusion of material misstatements supported by an independent auditor are usually published in the annual reports in each company website. Since the interest is devoted to the selected accounting choices, the financial statements, their notes and supporting schedules and disclosures have been the targeted data. This sort of secondary data is termed as written materials documentary secondary data by Saunders, et al. (2007). Johnson and Christensen (2008) called this data written by organizations: official documents secondary data.

The documentary secondary data is advantageous as it can provide comparative and contextual data (Riley, et al. 2000). This privilege is relevant to the research study where the aim is to examine on a broad basis the selected accounting polices by different companies in the sample. Riley, et al. (2000) have also indicated the ability of secondary data when they are reanalyzed to result in unforeseen and unexpected discoveries. The discovery feature of secondary data is the core of this study where the annual reports published by the sample companies will be the inputs for the statistical methods used-without any intervention of the researcher-and the process may result in unexpected discoveries for the degree of harmony and comparability.

Since no other study identified has investigated the degree of de facto harmonization and comparability in Sweden after adopting the IFRS in the consolidated financial statements of listed companies, the results are ambiguous till the outputs of the models are obtained and analyzed. Though the analysis of the literature review tends to highlight some doubts concerning the degree of comparability under the standards, however the empirical evidence will have the last say in these controversial issues.

2.7 Research Statistical Analysis Methods

Two analysis tools are used to analyze the accounting practices identified in the consolidated financial statements of the sample companies which are Herfindahl (H) index and Chi square ($\chi^2$). The harmonization literature proved that H index is the best harmonization measurement evidence provider. The use of Chi square was also recommended in the literature in the same kind of research where some researchers were criticized for basing their results only on the
figures obtained from the index without a supporting test for significance. This study takes these critics into account and combines both methods to provide reasonably accepted evidence for the extent of comparability in financial reporting under the IFRS in Sweden.

Different versions of the H index were available in the literature. An entire chapter in the thesis addresses different measures of harmonization and different versions for each measure. The H index as proposed by Van der Tas (1988) and later applied by other researchers is the one used in this study. The model description and its application is clarified and run on the collected data.

Both the index and the significance test are applied on different accounting practice categories identified under the IAS 39. Each category of accounting practices had different probable outcomes because of some sort of flexibility left to managers to select their accounting policy choices. These probable outcomes were identified for each category and the frequencies of choices were gathered for each outcome. A sum of the frequencies for each outcome represented the number of companies selecting the same accounting method and was entered in both statistical instruments to measure the degree of harmonization and test for significance. This process was replicated for each sector in the sample; therefore both the financial sector and the industrial sector had received the same treatment when the data were analyzed.

Chi-square has also been used to test for associations between the selected accounting policy choices and the industry sectors. The parameter merely determines the possibility of an association; however it doesn’t specify the sort of association.

The empirical finding is a pure analysis for what the figures obtained from each statistical tool mean and infer to, therefore a caution was taken when the data were collected, sorted and analyzed. The calculations were also reviewed because any error in the process might have a great impact on the results.
2.8 Time Horizon

This thesis aims to study the degree of harmonization and comparability affected by IAS 39 accounting practices in 2007. Since the study is a snapshot taken at a particular time, it is called a cross sectional study (Saunders, et al. 2007).

The cross sectional study selection is the most appropriate here, because the degree of harmonization moves over time. The 2007 financial year is a critical year when the IFRS 7 became effective leading to more disclosures for financial instruments.

2.9 Instrumentation

When a research study is conducted, the study process involves measurement instruments selections. The study aims to employ the tools that are expected to provide the most precise measure of the variables. This calls for validity and reliability evaluation for the adequacy of the tools used in the study as they are the two most important criteria for assessing the research employed measurement instruments (Johnson & Christensen, 2008).

2.9.1 Validity

Lunenburg and Irby (2008) defined validity as the extent to which the measurement tools used in the study measured what they intended to measure.

Three forms of validity are assessed to reach the degree of validity for the instruments used in the study: content validity, criterion-related validity and construct validity.

Content validity or face validity is the outcome of the use of measurement tools that are generally accepted among experts as logically measure the intended content area (Zikmund, 1997). To reach this level of validity, the (H) index was used as a measurement tool because it was proved in previous studies as the best measure for the degree of de facto harmonization and therefore comparability. The studies that have criticized the use of the index have recommended the use of...
a significance test besides the index. Therefore the Chi square is used to test for the significant
differences and to accept or reject hypotheses. The same combination of measurement tools has
been used by other researchers in the same kind of research.

*Criterion validity* refers to whether the measurement instruments used correlates with other
instruments that are used in the same construct (Zikmund, 1997). Since the use of the H index
and Chi square complies with other studies in the literature aimed to measure the same attributes
– *de facto* harmonization and comparability- in the same manner and vast numbers of researches
in the harmonization literature combined the use of an industrial economic index and a test of
significance, therefore the measurement tools selection provides a high degree of criterion
validity.

*Construct validity* is a function of both content validity and criterion validity. It deals with what
is really measured by the instrument (Lunenburg & Irby 2008). The proposed high degree of both
content validity and criterion validity is expected to be reflected in this form. Due to the fact that
two different types of harmonization were distinguished in the literature – *de jure* and *de facto* –
where each type had its proposed measurement tools, the instruments used in the underlying
study comply with those commonly employed in measuring *de facto* harmonization and
comparability. Therefore the measures used in the study were also used in earlier studies to
measure the same concept of harmony and comparability of financial reporting.

### 2.9.2 Reliability

A measure is reliable when like results can be consistently obtained over time and the measure is
unbiased. Reliability therefore includes two dimensions: repeatability and consistency (Zikmund,
1997).

Documented secondary data- annual reports in this study- are expected to have a high degree of
credibility and reliability (Saunders, et al., 2007).

The use of accounting practices data extracted from the audited consolidated financial statements
published in the 2007 annual reports of the sample companies as inputs to the measurements
instruments contributes to the reliability of the outcomes. The selected sectors from which a
sample in extracted are justified in a manner that is proposed to capture the attributes of the parent population. The selection of the companies in each sector has been made using a probability sampling approach. The sample was determined on a cost-benefit analysis basis, it represents about 43% of the two sectors companies combined, however it may still be an acceptable level. The results therefore are pertaining to the financial and industrial sectors because comparability is always assessed on a sector level basis. Replicating the study using a different sample but within the same sectors is expected to yield similar results with little variations due to sampling error.

2.10 Conclusion

This chapter presented the research methodology and methods. It started with shaping the research design and describing its approach, followed by justifications for the sample selected in the study and the applicable technique. A stratified probability sampling was deemed as representative and relevant to the aim of the study. Data will be collected from the 2007 annual reports of the sample companies in both the financial and industrial sectors. Two statistical tools are to be used as response to critics regarding using only a concentration index without testing the significance. The last sections documented the evaluation of different forms of validity and reliability of the measures employed.
Chapter 3

Financial Instruments Accounting under IFRS

3.1 Introduction

This chapter starts with the emergence of IFRS, goes through the specific provisions and accounting practices within IAS 39 and ends with discussing the sophisticated requirements set by the standard concerning hedge accounting.

Section 3.1 is an introduction to the chapter. Sections 3.2 till 3.6 address the emergence of the IFRS, their adoption in Sweden and the rationale behind IAS 39.

Section 3.7 explains the recognition and de-recognition criteria for financial instruments under IAS 39 besides some consequences. Sub-dividing this section into three sub-sections aims to provide broader view of the recognition and de-recognition requirements to detect accounting choices within the standard.

Section 3.8 and its two sub-sections highlight the measurement criteria and FV consideration besides identifying more accounting practices permitted under IAS 39. Embedded derivatives are discussed in section 3.9. Hedge accounting is briefly reviewed in section 3.10 and its subsections. Section 3.11 is the conclusion of the chapter.
3.1 Introduction

3.2 The Emergence of IFRS

3.3 The Adoption of IFRS in Sweden

3.4 The Need for financial Instruments Accounting

3.5 The Scope of the Financial Instruments Accounting Standards under IFRS

3.6 The Nature of Financial Instruments

3.7 Recognition, De-recognition and Consequences

3.7.1 Recognition of Financial Instruments

3.7.2 Transfer of financial Assets: De-recognition, Collateralized Borrowing or Continuing Involvement

3.7.3 Consequences

3.7.3.1 Trade Date and Settlement Date Accounting

3.7.3.2 Securitization: Financing and Accounting Perspectives

3.7.3.2.1 A Financing Perspective

3.7.3.2.2 An Accounting Perspective

3.8 Measurement of Financial Instruments

3.8.1 Initial Measurement, Subsequent Measurement and FV Option

3.8.2 The fair Value Consideration

3.9 Embedded Derivatives and Fair Value Election

3.10 Hedge Accounting

3.10.1 Why Hedge Accounting?

3.10.2 Hedge Accounting Models and Documentation

3.11 Conclusion

Figure 3–1: Structure of chapter three
3.2 The Emergence of IFRS

Companies prepare and issue their financial statements mainly for external users. Recognition, measurement and disclosure of like items are not similar among countries due to the impact of different factors attributable to each country. The IASC established in 1973 and revised in 1982, 1992 and 2000 has emerged as a result of an agreement between different accounting bodies in Australia, Canada, France, Germany, Japan, Mexico, the Netherlands, United Kingdom and Ireland and the United States of America to work for converging and harmonizing accounting standards and consistent preparation and presentation of financial statements. In 20 April 2001 the IASB replaced the IASC and started its operations to develop global accounting standards. The IASB co-operates with national accounting standard setters to harmonize accounting standards all over the world. The IFRS (International Financial Reporting Standards) were the outcome of the board activities. Approving the standards and their related documents is a major responsibility of the board. The IASB effectiveness is monitored by 22 trustees. The Trustees established the IFRIC to replace the SIC in 2002. The IFRIC is responsible for interpreting the application of IFRS, publishing Draft Interpretation for public comments and reporting to IASB for approving final Interpretation (IASB 2007).

Eaton (2005) related the glow of IFRS to the high American accounting scandals as Enron. She explained the role of American corporate scandals in the change of the American negative attitude towards IFRS. The author also argued that replacing the IASC by the professional IASB, where the former was volunteer-driven, has contributed to the American acceptance for IFRS.

The IFRSs are getting higher popularity and replacing national GAAPs in growing numbers of countries. Some countries have adopted the IFRS as their national GAAP, while others converged their national GAAPs to IFRS. The European Union countries maintained national GAAPs, while all Stock Exchange listed companies were mandated to follow the IFRS in preparing their consolidated financial statements (PricewaterhouseCoopers, 2008).
3.3 The Adoption of IFRS in Sweden

The IAS Regulation is regulation (EC) 1606/2002 of 19 July 2002 on the application of IASs. The Regulation mandated all publicly traded companies in EU member states to publish their consolidated financial statements in accordance with IFRS as endorsed by the EU, often called IFRS-EU (ICAEW, 2007). The Regulation allowed member states to whether require or permit the adoption of IFRS-EU in the legal entity financial statements of companies and the consolidated financial statements of non-publicly traded companies. January 2005 was the effective application date of the Regulation (Lopes & Rodrigues, 2004).

The differences between IFRS - often called IFRS/IASB when compared with IFRS/EU- and IFRS as endorsed by EU are few and don’t affect many companies. The IAS Regulation permitted companies to comply also with IFRS-IASB, provided that any adopted IFRS shouldn’t conflict with IFRS-EU. A sample of 200 companies in EU indicated that 146 companies disclosed compliance with IFRS-EU only, 31 with both IFRS-EU and IFRS-IASB, and 23 with IFRS only (ICAEW, 2007).

Sweden as an EU member has adopted IFRS in January 2005. As a consequence the consolidated financial statements of Swedish companies Listed in an EU or EAA (European Economic Area includes Iceland, Liechtenstein, and Norway) stock exchange are required to be prepared in conformity with IFRS-EU. "In accordance with IFRSs as adopted by the EU" has become the wording used in the notes of accounts and audit reports since 2005 (Deloitte Touche, 2008).

3.4 The need for Financial Instruments Accounting

The motivation to control risks in sophisticated financial markets resulted in a stream of accounting standards addressing financial instruments and derivatives used in almost all industry sectors (KPMG, 2004). Accounting for derivatives has been always creating debates and arguments among public accountants concerning measurement bases for derivatives used in hedging activities, disclosure matters and related gains and losses (Benston, 1997)
The need to shift from the historical cost base to fair value accounting has been the main target of international accounting standard setters in the context of financial instrument accounting (Lopes & Rodrigues, 2004).

Benston (1997) articulated the development of financial instrument accounting as following:

- Accounting for derivatives started as a case by case basis. This approach resulted in incomparable financial reporting due to the fact that similar transactions were accounted for in different fashions.
- SFAS 52 adopted in 1983 addressed hedging activities related to foreign currency risk. The standard set some requirements for a firm’s exposed risk and derivatives to qualify for hedging accounting. A firm’s existing commitment was allowed for hedging activities while anticipated transactions didn’t qualify. Netting exposures across business departments was not allowed under SFAS52.
- SFAS 80 issued in 1984 allowed expected transactions implying risk to qualify for hedge accounting and extended the transaction level basis to a firm’s wide approach.
- In 1994, SFAS 119 was a disclosure standard. It has required disclosing the fair value of derivatives in the footnotes while it has not addressed hedge accounting practices in the body of financial statements.

The IASB Framework for the Preparation and Presentation of Financial Statements was an exposure draft in 1988. The JWG (2000) has depended on its principles.

The draft was seriously criticized; therefore issuing a financial instrument standard complying with the draft was delayed. During 1989-1994 The IASC and the CICA proposed exposure drafts for the recognition, measurement and disclosure issues of financial instruments.

The exposure drafts created debates and suffered a lack of acceptance, the fact that led to separating the project into two phases: the presentation and disclosure of financial instruments in one phase and the accounting for financial instruments including hedge accounting in another phase. The first phase resulted in issuing IAS 32 Financial Instruments: Disclosure and Presentation in 1995, while the second one has proposed a discussion paper in 1997 addressing the recognition, de-recognition, measurement and hedge accounting of financial instruments. The efforts have later emerged in IAS 39 Financial Instruments: Recognition and Measurements in
1998, that set requirements for recognition and de-recognition of financial instruments in addition to hedge accounting. Both cost and fair value attributes were used as measurement bases for financial assets and liabilities (Bradbury, 2003)

The IAS 39 was issued as an interim standard and became effective in 2001. The cooperation between IASC and JWC comprising national accounting standard setters from 13 countries resulted in an exposure draft at the end of 2000. In June 2002, amendments to IAS 32 and 39 have been proposed; followed by a revised IAS 32 and IAS 39 in December 2003 (KPMG, 2004). IAS 39 was considered as a shift from traditional cost model accounting to fair value accounting (Dewing & Russel, 2008)

IAS 32 was later amended in 2004 by IFRS 2 share based payment, IFRS 3 Business Combination, IFRS 4 Insurance contracts and amendment to IAS 39 Fair Value a Hedge Accounting for a Portfolio Hedge of Interest Rate Risk and in 2005 by Amendments to IAS 39- The Fair Value Option, IFRS 7 Financial Instrument: Disclosures and Amendments to IAS 39 and IFRS 4 Financial Guarantee Contracts. IFRS 2, IFRS 3, IFRS 4 and IFRS 7 in addition to IFRS 5 Right to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds have amended the revised IAS 39 (IASB, 2007).

IFRS 7 Financial Instruments: Disclosures was issued to replace IAS 30 Disclosures in the financial statements of banks and similar financial institutions that was issued in 1990. The standard was amended by the Amendments to IAS 39 and IFRS 4 (IASB 2007) and had an effective date of January 2007 (Ernst & young 2007).

Accounting for financial instruments has always been facing challenges in terms of how to measure the financial instruments values, recognize financial instruments gains or losses and disclosing the risk associated to the financial instruments (Dewing & Russel, 2008).

The following figure provides a basic overview of the current financial instruments standards under IFRS, and has its content from IASB (2007):
3.5 The scope of the Financial Instruments Accounting Standards under IFRS

IAS 32, IAS 39 and IFRS 7 are applied by all entities for all financial instruments with some exceptions from the scope of each of these standards (IASB, 2007)

The following table is based on the understanding of the preceding standards and summarizes the main excluded items from the scope of each standard:
<table>
<thead>
<tr>
<th>The item</th>
<th>Excluded from IAS 32</th>
<th>Excluded from IAS 39</th>
<th>Excluded from IFRS 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in subsidiaries, associates and joint ventures</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Employee rights and obligations under employee pension plans</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Contracts for contingent consideration in a business combination</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Rights and obligations under Insurance contracts</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Financial instruments containing a discretionary participating feature</td>
<td>X (from paragraphs 15-32)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Share-based payment transactions</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Rights and obligations under leases</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The issuer of financial instruments meeting the definition of equity instruments</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan commitments “1”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“1” IAS 39 includes in its scope loan commitments designated as financial liabilities at FVTPL, can be settled in cash or by delivering another financial instrument and commitments for a loan below the market interest rate. All loan commitments are also within the scope of IFRS 7.

Note: This table has been drawn on a similar basis as the one in (KPMG, 2004), however the content is different.

Source: (Author, 2009, based on IAS 32, IAS 39 and IFRS 7)

The financial statement disclosure requirements set in IFRS 7 have been targeted to indicate how significant the financial instruments are to the firm and which kinds of risks associated to these financial statements that are managed by the firm. Therefore the disclosed information must be based on the accounting polices employed by the firm in preparing its financial statements (Ernst & young 2007).

The objective of the three standards is to set clear guidance for presenting, recognizing, derecognizing, measuring and disclosing financial instruments, besides hedge accounting. (Pricewaterhouse Coopers, 2008)
3.6 The Nature of Financial Instruments

A financial instrument is a contract that raises a financial asset of a certain entity and a financial liability or equity instrument of another entity (IAS 32.11). It can be either a contractual right or obligation for the receipt or payment of cash or other financial asset (Pricewaterhouse Coopers, 2008), a primary financial instrument (as receivables, debts and shares in another entity) or a derivative financial instrument (as option, forwards, futures and swaps) (KPMG, 2004).

Explicit in IAS 32 are three types of financial instruments: financial assets, financial liabilities and equity instruments. A financial asset is cash, another’s entity equity instrument or a contractual agreement bearing right to receive cash or financial assets or exchanging in potentially positive conditions financial assets or liabilities. A financial liability on the other side bears obligation to deliver cash or financial asset, exchange financial assets or liabilities in potentially negative conditions or to be settled in the firm’s equity instruments. A contract with a residual interest in assets after deducting liabilities is an equity instrument (IAS 32.11).

A derivative is a financial instrument whose value is derived from its underlying. It’s mainly used for hedging or speculating. It has a bilateral nature where a long position is obtained by the party contracting to buy while the part that contracts to sell has a short position. And so the creditworthiness of the participating parties could be a factor that also affects the value of the derivative. Derivatives in the economy have an aggregate net value of zero according to the fact that each long position is met by a short one on the other side of the contracting party (Kolb & Overdahl, 2007).

Kolb and Overdahl (2007) categorized derivatives into commodity derivatives and financial derivatives. A derivative with a commodity as its underlying is defined as a commodity derivative, while a derivative having a financial instrument, interest rate, foreign exchange rate or a financial index as its underlying is a financial derivative.

For a financial instrument to be defined as a derivative it must contain three features as prescribed by IAS 39:9: The value of the derivatives should change based on the underlying, zero or smaller initial net investment than what could be required for a similar primary financial instruments and future date settlement.
Options, forwards, futures and swaps are common types of derivatives. Options are either call options that give the holder the right to call the underlying or put options that conveys to the holder the right to sell the underlying both at a specified price and period of time. The option contract often requires a premium to be entitled to its right (Kolb & Overdahl, 2007). The premium amount is smaller than what would have been paid to acquire the underlying, therefore options meet the features required for a financial instrument to be accounted for as a derivative under IAS 39 (IAS39.AG 11). Options have been traded on organized stock exchanges since 1973 (Ross, et al., 2008).

Forwards are similar to options but they differ in the right granted to the holder for exercising the derivative. While options give the holder the choice to exercise, forwards obligates the counterparties to exercise at a specified future date (Kolb & Overdahl, 2007). More standardized than forwards, traded on organized exchanges and marked to market are future contracts. The mark to market approach lowers the default risk in futures as compared to forwards (Ross, et al., 2008).

Swaps are OTC traded as forwards and so tailored to meet the specific needs of the counterparties. They involve a stream of cash flows exchange over a period in the future. Interest rate swaps, equity swaps, currency swaps, commodity swaps and credit swaps are basic types of swaps (Kolb & Overdahl, 2007).

3.7 Recognition and De-recognition of Financial Instruments and consequences

3.7.1 Recognition of financial instruments

The Framework for the preparation and presentation of financial instruments defined recognition as a process whereby an element passing the recognition requirements is incorporated in the balance sheet or income statement. The recognition requirement set by the framework concerns the probability of the flow of future economic benefits attributable to the item and the existence of a reliable measured attribute (cost or value) (Framework.82, 83).
The first criterion set in the Framework as a flow of future economic benefits is reachable. The second criterion concerning the reliability of measurement is assumed for all financial instruments (Bradbury, 2003).

Under IAS 39, a financial asset or liability is recognized in the balance sheet when the firm is entitled to the contractual provisions (PricewaterhouseCoopers, 2004). Bradbury, (2003) wrote that this recognition criteria was a movement from the conventional exchange basis to the contract basis of accounting.

Hughes (1987) differentiated between the two preceding bases in terms of recognition criteria focus, measurement model and underlying risk. The author characterized the conventional exchange basis by assigning the contract performance as the critical event for recognition, using the contract price at the exchange date (historical cost model) as the measurement value of the contract and ignoring the value changes. Proponents of this basis argued that it could eliminate the uncertainty associated with the contract in terms of default and valuation. On the other side, the contract basis specifies signing the contract as the critical event for recognition. The valuation depends on the market during the life of the contract and the market value is the appropriate measurement attribute for assets under the contract at the performance date. This basis aims to identify uncertainty before the exercise date of the contract by setting reasonable measurements of value in advance.

3.7.2 Transfer of Financial assets: De-recognition, Collateralized Borrowings or Continuing Involvement

The accounting literature in the course of assets transfer is controversial. Different accounting logics have been used to rationalize the practice. Bradbury (2003) reviewed the different accounting approaches in the literature behind the de-recognition criteria:

(a) A’ risk and reward’ approach where the financial asset de-recognition is tied to the exposure to and benefits from the risk and rewards implied in the asset. This approach has been used by ASB.
(b) A ‘condition based’ approach has a different focus than the risk and reward judgment criteria and sets some conditions resulting in a loss of control that should be met in a transfer of financial assets to qualify for de-recognition. One of these conditions for de-recognition is the transferee possessing the right for pledging or exchanging the asset. The FASB has adopted this approach in its issued standard SFAS 140 Accounting for Transfers and Servicing of Financial Assets and Extinguishment of Liabilities.

(c) A ‘financial components’ approach introduced by the JWG 2000 doesn’t recognize or derecognize the whole transaction, rather it breaks the transaction into its components. The components retained by the firm are to be recognized, while de-recognition will apply for those components that have been transferred.

The de-recognition provisions under IAS 39 have a mixed approach, a ‘financial components’ approach and a ‘risk and rewards’ approach. The former requires separating the component of the transfer and derecognizing only the component in which the rights are transferred. The latter is applied when a control over a financial asset is being evaluated. (KPMG, 2006)

Wilson and Ernst & Young (2001) criticized the mixed approach under the standard as being confusing and might lead to difficulties in practice when the de-recognition criteria are to be applied to transactions that have not been addressed. The conflict arose because the standard implicitly certified that the contractual rights framework based on control is to be used to evaluate de-recognition, while the standard Application Guidance was considered to use a control basis and a risk and rewards basis in different instances.

“An entity shall derecognize a financial asset when and only when:
(a) The contractual rights to the cash flows from the financial asset expire, or
(b) It transfers the financial asset…..and the transfer qualifies for de-recognition….” (IAS 39.17).

“An entity shall remove a financial liability (or a part of a financial liability) from its balance sheet when, and only when it is extinguished – i.e. when the obligation specified in the contract is discharged or cancelled or expires..” (IAS 39.39)
In accounting for the transfer of financial assets, a sequence of steps are set in a de-recognition model that determines whether it’s appropriate to remove the asset from the financial statement. Accounting for financial liabilities is similar in this context (KPMG, 2004).

The derecognition model proposed by IAS 39 stands on two criteria: expiration of the contractual rights and passing derecognition tests in case of financial assets transfer. A series of tests in the model result in three different situations: Derecognition, collateralised borrowing or continuing involvement. The transfer of asset is regarded as a collateralized borrowings when the financial asset stays on the transferor books and acts as a collateral for the transferee in case of the transferor default on borrowing. When the firm retains control over the transferred asset but neither transfers nor retains all risks and rewards, the firm is to recognize the asset to the extent of its continuing involvement (KPMG, 2004).
Figure 3–3: The IAS 39 de-recognition model

Source: (IAS 39.AG 36)
3.7.3 Consequences

The following sub-sections review two consequences of the recognition and de-recognition criteria under IAS 39. The aim here is to indicate an accounting policy choice permitted under the standard, in addition to discussing how a financing process was affected by the standard.

3.7.3.1 Trade date and Settlement date Accounting

When a market established time span for a delivery of a financial asset and a payment of a consideration is embedded in the contract in terms of a regular sale or purchase of a financial asset, the trade is called a regular way trade (CIPFA 2007). The existence of a trade date representing when the firm has been committed to the contract and a settlement date for the delivery of the financial assets results in two different accounting practices: Trade date accounting and settlement date accounting. The former assigns the trade date as the critical event when the financial asset is to be recognized or derecognized, while the latter specifies the settlement date for both recognition and de-recognition (IAS 39.AG 55, 56). The period within both dates is always few days and settlement failure can be quickly adjusted (Wilson & Young & Ernst, 2001).

Both trade date accounting and settlement date accounting are permitted under IAS 39 (IAS 39.38). If the firm choose a settlement date accounting to account for a regular way trade, changes in the financial asset fair value between trade date and settlement date should be accounted for in the same manner as for the entire category to which the asset belongs. So if the financial asset is to be carried at fair value, changes in the value will be recognized in income or equity depending on the asset classification, while if the measurement attribute is the cost or amortized cost, gains and losses between trade and settlement dates are not recognized (IAS 39.AG 56).

Wilson and Young & Ernst (2001) argued that applying a trade date accounting for a regular way trade could be a hurdle because the firm’s statement of financial position would include securities that imply a risk, as in some cases settlement fails. In terms of the effect of both
accounting practices on the financial statements, the statement of financial position could be temporarily influenced in significant different matters under each accounting practice, while both statements of profit or loss and stockholders’ equity would have a similar effect whether a trade date or settlement accounting practice have been applied.

3.7.3.2 Securitization: Financing and Accounting perspectives

Securitization is “a structured finance technique that allows for credit to be provided directly to market processes rather than through financial intermediaries.” (Jobst, 2006), however the mechanics of the process are very sophisticated (Niu, 2007).

A transfer of financial assets with a legal entity called SPE Special Purpose Entity is implied in the process (KPMG, 2004). This feature motivated for a de-recognition model to solve the conflicts and inconsistencies arose in the literature due to different accounting treatments (Niu, 2007).

3.7.3.2.1 A Financing perspective

Securitization is a finance technique in which a financial institution or a company creates a legally separated Special Purpose Entity (SPE) to which a transfer of financial assets as loans and trade receivables occurs. The SPE issues securities to the investors that are marked and priced by an intermediary (often an investment bank, called the underwriter). The SPE passes the investors cash payments to the originator (the transferor) which therefore receives the payment as a lump sum. The process often includes a credit enhancer and a rating agency to attract investors and reduce the risk of losses from the investors’ point of view (Niu, 2007).
The following figure illustrates the structure of the securitization process:

![Securitization Process Diagram]

Source: (Kendall, 1998 cited in Niu, 2007)

While the market for securitization is growing and getting more popularity for the collective benefits obtained by the participating parties in the process (Jobst, 2006), the technique should devote much caution so as not to lead to financial crises because of its complexity (Engdahl, 2008)

### 3.7.3.2.2 An Accounting perspective

Securitization from the accounting viewpoint is a transfer of asset that can be regarded as a collateralized borrowing or a sale. Different contradicting accounting practices in the literature have made confusion in this area. The structure of the SPE has affected the transferor’s accounting treatment choices. FAS 77 and TB 85-2 were criticized for creating the conflict. FAS 125, issued in 1996, has adopted a financial component approach where the transferred assets
were broken into separate components to be differently accounted for. This approach proved an improvement in the capacity of reported financial statement information to explain stock returns (Niu, 2007).

The IASB addresses the transfer of financial assets and liabilities under IAS 39, where the pre-described de-recognition model is applied to test whether the transfer is a sale or a collateralized borrowing, which as a result will affect the financial statements, due to the decision to recognize or de-recognize certain items. If the originator transfers the financial asset with no restrictions to the SPE where all benefits are transferred as well, the transaction qualifies for de-recognition. However, if the transferor retains some of the benefits, qualifying for de-recognition will require passing the tests set in the model (KPMG 2004).

Sean (2003) indicated that the transfer of assets and accounting for securitization has become more transparent, thanks to IAS 39.

### 3.8 Measurement of financial instruments

#### 3.8.1 Initial and subsequent measurement and the FV option

Measurement of financial instruments under IAS 39 is initial measurement and subsequent measurement. All financial assets and liabilities are recognized at fair value at inception, which is the transaction price (the fair value of the consideration). Subsequent measurement applies different attributes for different classes of financial assets and liabilities (IASB, 2007). Those different classes will also receive different accounting treatments, in case of impairment loss measurement for impaired assets (IAS 39.58)

Implicit in IAS 39 are two main accounting techniques in terms of subsequent measurement of financial instruments and recognition of the resulting gains and losses due to changes in fair value: Accounting for financial instruments that don’t qualify for a hedge and Hedge Accounting for financial instruments. The former is broken into two categories: accounting for financial assets— with four subcategories— and accounting for financial liabilities that is subdivided into two categories. The latter has three categories: fair value hedge, cash flow hedge and net investment hedge. (KPMG, 2004)
The following figure illustrates the approach:

**Figure 3–5: Measurement of financial instruments**

Source: (Author, 2009, based on IAS 39)

Note: the measurement attributes under hedge accounting are not integrated in the figure as they differ for the hedging instrument and the hedged item, therefore discussed in a separate section, for simplicity.
There is a difference between the fair value at the initial measurement and the one required for certain financial assets and liabilities at the subsequent measurement. The fair value when the item is initially recognized is the fair value for the consideration, while it is the fair value for the financial instrument itself when the item is subsequently measured (Bradbury, 2003).

Freeman (2003) criticized the fair valuation rules in the literature from 1969 to 2002, where the fair valuation issue didn’t receive sufficient priority among different standard setters. The methods that have been proposed created conflicts and were even contradicting when applied to the same class of assets.

IAS 39, as a response to this mess, provided a significant part for measurement and fair value considerations.

The following table illustrates the rationale behind each classification:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition in IASs</th>
<th>This classification depends on</th>
<th>Measurement attribute</th>
<th>Recognition of gains or losses resulting from fair value changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) Financial Assets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Held for trading</td>
<td>Held to profit from short term differences in price. Derivatives always belong to this classification if they are not a part of hedge.</td>
<td>The intention of management to trade</td>
<td>Fair value</td>
<td>Income statement</td>
</tr>
<tr>
<td>2-Loans and Receivables</td>
<td>Non-derivative, determinable payments, originated by the firm and not quoted in an active market</td>
<td>The intention of management not to trade, and the origination by the firm</td>
<td>Amortized cost</td>
<td></td>
</tr>
<tr>
<td>3- Held to maturity</td>
<td>Non-derivative, determinable payments, originated by the firm and not quoted in an active market other than loans and receivables</td>
<td>The intention of management to hold to maturity</td>
<td>Amortized cost</td>
<td></td>
</tr>
<tr>
<td>4- Available for sale</td>
<td>A residual category</td>
<td>A residual category</td>
<td>Fair value</td>
<td>Equity or income(in some exceptions)</td>
</tr>
<tr>
<td>B) Financial Liabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Held for trading</td>
<td>Held to profit from short term fluctuations in price. Derivatives always belong to this classification if they are not a part of hedge</td>
<td>The intention of management to trade</td>
<td>Fair value</td>
<td>Income statement</td>
</tr>
<tr>
<td>2-Other liabilities</td>
<td>A residual category</td>
<td>A residual category</td>
<td>Amortized cost</td>
<td></td>
</tr>
</tbody>
</table>

Source: (Author, 2009, based on IAS 39)
The subsequent measurement criteria use two different measurement attributes to account for financial instruments. The same financial instrument could be measured at fair value or amortized cost according to its classification. The management intention is the basis through which the financial instruments are classified and therefore experience different accounting treatments (Hernandez, 2004).

A fair value option (FVO) has been allowed under IAS 39, where an entity is permitted to designate any financial asset or financial liability at inception to be measured at FV through profit or loss. And once a financial asset or liability is assigned to this category, the reporting firm is not allowed to reclassify it (Epstein, et al., 2007). The standard has described some conditions that encourage for the use of the Fair value option, while it assured that the company can use it” in all cases…” if it eliminates the measurement or recognition inconsistencies (IAS39.9bi ,AG4E).

The FVO is regarded as an accounting choice (an accounting practice) that is not mandatory; however it can be somehow different from an accounting policy because it is not enforced to be applied in a consistent manner to all similar transactions (IAS 39,AG4C).

*Here’s where the conflict arises,*

The different accounting treatments devoted to different classes of financial instruments where the classification is tied to the management intention could create a lot of conflicts. A reduction in comparability and a significant influence on key financial ratios might be the consequences (Ponemom & Raghunandan, 1993; Ivancevich, 1996). Comparability is affected when similar items could be accounted for in different manners because of the existence of a range of choices (Schipper, 2003)

The application of IAS 39, in this context, may result in comparability problems because similar financial instruments could be differently accounted for among firms (Hernandez, 2004), besides the fact that “ The more flexibility you allow, the more risk there is to achieving comparability” (a banker in Commercial Bank, cited in Anagnostopoulos & Buckland, 2007 ,p.366)
Anagnostopoulos and Buckland (2007) criticized the employment of a mixed accounting model in the banking sector. They justified the negative impact on the banking sector due to many factors among them the sophistication of financial instruments used by banks.

The requirement of the fair value measurement for the available for sale category may enhance the volatility of the balance sheet. However the effect is reduced to the extent that gains and losses realized from changes in fair value are to be (generally) recognized in equity rather than income statement (Moore, 2002). This volatility is not created by the fair valuation approach; however it may be “unmasked” by its application (Damant, 2002).

3.8.2 The Fair value considerations

The fair value as defined in IAS 39 is: “The amount for which an asset could be exchanged, or a liability settled, between knowledgeable willing parties in an arm’s length transaction” (IAS 39.9). The standard has, implicitly, drew a hierarchy for fair value determination as following:

![Figure 3–6: A hierarchy of fair value determination](source: PricewaterhouseCoopers, 2004)

The existence of an active market that incorporates published market price quotations is the best evidence for fair value. In the absence of an active market, a valuation technique can be used by
the firm to account for financial instruments, provided that it includes observable market data and other factors affecting the fair value. Valuation techniques highly rated in the market are recent market transactions, reference to similar transactions, discounted cash flows and option pricing models. In case of equity instruments that don’t have a quoted market price, combined with a significant variability in the fair value estimates and the inability to provide a reliable estimate, the cost measurement attribute applies (PricewaterhouseCoopers, 2004).

Here comes another conflict,

The presence of an active market is not widely available for all financial instruments. The nonexistence of quoted market prices used for fair value consideration would result in using valuation techniques to reach a fair value figure. A valuation technique incorporates factors that require estimations. These estimations are based on judgments and so lead to imperfections and inconsistencies among different firms (Wilson, 2001).

Chisnall and the British Bankers’ association (2001) wrote that though the argument that the fair value provided a neutral measurement enhancing comparability, the evidence from the banking sector was different. The assumptions that should be made when estimating a fair value in a non-active market would results in figures that are non-comparable.

Different fair value figures could be obtained by altering the estimations and probabilities of inputs to the valuation model. Well-constructed valuation techniques could result in diverse fair value estimates. The uncertainty about the amount that could be exchanged in an arm’s length transaction for non-trading securities will end with estimating future cash flows, an input to the valuation model. This variability in the fair value estimated amounts could reduce comparability among different firms and drive financial statements users to draw inappropriate comparisons based on imprecise fair value amounts, even if the management don’t manipulate with the estimations (Wilson, 2001).

Although the fair value is assumed to be relevant as it captures the market value of the measured financial instrument, it has been also criticized by a lack of reliability. This reliability reduction results from the different possible outcomes from the fair valuation of a financial instrument, which has a further effect on the relevance of the value assigned as well (Wilson, 2001).
The standard was also criticized, in its fair value considerations, for the confusing provisions concerning accounting for transaction cost (Bradbury, 2003)

“After initial recognition, an entity shall measure financial assets…at fair values, without any deductions for transaction costs….except for loans and receivables….held to maturity investments….investments in equity instruments that don’t have a quoted market price….”

(IAS 39.46)

“This standard uses the term ‘bid price’ and ‘asking price’…in the context of quoted market prices…to include only transaction costs……” (IAS39.AG 70)

“The appropriate quoted market price for an asset held or liability to be issued is usually the current bid price, for an asset to be acquired and or liability held, the asking price....”

(IAS 39.AG 72)

The preceding quotations are extracted from different parts of the standard and its Application Guidance. They show inconsistent provisions in the accounting for transaction cost. The requirement in the standard for not including transaction cost in subsequent measurement of financial assets at FVTPL is contradicted by the use of bid and ask prices in the application guidance(which represent transaction cost), and the application guidance is an integral part of the standard. Similar contradiction has been highlighted by Bradbury (2003) between EDIAS 39.99 and EDIAS 39.69.

3.9 Embedded derivatives and Fair value election:

An embedded derivative is a derivative that is embedded in a host contract. The embedded derivative combined with the host contract which is a non derivative constitutes a hybrid instrument (IAS 39.10). An embedded equity call option in a convertible loan, an embedded credit derivative in a debt instrument and a foreign currency component embedded in a lease contract are all examples of embedded derivatives and their host contracts (KPMG, 2006).
Complying with the requirements of the standard, an embedded derivative must be separated from its host contract and accounted for at fair value so as not to avoid the fair value measurement of all derivatives by embedding the derivative in a hybrid instrument not measured at fair value. However such separation requires that the entire contract is not carried at fair value, the embedded derivative meet the definition of a derivative and its economic features are not closely related to those of the host contract (Sallu, n.d.) the host contract is accounted for under IAS 39 if it’s within the scope of the standard (IAS39.11)

The following figure illustrates the split requirements under the standard:

![Flowchart]

**Figure 3–7: IAS 39 separation requirements of an embedded derivate from its host contract**

Source: (Sallu, n.d.)

Moore (2002) wrote that the different accounting treatment for two parts of the same instrument was one of the most surprising aspects of the standard. A convertible loan originated by the firm would be separated into two parts; where a different measurement base is to be applied to each part. The host contract is the loan and so measured at amortized cost, while the call option is an embedded derivative and so marked to market through profit or loss.

A Fair value election is allowed to designate the entire contract at fair value through profit or loss, in case of inability to measure the fair value of the embedded derivative solely (IAS 39.12). As a consequence, an investment in convertible bonds that is available for sale meets the criteria for separation and so an accounting choice is to be made whether the embedded derivative will be accounted for at fair value through profit or loss, while the host contract will be measured at
fair value with gains or losses, due to changes in fair value, being recognized in equity or to designate the entire contract at FVTPL (KPMG, 2006)

The flexibility in the accounting policy choices may encourage for “a financial numbers game”, due to leaving “much room for judgment” in the firm selection of accounting practices. It can be an aggressive accounting and restore a traditional method for ‘‘playing the financial numbers game’’ through misreporting assets or liabilities (Mulford & Comiskey, 2002)

3.10 Hedge Accounting:

3.10.1 Why Hedge Accounting?

The exposure to different financial risks is the motivation for companies to carry out hedging activities. The accounting for hedge concerns the hedged item, hedging instruments and hedge effectiveness. Hedge accounting is justified because of the accounting mismatches in measurement and recognition. The accounting mismatch in measurement results because some financial instruments are not measured at fair value through profit or loss while all derivatives used in hedging instruments are measured at fair value. In terms of recognition, the mismatch is due to recognizing the derivatives at inception, while an anticipated transaction that may be hedged is not recognized in the balance sheet. Resolving these mismatches can be achieved by hedge accounting via aligning the measurement of the hedging instrument and the hedged item and postponing the recording of certain gains or losses on the hedging instrument or accelerating the recognition of gains or losses on the hedged item (KPMG 2006).

“Hedge accounting is a special accounting treatment that alters the normal accounting for one or more components of a hedge so that gains or losses of the hedging instrument are recognized in the same period as the income effects of the hedged item.” (Hernandez, 2004)
3.10.2 **Hedge Accounting models and Documentation:**

IAS 39 distinguished among three types of hedge accounting relationships and models (PricewaterhouseCoopers, 2005):

(a) Fair value hedges:

This model aims to offset the firm’s risk exposure to a change in fair value of an asset, liability or unrecognized firm commitment. The hedging instrument is measured at fair value through profit or loss and the hedged item will be re-measured to fair value and the resulting adjustment will be recognized in profit or loss.

(b) Cash flow hedges:

The cash flow hedge model seeks to offset the variability in cash flows of a recognized asset or liability or a highly anticipated transaction. The changes in the hedging instrument FV of the effective part of the hedge is recognized in “a hedging reserve” in equity until the hedged item affects profit or loss where it will be transferred to the income statement. The ineffective part receives a direct recognition in income statement, in terms of changes in FV.

(c) Hedges of net investment in a foreign operation:

Foreign operations are overseas subsidiaries, associates, joint ventures or branches. The firm’s risk exposure due to translation of the net assets of the foreign operations into the group currency qualifies for hedge accounting if the hedging requirements are satisfied.

A hedge of net investment is accounted for in a similar manner as cash flow hedges, therefore the gains or losses on the hedging instrument of effective portion of the hedge are recognized in equity and further in profit or loss on disposal of the foreign operation while the ineffective portion is to be directly recognized in profit or loss.
For a hedging relationship to qualify for a hedge accounting and be assigned to one of the preceding models, the standard requires a formal documentation of the hedge relationship and the management strategy to offset the risk exposure (PricewaterhouseCoopers, 2004).

The following figure summarizes the documentation requirements:

![Diagram showing documentation requirements]

**Figure 3–8: IAS 39 hedge accounting documentation requirements:**

Source: (PricewaterhouseCoopers, 2004)

The previous figure indicates that a hedging relationship requires the firm adopting a method for assessing the hedge effectiveness. Two compulsory tests are to be run to certify that the hedge is highly effective (PricewaterhouseCoopers, 2004):

1-Prospective effectiveness testing:

The firm should run this test at the inception of the hedging relationship and each reporting date to clarify that the hedge effectiveness is expected to be 100 %.

2-Retrospective effectiveness testing:

This test is required at each reporting date to certify that the actual result of the hedge effectiveness is within the range of 80 - 125 %.
Different mathematical models can be used to assess the effectiveness of the hedging relationship as ratio analysis, regression analysis or comparison of the hedging gains and losses with those on the hedged item at a specific point in time. The firm is expected to apply the selected method in a consistent manner unless the reasonableness of other methods is justified (IAS 39.IG F4.4).

There is no specification for a single model in this context, however the most common methods selected by firms are: Critical terms comparison, dollar offset method and regression analysis (PricewaterhouseCoopers, 2005)

In my point of view, another accounting policy choice is detected in this context as a result of the flexibility in the provisions of the standard. Although the standard mandated two different tests for the expected and actual results of the hedging relationship, strictly required documentation of the hedge effectiveness, assigned a 100 % for the expected results and a high range between 80 – 125 % for the actual ones, it allowed for an accounting choice for the mathematical method used to reach the results. This looseness in the provisions is a motive for manipulation and a financial number game to be played, and the disclosure requirement for such a method will be merely ”cleaning up after the manipulation”.

Moore (2003) criticized the hedge accounting under IAS 39 as being “very different” in its rules; furthermore the formal documentation and effectiveness testing are costly and inefficient if they are not “embedded within existing risk management system”.

The hedge documentation and effectiveness testing requirements are heavily criticized in more than one aspect. First, identifying the hedged item is not straightforward and needs greater details. Second, which risk curve can be referred to in identifying the hedged risk? Finally the standard didn’t determine the method that can be used to assess the hedge effectiveness and only required that the method selected must be appropriate and used in a consistent manner. These pitfalls may result in more technical problems in practice, and so “……the hedge accounting may not be achieved” (The Treasury and Finance Network, 2004).
3.11 Conclusion

This chapter of “Financial Instrument Accounting under IFRS” provided the ground of the thesis, because the research is mainly based on one standard of the IFRS. The emergence of the standards were reviewed broadly, and specifically in terms of IAS 39. The IAS 39 was discussed via its complicated provisions concerning financial instruments recognition, measurement and hedge accounting. The rationale for this chapter is to be familiar with the IAS 39 provisions, and to clarify some accounting practices within the standards. The next chapter will focus more on the accounting practices on one side, and harmonization and comparability on the other side, the independent and dependent variables.

In summary, the recognition criteria of IAS 39 allowed for two accounting methods: Trade date accounting and settlement date accounting. A mixed measurement attributes model under IAS 39 applies to different classes of financial instruments, in which the classification is tied to the management intention. Different parts in the standard and its Application Guidance make some confusion regarding transaction cost treatment. The FVO, different measurement models to estimate fair value in a non-active market, compound instrument designation and hedge effectiveness test models are all accounting choices detected under the standard.
Chapter 4

Accounting Practices, Harmonization and Comparability

4.1 Introduction

This chapter goes into the depth of the accounting choice and harmonization literatures. The chapter discusses two related accounting areas: Accounting practices and Harmonization, representing the independent and dependent variables of the research. Each area is presented with the aim to indicate its meaning, related literature and some applications. A harmonization measures matrix is developed to summarize the applicable harmonization measures and justify the choice of the study analytical tools.

Section 4.1 is an introduction to the chapter. Section 4.2 has three sub-sections 4.2.1, 4.2.2 and 4.2.3 that clarify the main difference between ‘accounting standards’ and ‘accounting practices’, the accounting choice research and the financial numbers game, respectively.

Section 4.3 has two sub-sections that deal with harmony, harmonization and comparability of financial reporting. The related literature is reviewed in section 4.4. Five main quantitative measures of harmonization are separately presented and a matrix is developed summarizing the measures in section 4.5 and its subsections 4.5.1 to 4.5.6. Section 4.6 is the conclusion of the chapter.
Figure 4–1: Structure of chapter four
4.2 Accounting Practices

4.2.1 Accounting Standards and Accounting Practices

Accounting standards and accounting practices, although related, are two different concepts.

Accounting standards are often used in terms of rules sanctioned or recommended that are issued by an institution to be committed and obligated as authoritative laws, while accounting practices are “…..any computational algorithm used or suggested in the preparation of financial accounting statements...” and include all techniques used in financial reporting (Watts & Zimmerman, 1979)

“An accounting choice is any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way…….” (Fields, et al., 2001)

Fields, et al. (2001) widened the range of the definition of an accounting choice to include choices of diverse accounting methods, choices concerning the level of disclosure, choices of when to adopt new standards and accounting practices mainly exercised to influence the accounting figures. This broadness in the definition has been criticized by Francis (2001) in more than one dimension including the nature of the choices embedded in the definition.

Fields, et al. (2001) stressed the critical role played by managers in the accounting choice selection. They considered the management intention as the criteria to interpret whether the accounting practices exercised were motivated by the desire to affect the accounting system output or other drivers. In their viewpoint, the decision making process concerning accounting choices is to be extended to auditors, audit committees and standard setters as well.

Francis (2001) criticized the inclusion of decision makers other than managers in the concept of accounting choices, referring to the fact that most accounting choice research didn’t include other decision makers than managers for the responsibility of selecting an accounting choice. The author claimed that the broad range of parties involved in the decision making process was beyond the area of accounting choice research and could be used as a motive for further work in auditing and corporate governance research.
Both Fields, et al. (2001) and Francis (2001) agreed that managers are the critical key for accounting choices, and the management intention is a crucial determinant for the motives behind the accounting method employed by the firm.

Because of the great impact of management actions in terms of accounting practices, some ready made arguments should have been developed in advance for auditors to support them in arguing with managers for their accounting choices selection (Matheson, 1893).

4.2.2 The Accounting Choice Research

The accounting choice research is closely related to the development of the positive accounting theory. Although the literature about the shift from a normative to a positive accounting theory may be beyond the purpose of this thesis, some contributions to the development of accounting choice research are highlighted in this section.

Melis (2005) conducted a comparative international accounting history research for the roots of the emergence of a positive accounting theory. He reviewed the accounting literature in this context, blaming the literature for ignoring the early entrepreneurship of Amaduzzi (1947, 1949) and his efforts to build an accounting theory that is related with accounting practices. The author explained that the positive accounting theory has been developed in the mid-1970s, referring to Jensen (1967), due to the motivation to explain why accounting was what it was, what are the interpretations and drivers of the accountants’ actions and what are the effects and consequences. He referred to Watts and Zimmerman (1986) in their definition for the objective of accounting theory as to explain and predict the accounting practices.

Melis (2005) claimed that the accounting literature didn’t stress the role of the Italian school of accounting that has started an earlier work in developing a positive accounting theory, thanks to the efforts of Amaduzzi (1949) and his book “Conflitto ed equilibrio di interessi nel bilancio dell’impresa” which means “Conflict and equilibrium of interests in corporate financial statements”, where he aimed to construct an accounting theory that is with the real world, and so accounting practices.
Watts and Zimmerman (1990) articulated the evolution and the state of the positive accounting theory at this time, as following:

- The 1960s witnessed the emergence of the positive accounting theory research when Ball and Brown (1968) and Beaver (1968) used methods of empirical finance in financial accounting.
- Researches started to investigate the relation between accounting numbers and stock prices, on the grounds that accounting numbers convey information on the security market. And so accounting disclosures are somehow used by investors in valuing securities.
- This “information content perspective” contributed to clarify the market’s use of accounting numbers rather than explaining and predicting accounting choices. This shortcoming was due to the finance theories and the propositions of Modigliani and Miller (1958) that information is costless and there is no transaction cost, therefore if the accounting practices don’t affect taxes they will have no impact of the value of the firm and so irrelevant.
- The accounting literature used debt and compensation contracts and lobbying cost associated with the political process to include information or transaction cost, and therefore explains and predicts accounting choices. The bankruptcy cost and agency cost were the first debt costs introduced.
- The authors explained the use of contracting costs including transaction cost, agency cost, information cost, renegotiation cost and bankruptcy cost in accounting choices explanation and prediction.

Fields, et al. (2001) reviewed the accounting choice literature from 1990, concerning three types of market imperfections driving the managers’ practices: agency costs, information asymmetries and external factors affecting non-contracting parties:

- The authors pointed out to the work done by Watts and Zimmerman (1990) in their review of the development of positive accounting theory and how they interpreted the shortcomings in the positive accounting theory by the inability to explain both “the ex
The accounting choice research investigated the influence of executive compensation contracts on the accounting practices exercised by the firm. Researchers tended to investigate the consequences of reporting flexibility and the costs associated with its elimination.

The literature focused on the managers’ use of accounting discretion to increase their compensation by managing and manipulating reported earnings (earnings management), however no evidence was provided at that time for the link between compensation and other goals in terms of the effect on shareholders and bondholders.

Accounting research was motivated by the managers’ actions in changing accounting methods after the issuance of debt. An approach used in the literature called “debt hypothesis” proposed that this subsequent shift in accounting choices after debt issuance was intended to avoid the covenant violations (debt covenants). However, the literature was not able to draw precise interpretations.

One of the aspects of the accounting choice literature was “asset pricing motivation”. Where researchers had examined the effect of accounting practices on equity valuation and the cost of capital.

Attention was shifted to the effect of the level of disclosure on the cost of capital. There was evidence provided on the negative association between the disclosure level and the cost of capital.

Earnings management research, market efficiency research and Motivation due to impact on third parties received a lot of interest in accounting literature in terms of accounting choice research.

Mulford and Comiskey (2002) labeled all instruments used by managers to affect the financial statements users’ impression about the financial position and performance of the reporting company as the financial numbers game. This game is the income smoothing, earnings management and extremely fraudulent financial reporting actions exercised by managers for certain targets and played in different forms. When the accounting standards are flexible and leaving much space for managers to exercise judgments, accounting policy choices and applications will be always the tools to play the game. This flexibility can’t be easily managed by standard setters; because the differences in financial transactions and economic conditions among different entities hamper enforcing mandatory similar accounting practices and so requires room for management judgment. When mangers play the game they apply “aggressive accounting practices” to change the performance of the firm and hence mislead investors because similar companies, even in the same industry, will look different (a comparability negative effect).

Although the authors were focusing on the GAAP when the IFRS haven’t taken their current popularity yet at that time, however the feature that allowed for such a game to be played under the GAAP was the flexibility in the accounting standards and the room left for management judgment which could affect financial reporting. In chapter three, it was clear that flexibility in accounting standards has been also permitted under IFRS, specifically IAS 39 where different accounting practices are allowed and the management intent and judgment are the bases for the accounting policy choices selection.

The accounting choice literature has always been criticizing managers for taking the advantage of the flexibility permitted under accounting standards to manipulate reported earnings in situations where managers need to exercise their judgments (Fields, et al., 2001). The concept that describes the attitude of managers to exercise judgment to manage reported earnings when they are delegated to choose among different accounting policies is called earnings managements (Scott, 1997)
“Earnings management is the active manipulation of accounting results for the purpose of creating an altered impression of business performance” (Mulford & Comiskey, 1996).

Bischof and Ebert (2007) divided earnings management research into: studies focusing on earnings management in terms of financial reporting choices and studies on the use of management intent to misreport earnings.

Nelson et al. (2001) proved that the existence of discretion in accounting rules is a motivation for earning management practices and aborts the auditing task from arguing the manipulations and even strict accounting rules can lead managers to manipulate via restructuring the nature of transactions.

Mulford and Comiskey (2002) argued that the flexibility in GAAP was the primary instrument used by managers to misreport earnings. This earnings management, if carried forward could lead to ‘darkness’ where misstatements and fraudulent financial reporting would be the consequences in addition to altered impression of the business real performance. The authors mentioned different techniques for potential earnings management. Two techniques that could fall within the range of this thesis are: determining the presence of impaired assets and deciding on the proper hedge classification of a financial derivative.

Interesting results have been provided by Capkun, et al. (2007) in their study for European firms that have adopted the IFRS. The authors examined a sample of 1964 firms from 7 European countries during the transition period from their local GAAPs to IFRS in 2004-2005. They provided evidence for earnings management in the transition period, when firms that experienced low local GAAP income have exercised accounting practices under IFRS that maximize their earnings.

The authors examined the possibility of lower levels of earnings management for German firms adopting IFRS. They proved no association between the transition to the IFRS and lower earnings management.

Bischof and Ebert (2007) detected some different accounting polices under IAS 39, and claimed that this resulted in earnings management under IFRS.
This research defines 6 accounting practice categories that are permitted under IAS 39 for the purpose of the thesis:

1- The fair value option (FVO)
2- Trade date accounting and Settlement date accounting:
3- Valuation models used in case of financial instrument fair value consideration where the market is non-active.
4- Transactions cost treatment.
5- Separation of embedded derivatives, or designation of the entire compound instrument.
6- Mathematical models used for assessing hedge effectiveness:

4.3 Harmony, Harmonization and Comparability

4.3.1 Harmony and Harmonization

Harmony is a state (Falk, 1994), where a set of companies concentrates around few accounting choices and methods. Therefore, using different accounting practices to account for the same transaction among countries is zero international harmony (Tay & Parker, 1990).

Harmony is “…any point on the continuum between the two states of total diversity and uniformity, excluding these two extremes”. (Tay & Parker, 1990).

Archer et al. (1996) contradicted with Tay and Parker (1990) and argued that selecting diverse accounting methods dues to real underlying differences where creative accounting is merely random events, so when different accounting practices are exercised among countries to account for like events, there could be a perfect harmony attained.

This thesis coincides with the viewpoint of (Tay & Parker, 1990), therefore using different accounting practices for the same transaction impairs harmonization and comparability.

When harmony is assessed from the standards and regulations standpoint, it’s often referred to as 
*de jure* harmony. *De jure* harmony is concerned about the uniformity and consistency of accounting regulations and legislations. *De facto* harmony is another form of harmony used to

When harmony is compared at different times, the process is called harmonization (Emenyonu a& Gray, 1996). Harmonization is “…the coordination of pre-existing rules of a different and sometimes conflicting nature” (Van Hulle, 1989).


Harmonization can be formal, material or spontaneous. Formal harmonization focuses on standards, laws and regulations, while material and spontaneous harmonization concern about accounting practices (Van der Tas, 1988). Formal harmonization and material harmonization are
equivalent to de jure harmonization and de facto harmonization, respectively (Tay & Parker, 1990).

“Material measurement harmonization is an increase in the degree of comparability and means that more companies in the same circumstances apply the same accounting method to an event or give additional information in such a way that the financial reports of more companies can be made comparable” (Van der Tas, 1988)

The following figure illustrates the two harmonization forms:

![Figure 4–3: De jure and de facto harmonization](image)

Source: (Tay & Parker, 1990)

**4.3.2 Comparability**

Before the comparability as a qualitative characteristic of accounting information was clearly defined in the literature, Simmons (1967) had stressed the importance of developing a detailed
concept to define the attribute. The core of the comparability definition developed by the author was based on the equality among firms in reflecting their economic circumstances. Simmons (1967) included both similarities and differences in reporting at the same fashion in his definition of equivalent reflection of economic circumstances. The comparability in the author’s viewpoint could be achieved by combining both equivalent presentation and equivalent measurement. Quantifying similar economic circumstances among different companies using different valuation bases as cost or market value will result in no equivalent reflection of like events and so impairing comparability. He argued that the concept of comparability is not against using different valuation bases; however these bases should be used for different economic circumstances and applied in a consistent manner.

Parker (1975) indicated that achieving comparability is related to reporting identical events at similar measurement attributes, since decision making process requires comparing alternatives. The same valuation bases should be used for similar transactions, while transactions with different economic features are to be valuated with different bases. This will assist financial statement users to make their decisions on the grounds that the valuation bases used to measure different economic events are not biased with the management preferences in selecting different accounting techniques. The author used the standard deviation of different measurement valuations used to account for similar assets held by different companies as a measure of the degree of consensus in measurements and therefore comparability. The relative comparability was determined by the percentage standard deviation as following:

\[
\% \text{SD} = \frac{SD}{\mu} \\
SD = \sqrt{\frac{1}{n} \sum_{i=1}^{n} (x_i - \mu)^2}
\]

\(n\) = number of companies in the group  
\(x_i\) = valuations reported by the firms  
\(\mu\) = Mean of all (valuations) \(x_i\)
Comparability is a characteristic of accounting information that enables financial statements users to determine the similarities and differences among different companies for the same time span. This requires reporting identical economic events using the same valuation bases, therefore “non-comparability can result from the use of different inputs, procedures or systems of classification” (SFAC 2).

The IASB framework requires reporting similar transactions consistently for different companies to assist users in comparing the financial positions and levels of performance among different entities. This implies disclosing the accounting policies used by the entity and reporting their changes over time (Framework.39-40).

Apparently in All definitions of comparability is the requirement to measure identical events in similar manners to achieve comparability of financial reporting. To account for two identical events similarly, the same accounting standard should be applied and if different accounting choices are available, the same accounting practice should be employed. Therefore, harmonizing both accounting standards and practices are expected to result in more comparable accounting information.

Achieving comparability requires a strong correlation between harmonized accounting standards and accounting practices. Attaining high de jure harmonization and high de facto harmonization enhances the comparability of financial reporting (D’Arcy, n.d.).

“…..Harmonized standards are free of logical conflicts, and should improve the comparability of financial information from different countries” (Choi et al., 2001)

Van der Tas (1988), in measuring the degree of harmonization, used both the words ‘comparability’ and ‘harmony’ as equivalent to refer to de facto harmonization. The author defined de facto harmonization as an increase in the comparability of financial reporting.

Halbouni (2006) indicated that concentration and consensus of accounting practices among firms when different accounting methods are available will enhance the comparability of financial reporting.

Rahman, et al. (2002) argued that comparable accounting information is the output of two aspects of accounting harmonization, regulatory influences and a process of harmonizing
accounting practices. Implicitly in (D’Arcy, n.d.), comparability is a function of both de jure and de facto harmonization and could be impaired if one of these processes is not achieved.

Since de jure harmonization should be achieved in Sweden for companies listed in NASDAQ Stock Exchange, Stockholm, due to the mandatory adoption of IFRS in their consolidated financial statements, therefore the interest is devoted to de facto harmonization because of the room left to managers in selecting diverse accounting choices under IFRS, and mainly IAS 39. The degree of harmonized accounting practices- de facto harmonization- is assumed to infer to the degree of comparability as well.

The research assumes high degree of de jure harmonization, and goes further to investigate the effect on de facto harmonization. This means that the comparability of financial reporting is said to increase when high de facto harmonization is reached, and impairs with low de facto harmonization. Therefore, the effect of financial instruments accounting practices-under a de jure harmonized IAS 39 within companies listed in Stockholm Stock exchange- on both de facto harmonization and comparability is the main focus of this research.

The following figure summarizes the previously discussed relation among de jure harmonization, de facto harmonization and comparability. Three gears were drawn to infer to the closeness of the three processes and the proposed effect of the harmonization forms on comparability.

Figure 4–4: Comparability as a function of de jure and de facto harmonization

Source: (Author, 2009)
4.4 Accounting Harmonization Research

A comprehensive study was conducted by Baker and Barbu (2007) to define trends in research of international accounting harmonization from 1964 to 2004 through examining 202 articles of international accounting harmonization published in 24 accounting journals. The authors differentiated among three periods where different set of themes were included in each period. The initial period 1965-1973 concerned about accounting uniformity, comparative studies and reflections on the process of international accounting harmonization. The first and the second themes continued in the intermediate period 1974-1989 and new themes have emerged as conceptual framework, factors of the environment and accounting directives. The mature period 1990-2004 witnessed both continuing interests in the themes identified in the intermediate period and new trends of research as the effect of harmonized accounting practices on share prices, the use of indices and statistical methods for measuring the degree of international harmonization and the implementation of IFRS.

As an attempt to create a topology, Rahman, et al. (2002) divided the accounting harmonization literature into the following groups:

(a) The first group was cluster studies that investigated both de jure harmonization and de facto harmonization and how they were affected by environmental factors among different countries.

(b) The second group focused on de jure harmonization (standards and regulations harmonization).

(c) The third group examined de facto harmony as a state and de facto harmonization as a process (accounting practice harmony and harmonization).

(d) The fourth group concerned about the relationship between de facto harmonization and accounting numbers.

(e) The fifth group assumed association between de jure harmonization and de facto harmonization and examined their association with share prices.
(f) The last group of studies tried to improve harmony measures set in the literature on both country and global levels.

Morais and Fialho (2008) summarized major studies on compliance with IFRS, *de facto* harmonization and the level of disclosure of financial instruments information. Their classification indicated that variance analysis and regression models have been used to test the degree of compliance with IFRS (*de jure*). *De facto* harmonization has been measured by the use of indices and descriptive statistics while the level of disclosure of financial instruments information has been evaluated by content analysis, univariate and multivariate analysis.

Murphy (2000) argued that research on harmonization was either a country or company level. Descriptive comparison of standards, factor analysis and harmonization indices were the approaches used for research on harmonization.

The use of indices to measure accounting harmonization was originally introduced by Van der Tas (1988). The author employed indices from industrial economic applications to reach the quantitative degree of accounting harmonization. He used the Herfindahl (H) index to quantify the extent of harmony of financial reporting practices therefore measuring the degree of harmonization of an accounting method within a country. Two indices were derived: (C) index to measure national harmonization of accounting methods and comparability of accounts and (I) index to measure international harmonization among different countries. Archer, et al. (1995) separated the C index into two components to measure the degree of the state of harmony and the process of harmonization.

Tay and Parker (1990, 1992) suggested the use of \( \chi^2 \) Chi-square as a test of significance in addition to Van der Tas’s (1988) indices to measure the harmony level. Taplin (2003) argued that the (H) index and (C) index calculated from samples could be “*biased estimates of their corresponding population indices*”, therefore the standard errors of both (H) index and (C) index drawn from samples should be estimated. The authors developed formulas to include the standard errors in (H) index and (C) index calculations and their results showed that both indices measured from samples were biased, however this bias could be neglected because the values calculated from samples were close to the ones from their corresponding populations.
Halbouni (2006) used chi-square and C index to determine the degree of harmonization of accounting practices (de facto harmonization) within Saudi Arabia. The results of the C index indicated that some accounting practices were harmonized while others had scored very low in terms of harmonization. The chi-square test reveals that some accounting practices had no significant differences, while others were significantly different.

Traca (1997) provided evidence, using Chi-square, that some accounting practices employed by companies reporting under IAS in Malaysia, New Guinea, Bermuda, Hong Kong and Isle of Man were significantly different than those of companies reporting under Australian Accounting Standards Board.

Hellman (1993) applied Gray’s index of conservatism on some Swedish companies for the period from 1982 to 1990 and found significant differences in 1987 and 1989 where the net income reported under Swedish accounting rules, especially for larger companies, was higher than the one under US GAAP. The author concluded that Swedish reporting could be less conservative than US GAAP due to the favorable effects that Swedish accounting standards had on income.

Fontes, et al. (2005) used three quantitative methods to assess de jure harmonization: Euclidean distances, Jaccard’s coefficients and Spearman’s coefficients. They aimed to measure the extent of convergence of national accounting standards in Portugal with IFRS. Their results indicated some progress in the harmonization process of Portuguese accounting standards with IFRS.

Haverty (2006) used Gray’s index of comparability to measure the convergence of the US.GAAP and IFRS. The author used a sample of Chinese companies listed in NYSE where the companies prepare financial statements in accordance with IFRS and reconciled to US.GAAP. A lack of comparability was detected due to the revaluation of PPE (Property Plant and Equipment) under IFRS that was not permitted under US.GAAP.

Callao, et al. (2007) investigated the impact of adopting IFRS in Spain on the comparability and relevance of financial reporting. The authors proved a decline in comparability due to the fact of applying both Spanish accounting standards and IFRS and no improvement in the relevance of financial reporting.
Rahman, et al. (2002) analyzed the factors influencing *de facto* harmonization in Australia and New Zealand. They provided evidence of association between *de jure* and *de facto* harmonization and an association between *de facto* harmonization and firm specific characteristics. The authors stressed the importance of considering firms specific characteristics to achieve accounting practice harmonization via standards harmonization.

Murphy (2000) examined the effect of adopting IAS on *de facto* harmonization and comparability within Switzerland and across Japan, United Kingdom and United States of America. Although the results revealed an increase in the level of harmony within the country and across the other countries, the author wrote that the study wasn’t able to prove whether this increase was due solely to the adoption of the IASs.

Morais and Fialho (2008) conducted an empirical study of IAS 39 in selected EU countries to examine whether the transition to harmonized standards, mainly IAS 39, could lead to harmonized accounting practices. The authors provided evidence contradicting with most of similar studies in the literature by proving that *de jure* harmonization resulted in *de facto* harmonization; however the period examined under the study was the first year of adopting IFRS.

Catuogno, et al. (n.d.) measured *de facto* harmonization within Italy after adopting IFRS using only (H) index. The results showed high degree of harmonization in the banking sector; however the industrial and service sector scored low in terms of harmonization. The authors interpreted the harmonized accounting practices in the banking sector due to the strict control imposed by the government on banks in Italy, while the first time adoption of the IFRS or reluctance to the standards were the reasons behind the low degree of harmonization experienced by industrial and service sectors companies from the authors’ viewpoint.

### 4.5 Main Quantitative Measures of Harmonization

This section presents different methods used in the literature to measure the extent of harmonization. The aim here is neither to review the entire literature nor to document by whom
the measures were initially introduced, however a brief review is presented to figure out the relevant tools for the study.

4.5.1 Euclidean Distances

This method can be used to measure the degree of *de jure* harmonization. It extends to measure the degree of harmony over time when different rules and standards are issued by different regulation bodies (Garrido, et al., 2002)

The Euclidean distance between two points X and Y,

Where $X = (x_1, x_2, x_3, ... x_n)$, $Y = (y_1, y_2, y_3, ..., y_n)$

$$D(X, Y) = \left[ \sum_{k=1}^{p} (x_n - y_n)^2 \right]^{1/2}$$

A low value in this method indicates a high degree of harmonization.

4.5.2 Jaccards Coefficients

Jaccards coefficients can be used to quantify the extent of compliance to underlying standards (Morais & Fialho, 2008). This approach aims to measure the degree of *de jure* harmonization (Fontes, et al., 2005).

The formula as used by Morais and Fialho (2008):
\[ JACC = \frac{a}{a+b+c} \]

Where,

\( a \) refers to the number of matches due to compliance with the standard

\( b \) refers to the number of mismatches due to non-compliance with the standard

\( c \) refers to the number of mismatches when the company applies a method not allowed by the standard

\( d \) refers to the matches when the firm doesn’t apply a method and it is not required by the standard.

A code of (1) refers to using the accounting method, while a code of (0) refers to not using accounting method.

The index values range between 0 and 1, where the higher the value the more compliance with the underlying standard is.

### 4.5.3 The Herfindahl (H) index

(H) index is a concentration index used in industrial economics. It can be also used to measure the degree of \textit{de facto} harmonization on a national level. The index is applicable whether two or more accounting choices are observed in the sample. The number of companies selecting the same accounting choice is divided by the total number of companies in the sample to obtain the
relative frequency of the same accounting method. Weighing the relative frequencies of the accounting choices against each other will lead to the H index (Van der Tas1988).

The formula as used by Van der Tas (1988):

$$H = \sum_{i=1}^{n} p_i^2$$

H= Herfindahl index
n= number of alternatives in accounting choices
$p_i$ = the relative frequency of an accounting choice i

The values range between 0 and 1. A “zero” value refers to no harmony; while a value of “one” means that all companies have selected the same accounting choice.

Taplin (2003) argued that the index is calculated from a sample of companies rather than the entire population, therefore a standard error should be calculated.

The author proposed the following formula:

$$E(H) = \sum_{i=1}^{M} \pi_i^2 + \sum_{i=1}^{M} \pi_i(1 - \pi_i) / n$$

Where,
E is the expectation operator
M = the number of accounting choices
$\pi_i$ = the relative frequency of accounting choices in the population

The author wrote that the bias in the H index calculated from a sample could be neglected as the value driven from a sample of companies was close to the one from the entire population.
4.5.4 (C) index

This index is a national *de facto* harmonization measure that takes into account multiple reporting when a firm gives information about more than one accounting choice. The value of the index approximates the value calculated using (H) index, provided that no multiple reporting takes place and a large sample of financial statements are examined. The (C) index is the number of pairs of firms that apply the same accounting method divided by the total number of pairs of companies (Van der Tas, 1988)

The formula as used by Van der Tas (1988):

\[
C = \frac{\sum_{i=1}^{m} a_i^2 - n}{n^2 - n}
\]

Where,

C= C index

\(a_i\)= the number of firms applying the same measurement attribute

m= the number of measurement attributes

n= the total number of firms

The values range between 0 and 1.

Taplin (2003) reformulated the index based on the same proposition with the (H) index of being derived from a sample of companies rather than the entire population; therefore a standard error should be calculated.

The author proposed the following formula:

\[E(C) = C_p + (1 - C_p)/N\]

Where,

\(C_p\)= the population C index

N= the number of firms in the population
4.5.5 (I) index

The (I) index is used to measure international *de facto* harmonization among more than two countries. The value of the index is reached by summing the multiplications results of the relative frequency of a selected accounting choice in one country by the relative frequency of the same selected accounting choice in the other country (Van der Tas, 1988).

Van der Tas (1988) proposed the following formula:

\[ I = \sum_{i=1}^{n} (f_{i1} \times f_{i2}) \]

Where,

- \( n \) = the number of alternative accounting choices.
- \( f_{i1} \) = the relative frequency of accounting choice \( i \) in country 1.
- \( f_{i2} \) = the relative frequency of accounting choice \( i \) in country 2.

The values calculated from the index range between 0 to 1.

4.5.6 Harmonization Measures Matrix

The preceding review of the measures of harmonization reveals two main categories when the focus is on the harmonization form:

- Tools used in *de jure* (formal) harmonization research.
- Tools used in *de facto* (material) harmonization research.

When the focus is devoted to the scope of the study, another two categories are identified:

- Within a country (a country study).
- Across countries (at an international level).
The following matrix indicates the relations among these different categories:

Table 4-1: Harmonization measures data matrix

<table>
<thead>
<tr>
<th>The categories</th>
<th>Within a country</th>
<th>Across countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>De jure harmonization</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>De facto harmonization</td>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>

“A” tools used to measure the degree of accounting standards (formal) harmonization within a country

“B” tools used to measure the degree of accounting standards (formal) harmonization across countries

“C” tools used to measure the degree of accounting practices (material) harmonization within a country

“D” tools used to measure the degree of accounting practices (material) harmonization across countries

Category (A) includes a set of different methods as: *Euclidean distances and Jaccard’s coefficients*. The same tools were used by Fontes, et al. (2005) to measure formal harmonization in category (B). Rahman, et al. (1996) used multiple discriminant analysis in category (B).

In category (C), Van der Tas (1988) was the first researcher that proposed the use of (H) index and (C) index to measure the material harmonization on a national level.

The (I) index have been used by Van der Tas (1988) as a measure of *de facto* harmonization on a global level, category (D).

Since this thesis aims to measure the effect of the financial instrument accounting practices on *de facto* harmonization and comparability within Sweden, so it belongs to category(C), where the (H) and (C) indices are the relevant and valid indices.
4.6 Conclusion

This chapter clarified the association between accounting practices and harmonization. It went through accounting choice literature and harmonization literature. Main measures of harmonization were briefly reviewed and categorized in four groups.

In summary, accounting standards and accounting practices are different. The former is related to authoritative laws, while the latter concerns the choices, methods, and techniques under the applicable standards. When a room is left to managers to select their accounting choices, a decline in harmonization, impairment in comparability or even a financial number game would be the outcome.

Harmonization has two forms: de jure harmonization and de fact harmonization. Complying with applicable accounting standards contributes to de jure harmonization, while companies are de fact harmonized when they select similar accounting practices. Each form of harmonization has its relevant measures. The discussion in the chapter reveals that both (H) index and (C) index can be applied in the study, besides the combination of a test of significance to enhance the degree of accuracy. The next chapter will justify the choice of (H) index rather than (C) index according to the nature of the collected data, in addition to Chi-square as a test of significance.
Chapter 5

Empirical Findings

5.1 Introduction

This chapter is the empirical study and results of the research. The analytical tools are applied on the collected data; the results are obtained, analyzed and interpreted. Each accounting practice category is examined in both the financial and industrial sectors. The results reveal different harmonization and comparability levels; however the majority of accounting practices tends to be disharmonized.

The first section is an introduction to the study. The second section describes the rationale behind choosing the study analytical tools and defines the formula applied. Section 5.3 is the detailed sampling procedures. Section 5.4 aims to identify each accounting practice category and its possible outcomes. Data are coded and presented in section 5.5.

Section 5.6 is the statistical analysis of the data. The results are presented for each accounting practice category in a separate sub-section.

Section 5.7 is the conclusion of the chapter.
Figure 5–1: Structure of chapter five
5.2 Tools of Analysis

The study attempts to implement two tools of analysis: Herfindahl (H) index as proposed by Van der Tas (1988) in order to determine the degree of de facto harmonization and comparability in financial instruments accounting practices under IFRS and Chi-square as a test of significance recommended by Tay and Parker (1990, 1992), on a sample of companies listed in NASDAQ Stock Exchange, Stockholm.

Both the (H) index and the (C) index can be used for the same purpose leading to the same results, in some circumstances; however (C) index is often used to take multiple reporting into account when companies may provide information about more than one accounting method (Van der Tas, 1988). The accounting choices under this study have a cut-off selection by companies, where one method is only employed under each accounting choice. A company that designates financial assets to the financial assets through profit or loss category doesn’t measure them by historical cost as well; also a company may use either a trade date accounting or a settlement date accounting for the same category of financial instruments, but not both of them.

Taplin (2003) proposed the inclusion of the standard error because the index is calculated from a sample rather than the entire population; he wrote also that the bias could be neglected because the sample value was close to the population value. Consequently, the Van der Tas’s (1988) proposed (H) index will be applied in the current study.

The Van der Tas’s (1988) formula:

\[
H = \sum_{i=1}^{n} p_i^2
\]

H= Herfindahl index
n= number of alternatives in accounting choices
\( p_i \)= the relative frequency of accounting choices i

The H index values will range between 0 and 1. The (0) H index is a disharmony state, while the (1) H index refers to a perfect harmony because all companies in the sample are using the same
accounting policy choice. The degree of *de facto* harmonization will infer to the extent of comparability. Emenyonu and Gray (1992) pointed out that there is no benchmark for an acceptable level of harmony for the values between 0 and 1.

The Chi-square test of significance was suggested by Tay and Parker (1990, 1992) and therefore used to test for the significance of differences among the accounting methods applied by the sample companies, for each category of accounting practices. The chi-square value is to be computed on a basis of equal proportions for all possible outcomes under each category, because each company has the choice to select its accounting practices permitted under the standard. The calculations are made by the use of a software package.

### 5.3 Sampling procedures

The targeted population is identified, and broken into two equal strata, where each stratum is proportionally subdivided into three sub-strata. A simple random sample is drawn from each sub-stratum.

\[
N = 117 \quad N_F = 50 \quad N_I = 67 \quad n = 50
\]

Where,

\(N\) = the number of companies in both the financial and industrial sectors listed in NASDAQ Stock Exchange, Stockholm at the end of 2007.

\(N_F\) = the number of companies in the financial sector listed in NASDAQ Stock Exchange at the end of 2007.

\(N_I\) = the number of companies in the industrial sector listed in NASDAQ Stock exchange the end of 2007

\(n\) = the sample size

The following table is extracted from the NASDAX Stock exchange to indicate the number of companies in each sector and each segment at the end of the financial year 2007.
Table 5-1: The composition of the Nordic Stock Market (listed companies) at the end of 2007

30/12/2007

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<th>XSTO</th>
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<th>XCPH</th>
<th>XICE</th>
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Excluding 13 multiple listings

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<td>626</td>
</tr>
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</table>

Excluding 13 multiple listings

Source: (NASDAQ Stock Exchange, 2007)

\( n_f \), the sample selected from \( N_f = 25 \) companies.

This stratum is subdivided further into three substrata; each represents a segment in the sector.

\[ n_{fi} = n_f \times \frac{N_{fi}}{N_f} \]

Where,

\( N_{fi} \) = the number of companies in the financial sector-large cap

\( n_{fi} \) = the calculated sample from the companies in the financial sector-large cap

The value approximately equals 11 companies
\[ n_{fm} = n_f \times \frac{N_{fm}}{N_f} \]

Where,

\( N_{fm} \) = the number of companies in the financial sector-mid cap
\( n_{fm} \) = the calculated sample from the companies in the financial sector-mid cap

The calculated sample is 8 companies.

\[ n_{fs} = n_f \times \frac{N_{fs}}{N_f} \]

Where,

\( N_{fs} \) = the number of companies in the financial sector-small cap
\( n_{fs} \) = the calculated sample from the companies in the financial sector-small cap

6 companies will be extracted from the financial sector-small cap and be included in the sample.

The same technique is applied on the industrial sector, and resulted in the following figures:

\( n_i = 25 \quad n_{il} = 7 \quad n_{im} = 10 \quad n_{is} = 8 \)

Where,

\( n_i \) = the sample size drawn from the industrial sector.
\( n_{il} \) = the number of companies included in the sample from the industrial sector-large cap.
\( n_{im} \) = the number of companies included in the sample from the industrial sector-mid cap.
\( n_{is} \) = the number of companies included in the sample from the industrial sector-small cap.

The following table summarizes the sample size from each sector and each sector segment:
Selecting a simple random sample from each sub-stratum assures that each company in has an equal chance of being included in the sample.

The subdivision of each sector into substrata is aimed to capture the different features and attributes of companies and to assure that each segment is represented in the sample. The data will be then analyzed on a sector level rather than a segment level, because comparability is assumed for companies on the basis of the industry sector.

### 5.4 Accounting practices and Possible Choices

The analysis of IAS 39 in the literature review revealed six accounting practice categories where different accounting policy choices were allowed for each category. The following categories are the targeted accounting practices investigated in each annual report in the 50 companies included in the sample:

<table>
<thead>
<tr>
<th>The sector</th>
<th>The financials</th>
<th>The industrials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large cap</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>Mid cap</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Small cap</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>
(a) The Fair value option:

Since this option permits to designate any financial asset or financial liability at inception to be measured at FV through profit or loss, some companies are expected to use the option, while others may not, due to the flexibility left to managers. A firm can assign a particular financial asset at the category FVTPL and so measured at fair value, while another firm may account for the same asset using a different measurement attribute as amortized cost because it has been assigned to a different category of financial assets. The option will only be examined for financial assets because of the different classifications of the element under the applicable standard and the limitations under the European law on using the option for elements other than financial assets (Baetge et al., 2006 cited in Schneider, 2008)

(b) Trade date accounting or settlement date accounting:

A regular sale or purchase of financial assets is allowed under IAS 39 to have either trade date or settlement date as a critical event for both recognition and de-recognition. Therefore an accounting choice is to be made between the application of trade date accounting or settlement date accounting. The choice of the accounting method will have a temporary different effect on the financial statements and so impact comparability.

(c) The valuation model used to estimate the FV when the market is non-active:

IAS 39 requires a FV valuation model to be used when the market is not active, however the choice is left to managers to apply an appropriate model that capture the observable market data, and if the fair value can’t be reasonably estimated, the entity is prevented from measuring the instrument at fair value (IAS 39.AG 81,82). This stipulation may result in companies using different valuation models and therefore the fair value figures may be different for the same instrument among different companies. The applicable valuation models will be examined in the annual reports of the sample companies.
(d) Transactions cost treatment:

Since the provisions of the standard for the inclusion of transaction cost are confusing, because the standard required the transactions cost not to be added to fair value for certain assets, while the application guidance specifies that the bid and ask prices are the appropriate quoted market prices, however they represent transactions cost. The aim here is to investigate how companies disclosed their treatment for transactions cost due to their understanding of the standard, and therefore the degree of harmonization.

(e) Separation of embedded derivative or FV election of the entire compound instrument:

Under IAS 39, the companies are permitted to whether separate an embedded derivative from its host contract, or to designate the entire instrument at FVTPL. This flexibility may result in companies separating the instruments and others use the FV election. Each accounting practice will have a different effect on the financial statements, because the host contract if accounted for separately may be measured by an attribute different than fair value.

(f) Mathematical models used for assessing hedge effectiveness:

The permission of different accounting models for assessing the hedge effectiveness may result in disharmony of the selected methods. An investigation of the disclosed hedge effectiveness models used by each company is targeted under each annual report examined in the sample.

5.5 Data Coding

The data were collected and a data matrix was developed. Coding data and calculating the frequencies of companies selecting the same accounting method for each accounting practice category is perquisite for data entry and statistical analysis.

Some accounting practices were not clear in the annual reports, especially in the case of FVO and treatment of embedded derivatives. A company was deemed to use the option, if it was explicitly disclosed or the category FVTPL was divided into two subcategories: held for trade and financial assets designated at inception at fair value, where the company held assets in the
second subcategory. However, if the company stated that the option is not used or had no financial assets assigned to the second subcategory, this accounting policy choice will be labeled as “Not used”.

In case of embedded derivatives, an explicit disclosure solves the conflict. However if such disclosure was not provided, assigning the entire compound instrument at FVTPL is labeled as FV election, while reporting the embedded derivative separately as a freestanding derivative is regarded as “separation of embedded derivative”.

Two additional subcategories were added in some accounting practice categories due to their occurrence: “Not disclosed”: when the item was neither explicitly nor implicitly stated in the financial report, and “Not exist”: when the company didn’t have the item or the activity.

- Appendix 1 and Appendix 2 -

The following data matrix determines the six accounting practice categories and the accounting policy choices under each category.

Table 5-3: The data matrix for the six accounting practice categories under the study

<table>
<thead>
<tr>
<th>The accounting practice category</th>
<th>The accounting policy choice</th>
<th>The frequency of companies selecting the same accounting choice in the financial sector</th>
<th>The frequency of companies selecting the same accounting choice in the industrial sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>The FVO</td>
<td>Used</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Not used</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Not disclosed</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Trade date or Settlement date accounting</td>
<td>Trade date</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Settlement date</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Trade date for particular financial assets and settlement date for other financial assets</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Not disclosed</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>The valuation model used to estimate the FV when the market is non-active</td>
<td>Discounted CF</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Discounted CF and Black Scholes model</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Discounted CF and option pricing model</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Measured at cost (for unlisted)</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Net asset value and valuation techniques</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>DCF and multiples</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>No model, only similar transactions</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Not disclosed</td>
<td>5</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td><strong>Transactions cost treatment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC is included in FV determination except financial assets and liabilities at FVTPL</td>
<td>20</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>TC is included for all financial assets</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TC is excluded</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Not disclosed</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Separated derivatives or FV election of the compound instrument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Separated</td>
<td>5</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Not separated (FV election)</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Separation for some and FV election for others</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Not exist</td>
<td>16</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Not disclosed</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Mathematical model for hedge effectiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The critical terms match method or the dollar offset method</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Not disclosed</td>
<td>21</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Not exist</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Since some cells contained observations less than five, a merge of some cells was required for $\chi^2$ application in a manner that should not distort the data nor affect the aim of the study.
The table is adjusted:

**Table 5-4: The adjusted data matrix for the six accounting practice categories under the study**

<table>
<thead>
<tr>
<th>The accounting practice category</th>
<th>The accounting policy choice</th>
<th>The frequency of companies selecting the same accounting choice in the financial sector</th>
<th>The frequency of companies selecting the same accounting choice in the industrial sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>The FVO</td>
<td>Used</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Not used or not disclosed</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Trade date or Settlement date accounting</td>
<td>Trade date</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Trade date for particular financial assets and settlement date for other financial assets or not disclosed</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>The valuation model used to estimate the FV when the market is non-active</td>
<td>DCF</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Valuation models as Black Scholes, option pricing or multiples in addition to DCF</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>No valuation model, Measured at cost, Net asset value or not disclosed at all</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Transactions cost treatment</td>
<td>TC is included in FV determination except financial assets and liabilities at FVTPL</td>
<td>20</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>TC is included or excluded from all financial assets or not disclosed</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Separation of embedded derivatives or FV election of the compound instrument</td>
<td>Separated</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Not separated(FV election)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Separation for some and FV election for others</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
### 5.6 Data analysis, Test results and Hypotheses Testing

This part presents the results of (H) index and Chi-square. The hypotheses are broken down into different sub-hypotheses for each accounting practice category. Each category is analyzed solely in each sector to coincide with the core of the concept of comparability that is seen from a sector perspective and to figure out the differences and associations between the financial and the industrial sectors.

#### 5.6.1 Fair Value Option

A) The Financials:

The sub-hypotheses are:

H0₁: there is no difference in accounting policy choices selected by financial companies concerning FVO.

H₁₁: there is some difference in accounting policy choices selected by financial companies concerning FVO.
Table 5-5: The fair value option - financial sector

<table>
<thead>
<tr>
<th>The FVO</th>
<th>Used</th>
<th>Not used or not disclosed</th>
<th>Total</th>
<th>H index</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18 (0.72)</td>
<td>7 (0.28)</td>
<td>25</td>
<td>0.5968</td>
<td>4.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Proportion</th>
<th>Expected</th>
<th>Contribution to Chi-Sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>18</td>
<td>0.5</td>
<td>12.5</td>
<td>2.42</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>0.5</td>
<td>12.5</td>
<td>2.42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N</th>
<th>DF</th>
<th>Chi-Sq</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1</td>
<td>4.84</td>
<td>0.028</td>
</tr>
</tbody>
</table>

The computed (H) index indicates a relatively moderate level of harmonization concerning FVO. This infers to moderate degree of comparability of financial reporting. There is 59.68% level of harmony among companies.

At a predetermined significance level of 5 %, the null hypothesis is rejected, and the conclusion is that there is a significant difference in different accounting choices in the context of FVO-employed by financial companies applying IAS39 in 2007.

Most companies in the financial sector have chosen to use the fair value option for financial assets, therefore designate at inception certain assets at fair value through profit or loss.

B) The Industrials:

The sub-hypotheses are:

H02: there is no difference in accounting policy choices selected by industrial companies concerning FVO.

H12: there is some difference in accounting policy choices selected by industrial companies concerning FVO.
The (H) index shows a lower degree of harmonization and comparability in the industrial sector comparing to the financial sector.

At 5% significance level, the null sub-hypothesis cannot be rejected, therefore there is no significant difference among accounting choices for the industrial companies.

Though most companies haven’t used the FVO or disclosed its practice in the industrial sector, the companies selected the option are around 44%.

C) The association between the sector and the accounting practices:

The sub-hypotheses are:

H03: there is no association between the sector and the accounting practice selected by the company for FVO

H13: there is some association between the sector and the accounting practice selected by the company for FVO.

<table>
<thead>
<tr>
<th>Table 5-6: The fair value option- industrial sector</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The FVO</strong></td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Proportion</th>
<th>Expected</th>
<th>Contribution to Chi-Sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11</td>
<td>0.5</td>
<td>12.5</td>
<td>0.18</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>0.5</td>
<td>12.5</td>
<td>0.18</td>
</tr>
</tbody>
</table>

25 1 0.36 0.549

<table>
<thead>
<tr>
<th>Table 5-7: The fair value option- financial and industrial sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Sector</strong></td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Financials</strong></td>
</tr>
<tr>
<td><strong>Industrials</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin.</td>
<td>18</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>14.50</td>
<td>10.50</td>
<td>0.845</td>
</tr>
<tr>
<td>Ind.</td>
<td>11</td>
<td>14</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>14.50</td>
<td>10.50</td>
<td>0.845</td>
</tr>
</tbody>
</table>

Chi-Sq = 4.023, DF = 1, P-Value = 0.045
The test result reveals some association between the sector and the accounting choice selection, at a significance level of 5%.

The tests doesn’t specify the type of association, however the fact that most financial companies used the option, while most industrial companies didn’t use or disclose it highlights a tendency towards applying the FVO in the financial sector more than its industrial counterpart.

5.6.2 Trade Date or Settlement Date Accounting

A) The Financials:

The sub-hypotheses are:

H0: there is no difference in accounting policy choices selected by financial companies concerning trade and settlement date accounting.

H1: there is some difference in accounting policy choices selected by financial companies concerning trade and settlement date accounting.

Table 05-8: Trade date or settlement date accounting- financial sector

<table>
<thead>
<tr>
<th>Trade date or Settlement date accounting</th>
<th>Trade date</th>
<th>Trade date for particular financial assets and settlement date for other financial assets or Not disclosed</th>
<th>Total</th>
<th>H index</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>16(0.64)</td>
<td>9 (0.36)</td>
<td></td>
<td>25</td>
<td>0.5392</td>
<td>1.96</td>
</tr>
</tbody>
</table>

Category | Observed | Proportion | Expected | Contribution to Chi-Sq |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>0.5</td>
<td>12.5</td>
<td>0.98</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>0.5</td>
<td>12.5</td>
<td>0.98</td>
</tr>
</tbody>
</table>

N   DF   Chi-Sq  P-Value
25   1    1.96   0.162

There is 53.92% level of harmonization and comparability concerning trade date and settlement date accounting (relatively low), where most financial companies chose the transaction date as their critical event for recognition and de-recognition.
The significance test indicates that the null hypothesis cannot be rejected at 5 % significance level; therefore there is no significant difference in the managers’ selected accounting practices for regular way purchase or sale of financial assets. No company in the sample employed solely the settlement date accounting for all financial assets, and even the companies chose the practice combined it with trade date accounting for other financial assets.

B) The Industrials:

The sub-hypotheses are:

H₀I₅: there is no difference in accounting policy choices selected by industrial companies concerning trade date and settlement date accounting.

H₁I₅: there is some difference in accounting policy choices selected by industrial companies concerning trade date and settlement date accounting.

<table>
<thead>
<tr>
<th>Table 5-9: Trade date or settlement date accounting- industrial sector</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trade date or Settlement date accounting</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>16(0.64)</td>
</tr>
</tbody>
</table>

The significance test reveals that the null hypothesis cannot be rejected at 5 % significance level; therefore there is no significant difference in the industrial companies’ choices for trade date accounting and other practices. The H index indicates 53.92 % concentration around one method, a ratio that is similar to its counterpart in the financial sector. 64 % of industrial companies used trade date accounting while the rest combine it with settlement date for other financial assets or even didn’t disclose their practice.
C) The association between the sector and the accounting practices:

The sub-hypotheses are:

H0₆: there is no association between the sector and the accounting practice selected by the company for recognition of regular way sale or purchase of financial assets.

H1₆: there is some association between the sector and the accounting practice selected by the company for recognition of regular way sale or purchase of financial assets.

Table 5-010: Trade date or settlement date accounting- financial and industrial sectors

<table>
<thead>
<tr>
<th>The Sector</th>
<th>The practice</th>
<th>Trade date</th>
<th>Trade date for particular financial assets and settlement date for other financial assets or Not disclosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financials</td>
<td>16</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Industrials</td>
<td>16</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>16.00</td>
<td>9.00</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>16.00</td>
<td>9.00</td>
<td>0.000</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>18</td>
<td>50</td>
</tr>
</tbody>
</table>

Chi-Sq = 0.000, DF = 1, P-Value = 1.000

The significance test reveals that the null hypothesis cannot be rejected at 5% significance level, which means that there is no association between the sector and the accounting choice.

A tendency for selecting trade date accounting is clear in both financial and industrial companies with no association with the industry sector.
5.6.3 The FV Valuation Model in a Non-active Market

Since one cell in the industrial sector contains a frequency less than 5, applying Chi-square is limited and misleading, so the sub-hypotheses are formulated in another pattern, and only the (H) index is used as following:

H0: There is no difference in the harmonization level between financials and industrials for the FV valuation model used, when the market is non-active.

H1: There is some difference in the harmonization level between financials and industrials for the FV valuation model used, when the market is non-active.

Table 05-011: The FV Valuation model in a Non-active Market - financial sector

The financial sector:

<table>
<thead>
<tr>
<th>The FV valuation model in a non-active market</th>
<th>DCF</th>
<th>Valuation models as Black Scholes, option pricing or multiples in addition to DCF</th>
<th>No valuation model, Measured at cost, Net asset value or not disclosed at all</th>
<th>H index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11(0.44)</td>
<td>6(0.24)</td>
<td>8(0.32)</td>
<td>0.3536</td>
</tr>
</tbody>
</table>

Table 5-012: The FV valuation model in a non-active market - industrial sector.

The industrial sector:

<table>
<thead>
<tr>
<th>The FV valuation model in a non-active market</th>
<th>DCF</th>
<th>Valuation models as Black Scholes, option pricing or multiples in addition to DCF</th>
<th>No valuation model, Measured at cost, Net asset value or not disclosed at all</th>
<th>H index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9(0.36)</td>
<td>1(0.04)</td>
<td>15(0.6)</td>
<td>0.4912</td>
</tr>
</tbody>
</table>

The computed (H) index values differ between the two sectors, however both sectors looks disharmonized with low levels of comparability in their FV valuation model selections, most financials selected DCF techniques while other models as Black Scholes, option pricing and multiples were used by 24% of the companies. The usage of such models represents only 4% in
the industrial sector, where the majority of companies used cost or net asset value as an indicator for the FV or even didn’t disclose their practice.

The null hypothesis is rejected and there is a difference in the degree of harmonization between both sectors.

### 5.6.4 Transaction Cost Treatment

A) The financial sector:

The sub-hypotheses are:

H0f: there is no difference in TC treatments in the financial sector

H1f: there is some difference in TC treatments in the financial sector.

<table>
<thead>
<tr>
<th>Transaction cost treatment</th>
<th>TC is included in FV determination except financial assets at FVTPL</th>
<th>TC is included or excluded from all financial assets or not disclosed</th>
<th>H index</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>20(0.8)</td>
<td>5(0.2)</td>
<td>0.68</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Test Proportion</th>
<th>Expected</th>
<th>Contribution to Chi-Sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>0.5</td>
<td>12.5</td>
<td>4.5</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>0.5</td>
<td>12.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

At a significance level of 5 %, the null hypothesis is to be rejected. Rejecting the null hypothesis means that a significant difference between the two accounting choices exists. The level of harmony is higher than most practice categories, 68 %. This means that most companies followed the provision of the standard and were not confused by the application guidance. 80 % companies disclosed that TC is included in all financial assets except the FVTPL category.
B) The Industrial sector:

The sub-hypotheses are:

H$_{0i}$: there is no difference in TC treatments in the industrial sector

H$_{1i}$: there is some difference in TC treatments in the industrial sector.

Table 5-14: Transaction cost treatment-industrial sector

<table>
<thead>
<tr>
<th>Transaction cost treatment</th>
<th>TC is included in FV determination except financial assets at FVTPL</th>
<th>TC is included or excluded from all financial assets or not disclosed</th>
<th>H index</th>
<th>Chi - square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16 (0.64)</td>
<td>9 (0.36)</td>
<td>0.5392</td>
<td>1.96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed</th>
<th>Test</th>
<th>Contribution to Chi-Sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>0.5</td>
<td></td>
</tr>
</tbody>
</table>

N  DF  Chi-Sq  P-Value
25  1  1.96  0.162

The chi-square test indicates no significant difference in the alternatives at a 5 % significance level. The industrial harmonization level of 53.92 % is lower than the financial counterpart concerning TC treatment.

Though most industrial companies followed the provision of the standard and were not confused by the application guidance, 36 % of companies showed different treatments.

C) The association between the sector and the accounting practices:

The sub-hypotheses are:

H$_{010}$: there is no association between the sector and the accounting practice selected by the company for TC treatments.

H$_{110}$: there is some association between the sector and the accounting practice selected by the company for TC treatments.
Table 5-15: Transaction cost treatment-financial and industrial sectors.

<table>
<thead>
<tr>
<th>The practice</th>
<th>The Sector</th>
<th>TC is included in FV determination except financial assets at FVTPL</th>
<th>TC is included or excluded from all financial assets or not disclosed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Financials</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Industrials</td>
<td>16</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>18.00</td>
<td>7.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.222</td>
<td>0.571</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>18.00</td>
<td>7.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.222</td>
<td>0.571</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>14</td>
<td>50</td>
</tr>
</tbody>
</table>

Chi-Sq = 1.587, DF = 1, P-Value = 0.208

At a 5 % significance level, the null hypothesis cannot be rejected, therefore no association between the sector and the practice for TC treatment.

5.6.5 Embedded Derivatives Treatment

More than a cell in both sectors contain data less than 5; therefore the Chi-square test could be unreliable. The hypotheses are drawn in a manner similar to that in FV valuation models, as following:

The sub-hypotheses are:

H011: there is no difference in the level of harmonization concerning embedded derivatives treatments between financials and industrials.

H111: there is a difference in the level of harmonization concerning embedded derivatives treatments between financials and industrials.
Table 5-16: Embedded derivatives treatment - financial sector

The financials

<table>
<thead>
<tr>
<th>Embedded derivatives treatment</th>
<th>separated</th>
<th>Not separated (FV election)</th>
<th>Separation for some and FV election for others</th>
<th>Not disclosed</th>
<th>Not exist</th>
<th>H index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5(0.56)</td>
<td>1(0.11)</td>
<td>1(0.11)</td>
<td>2(0.22)</td>
<td>16</td>
<td>0.3862</td>
</tr>
</tbody>
</table>

Table 05-17: Embedded derivatives treatment - industrial sector

The industrials:

<table>
<thead>
<tr>
<th>Embedded derivatives treatment</th>
<th>separated</th>
<th>Not separated (FV election)</th>
<th>Separation for some and FV election for others</th>
<th>Not disclosed</th>
<th>Not exist</th>
<th>H index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12(0.92)</td>
<td>0(0.00)</td>
<td>0(0.00)</td>
<td>1(0.077)</td>
<td>12</td>
<td>0.8523</td>
</tr>
</tbody>
</table>

The sample size is reduced by the (Not exist) category, since this means that the company had no embedded derivatives, and they were not required to do so nor disclose any practice. Only 9 companies and 13 companies in the financial and industrial sectors, respectively, had the item at the end of the financial year 2007.

The companies in the financial sector and the industrial sector are different in terms of the degree of harmonization of embedded derivative treatments. The financial sector indicates 38.62 % level of harmony; however the harmony level is 85.23 % in the industrial sector, approaching a perfect harmony.

Most companies in both sectors didn’t get use of the FV election and preferred to separate the embedded derivatives from their host contracts. No industrial company in the sample has designated the entire compound instruments at FVTPL and 92 % of the companies accounted for the embedded derivatives separately.
5.6.6 Mathematical Model for Hedge Effectiveness Test

This accounting practice category wasn’t disclosed by neither financial nor industrial companies in the sample, except one industrial company that used the critical terms match method and the dollar offset method to measure the hedge effectiveness. Neither the IAS 39 nor the IFRS 7 contains such disclosure requirement to the financial statements. Therefore the degree of harmonization among the mathematical models selected couldn’t be measured because of this limitation.

The following figures summarize the most frequently selected accounting choices in each sector, even if they scored moderate or low harmonization degree:

Figure 5–2: The most frequently selected accounting practices in the financial sector

Source: (Author, 2009)
5.7 Conclusion

The chapter documented the data analysis and the results of the study. The main hypotheses of the research were subdivided into more sub-hypotheses. The aim was to investigate the effect of each accounting practice category detected in the standard on material harmonization and comparability. The data were analyzed on two levels: the accounting category level and the industry sector level. Mixed results were obtained concerning levels of harmonization and associations between accounting practices and sectors; however a relatively low harmonization degree has been detected in most accounting practices. The FVO was the only practice associated with the sectors, inferring to an industry sector and firms’ characteristics factor.
Chapter 6

Discussion and Conclusions

6.1 Introduction

The purpose of this chapter is to discuss the findings of the study, present reflections of the findings and suggest for further research. The effect of each accounting practice on material harmonization and comparability is solely discussed. The importance of the results is reflected in their implications in practice. A lot of recommendations for future research are presented, indicating the significance and usefulness of the empirical evidence provided.

Section 6.1 is an introduction to the chapter. A summary of the study is presented in section 6.2. The third section is discussion of the findings and divided into sub-sections, matching each accounting practice category included in the study. The next two sections identify some implications of the current study and recommendations for future research.

Section 6.6 is the conclusion of the chapter.
Figure 6–1: Structure of chapter six
6.2 Summary of the Study

The thesis empirically investigated the effect of different accounting practices under IAS 39 on material harmonization and comparability in Sweden. The theoretical part identified six accounting practices that were examined under the study in terms of their influence on de facto harmonization and comparability.

Two hypotheses were drawn and data were collected from a sample of companies listed in NASDAQ Stock Exchange, Stockholm from two different sectors: the financial sector and the industrial sector. The main source of data was the secondary data extracted from the 2007 annual reports of the sample companies. Two analytical tools were used to test for the hypotheses: (H) index and Chi-square. The analysis was done on an industry sector level and for each accounting practice category. The Chi-square was also used to test for the availability of associations between the accounting choices and the sectors under the study.

The results showed a mix of different levels of harmonization and comparability, and a variation in associations between certain practices and sectors. However, most accounting practices experienced a relatively low level of harmonization that was expected to impair the comparability of financial reporting in Sweden.

The following sections discuss the main findings for each accounting practice and their implications. The study motivates future research to be conducted on a global level and for more accounting practices in IFRSs.

6.3 Discussion of the Findings

Due to the mix in the results concerning different accounting practices effect on comparability, this section is subdivided into more sub-sections. Each sub-section discusses a certain accounting practice. The aim is to present and discuss the findings on an accounting practice level. These specific discussions aid in tracking different patterns in the analyzed data and concluding some implications.
The rationale here is that the research problem, concerning investigating the effect of financial instruments accounting practices on material harmonization and comparability and tracking associations between practices and sectors, was broken down into the effect of six accounting practices identified in the theoretical part on harmonization and comparability. The empirical study collected specific data for each accounting practice category. The data were analyzed for each category in the financial and industrial sectors. The following sub-sections provide separate discussions on the six accounting practice categories.

Figure 6–2: The effect on de facto harmonization and Comparability

Source: (Author, 2009)

6.3.1 The Effect of FVO on De facto Harmonization and Comparability

The possibility to designate any financial asset at the category FVTPL had a moderate and a negative effect in terms of comparability, concerning the financial and the industrial sectors, respectively. Both financial and industrial companies were not highly harmonized due to the room left to managers to exercise the FVO. Though the financial sector showed a significant
difference in the accounting choices, however its level of harmonization is not that high. The consequence is that the same financial instrument obtained by two different companies may be accounted for in different measurement attributes. Therefore a Loan can be measured at amortized cost in one company, while marked to market in the other company (at FV). The financial asset section in the balance sheet could be overstated or understated according to the different effect in both companies. The effect will spread to the income statement, because the gains and losses from FV changes will be recognized in income statement only, if the loan is designated at FVTPL. So both Balance sheet and income statement will suffer from this low harmony state.

An association between the accounting practice category and the industry sector could infer to an industry sector and firms’ characteristics effect factor. The result that more financial companies than industrial ones had used the option could be due to the higher level of complexity and sophistication of financial instruments used in the financial sector. Therefore a financial company that had overwhelming financial instrument activities might be more probable to use the option in certain assets seeking for eliminating valuation asymmetries. Short term fluctuations in the market prices will have higher effect on volatility in companies using the option. The financial company will either engage in a hedging relationship or shift the burden to its customers. The final result can be “a mess” in the market!

6.3.2 The Effect of Trade Date and Settlement Date Accounting Choices on De Facto Harmonization and Comparability

The choices between trade date accounting and settlement date accounting for regular way purchase or sale of financial assets were not significantly different. Although most companies in both financial and industrial sectors have chosen the trade date accounting, however 36% of companies in the two sectors have employed both trade date and settlement date approaches for different classes of assets or made no disclosure for the practice at all. The level of harmonization is relatively low. No association between the accounting method selected and the industry sector is detected.
The literature review indicated that trade date accounting embeds securities implying risk in the financial statements, due to the fact that settlement may fail. The empirical study showed a low degree of harmonization in this area. Therefore, some companies will have their balance sheets temporarily affected by selecting the trade date approach, while other companies accounting for similar assets may not be affected. These variations may have negative consequences on participants in the market.

6.3.3 The Effect of Looseness in the FV Model Selection on De facto Harmonization and Comparability

The lowest harmonization level in both sectors has been attained by the diverse FV models in non-active markets. “A mess in valuations” and “impairment in comparability” are the suitable comments on the results. Both financial and industrial companies selected different valuation techniques to estimate fair values. The figures could be different under each FV model. A similar financial instrument acquired by different companies, even if all companies used the FVO, could be differently FV-estimated. Therefore, the companies’ financial statements will be less comparable.

6.3.4 The Effect of the Ambiguity of TC Treatment Provisions on De facto Harmonization and Comparability

Most financial companies were not confused by the provisions of the standard, and transactions cost were disclosed to be included in all financial assets except FVTPL category. The majority of companies in the industrial sector have interpreted the standard in the same manner, however 36% of industrial companies didn’t disclose their treatment for transaction costs or either included or excluded it from all asset categories. No association is detected between the sector and the TC treatment.
6.3.5 The Effect of FV Election of Compound Instruments on De facto Harmonization and Comparability

The financial and industrial sectors look different in terms of harmonization, due to their treatment of compound instruments. The fact that around 50% of the companies in the sample had no compound instruments, has limited the frequencies under each accounting choice. The relative frequencies and therefore the (H) index showed a high degree of harmonization among industrial companies. While companies in the industrial sector were approaching perfect harmony, the financial sector showed low level of harmonization. The majority of companies in both sectors didn’t use the FV election and preferred to separate the embedded derivatives from their host contracts.

A disharmony in the financial sector is expected to result in non-comparable financial statements in reporting compound instruments. When the compound instrument is separated, the embedded derivative will be usually marked to market (FV), while the host contract will be measured according to the element category it belongs. Two parts of the same instrument will be differently accounted for, however the FV election allows for designating the entire instrument at FV. Therefore, implicitly is a FVO for the host contract.

Apparent in the data analysis is a tendency for not using the option in both sectors. The volatility effect could be minimized due to non-designation at FV; however the same instrument will be accounted for as two parts.

6.3.6 The Effect of the Looseness in the Hedge Effectiveness Test Models Selection on De facto Harmonization and Comparability

The non-disclosure of the hedge effectiveness test was a hurdle against investigating the harmonization of different hedge effectiveness mathematical models. The model application is usually included in the hedge documents, and only one company in the two sectors has referred to the selected test model.
This motivates to require more disclosures to financial statements regarding hedge effectiveness test models.

6.4 Implications of the Empirical Findings

This section goes beyond interpreting the results. It aims to highlight some interesting implications and consequences.

6.4.1 The Diverse Accounting Practices and the management intention: Much effort is still needed!

Managers are traditionally viewed as players of the accounting number game. They are often the directors and the actors of the accounting show. Mapping the game is one of their creative practices in the darkness of annual reports, where disclosure in all its levels, can never reflect what is behind the stage.

Financial analysts, investors, and creditors are always waiting for the shows to be aired at the end of the year. All shows start with “in accordance with IFRS as adopted by EU” and are supposed to have a “consistent” scenario year by year from one stage (company) to another.

The shows may come somehow different in their actors’ behaviors, making the audience (investors) confused.

The show and the actors were criticized in many parts in the literature in “the agency theory”, “earnings management”, “window dressing” and “income smoothing”.

The study revealed a relatively moderate or even low degree of harmonization among the majority of financial instruments accounting practices. A result that could infer to the risk implied in new shows with sophisticated financial instruments. The same tools that when had been off-balance sheet hidden, led to accounting scandals. And now they are captured in the show!
This imaginary picture indicates that leaving much room to managers could result in diverse accounting choices, where the level of harmonization was assessed as relatively low for most financial instruments accounting practices. Producing comparable financial instruments in this area calls for much effort by the IASB. More limitation in accounting choices is not an easy task due to the different nature of transactions and firms’ characteristics. However studying different factors that could be associated with managers’ choices, in addition to providing more specific guidelines for selecting among different accounting policies may contribute to the process of harmonization and enhance the comparability of financial reporting.

6.4.2 Material Harmonization and Comparability: IAS 39-Is it a road to dis-harmony?

Though most financial instruments accounting practices investigated under the study showed relatively moderate or low material harmonization, this doesn’t mean that IAS 39 totally failed to harmonize accounting practices. However, as specified in section 6.4.1, much effort might be still needed in this area. The standard was promulgated with a series of other accounting standards in different jurisdictions, all aiming at capturing risky financial instruments in the body of financial statements. The “Off-debt balance sheet “activities and their negative consequences were a motive towards more transparency of financial instruments including derivatives and firms commitments. The standard managed to set recognition and measurement models and criteria for different financial instruments. The pitfall could be in the accompanied accounting choices around these models.

Although some studies indicated that harmonized accounting standards lead to harmonized accounting practices, this study provides contradicting evidence contributing to opponent studies that reject a cause and effect relationship between the two variables.
6.4.3 The Consequence of Managers Selections and relatively low material harmonization:

The question of financial stability!

Although practices were relatively low harmonized in most categories, the managers’ selections in the financial sector could infer to more involvement in FV accounting. This may be advantageous in providing investors with useful information and matching financial companies’ treatment for balance sheet with market-oriented valuations exercised by investors, therefore aiding capital market participants in their investment decisions.

The dark side of the FV accounting is the risk of increasing artificial volatility in earnings, due to short term fluctuations in market prices, besides non-accurate FV estimations derived from different fair value models. The fact that not all investors are able to identify where the volatility comes from, and even low harmonization degree in this area, could mislead investors and affect the financial stability.

When a regular way trade is trade date accounted for, more risk is included in financial statements. An increase in volatility and an increase in risk due to trade date recognition besides low harmonization for practices could seriously influence companies and investors.

6.4.4 The Industry Sector and Firms’ Characteristics Factors

An association between the use of FVO and the industry sector could reveal an industry sector factor to account for when seeking practice harmonization in this area. The sort of association should be empirically investigated to indicate what kind of association exists.

The low level of harmonization, even though viewed as a consequence of diverse accounting choices permitted under IAS 39, could have also been affected by firms’ characteristics. An industry sector has three segments: large cap, mid cap and small cap. The firms’ characteristics in each segment could have affected the material harmonization process. Since data were
collected from firms in the three segments and combined in the analytical models, the firms and segments effects were hidden and they might have affected the outcome.

(Rahman et al., 2002) pointed out to a firm-specific characteristics factor that influences the accounting practice harmony, and the current study showed a similar effect of the industry sector on selecting certain accounting practices in the context of FVO. Future research is motivated to investigate the firms, segment and sector effect on the material harmonization process.

6.5 Suggestions for Future Research

The objective of this study was to empirically investigate how the material harmonization and comparability were affected by different accounting practices permitted under IAS 39 in Sweden. This also required going further to test for association between practices and sectors. Data were collected to test for two main hypotheses broken down into 11 sub-hypotheses. A lot of significant empirical findings resulted, however the scope of the study had some limitations.

The analysis of data and interpretation of results revealed some research areas that warrant further research.

This section is subdivided to highlight some ways that could improve the current study and some ideas that could be invested in future research.

6.5.1 Ways to Improve and Extend the Current Study

This subsection aims to identify suggestions for additional independent and dependent variables that can be added when this study is replicated. It also highlights some proposed methodological improvements that may enhance the accuracy of the results.
(a) Additional independent variables:

The study may be replicated with additional independent variables as firms’ characteristics or segment characteristics. The proposed factors may affect the outcome of the study, therefore worth being included.

(b) Additional dependent variables:

The effect can be empirically investigated on more accounting qualities than comparability. Other dependent variables can be 

relevance, reliability and consistency.

(c) Methodological improvements:

A bigger sample size may fill cells with frequencies less than five; to allow applying Chi-square in accounting practice categories in which $x^2$ application was limited. An extension of the time span of the study to include more than one year could be advantageous in tracking the movement of harmonization after adopting the IFRS.

Other statistical techniques are also motivated, to identify the sort of association and the strength of the relationship between selected accounting choices and the sectors.

Including some qualitative study tools, as interviewing some financial analysts, brokers or dealers or conducting questionnaire surveys would maximize the accuracy of the outcome.

6.5.2 Recommendation for New Researchable Topics

The usefulness of this study is paramount, because in addition to its significant results, it is motivating for further research and carries new research ideas. This subsection highlights some new researchable topics.

(a) Future research in this area can be applied on a global level, by including more than a country. An (I) index can be used to measure the degree of material harmonization among different countries.
(b) The research can be extended to more accounting practices under other standards of IFRS. A comprehensive study of more standards accounting choices can be conducted to reveal the practice harmonization under IFRS.

(c) The study can be replicated with more industry sectors. Other sectors may show different degrees of *de facto* harmonization and comparability.

(d) A further step is to conduct an inductive study, moving from the specific observations in this study to broader theories. Formulating a harmonization theory will add to the existing literature.

(e) Qualitative research may be conducted to propose certain amendments to IAS 39. Such amendments are expected to improve the standard in terms of material harmonization enhancement.

(f) Since a relatively low practice harmonization shown up, further research may seek to identify the rationale behind managers’ selections for different accounting practices. The research is expected to contribute to the behavioral accounting literature.

(g) The significant differences among managers’ selections for certain accounting choices motivates future studies to deepen into the darkness of managers’ behaviors. A study of earnings management possibilities under the IFRS will carry the existing literature to a new area.

(h) Further research may investigate the effect on share prices. The study pointed out to the possibility of creating artificial earnings due to volatility, this might – if investors are not able to define the sources of this volatility - mislead market participants. An empirical study can be conducted to test for earnings announcements content under the newly applicable standards, IFRS.

(i) A comparative study between material harmonization under IFRS and other jurisdictions is also beneficial, because if this is the case with IFRS, how can it be with other standards?

(j) A comparative study between *ex ante* and *ex post* effect of adopting IFRS in Sweden is expected to reveal whether the IFRS has increased the degree of material harmonization and comparability or impair them.
6.6 Conclusion

The findings of the study contribute to the work of other researchers in the area of harmonization and comparability. Material harmonization studies often investigate the harmonization of accounting practices from a set of standards under a certain jurisdiction, as GAAP or IFRS. The current study is different as it concerned on the accounting choices derived from one standard, IAS 39.

The review of the standard and relevant literature revealed six accounting practice categories: The fair value option, trade date accounting and settlement date accounting, valuation models used in case of financial instrument fair value consideration where the market is non-active, transactions cost treatment, separation of embedded derivatives or designation of the entire compound instrument and mathematical models used for assessing hedge effectiveness.

Each category included a number of accounting choices, a total of 27 accounting choices were detected for the six categories, and due to some limitations in the use of Chi-square, some cells were combined, therefore the total number of accounting choices under the six categories became 17. All accounting choices were investigated in the 2007 annual reports of 50 companies from the financial and industrial sectors, listed in NASDAQ Stock Exchange, Stockholm. The frequencies of the accounting choices were entered into chi square test and (H) index, to test for significance and measure the degree of harmonization and comparability. The availability of association between the accounting practices and the industry sectors were also assessed using Chi square.

The study provided evidence of relatively low harmonization and comparability in most categories, where financial companies and industrial companies were less concentrated around one accounting method. This chapter provided a separate discussion for what a resulting harmonization and comparability level for each accounting practice category could infer to. The FVO was the only accounting practice associated with the sector.

The resulting low *de facto* harmonization and comparability level means that the different accounting practices and choices under IAS 39 negatively affected *de facto* harmonization and
impaired comparability in Sweden in both the financial and industrial sector. This could influence the market participants and infer to some risk on financial stability. Much effort could be necessary to harmonize diverse practices, enhance the usefulness of the standard and develop an acceptable harmonization theory.

The study also motivated for new avenues of research that can take further steps to investigate the effect on share prices, the firms’ characteristics factor, the sort of association between practices and sectors and the rationale for managers’ selections.
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### Appendices

#### Appendix 1

The accounting practice and choice score sheet for financial companies

<table>
<thead>
<tr>
<th>The Company</th>
<th>The Segment</th>
<th>FVO Used</th>
<th>Trade &amp; Settlement</th>
<th>FV Valuation Model in a non-active market</th>
<th>Transaction Cost</th>
<th>Embedded Derivatives</th>
<th>Hedge Mathematical Model</th>
</tr>
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Source: (Author, 2009)
Appendix 2

The accounting practice and choice score sheet for industrial companies

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*Source: (Author, 2009)*