



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Component depreciation in airline companies

-A study about harmonization of accounting

University of Gothenburg
School of Business, Economics and Law

Master Thesis in Financial Accounting
Department of Business Administration
Spring Term 2012

Tutor:

Jan Marton
Emmeli Runesson

Authors:

David Strömberg
Niclas Åberg

Abstract

Type of thesis: Master thesis in financial accounting

University: University of Gothenburg, School of Business, Economics and Law

Tutor: Jan Marton and Emmeli Runesson

Authors: David Strömberg and Niclas Åberg

Title: Component depreciation in airline companies – a study about harmonization of accounting

Background and problem discussion: IASB is the organization that develops and publishes IFRS-regulations which is used in more than 100 countries across the world. One of IASB's objectives is to harmonize accounting between countries in order to make international accounting information comparable (www.ifrs.com). IFRS is a principle-based system, which means that there are no clear guidelines of how accounting should be managed, and therefore companies have to do estimations about their accounting. This creates problems because harmonization is impaired due to the fact that there are other factors, such as firm- and country-related factors that control accounting decisions instead of the economic situation (Sorderstrom et. al. 2007). IAS 16 is a standard that requires complex estimations, such as what value a part should have to be regarded significant and to be depreciated separately. An industry, where component depreciation is common and these problems relevant are the airline industry. In spite of the fact that this industry is homogenous and companies should account in a similar way, the difficulties can lead to that component depreciation is used differently.

Purpose: The purpose of this thesis is to determine if IASB's objective of harmonization is fulfilled for component depreciation in the investigated passenger airline companies.

Limitations: This thesis is limited to passenger airline companies that are using IFRS. The companies are public and their annual reports are taken from the fiscal year of 2010.

Methodology: This thesis is based on a quantitative study that includes companies from all over the world. A multiple regression model and a Kruskal-Wallis test were used to recognize the statistical relationships between the investigated variables.

Conclusions: The result from the empirical data indicates that IASB's objective of harmonization is not fulfilled for component depreciation in the investigated airline companies because there are other factors than economical that control their use of it. It also suggests that accounting quality does not generally differ between companies depending on the extent in which they use component depreciation. Therefore, the usability of accounting information is not impaired in spite of the fact that the objective of harmonization is not fulfilled for component depreciation.

Suggestions for further research: A suggestion for further research is to investigate what value a significant components has on average in relation to the whole asset. Another suggestion is to do a qualitative study about how companies reasons in their choice of using component depreciation and how they interpret IAS 16 p. 43, component depreciation.

Preface

We would like to thank Jan Marton and Emmeli Runesson for their support and help with this thesis. Furthermore, we appreciate the opinions from the groups who have participated at the seminars. Finally, we would like to thank Larisa Gustafsson Oldireva for proofreading this thesis.

Gothenburg 2012-06-01

David Strömberg

Niclas Åberg

Table of contents

1. Introduction	8
1.1. Background	8
1.2. Problem discussion	9
1.3. Purpose	10
1.4. Research questions	10
1.5. Limitations.....	10
1.6. Key words.....	10
2. Frame of reference.....	11
2.1. Component depreciation in the airline industry	11
2.2. Factors that explain the use of component depreciation.....	11
2.2.1. Legal system.....	11
2.2.2. Financial markets	12
2.2.3. Governments´ regulations	12
2.2.4. Earnings management	13
2.2.5. Advantages of component depreciation	13
2.2.6. Audit firm.....	15
2.2.7. Institutional theory	15
2.3. Accounting quality	16
2.4. Hypotheses	17
2.4.1. Hypothesis one	17
2.4.2. Hypothesis two	19
3. Methodology	20
3.1. Research method	20
3.2. Method for data collection.....	20
3.2.1. Frame of reference.....	20
3.2.2. Airline companies.....	21
3.2.3. Countries	21
3.3. Statistical tests	22
3.3.1. Test one: Firm- and country-related factors´ influence on component depreciation.....	22
3.3.2. Test two: Component depreciation´s effect on accounting quality in general	23
3.3.3. Actions that were taken to increase the accuracy of the tests.....	24
3.4. Missing values.....	24
3.5. Criticism of the source and the statistical tests.....	25

4. Empirical	26
4.1. Firm- and country-related factors' influence on component depreciation	26
4.1.1. Sample	26
4.1.2. Result of the multiple regression model	27
4.2. Component depreciation's effect on accounting quality in general	30
5. Analysis	31
5.1. Firm- and country-related factors' influence on component depreciation	31
5.1.1. Result and analysis of test one.....	31
5.2. Component depreciation's effect on accounting quality in general	34
5.2.1. Result and analysis of test two	34
6. Conclusions and suggestions for further research	35
6.1. Conclusions	35
6.2. Suggestions for further research.....	36
7. References	37
7.1. Books.....	37
7.2. Articles	37
7.3. Electronic source	39
7.3.1. Websites	39
7.4. Others	39
Appendix	40
Appendix one, investigated companies	40
Appendix two, data from annual reports	41
Appendix three, data related to country-related factors	42
Appendix four, data related to abnormal accruals.....	43

Table of diagrams, bars and tables

Table 2.1. Normal depreciation vs. Component depreciation..... 14

Diagram 2.1. Comparison between normal depreciation and component depreciation..... 15

Table 3.2. Missing values..... 25

Table 4.1. Distribution of legal system and audit firms 26

Table 4.2. Distribution of components..... 26

Bar 4.1. Distribution of components 27

Table 4.3. Coefficients 28

Table 4.4. Model summary 28

Table 4.5. Pearson correlation coefficients among the investigated variables..... 29

Table 4.6. Distribution between the groups 30

Table 4.7. Result from the Kruskal-Wallis test..... 30

Abbreviations

Big 4 audit firms	Ernst & Young, Deloitte, PWC, KPMG
EEC	European Economic Community
EU	European Union
FAR	Revisorernas branschorganisation, FAR
IFRS	International Financial Reporting Standards
IASB	International Accounting Standards Board
IAS	International Accounting Standards
IAS 16	International Accounting Standards: Property, plant and equipment
WEF	World Economic Forum

1. Introduction

The introduction presents a background to the thesis which is followed by a problem discussion, purpose, research questions and limitations.

1.1. Background

Users of financial information have a demand for identical accounting standards because they are in need to be able to compare financial reports from different countries (Thorell & Whittington, 1994). International Financial Reporting Standard (IFRS) exist to satisfy this demand and today it is used in more than 100 countries across the world (www.ifrs.org). IFRS is a principle-based system, which means that companies do estimations on their own of how their accounting shall be established. Because it is more flexible than a rule-based system, companies are able to reflect their own unique economic situation in their accounting (Maines et. al. 2003). The organization which was created in order to develop and publish accounting standards is the International Accounting Standard Board (IASB). An objective of IASB's work is to harmonize accounting between countries in order to make international accounting information comparable (www.ifrs.org). Comparability is a requirement that shall be fulfilled to make accounting useful. There exist two types of accounting comparability, between companies and between periods. The reason why comparability is important is that it lowers investors' transaction costs, which leads to more effective markets. Common regulation for accounting is a must to achieve comparability and harmonization among countries (Marton et. al. 2010).

A customs union that wants to achieve harmonization of accounting between its member countries is the European Union. The European Economic Community (EEC), which later became the European Union (EU), was founded in Rome 1957, and it aimed to achieve free mobility of capital, labor, goods and services in order to stimulate economic growth. This made it easier for corporations to be active in more than just their domestic country, which improved the conditions for multinational corporations. The development kept going, the EEC became a customs union, the EU, and the European market became increasingly integrated (www.europa.eu). Therefore, many users of financial information were in need to be able to compare financial reports from different countries. This created a demand for identical accounting standards instead of the former national rules (Thorell & Whittington, 1994), and to satisfy this demand and harmonize accounting between countries, IFRS became mandatory in the year of 2005 for all listed firms within the union (www.ifrs.org).

A report by the EU-Commission from 2008 has shown that accounting is, despite the implementation of IFRS, still affected by national accounting traditions, which has created problems for the harmonization process. The background to this problem is that IFRS requires significant knowledge for judgments in financial reporting of accounting matters that some countries have not developed yet. However, the Commission believes that this problem will be solved when accountants and auditors get more experienced with the IFRS-regulations. There exist other problems related to the harmonization area than just lack of knowledge, for example the regulations leaves room for managers to do advantageous estimations, and earnings management (Commission of the European communities, 2008).

Several IAS standards require complex judgments from companies to solve accounting problems, and this thesis will focus on one of these, namely IAS 16, property, plant and equipment. In this standard, there are several factors that have to be estimated, for example, useful life, depreciation method, residual value and component depreciation. This thesis has focused on component depreciation in the airline industry and how this is applied in practice. During the last decade there have been many events, such as terrorist attacks that have resulted in a fallen demand on the secondary aircraft market which have affected the value of aircraft assets. Because this industry is highly capitalized, these events have led to major economic consequences for companies. This is also an industry, where component depreciation is widely used and purchases of aircrafts are the most important investment (KPMG, 2007). Another reason why this industry was investigated is that it is homogenous. The airline industry is global and companies have similar transactions and economic situations. Therefore, if the economic situation controls their accounting and IASB's objective of harmonization is fulfilled, they should account in a similar way.

1.2. Problem discussion

IFRS is, as mentioned above, a principle-based system and because of this different estimations are made by companies. This leads to that companies' accounting differs despite they are all using IFRS which have negative effects on harmonization and accounting quality (Soderstrom et. al. 2007). According to IASB, accounting of high quality is achieved when the information within it is useful (FAR Akademi 2011). A reason why companies' accounting choices and estimations differ is that countries differ in how developed their financial markets are, ownership-structure and capital structure, which leads to that they do not have the same incentives and demands for accounting and financial information (Soderstrom et. al. 2007). Firm size and type of industry are other factors that affect how companies apply and interpret accounting standards (Jaafar & Mcleay, 2007). Another problem related to estimations is that managers are able to bias the accounting in their desired direction to get advantages. In previous research, it is stated that there are three motives for managers to do that. The first one is to avoid regulatory motivations, such as taxes. The second motive is to affect the price on companies' stocks and the third reason is to get bonuses or other contracting rewards (Healy & Wahlen, 1998).

IAS 16, fixed tangible assets, is an important standard as many companies have locked much of their capital in fixed tangible assets, such as real estate and industrial equipment. This standard requires several complex estimations, such as useful life, depreciation method, residual value, and component depreciation. Component depreciation occurs when a part of an asset has a significant value in relation to the value of the whole asset and this component will then be depreciated separately. In practice, the use of component depreciation is varying and a reason is that it is hard to decide what value a component should have to be regarded significant (Nordlund, 2004). There is also a problem in case it is not just the economic situation, but other factors, which control whether companies should choose to use component depreciation or not because in this case the accounting would not reflect IASB's objective of harmonization.

The airline industry is highly capitalized with many fixed tangible assets and aircrafts are often the most important item. Component depreciation is widely used in these companies, because aircrafts usually fulfill the demands from IAS 16 regarding component depreciation (FAR Akademi, 2011). Therefore, they wrestle with the difficulties of estimations and other problems that are mentioned above. However, this industry is homogenous and companies should account in a similar way so, difficulties can lead to a highly varied use of component depreciation, which impairs harmonization.

1.3. Purpose

The purpose of this thesis is to determine if IASB's objective of harmonization is fulfilled for component depreciation in the investigated passenger airline companies.

1.4. Research questions

- Does airline companies' accounting choice of using component depreciation depend on firm- and country-related factors?

- Does accounting quality generally differ between companies depending on the extent in which they use component depreciation?

1.5. Limitations

This thesis is limited to public passenger airline companies that are using IFRS. Most of the investigated companies are from countries where IFRS is required for all listed companies but for some countries, it is just permitted and not required. The annual reports from the investigated companies are from the fiscal year of 2010. This year is chosen because the use of component depreciation has not changed during the last couple years and 2010 is the latest annual report that is available for all companies.

1.6. Key words

IFRS, IAS 16, harmonization, component depreciation, airline industry, firm- and country-related factors and accounting quality.

2. Frame of reference

Chapter two starts with a section that is important for understanding the conceptual context of this thesis. Section 2.2. discusses the background of firm- and country-related factors that may affect companies' choice of using component depreciation. Section 2.3. discusses a measure that is used to determine if accounting quality generally differs between companies depending on the extent in which they use component depreciation. The chapter ends with two hypotheses that clarify the meaning of the previous sections and how their content is assumed to affect the investigated airline companies' use of component depreciation.

2.1. Component depreciation in the airline industry

The conditions of fixed tangible assets are discussed in IAS 16, and the purpose of this standard is to give users of financial reports fair information about companies' investments. This is achieved by stating directions of how companies should manage fixed tangible assets in their accounting. According to IAS 16 p. 43, component depreciation occurs when a part of an asset has a significant value in relationship to the value of the whole asset (FAR Akademi, 2011). This component will then be depreciated separately, based on its useful life and residual value. When the component has been consumed, it is replaced with a new component that will be registered in the balance sheet (Stárová M., Cermáková H.2010) but this does not always work in practice because there exist room for estimations in IFRS,. This leads to that the use of components depreciation is highly varied (Maines et. al. 2003).

The use of component depreciation in the airline industry is complex but it is also important because of the high costs that are involved in this industry; a new aircraft may cost approximately five hundred million Euros. Despite the complexity, component depreciation is widely used by airline companies. A number of components that are common in the airline industry are engines, software, flight simulators, and airframes. But a problem is that airline companies are often restrictive when it comes to disclosures regarding useful life and residual values of their aircrafts. The components are often disclosed as a single asset, in spite of the fact that they are accounted separately (KPMG 2007).

2.2. Factors that explain the use of component depreciation

An objective of IASB is to harmonize accounting between countries (www.ifrs.org) and this objective should reflect how airline companies design their accounting. However, this is not always the case because firms with different characteristics do not have the same accounting practices, which affects harmonization negatively. Here follows firm- and country-related factors explaining motives and choices of airline companies' accounting regarding component depreciation.

2.2.1. Legal system

The structure of the legal system affects how IFRS is applied and harmonization of accounting. For this thesis, there are two important legal systems, code law and common law, which are the foundation of many domestic legal systems. Previous research states that countries' financial markets and companies' ownership-structures have develop differently depending on whether they apply common law or code law. Common law has developed from what has been the accepted behavior and accounting practice. It is for instance used in

England, Australia and New Zealand. Companies, in these countries, disclose much of their financial information because of the decentralized ownership that exists there. The reason for this is that major shareholders get their financial information from the board of directors while owners of a company with decentralized ownership do not have this opportunity and must get a fair view of its financial condition from financial reports. This has made financial markets in common law countries more attractive to investors which has led to that financial markets are more developed in these countries than in code law countries (Ball, 2005).

Regulations from code law systems are created and controlled by a few strong agents of great influence. This system is used in countries such as Germany, Spain and the Nordic countries. Companies in a code law system have a concentrated ownership, and therefore major shareholders get necessary information from the executives of the companies which leads to that these companies are not as informative in their financial reporting as companies from example England or Australia (Ball, 2005). The Islamic law, which is common in the Middle East, Africa and South Asia, is often connected to the code law system. The Islamic law is based on the idea that it is a correct way to act, but it also describes what is permitted, recommended, forbidden etc., so that the practitioners know how they should follow it. Companies in these areas should act in a way that is fair and they should also be aware of the welfare of the state when they make their decisions. In these countries, the governments have great influences, and the most important companies are controlled by them (Coulson, 1957).

2.2.2. Financial markets

IFRS is applied in more than 100 countries but there exist differences in accounting between them, which are due to differences in accounting practice. Each country has its own financial market, which are at various stages of development. For instance, a high developed market has higher requirements and stronger monitoring for companies' accounting, and therefore they follow IFRS more strictly. Because of this, they have developed their own accounting practices. How practice and the financial market have developed depend on factors, such as monitoring, ownership-structure and legal system (Ball, 2005).

Each country has some type of monitoring that controls companies' accounting, but the monitoring varies, and this is a reason why the presentation of accounting differs (Ball, 2005). For instance, companies listed in a country with weak monitoring of the financial market are often associated with increased risk, and therefore they may disclose more information to reduce the risk and attract investors (Webb et. al 2008). How countries' legal systems and companies' ownership-structures affect the development of financial markets are discussed in section 2.2.1.

2.2.3. Governments' regulations

There exist conflicts between organizations and countries' governments, which inhibit the process of accounting harmonization. Thorell & Whittington revealed that the origin of such a conflict can be that countries do not have the same influence on their national accounting laws as they used to have if they apply new regulations published by an international organization such as the EU (Thorell & Whittington 1994) or the IASB. This kind of conflict can make

countries' governments less willing to adapt to new regulations. A country that is against a change of their accounting system primarily thinks of its own interests and not the spread of harmonization across the world while a country that is susceptible to changes focuses on achieving a better harmonization between countries (Van Hulle, 1992). For instance, this problem is adaptable to the harmonization process within the EU. Countries have to implement directives in their own national law before they are applied in practice and this process is supervised by an independent domestic organization. The countries have a handling space of how the standards shall be formed, and the use of this space shows how motivated they are adapting to accounting changes (Dao, 2005). If they are against new regulations they will try to get as close as possible to their former rules which affects companies' regulatory environment and their accounting.

2.2.4. Earnings management

IFRS is, as mentioned above, a principle-based system, and therefore managers have a space to act within and the opportunity to reflect their company's accounting in an accurate way (Soderstrom et. al. 2007). But space also creates problems as managers are able to use it to bias accounting in their desired direction (Healy & Wahlen, 1998).

Considering the extensive use of accounting in the world, it is not surprising that managers try to manipulate statistic in financial reports in order to influence stakeholders etc. Healy and Wahlen state that there are three reasons for managers to use earnings management, they are: regulatory motivations, capital market motivations and contracting motivations. The first one implies, among other things, avoiding tax payments, and the second reason means that managers use earnings management to affect the price on companies' stocks. The third reason for using earnings management is contracting motivations which include, for example, management compensation contracts (Healy & Wahlen, 1998). This means that managers use earnings management for personal benefits as it can result in bonuses. A common motive is that in case managers cannot get a bonus they use earnings management to reach this target. It can also be used in a different way, when managers recognize that their targets will not be met, and therefore they try to worsen the result of this period to make coming years more profitable (Nelson et al. 2002).

2.2.5. Advantages of component depreciation

An advantage in using component depreciation is that it gives a smoother spread of the results (FAR Akademi, 2011). The reason why it leads to smoother results is that components are depreciated over their useful lives and do not affect the income statement directly, which is the case when the normal depreciation method is used. The normal depreciation method means that component depreciation is not used. A negative effect that may occur if the normal depreciation method is used is that companies could under- or overestimate the consumption of an asset because the useful life of components could vary significantly, which makes it hard to determine the useful life for the whole asset (FAR SRS, 2008). Previous research also states that a reduced volatility decreases the risk of economic problems, which in addition to investors, also make the company more attractive to funders and employees (Trueman & Titman, 1988). The operational work within companies is also simplified by income with less fluctuation. Budgets are partly based on outcomes of earlier years, therefore

less fluctuating income makes this process easier to accomplish, and the outcome will also become more accurate. The work is also simplified by a smoother result as it is easier to identify trends, which simplifies managers' analysis of the current situation of the company and decision making for the future (Beidleman, 1973). These advantages make managers believe that a company with less fluctuating results is worth more to investors than other companies (Trueman & Titman, 1988).

To make the difference between normal depreciation and component depreciation more understandable, it is illustrated in the following example.

Company A has bought an aircraft for 500 000' Euros, and the company knows that the asset can be divided into two components, airframe and engines. The airframe, which is bought for 400 000' Euros, has a useful life of eight years and the engines that are bought for 100 000' Euros have a useful life of four years. The consumed engines will be replaced in the beginning of the fifth year. The company will use the aircraft during its whole useful life, so any residual value will not be considered. Table 2.1. illustrates in accordance with the two methods, the consumption of the components for the next eight years.

Normal depreciation vs. Component depreciation

Normal depreciation				Component depreciation			
Year	Depreciations	Other expenses	Sum	Year	Airframe 8 years	Engines 4 years	Sum
					Asset 400	Asset 100	500
1	-62,5		-62,5	1	Depreciation -50	Depreciation -25	-75
2	-62,5		-62,5	2	-50	-25	-75
3	-62,5		-62,5	3	-50	-25	-75
4	-62,5		-62,5	4	-50	-25	-75
5	-62,5	(New engines -100)	-162,5	5	-50	-25	-75
6	-62,5		-62,5	6	-50	-25	-75
7	-62,5		-62,5	7	-50	-25	-75
8	-62,5		-62,5	8	-50	-25	-75

Table 2.1.

If the company does not use component depreciation, new engines shall not be classified as assets in the balance sheet, but this affects the income statement directly. If the company decides to use component depreciation instead, the airframe and the engines will become assets and depreciated over their useful life. A comparison between the methods is illustrated in the diagram below.

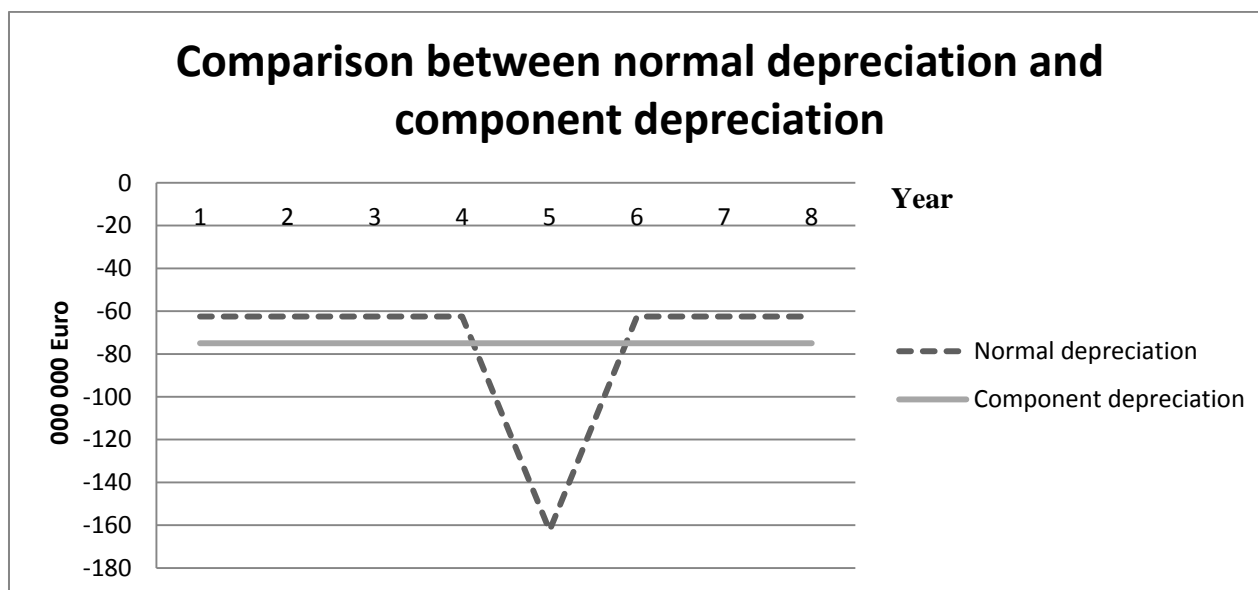


Diagram 2.1.

The diagram shows that the results become smoother if company A chooses to use component depreciation instead of the normal depreciation method.

2.2.6. Audit firm

Another factor that can affect accounting and harmonization is companies' choice of audit firm. The concept "audit firm" can be divided into two groups; big 4 audit firms and not big 4 audit firms. Ernst & Young, Deloitte, PWC and KPMG are included in the big 4 while all but them are included in the other group. The big 4 are known to have more knowledge within their organizations than other firms (Rodriguez & Nickel, 2009). There are several explanations why this is the case but one reason is that they are larger organizations. Because of this, they have more recourses and it is easier for them to attract competent auditors. In addition to this, audit firms of the big 4 are also more careful about their reputation and more conservative than other firms. This is partly due to the failure of Enron and the effect it had on the brand name of major auditors. Enron was a major American company that went bankrupt in the year of 2001. The reason for its bankruptcy was that they had hidden billions of liabilities and this was not noticed by Arthur Andersen L.L.P, a former member of the five largest audit firms in the world. When the scandal was official, Arthur Andersen and the remaining audit firms of the big 5 suffered significantly because of their damaged reputation (Azibi et.al. 2010).

2.2.7. Institutional theory

The institutional theory claims that companies' operational work is just as much formed by their pursuit of being legitimate as their fundamental business to sell products. They gain legitimacy by adjusting themselves to the accepted social and cultural environment within their community and industry. The environment differs between countries depending on how quickly they adapt to changes such as the implementation of IFRS. A factor that controls how quickly the adaption goes is the knowledge that countries and companies have about financial

reporting. According to the legitimacy theory, a company is affected by, but also affects, the social and cultural environment in which it is active (Deegan, 2002).

Companies that do not adjust to the accepted environment within their community and industry to gain legitimacy could face survival difficulties because consumers could go elsewhere, labor could go on a strike or they could face fines from the government (Deegan, 2002). This is important for airline companies because it is a global and homogenous industry, where companies have similar transactions and this means that it is relatively easy to see if companies have adjusted their accounting to the environment of the airline industry. In this thesis, the institutional theory is used to explain the outcome of some of the variables' effect on airline companies' use of component depreciation.

2.3. Accounting quality

As mentioned above, IASB defines quality as accounting that contains useful information. Accounting of high quality enables actors on capital markets to make comparisons between companies from different countries and to allocate its resources, so that it gives the best return to the lowest possible cost. To know how accounting quality is achieved, users of financial reports need to have an understanding of factors that control quality but also how it is measured.

The level of accounting quality depends on how high the disclosure quality is. Factors that control disclosure quality are, among other things, performance, financing need, and earnings quality. The last mentioned is of significant importance for this thesis and is discussed later in this section. Companies that are doing well disclose more information because they do not want to be mistaken for a low performing company (Lang & Lundholm, 1993). Companies that are in need of external capital also disclose more information to reduce the risk for creditors, which increases the possibility to obtain capital (Leuz & Schrand, 2009).

As mentioned above, airline companies are often restrictive about disclosing information regarding component depreciation. The components are often disclosed together as a single asset, despite they are accounted separately, and this lowers accounting quality.

A determinant that control earnings quality is auditors. They affect earnings quality through their grade of independence, size and hiring cost. Dechow states that organizations that hire any of the big 4 audit firms have higher earnings quality than others (Dechow et. al. 2010). This theory is partly based on results from previous research, which indicates that the big 4 audit firms have more knowledge within their organizations, which among other things leads to less abnormal accruals (Francis & Wang, 2008). Auditors' demands are important determinants of the accounting practice in an industry, where component depreciation is common because the estimations required are complex and this leads to many different interpretations.

Measures that are used to decide the level of earnings quality are among other things abnormal accruals, which mean that it lowers quality if accruals are abnormal, or if they are made with other motives than reflecting the economic situation. There are several factors that control in what extent companies manipulate their earnings and some of them are discussed in

section 2.2. in this thesis. The amount of abnormal accruals are used in this thesis to determine if accounting quality generally differs between companies depending on the extent in which they use component depreciation. To determine what level of abnormal accruals that companies apply, mathematical models are used (Dechow et. al. 1995) and they are discussed in more depth in chapter three.

2.4. Hypotheses

In this thesis there exist two hypotheses. The first one is that firm- and country-related factors, rather than the economic situation, control the use of component depreciation. This is assumed to affect the usability of accounting information and the ability to make comparisons between the investigated airline companies negatively, because the second hypotheses is that accounting quality generally differs between companies depending on the extent in which they use component depreciation. These hypotheses are based on the previous sections in this chapter. The following discussion clarifies why the sections are included in this thesis and how the factors are believed to affect the use of component depreciation.

2.4.1. Hypothesis one

Airline companies' accounting choice of using component depreciation depends on firm- and country-related factors.

2.4.1.1. Legal system

A factor that is believed to influence accounting choices is the structure of legal systems. Ball means that this factor controls the demand for financial information. The ownership-structure of companies in common law countries are often decentralized. Therefore, investors in these countries have a request to receive fair financial information from financial statements because they cannot get information from the board of directors or the executives (Ball, 2005). Because component depreciation leads to that more information about companies financial conditions is disclosed, it is assumed that companies in common law countries use component depreciation in a greater extent than companies in code law countries.

2.4.1.2. Grade of incentive- based compensation

The grade of incentive-based compensation is assumed to affect the use of component depreciation according to the earnings management theory. It is believed that companies with a high grade of incentive-based compensation use component depreciation in a lesser extent. The reason is that it is easier for managers in these companies to influence the outcome of financial reports without component depreciation. This is the case because purchases of components affect the income statement directly and are not depreciated during their useful lives. For example, managers are able to replace components that are in the end of their useful life when they notice that they will not reach the target for this period and this leads to better results for future periods (Nelson et al. 2002).

2.4.1.3. Development of financial markets

The development of financial markets is another factor that is assumed to control accounting practice and companies' use of component depreciation. A high developed market has higher requirements for companies' accounting, and therefore they follow IFRS-regulations more

strictly (Ball, 2005). This leads to that companies active on high developed financial markets have to use fair accounting. Therefore, it is assumed that these companies use component depreciation in a greater extent than companies active on less developed financial markets.

2.4.1.4. Toughness of domestic governments' regulations

Previous research claims that IASB's objective of harmonization will not be met until companies operate in a business environment where the conditions are similar (Jaafar & Mcleay, 2007). Differences in severity of domestic governments' regulations are a mechanism that significantly affects the condition of business environments (Thorell & Whittington, 1994). A reason for this is that conflicts can occur between the IASB and the applying countries after their adoption of IFRS because of the decreased influence countries have on their domestic laws. These conflicts are believed to be greater in countries with more severe governments because they have more problems with not having the same influence on their national accounting laws as they used to have. Because of the conflicts, these countries are against regulations from IFRS and this affects how they implement the regulations in their national system. In what extent companies' accounting and their use of component depreciation are affected by this depends on how much the new IFRS-regulations differ from the old regulations.

2.4.1.5. Aircraft values/Total assets

There are advantages associated with the use of component depreciation such as smoother results. Smoother results make it easier to predict the future of a company, which makes it easier to identify emerging trends (Beidleman, 1973). These advantages make managers believe that a company with less fluctuating results is worth more to investors than other companies (Trueman & Titman, 1988). With this as a background, it is assumed that companies which are able to take advantage of these benefits to a greater extent, a higher ratio between aircraft values and total assets, apply component depreciation more than others.

2.4.1.6. Ease to obtain external capital

As mentioned, smoother results make it easier to predict the future of a company and this decreases the risk of economic problems. The decreased risk makes companies using component depreciation more attractive to funders (Trueman & Titman, 1988). Because of this, it is assumed that companies use component depreciation in a greater extent if they have problems obtaining external capital and if they are from a country where funders are restrictive in their lending.

2.4.1.7. Audit firm

Researchers have stated that auditors from any of the big 4 are more careful about their reputation, more conservative and have more knowledge within their organizations than other firms. (Azibi et.al. 2010) This leads to that auditors of the big 4 have higher requirements for their clients' accounting than other auditors (Rodriguez & Nickel, 2009). Component depreciation gives a more accurate picture of a company's financial condition, and because of this it is assumed that component depreciation is more common in companies hiring any of the big 4.

2.4.2. Hypothesis two

The level of accounting quality generally differs between companies depending on the extent in which they use component depreciation.

2.4.2.1. Amount of abnormal accruals

It is believed that the result of the quality-test will indicate that the amount of abnormal accruals differs between the investigated companies and that the conclusion will be that accounting quality generally differs depending on the extent in which component depreciation is used by them. This hypothesis is based on that IASB define quality as accounting that contains useful information (FAR Akademi 2011) and because component depreciation leads to that more relevant information about companies' financial conditions are disclosed, quality is assumed to increase by the use of it.

3. Methodology

In chapter three, the methods of data collection are described and their principles explained. Furthermore, the aim of the chapter is to create reliability and to persuade the readers that the data analyzed in the thesis is trustworthy.

3.1. Research method

The purpose of this thesis is to determine if IASB's objective of harmonization is fulfilled for component depreciation in the investigated passenger airline companies. In order to successfully answer the purpose, a quantitative study was made and focus was on causal relationships which explain how different variables are affecting each other. The causal relationship can be divided into three categories: symmetrical, reciprocal and asymmetrical relationships. The first relationship exists when variables vary together but do not create each other's fluctuations, and the second category explains how variables mutually affect each other. The asymmetric relationship, which is the one that is applied in this thesis, helps researchers to find out how changes in one or more independent variables affect another variable, which is called the dependent variable (Blumberg et. al, 2008). The reasons why this thesis is based on a quantitative research method and asymmetric relationships are that it looks at the relationship between independent and dependent variables and that there are many observations that should be taken into account.

3.2. Method for data collection

The information that was required was collected from several sources. Theories are appropriate information for the frame of reference and they are normally collected from research articles and books. The empirical information is mainly collected from annual reports, which provide information about airline companies' accounting choices regarding component depreciation. The sources of information differ depending on what you want to get out of it, and to make this thesis more reliable, a description of the data collection is discussed.

3.2.1. Frame of reference

The frame of reference provides the theoretical background of the hypotheses tested in the thesis. To get information about the IAS 16 and objectives of the IASB, several websites, such as "www.iasplus.com" and "www.ifrs.org" were visited. Previous research that explains accounting choices, factors that affect accounting quality and how quality is measured were necessary to have available to complete the rest of the frame of reference in this thesis. The search words that were used were among others, IFRS, reasons for accounting choices and accounting quality. To get a greater understanding of the IFRS and its importance for accounting the search word, IFRS, was divided into different search objects, such as principle-based system, fair value, and harmonization.

To determine if component depreciation has any impact on accounting quality, it was necessary to find factors that affect accounting quality and to understand how these factors are measured. The most important search words related to this were disclosure quality, earnings quality and abnormal accruals.

3.2.2. Airline companies

The investigated airline companies have prepared their annual reports in line with the regulations of the IFRS, and their main focus is on passenger air transport. It is the annual reports of the groups that have been studied. To find out what countries are using IFRS, the website “www.iasplus.com” was used. This website informs if the IFRS are not permitted, permitted, required for some or required for all. Most of the investigated companies are from countries where IFRS is required for all listed companies but for some countries, it is just permitted and not required. Singapore, South Africa and China are countries where IFRS is not required or permitted, instead they have their own accounting standards, which are based on the IFRS. For the information on airline companies that are active in Europe, the database, “Amadeus” was used. Only the information on listed companies and air passenger companies was searched. Another database, namely “Datastream”, was used to get information about airline companies that are active on other continents. This was later supplemented with visits to the “www.nationsonline.org” website and searches on Google so that other companies within the limitations were not left out of the thesis. The final sample of this thesis is 47 companies from 31 different countries. The companies and countries that are investigated are listed in appendix one.

The annual reports of the airline companies are from 2010 and they were gathered from their homepages and the database “Amadeus”, in which “Global report” is a function that provides annual reports from companies across Europe. To make the data from the annual reports more useful, it was presented in a table which is illustrated in appendix two. The table shows from which country the companies are from, aircraft values, total assets, if they use component depreciation, how many components the aircrafts are divided into and which audit firm they have hired. All the information except total assets and audit firm, which has been gathered from the balance sheet respectively the independent auditor’s report, has been taken from notes in the annual reports. The total assets in the annual reports are reported in different currencies, so to make them comparable the values were converted to Euro. The exchange rate is taken from www.xe.com on the balance day for each company.

3.2.3. Countries

Another aspect that is important to take into account when solving the first research question is an accurate analysis of the country-related factors. The information regarding these factors has been mainly gathered from two different sources. The first one is from Ball’s article *International financial reporting standards (IFRS): Pros and cons for investors* (Ball, 2005) where he discusses what effect differences between countries have on accounting. A factor that he discusses in depth is legal system, common or code law, and he states that this factor has a major impact on accounting. Therefore this factor has been investigated to see if it affects the use of component depreciation. To get information about how countries’ legal systems are built, *Law and finance* (La Porta et. al. 1996) was consulted. The United Arab Emirates and Jordan have a unique law, Islamic Law, which their legal systems are partly built on.

The other source is “World Economic Forum”, which is an organization that aims at promoting business in the world. A report from this forum called “The financial development

report 2011” provides information about 60 countries from all over the world, and about their financial markets, grade of incentive-based compensation, toughness of domestic governments’ regulations and ease to get external capital. These factors have been studied to find out if they have any impact on the use of component depreciation. Data from country-related factors is illustrated in appendix three.

3.3. Statistical tests

3.3.1. Test one: Firm- and country-related factors’ influence on component depreciation

A multiple regression model is a tool to determine if a dependent variable is affected by more than one independent variable.

$$\text{Number of components} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \varepsilon \quad (1)$$

This model has been applied in this thesis to find out if firm- and country-related factors are responsible for the extent of using component depreciation which differs between companies. Furthermore, a correlation matrix has been constructed to get the knowledge on how the individual variables correlate with each other. However, the Pearson correlation coefficient, which is used in this test, does not give any information about how one variable causes changes in another, instead one can learn how strong or weak the linear association is.

There are several parameters included in the first test, which purpose is to determine if firm- and country-related factors (independent variables) control the number of components (dependent variable) into which companies divide their aircrafts.

The independent variables are:

- x_1 = *Legal system: code law or common law*
- x_2 = *How developed domestic financial market is (1=Not at all, 7=Very developed)*
- x_3 = *Grade of incentive-based compensation (1=Not at all, 7=Very much)*
- x_4 = *How tough the domestic governments’ regulation is (1=Very tough, 7=Not at all)*
- x_5 = *How easy it is to get external capital (1=Very difficult, 7=Very easy)*
- x_6 = *Aircraft values/total assets*
- x_7 = *Audit firm: big 4 or not big 4*

The independent variables, aircraft values/total assets and audit firm, are firm factors and the other five are country-related factors. The ratio between aircraft values and total assets is measured to know the impact the use of component depreciation has on financial reports and if companies with a high ratio use it in a greater extent than companies with a low ratio. A company with a more valuable aircraft fleet in relation to its total assets should have a bigger reason to use component depreciation because the advantages would be more significant than for a company with a small fleet in relation to its assets. The second firm factor is related to companies’ choice of audit firm and if they choose to hire an audit firm belonging to the big 4 or not. Big 4 audit firms’ view on accounting and how tough their requirements are can have

an impact on companies' use of component depreciation. This variable has, because of its structure, been handled as a dummy variable, where 0=big 4 and 1=not big 4. The legal system for each company's domestic country has also been handled as a dummy variable, where 0=common law and 1=code law. The remaining four independent variables have been provided by a report from the World Economic Forum, where each country has been rated on a scale from one to seven.

3.3.2. Test two: Component depreciation's effect on accounting quality in general

Because component depreciation is an accrual, abnormal accruals is a relevant measure to use to determine if the use of component depreciation has any impact on accounting quality in general. When using this measure, it is necessary to distinguish between accruals that can be manipulated, discretionary accruals (*DA*) and accruals that cannot be manipulated, non-discretionary accruals (*NDA*). Accruals consist of these two elements and this means that the sum of them must be equal to total accruals, $TA = NDA + DA$. To determine the level of total accruals, accounts receivables, inventories, accounts payables and depreciations were measured, which is illustrated in the second model (Callao & Jarne, 2010). In all calculations, the variables are measured for each year, t , and for each company, i .

$$TA_{it} = \Delta Receivables_{it} + \Delta Inventories_{it} - \Delta Payables_{it} - DEP_{it} \quad (2)$$

Without using a mathematical model, it is not possible to recognize what accruals are discretionary and what are non-discretionary. To overcome this problem, the third model is applied (Larker & Richardson, 2004).

$$\frac{TA_{it}}{A_{it-1}} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta Sales_{it} - \Delta Receivables_{it}}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} + \alpha_4 \frac{BM_{it}}{A_{it-1}} + \alpha_5 \frac{CFO_{it}}{A_{it-1}} + e_{it} \quad (3)$$

A_{it-1} is total assets and it is included in the model to decrease the risk of heteroscedasticity, a phenomenon that is discussed later in this thesis. *PPE* is the value of property plant and equipment reduced by its depreciation. *BM*, book to market ratio, measures the ratio of the common equity and the market value of a company and *CFO* measures the operating cash flows for the investigated companies (Larker & Richardson, 2004). The values of the variables are presented in appendix four.

The interval between the years of 2005-2008 was assumed to be a period of normal conditions. The observations for these years were interpreted in the third model to estimate the parameters of α_n . These parameters are essential to have to be able to calculate the discretionary accruals for the interval of 2009-2010. The discretionary accruals for 2009 to 2010 were calculated by using the fourth model, where the values of α_n are estimations of α_n (Callao & Jarne, 2010). Thereafter, the mean was calculated for these years to get one value for each company. The year of 2010 is the main year of this thesis but 2009 was included to increase the accuracy by smoothing out abnormal results. As shown, discretionary accruals are calculated as the difference between total accruals and non-discretionary accruals because it is much more complicated to calculate the value directly.

$$\frac{DA_{it}}{A_{it-1}} = \frac{TA_{it}}{A_{it-1}} - \left(a_1 \frac{1}{A_{it-1}} + a_2 \frac{\Delta Sales_{it} - \Delta Rec_{it}}{A_{it-1}} + a_3 \frac{PPE_{it}}{A_{it-1}} + a_4 \frac{BM_{it}}{A_{it-1}} + a_5 \frac{CFO_{it}}{A_{it-1}} \right) \quad (4)$$

When the values of the discretionary accruals were known, it was possible to determine if accounting quality generally differs between companies depending on the extent in which they use component depreciation. The investigated companies were divided into three groups dependent on how many components they divide their aircrafts into. Three groups seemed to be appropriate considering the distribution of the components. Then, a Kruskal-Wallis test was made to determine if abnormal accruals and accounting quality differ between these groups.

3.3.3. Actions that were taken to increase the accuracy of the tests

If the variance of the error term does vary because of changes in independent variables a problem known as heteroscedasticity arises (Berry, 1985). In this study, a visual inspection has been performed by making a plot of the residuals against the independent variables and it did not show any signs of heteroscedasticity.

Another phenomenon to be aware of when a multiple regression model is used is multicollinearity. This phenomenon occurs when independent variables are strongly related to each other; as a result the t-test may indicate that none of the independent variables are significant even though the F-test shows a significant relationship. This means that it can be difficult to analyze each independent variable separately. It is not uncommon or harmful if independent variables are vaguely correlated to each other, but problems occur when they are strongly correlated, 85% to 90% (Andersson, et. al 2009). To avoid multicollinearity in this thesis, a correlation matrix was inspected and it indicated that no independent variables are strongly correlated to each other.

Descriptive data has been developed in the form of minimum and maximum value, mean and number of observations to show that the data is correct. A plot of observations was made to discover if there were any outliers that should have been excluded from the test to improve its quality. In order to increase the accuracy of the second test, a winsorization was made by replacing outliers with values that are not extreme.

3.4. Missing values

There are, as shown in the table below, some missing values for several independent variables in the first test of this thesis. A reason for the missing values of the country-related factors is that the report, from which the data is taken, did not include all the countries that are investigated. Furthermore, there is no available information about the aircraft values for four companies, which is the reason why only 43 of them have been included in the model. The last factor with missing observations is legal system, and this is because there are four countries that apply a mix of common and code law. These were left out of the study because they would not provide significant data.

Missing values

Variables	Number of components	Legal System	Developed financial market	Incentive-based compensation	Tough regulations from governments	Ease to get external capital	Aircraft values/Total assets	Audit firm
N	47	43	38	38	38	38	42	47
Missing	0	4	9	9	9	9	5	0

Table 3.2.

15 companies were not included in the second investigation of the thesis, component depreciation's effect on accounting quality. The reason for the missing values is that there is not enough financial information available about them for the years of 2004 to 2010.

3.5. Criticism of the source and the statistical tests

Criticism of sources aims at examining the gathered data out of a critical perspective to make the reader be aware of the risks which the method of investigation can present (Thurén, 2005). The regulations about component depreciation are described in IAS 16 p. 43, which does not contain any clear guidelines of how fixed tangible assets should be divided into components. Therefore, the information that is presented in the annual reports varies. The lack of information makes it difficult to know to what extent component depreciation is used, what components belong to aircrafts and what belong to other fixed tangible assets. The present analysis is based on the information from the annual reports and assessments are made of the use of component depreciation for each company separately. To make these assessments more accurate, other sources, such as a report from KPMG called *Components of aircraft acquisition cost, associated depreciation and impairment testing in the global airline industry*, where components of aircrafts are discussed, have been used.

Another criticism is caused by the fact that the tests are based on few observations, which can affect the value of the statistical information. This is the reason why no general conclusions can be drawn but only conclusions about the investigated companies.

There is a risk to assume that the period of years: 2005 to 2008, is a good approximation of a normal condition. The reason is that companies' financial information from these years can be affected by the financial crisis or other factors. Due to the fact that the outcome of the normal condition is used to predict the manipulated accruals of 2009 to 2010, the result can become misleading if 2005 to 2008 is not a good approximation.

4. Empirical

Chapter four presents the statistical data investigation. It starts with the presentation of firm- and country-related factors' impact on the number of components that companies divide their aircrafts into. Then, the component depreciation's influence on accounting quality in general is discussed. The statistic is presented in tables and figures.

4.1. Firm- and country-related factors' influence on component depreciation

The focus on the first part of this chapter is to investigate if airline companies' choice of using component depreciation is dependent on firm- and country-related factors and if that is the case, what factors.

4.1.1. Sample

The population of this study includes 47 companies, and the information about them has been gathered from annual reports. These companies are from 31 different countries, and five country-related factors have been investigated to see if they are responsible for how many components aircrafts are divided into. In addition to these five factors, two firm factors; aircraft values/total assets and companies' choice of audit firm have also been studied.

Distribution of legal system and audit firms

Common law	Code law	Big 4 audit firm	Not big 4 audit firm
18	25	41	6

Table 4.1.

Table 4.1 illustrates the distribution of the two dummy variables, legal system and audit firm, for each company. Legal system is divided into common and code law and the table suggest that the distribution between them is quite even. The companies' choice of audit firm is divided into big 4 and not big 4 and it is shown that most of the companies hire an audit firm from the big 4.

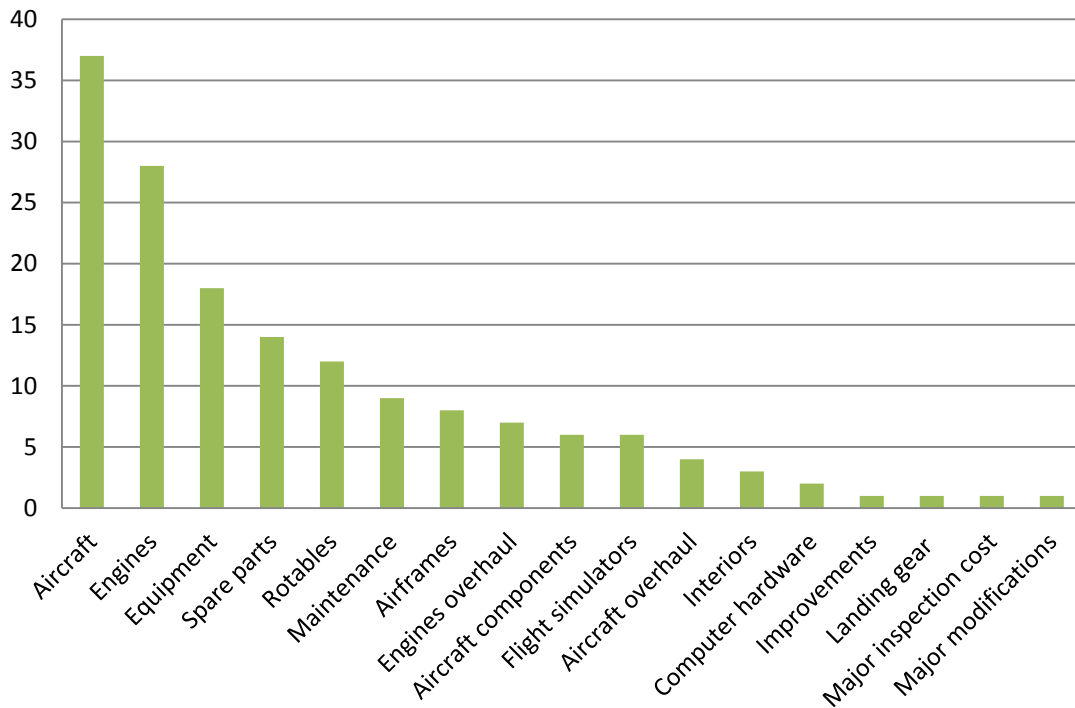
Distribution of components

Number of components	0	1	2	3	4	5	6	7
Number of companies	4	1	7	16	9	7	2	1

Table 4.2.

Frequency

Distribution of components



Bar 4.1.

Table 4.2. illustrates the frequency of components numbers into which companies divide their aircrafts and it is shown that the lowest number is zero and the highest is seven. Three is by far the most common number, and one and seven components occur only one time each. The four most frequently components used by the investigated companies are equipment, spare parts, engines and aircraft, which is shown in bar 4.1. The component aircraft is classified as a residual component. This means that if a company divides their aircrafts into engines and aircraft, the last mentioned is everything but engines.

4.1.2. Result of the multiple regression model

A multiple regression model was used to test if the dependent variable, number of components, is affected by the investigated independent variables.

$$\text{Number of components} = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \varepsilon$$

Coefficients

Model	Constant	Legal system x_1	Developed financial market x_2	Incentive-based compensation x_3	Tough regulations from government x_4	Ease to get external capital x_5	Aircraft values/total assets x_6	Audit firm x_7
β Sig.	10,424	-1,158*** (0,1)	-0,382 (0,537)	-1,184*** (0,1)	0,327 (0,333)	-0,122 (0,731)	1,08 (0,375)	-1,405 (0,184)

Table 4.3. (***) Significant at 10 %)

Number of components

$$= 10,424 - 1,158x_1 - 0,382x_2 - 1,184x_3 + 0,327x_4 - 0,122x_5 + 1,08x_6 - 1,405x_7$$

The coefficients of the independent variables are shown in table 4.3. and they are put together into a formula to illustrate what affect they have on number of components. As the table illustrates, two of the investigated variables are significant at the level of 0,1 and they are legal system and incentive-based compensation. According to the coefficient of β_1 , companies in code law countries generally use a lower number of components than companies in common law countries. Table 4.3 also suggests that companies in countries with more incentive-based compensation use fewer components than others.¹

Model Summary

Model	R-Square
Dependent variable: Number of Components	0,356

Table 4.4.

The summary of the model shows that the R-Square is 0,356. This means that 35,6 % of the changes in numbers of components can be explained by a combination of the independent variables under study.

¹ The insignificant variables are development of financial markets, toughness of domestic governments' regulations, ease to get external capital, aircraft values/total assets and audit firm.

Pearson correlation coefficients among the investigated variables

Variables	Number of components	Legal system	Development of financial markets	Incentive-based compensation	Toughness of domestic governments' regulations	Ease to get external capital	Aircraft values/total assets	Audit firm
Number of components	1	-0,042	0,028	-0,121	0,237	-0,005	0,403**	-0,389*
Legal system	-0,042	1	-0,705**	-0,686**	-0,157	-0,028	-0,162	-0,047
Development of financial markets	0,028	-0,705**	1	0,771**	0,461**	0,315	0,278	-0,002
Incentive-based compensation	-0,121	-0,686**	0,771**	1	0,399*	0,278	0,18	0,104
Toughness of domestic governments' regulations	0,237	-0,157	0,461**	0,399*	1	0,562**	0,236	-0,129
Ease to get external capital	-0,005	-0,028	0,315	0,278	0,562**	1	0,213	-0,166
Aircraft values/total assets	0,403**	-0,162	0,278	0,18	0,286	0,213	1	0,352*
Audit firm	-0,389**	-0,047	-0,002	0,104	-0,129	-0,166	-0,352*	1

Table 4.5. (* Significant at 1 %; ** Significant at 5%)

Table 4.5. illustrates that none of the investigated variables are heavily correlated with each other which suggests that multicollinearity is not a problem. Variables are considered to be heavily correlated with each other, if they have a Pearson correlation coefficient somewhere in between 85% to 90%. The two variables that correlate with number of components the most are the firm factors: audit firm and aircraft values/total assets. The correlation between them and numbers of components are similar at the level of 0,4, and both of them are significant at the level of 0,05. The difference is that the ratio between aircraft values and total assets is positively correlated while there is a negative relationship with audit firm. Furthermore, none of the correlations of the investigated country-related factors are significant at the level of 0,05.²

² The insignificant variables are legal system, development of financial markets, incentive-based compensation, toughness of domestic governments' regulations and ease to get external capital.

4.2. Component depreciation's effect on accounting quality in general

To determine if it is of importance that 35,6% of the changes in numbers of components can be explained by a combination of the independent variables and that companies' choice of using component depreciation is significantly dependent on two of the investigated factors, an investigation was made to find out whether accounting quality generally differs between companies depending on the extent in which they use component depreciation.

Distribution between the groups

Small (0-2 components)	Medium (3-4 components)	Large (5-6 components)
8	16	8

Table 4.6.

The investigated companies are divided into three groups (small, medium and large) depending on how many components they divide their aircrafts into. The distribution between the groups is illustrated in Table 4.6.

Result from the Kruskal-Wallis test

Chi-Square	3,08
------------	------

Table 4.7.

The result from the Kruskal-Wallis test indicates that the amount of abnormal accruals do not differ between the groups. This means that it is not possible to state, with statistical certainty, that the use of component depreciation has any general impact on accounting quality.

5. Analysis

In this chapter, the hypotheses of this thesis are analyzed separately and for clarity's sake, each section begins with a presentation of the hypothesis that is discussed. The analysis is based on the empirical data and theories from the frame of references.

5.1. Firm- and country-related factors' influence on component depreciation

This thesis is based on the idea that IASB's objective of harmonization is affected negatively due to the fact that there are other factors than the economic situation that control companies' accounting choices. Hence, the first hypothesis of this chapter is that *airline companies' accounting choice of using component depreciation depends on firm- and country-related factors*. This thesis has investigated what effect the following factors have on the number of components that are applied by the investigated airline companies.

- *Legal system: code law or common law*
- *Grade of incentive-based compensation*
- *How developed the domestic financial market is*
- *How tough the domestic governments' regulations are*
- *How easy it is to get external capital*
- *Aircraft values/total assets*
- *Audit firm*

5.1.1. Result and analysis of test one

The result from the first test indicates that the investigated variables explain 35,6% of the changes in the number of components used by the investigated companies. Legal system and incentive-based compensation are two important factors to take into account because they have a significant impact on the use of component depreciation. A general explanation why they are the only significant variables is that the number of observations studied is too small. However, to understand and analyze reasons behind the percentage of 35,6%, the model is broken down into its factors which are investigated by using the theories in the frame of reference.

5.1.1.1. Legal system

Legal system is, according to Ball, a factor that controls companies' accounting choices. Companies in common law countries are often decentralized, and the demand for financial information in annual reports is higher from investors in these countries than from investors in code law countries, where the ownership is often centralized. The reason for this is that major shareholders of a company get necessary information from the board of directors whereas owners of a company with decentralized ownership do not have this opportunity and must get a fair view of its financial condition from financial statements (Ball, 2005). The empirical data shows that this theory is relevant for the investigated companies because it suggests that companies in common law countries approximately use more components than companies in code law countries. This is the case because component depreciation, according to previous research, contributes to give a fairer view of a company than the normal depreciation method

because component depreciation gives a fairer picture of how fixed tangible assets are consumed.

5.1.1.2. Incentive-based compensation

Healy and Wahlen state that managers use earnings management to reach targets that generate contracting rewards. Managers know the targets of companies in which they are working, and therefore they are able to pull earnings in different directions in order to fulfill their incentives (Healy & Wahlen, 1998). Because component depreciation affects the outcome of a company's financial result, it is assumed that the grade of incentive-based compensation has some sort of impact on the use of component depreciation. This is consistent with the result from the multiple regression model, which shows that companies from countries, where there is a high grade of incentive-based compensation divide their aircrafts into fewer components than other companies. The reason for this is that it is easier to use earnings management without component depreciation. This is the case because purchases of components affect the income statement directly and are not depreciated during their useful lives.

5.1.1.3. Non-significant variables

The results provided by the empirical data differ from the findings of previous research regarding the remaining five factors. Firstly and secondly, previous research states that it is advantageously to achieve smoother results instead of highs and lows. The reasons are that it simplifies the operational work within companies (Beidleman, 1973) and it decreases the risk of economic crises, which makes companies more attractive to funders (Trueman & Titman, 1988). Therefore, it would be logical if companies' capability of taking advantage of these benefits and the ease of obtaining external capital affect their use of component depreciation. Thirdly, Ball states that companies in different business environments manage their accounting differently, and a mechanism that affects the business environment is the development of financial markets. A highly developed financial market has higher requirements and stronger monitoring for companies' accounting (Ball, 2005). Component depreciation is associated with fairer accounting than the normal depreciation method and because of this; it is assumed that these companies use component depreciation in a greater extent than companies active on a less developed financial market. Fourthly, according to Thorell and Whittington, the decreased influence countries' governments get on their national laws after an adoption of new regulations from an international organization can lead to conflicts between the parties (Thorell & Whittington 1994). The conflicts are assumed to be greater in a country where the government's regulations are tougher because they have more problems not having the same influence on their national laws as they used to have. If governments are in conflict with the IASB and if governments are negative to new IFRS-regulations, it affects how they are implemented and companies' regulatory environment obviously is a factor that controls their accounting and their use of component depreciation. Fifthly, previous research suggests that companies' choice of audit firm affects how strictly they handle their accounting. The reasons are that audit firms from the big 4 are more conservative, caring about their reputation, more knowledgeable and have higher requirements than their competitors (Azibi et.al. 2010). This makes clients of these four firms more likely to use component depreciation in a greater extent because, according to previous

research, it is associated with fairer accounting than the normal depreciation method. But in contrast to these statements there is no evidence from the empirical data supporting that factors related to the statements have any significant impact on the investigated airline companies' use of component depreciation.

To explain why this is the case for the audit firm and the ratio between aircraft values and total assets, it is necessary to make a connection to the institutional theory. Component depreciation is accepted among airline companies and their auditors, which lead to that both these parties adjust themselves to their business environment and apply component depreciation in the same way as their competitors not to lose legitimacy. Therefore, companies' use of component depreciation is unaffected by what audit firm they hire and how much they are able to take advantage of the benefits related to component depreciation.

In spite of the fact that component depreciation leads to smoother results, which is preferable to funders, the variable; ease to get external capital does not have any significant effect on the investigated companies' use of component depreciation. An explanation why this is the case is that the positive effect of smoother results is just one of many factors that funders take into consideration when they make their decisions, and apparently the investigated companies' use of component depreciation does not have enough impact on funders to affect their decisions on issues related to lending.

An explanation why the development of financial markets does not have any significant effect on companies' use of component depreciation is because there could be two mechanisms eliminating each other's effect. Depending on how developed a financial market is, requirements for accounting differ. Highly developed financial markets are often associated with higher requirements and stronger monitoring. This leads to that IFRS is followed strictly (Ball, 2005) and that component depreciation is used correctly. But this effect could be cancelled if companies in countries with weak monitoring and less developed financial markets disclose more information about their financial conditions and take regulations of IFRS seriously as well (Webb et. al 2008). The reason is that their domestic markets are often associated with risk, but companies use their accounting to gain credibility and to attract investors.

The empirical data does not indicate that governments' toughness has any significant impact on the airline companies' use of component depreciation. This variable may be the easiest to explain because it can be as simple as component depreciation was used during the era of the previous regulations. There has been no change, and therefore no conflict has occurred between the IASB and the applying countries' governments regarding this accounting matter. Another explanation is that the independent monitoring organization is strict when it comes to component depreciation, which means that countries do not have any opportunity to oppose this issue.

5.2. Component depreciation's effect on accounting quality in general

To decide if the ability to make comparisons between the investigated airline companies is impaired due to their usage of component depreciation is influenced by factors other than the economic situation. An investigation was made to find out whether accounting quality generally differs between the companies depending on the extent in which they use component depreciation. Because component depreciation, according to previous research, contributes to making accounting more informative and useful, the second hypothesis of this chapter is that *the level of accounting quality generally differs between companies depending on the extent in which they use component depreciation.*

5.2.1. Result and analysis of test two

In contrast to the hypothesis, the empirical data suggests that accounting quality does not generally differ between the investigated companies depending on the extent in which they use component depreciation. This was surprising because the literature related to this subject suggests that the outcome should have been the opposite.

According to previous research, component depreciation contributes to making accounting more useful in several different ways. For example, the use of component depreciation gives a better view of an asset's consumption and a company's financial condition compared to when the normal depreciation method is used (Beidleman, 1973). More information about depreciations makes it easier for users of financial reports to make comparisons between companies. Because IASB defines accounting quality as accounting that contains information that is useful, it was assumed that the use of component depreciation leads to a better quality (FAR Akademi 2011).

A reason for the difference may be due to the fact that component depreciation adds too little relevant information to increase accounting quality in general. Another explanation considered to be relevant is that the test included too few observations to indicate that accounting quality generally differs between the investigated companies depending on their use of component depreciation.

6. Conclusions and suggestions for further research

In the final chapter, the research questions of this thesis are answered. The chapter ends with a discussion of suggestions for further research. Because of the limitations of this thesis, any general conclusions have not been drawn about the airline industry, but only conclusions based on the investigated companies.

6.1. Conclusions

Users of financial information have a demand for identical accounting standards because they are in need to be able to compare financial reports from different countries, and IFRS exist to satisfy this demand. The purpose of this thesis is to determine if the harmonization is fulfilled for component depreciation in the investigated passenger airline companies. To meet the purpose and to find out if the answer is of any importance for the usability of accounting, the authors have aimed at answering two research questions which will be discussed in the following:

does airline companies' accounting choice of using component depreciation depend on firm- and country-related factors?

does accounting quality generally differ between companies depending on the extent in which they use component depreciation?

We have drawn the conclusion that firm- and country-related factors explain 35,6% of the investigated companies' accounting choice to use component depreciation. Legal system and grade of incentive-based compensation are important factors to take into account because they are statistically significant as they have an impact on how the companies use component depreciation. Of the investigated companies, the ones in common law countries divide their aircrafts into more components than companies in code law countries. A reason for this is that decentralized ownership-structures are more common for companies in common law countries. In this kind of ownership-structure, it is difficult for investors to get information from the board of directors regarding companies' financial conditions (Ball, 2005). In this case investors need to get fair information from financial statements, and because component depreciation, according to previous research, gives a better view of companies' financial conditions, it is used in a greater extent in common law countries.

This study indicates that companies divide their aircrafts into fewer components if they are from a country where there is a high grade of incentive-based compensation. This is the case because without component depreciation, it is easier for managers to use earnings management and control the accounting in order to match their incentives. Without component depreciation, managers are, for example, able to replace components which are in the end of their useful lives when they notice that they will not reach the target required to get a bonus for this period, and this leads to better results for future periods (Nelson et al. 2002).

We have also drawn the conclusion that accounting quality does not generally differ between the companies under study depending on the extent in which they use component depreciation. This is based on the result from the empirical data which suggests that the

amount of abnormal accruals does not differ significantly depending on the number of components in which companies divide their aircrafts. Component depreciation is just one of many factors that make accounting useful, and we mean that component depreciation does not have enough impact on accounting quality in general.

We conclude that IASB's objective of harmonization is not fulfilled for component depreciation in the investigated passenger airline companies. In spite of the fact that the airline industry is homogenous, companies do not account transactions related to component depreciation in a similar way which is due to the fact that there are other factors than economical which control their use of component depreciation. But this does not have any negative effect on the usability of accounting information because in the investigated companies, component depreciation does not have any general effect on accounting quality. This means that the ability to make comparisons, which is the aim of the harmonization process, between the investigated airline companies is not impaired in spite of the fact that IASB's objective of harmonization is not fulfilled for component depreciation.

6.2. Suggestions for further research

According to IAS 16 p. 43, component depreciation occurs when a part of an asset has a significant value in relation to the value of the whole asset. Because of the lack of clear guidelines in the standard it is hard to decide what value a component should have to be regarded significant. Therefore, a suggestion for further research is to investigate what value a component has on average in relation to the whole asset. An approximation of this ratio would give less experienced companies an idea of when component depreciation should be used.

Another suggestion related to the lack of clear guidelines is to do a qualitative study that focuses on how companies reason in their choice of using component depreciations and how they interpret IAS 16 p. 43. This would give a deeper understanding about companies' choice of using component depreciation, and it would be a step in the right direction to understand differences between companies' accounting. It is preferable to do these investigations in a homogenous industry, because the results get more relevant if it is an industry, where companies have similar transactions for their fixed tangible assets.

7. References

7.1. Books

Andersson, David.R. et. al (2009) *Statistic for business and economics*, Cengage Learning, London

Berry, William Dale (1985) *Multiple regression in practice*, Vol. 50, Sage, corporation Beverly Hills pp. 73-88

Blumberg, Boris et. al (2008) *Business research methods*, Second European edition, McGraw-Hill, Berkshire

Marton et al (2010) *IFRS i teori och praktik*, Bonnier utbildning, Stockholm, pp. 181-183

Thurén, T. (2005) *Källkritik*, Liber, Stockholm

7.2. Articles

Ball, Ray, (2005) *International financial reporting standards(IFRS):Pros and cons for investors*, Chartered accountants.

Beidleman, Carl R. (1973) *Income smoothing: The role of management*, The accounting review, Vol. XLVIII, pp. 653-667

Callao, Susana & Jarne, José I. (2010) *Have IFRS affected earnings management in the European Union?*, Accounting in Europe, 7:2, pp. 159-189

Coulson, N. J. (1957) *The state and the individual in Islamic law*, International and comparative law quarterly, Vol. 6 pp. 49-60

Dao, Thi Hong Phu (2005) *Monitoring compliance with IFRS: Some insights from the French regulatory system*, Accounting in Europe, 2:1, pp. 107-135

Dechow, P. et. al. (1995) *Detecting earnings management*, The Accounting review Vol. 70, No 2, pp. 193-225

Dechow, P. et. al. (2010) *Understanding earnings quality: A review of the proxies, their determinants and their consequences*, Journal of accounting and economics Vol. 50, No 2-3, pp. 344-401

Deegan, Craig (2002) *The legitimizing effect of social and environmental disclosures- a theoretical foundation*, Accounting auditing & accountability journal Vol. 15 No. 3, pp. 282-311

Francis, J., Wang, D., (2008) *The joint effect of investor protection and Big 4 audits on earnings quality around the world*. Contemporary accounting research Vol. 25, pp. 157-191

Healy, Paul M. & Whalen, James M (1998) *A review of the earnings management literature and its implications for standard setting*. Accounting Horizons: Dec99, Vol. 13 Issue 4, pp. 365-383

Jaafar, Aziz & Mcleay, Stuart (2007) *Country effects and sector effects on the harmonization of accounting policy choice*, Abacus, Vol. 43, No. 2

Lang, M. & Lundholm, R. (1993) *Cross-sectional determinants of analyst rating of corporate disclosures*, Journal of accounting research Vol. 31 No. 2, pp. 246-271

La Porta, Rafael et. al. (1996) *Law and finance*, National Bureau of Economic Research, NBER Working paper series 5661

Larker, D. & Richardson, S. (2004) *Fees paid to audit firms, accruals choices and corporate governance*, Journal of accounting research, 42(3), pp. 625-658

Leuz, C. & Schrand, C. (2009) *Disclosure and the cost of capital: Evidence from firms' responses to the Enron the shock*, Working paper available at SSRN eLibrary

Maines, Lauren A, et al. (2003). *Evaluating Concepts- Based vs. rules-based approaches to standard setting*, Accounting Horizons. Mar2003, Vol. 17, No. 1 p. 73-89

Nelson Mark W. (2002) *Evidence from auditors about managers' and auditors' earnings managements decisions*, The accounting review, Vol. 77, pp. 175- 202

Nordlund Bo, (2004) *Komponentavskrivningar på byggnader – företag som redovisar enligt IAS/IFRS*, Balans nr 3, pp. 16-18

Rodriguez, Manuel Cano & Nickel, Manuel Nunez, (2009): *Big four audits and conservatism: The trade of between auditor`s litigation risk and client`s information efficiency*, Spanish ministry of science and education, P06-SEJ-01821

Soderstrom Naomi. S, Lialin Sun Kevin, (2007) *IFRS Adoption and Accounting Quality: A Review*, European Accounting Review, 16:4, pp. 675-702

Stárová M., Cermáková H. (2010) *Method of component depreciation of fixed assets and its comparison with traditional methods*, Agris, on-line papers in economics and informatics, Vol. II, No. 3

Thorell, Per & Whittington, Geoffrey (1994): *The harmonization of accounting within the EU*, European, Accounting Review, 3:2, 215-240

Trueman, Brett & Titman, Sheridan (1988) *An explanation for accounting income smoothing*, Journal of accounting research, Vol. 26, pp. 127-139

Van Hulle K, (1992) *Harmonization of accounting standard: A view from the European community*, European Accounting Review, 1:1, pp. 161-172

Web, K. A., et. al. (2008) *The effect of globalization and legal environment on voluntary disclosure*, The international journal of accounting, Vol 43, pp. 219-245

7.3. Electronic source

7.3.1. Websites

www.europa.eu The European Union (2012) *Fördraget om upprättandet av Europeiska ekonomiska gemenskapen, EEG-fördraget* (Accessed: February 13, 2012)

http://www.europa.eu/legislation_summaries/institutional_affairs/treaties/treaties_eec_sv.htm (Accessed: February 13, 2012)

www.iasplus.com Deloitte (2012) *IAS16 property, plant and equipment* <http://www.iasplus.com/standard/ias16.htm> (Accessed: February 13, 2012)

www.iasplus.com Deloitte (2012) *Preface to international financial reporting standards* <http://www.iasplus.com/standard/preface.htm> (Accessed: February 13, 2012)

www.ifrs.org IFRS (2012) *About the IFRS foundation and the IASB* <http://www.ifrs.org/The+organisation/IASCF+and+IASB.htm> (Accessed: February 13, 2012)

www.ifrs.org IFRS. (2012) *The move towards global standards* <http://www.ifrs.org/Use+around+the+world/Use+around+the+world.htm> (Accessed: February 13, 2012)

7.4. Others

Azibi, Jamel et. al. (2010) *Auditors choice and institutional investor characteristics after the Enron scandal in the French context*, Author manuscript, version 1

Commission of the European Communities, (2008) *Report from the Commission to the Council and the European Parliament on the operation of Regulation (EC) No 1606/2002 of 19 July 2002 on the application of international accounting standards*. Brussels, 24.2.2008 COM (2008) 215final.

FAR Akademi, (2011) *IFRS-volymer 2011*, Föreläsningsramen.

FAR Akademi, (2011) *IFRS-volymer 2011*, IAS 16, p.43

FAR SRS, (2008) *En genomgång av resultat- och balansräkningarna 2009*, FAR SRS Förlag, Stockholm, pp. 52-53

IFRS (2011) *Technical summary IAS 16 Property, Plant and Equipment*, pp. 1

KPMG, (2007) *Components of aircraft acquisition cost, associated depreciation and impairment testing in the global airline industry*, May 2007

Appendix

Appendix one, investigated companies

Countries	Companies
Australia	Qantas, Virgin Blue, Regional Express
Brazil	TAM
China	China Eastern, China Southern, China Air
Cyprus	Cyprus Airways
Czech Republic	Czech Airline
Denmark	Cimber Sterling, Atlantic Airways
Estonia	Estonia Air
Finland	Finnair
Germany	Air Berlin, Lufthansa
Great Britain	Air Partner, British Airways, Flybe, Hangar 8, TUI Travel, Easy Jet
Greece	Aegan
Hong Kong	Cathay Pacific
Iceland	Iceland Air
Ireland	Aer Lingus, Ryan Air
Italy	Meridiana
Jordan	Royal Jordanian
Kenya	Kenya Airlines
Kuwait	Jazeera Airways
Malta	Air Malta
Mauritius	Air Mauritius
New Zealand	Air New Zealand
Norway	Norwegian
Panama	Copa Holdings
Portugal	Tap Group
Russia	Aeroflot, Irkut, Transero Airlines
Singapore	Singapore Airlines, Sky West
South Africa	Comair, South African Airlines
Spain	Iberia Airlines
Sweden	SAS
Turkey	Turkish Airways
United Arab Emirates	Emirates

Appendix two, data from annual reports

Company	Country	Total asset in thousands of Euro	Flight asset in thousands of Euro	Nr. of components	Audit Firm
Aegan	Grecce	447369	76270	2	Not Big 4
Aer Lignus	Ireland	1805805	739406	5	Big 4
Aeroflot	Russia	3429130	1042936	4	Big 4
Air berlin	Germany	2370119	253108	2	Big 4
Air China	China	16137039	7289108	2	Big 4
Air Malta	Malta	168724	5311	3	Big 4
Air mauritius	Mauritius	403019	283965	6	Big 4
Air New Zealand	New Zealand	2891007	1087169	4	Big 4
Air Partner	Great Britain	68994	1669	2	Not Big 4
Atlantic Airways	Denmark	55214		0	Not Big 4
Brittsh Airways	Great Britain	12752427	6655172	5	Big 4
Cathay pacific	Hong Kong	12502559	4599616	2	Big 4
China Eastern	China	11 932 970	7 353 114,71	6	Big 4
China Sothern	China	13311533	8588508	3	Big 4
Cimber Sterling	Denmark	130207	70026	3	Big 4
Comair	South Africa	2022509	85426	2	Not Big 4
Copa Holdings	Panama	19365978	1168933	3	Big 4
Cyprus Airweays	Cyprus	182847	53326	3	Big 4
Czech Airline	Czech Reublic	275146	23074	3	Big 4
Easy Jet	Great Britain	4780518	2305873	5	Big 4
Emirates	United Arab Emirates	11529155	4197838.58	3	Big 4
Estonia Air	Estonia	50276	1337.03	1	Big 4
Finnair	Finland	2411800	1220700	5	Big 4
Flybe	Great Britain	494594	136887	3	Big 4
Hangar 8	Great Britain	11560		0	Not Big 4
Iberia Airlines	Spain	6013000	1006000	4	Big 4
Iceland Air	Iceland	485415	53333	4	Big 4
Irkut	Russia	1437058		0	Big 4
Jazeera Airways	Kuwait	470723		3	Big 4
Kenya Airlines	Kenya	730022	404747.64	3	Big 4
Lufthansa	Germany	29320000	12030000	3	Big 4
Meridiana	Italy	293309	29750	3	Big 4
Norwegian	Norway	884701	274484	3	Big 4
Qantas	Australia	16070103	7744776	4	Big 4
Regional Express	Australia	131327	118947	3	Big 4
Royal Jordanian	Jordan	404125	192077.91	5	Big 4
Ryan Air	Great Britain	12218896	5151582	2	Big 4
SAS	Sweden	4675274	1583802	4	Big 4
Singapore airlines	Singapore	11133371	6926157	5	Big 4
Sky West	Singapore	78 779	16003	4	Big 4
South Africian Airli	South Africa	1452525	415829	4	Big 4
TAM	Brazil	5958194	2836741	3	Big 4
Tap Group	Portugal	2086823	863243	3	Big 4
Transero Airlines	Russia	664878		0	Not Big 4
TUI Travel	Great Britain	11052829	402467	4	Big 4
Turkish airways	Turkey	4463581	1288990	7	Big 4
Virgin Blue	Australia	3125155	2015604	5	Big 4

Appendix three, data related to country-related factors

Country	How developed domestic financial markets are 1=Not at all & 7=Very developed	Grade of incentive based compensation 1=Not at all & 7=Very much	How tough the domestic governments' regulations are 1 = Not at all & 7=Very tough	How easy it is to get external capital 1=Very hard & 7=Very easy	Legal system
Australia	4.9	4,52	3,18	3,68	Common Law
Brazil	3.6	4,4	2,05	3,09	Code Law
China	4.1	4,57	3,93	3,14	Code Law
Cyprus					Common Law
Czech Republic	3.4	4,3	2,62	2,88	Code Law
Denmark	4.3	4,41	4,02	3,55	Code Law
Estonia					Code Law
Finland	4.1	4,63	4,37	4,5	Code Law
Germany	4.3	4,96	3,05	2,97	Code Law
Great Britain	5.0	5,19	3,1	3,05	Common Law
Greece					Code Law
Hong Kong	5.2	5,11	5,02	4,23	Common Law
Iceland					Code Law
Ireland	4.1	4,8	3,41	1,89	Common Law
Italy	3.8	3,87	2,08	2,23	Code Law
Jordan	3.5	3,31	3,28	2,89	Islamic Law & Code law
Kenya					Common Law
Kuwait	3.7	3,98	2,63	3,52	Common Law & Code Law
Malta					Common & Code Law
Mauritius					Common & Code Law
New Zealand					Common Law
Norway	4.5	4,02	3,27	4,61	Common & Code Law
Panama	3.2	4,06	3,43	3,8	Code Law
Portugal					Code Law
Russia	3.2	3,81	2,42	3,57	Code Law
Singapore	5.0	5,24	5,56	4,62	Common Law
South Africa	3.6	4,91	2,73	3,26	Common Law
Spain	4.2	4,01	2,77	2,39	Code Law
Sweden	4.5	4,64	3,86	4,54	Code Law
Turkey	3.1	3,21	3,01	2,7	Code Law
United Arab Emirates	3.9	4,65	4,36	4,27	Islamic Law & Code Law

Appendix four, data related to abnormal accruals

Company	Year	T _t in thousands of Euro	Δ sales in thousands of Euro	PPE in thousands of Euro	BM	CFO in thousands of Euro	Δ Rec	TA in thousands of Euro
Aegan	2004				71199			
Aegan	2005	138433	61088	66615		33751	14	-11279
Aegan	2006	122093	60444	58652		57972	25856	16104
Aegan	2007	157310	81674	105235	0,344892	28610	-8200	-20520
Aegan	2008	340296	128956	148878	1,023823	61851	11359	5193
Aegan	2009	436011	11020	138965	0,880785	47096	2219	-5818
Aegan	2010	455119	-31709	138253	1,308674	-25187	-1853	-17297
Aer Lingus	2004			568063		109129		
Aer Lingus	2005	1427408	95822	508006		37239	9793	-42288
Aer Lingus	2006	1493867	113154	526160	0,563191	128708	6221	-55936
Aer Lingus	2007	1921368	169065	663100	0,849725	95689	5031	-71603
Aer Lingus	2008	1881018	72479	708961	0,964746	25501	18011	-63592
Aer Lingus	2009	2082596	-151617	790486	2,061223	-157989	-12393	-94114
Aer Lingus	2010	1725782	9833	760356	1,391227	49559	3950	-72482
Aeroflot	2004			596507	3,514792	140563		
Aeroflot	2005	1127744	294859	627433	2,763323	181367	125491	42301
Aeroflot	2006	1396290	264354	969334	3,092094	302353	33436	-71892
Aeroflot	2007	1894446	487745	1259631	3,775646	133927	248471	128194
Aeroflot	2008	2498845	553757	1625313	1,060388	300900	8864	-218217
Aeroflot	2009	3037098	-274644	1971325	1,998297	118000	30090	-28107
Aeroflot	2010	3606819	761601	2007339	2,576276	555210	-107492	-133857
Air Mauritius	2004							
Air Mauritius	2005			14083100		2443496		
Air Mauritius	2006	24332990	1390060	12482690		2254274	674386	-1153452
Air Mauritius	2007	24107330	2142090	13246560		1235916	3052305	1493389
Air Mauritius	2008	24080530	1752000	11943590		2743964	-3744472	-5324811
Air Mauritius	2009	19700860	-278760	11836790	0,267799	-1925989	-638397	-1505100
Air Mauritius	2010	16864080	-2502910	12843580	0,185981	1632018	-188269	-1843940
Air New Zealand	2004			1372261	1,323144	294124		
Air New Zealand	2005	16690770	74428	1267560	0,941403	105210	-10577	-191148
Air New Zealand	2006	2577960	119070	1681470	0,74285	344610	-630	-206640
Air New Zealand	2007	3014550	309960	1819440	1,588352	275940	110880	6930
Air New Zealand	2008	3114720	233100	1596420	0,730738	468090	-139230	-387450
Air New Zealand	2009	3164490	-36540	1472310	0,597332	308700	-55440	-149940
Air New Zealand	2010	3178350	-354690	1404900	0,735708	211680	-3150	-160020
Air Berlin	2004			737234		133349		
Air Berlin	2005	884456	181360	752758		66075	38613	-3060
Air Berlin	2006	1061855	360155	977980	0,452897	110106	66926	-1572
Air Berlin	2007	1587858	961105	1201214	0,70321	85644	23237	-117334
Air Berlin	2008	2519204	864192	1269943	1,13092	12015	37679	-53422
Air Berlin	2009	2354534	-160348	1209743	1,742599	130396	42703	11732
Air Berlin	2010	2411537	483234	887664	1,526982	-14141	-78148	-134485
Air Partner	2004			3106	0,249758	3821		
Air Partner	2005	32180	28045	2895	0,177059	7814	-2213	-880
Air Partner	2006	35991	20475	519	0,209598	839	11185	8079
Air Partner	2007	45812	55403	1734	0,148345	15573	3018	1327
Air Partner	2008	63401	79953	2259	0,225003	12473	2838	2070
Air Partner	2009	70770	-69561	2730	0,273882	-1061	-2152	-3074
Air Partner	2010	58514	43517	2248	0,356868	-2303	7199	-2906
Cathay Pacific	2004			5180800	0,663173	920500		
Cathay Pacific	2005	7528400	1184400	5015600	0,763368	739700	122700	-321900
Cathay Pacific	2006	7825400	987400	5808600	0,603472	851700	219700	-355300
Cathay Pacific	2007	10309000	1457501	6238800	0,628903	1316800	264100	-305000
Cathay Pacific	2008	11765000	1122000	6603899	1,117558	181600	63400	-450800
Cathay Pacific	2009	11473900	-1960000	6549499	0,741512	203500	-384900	-880700
Cathay Pacific	2010	11332400	2254600	6611200	0,643203	1759900	290400	-475200

Company	Year	T ₁ in thousands of Euro	Δ sales in thousands of Euro	PPE in thousands of Euro	BM	CFO in thousands of Euro	Δ Rec	TA in thousands of Euro
China Eastern	2004				3649075	0,470774	400561	
China Eastern	2005	5043878	769879	4630608	0,766512	249738	38105	-767855
China Eastern	2006	7066441	1204132	4806055	0,228686	176097	84804	-635033
China Eastern	2007	7330051	603883	5705783	0,043096	337678	-26774	-387391
China Eastern	2008	8155553	-173842	6321415	-0,961	28064	-99586	-918282
China Eastern	2009	8756393	-249947	6804426	0,032923	171838	69970	-745371
China Eastern	2010	8612116	4177680	9021463	0,298227	1090935	220238	-283544
China Southern	2004			5688720	0,694654	480000		
China Southern	2005	7467360	1793879	6592800	1,179246	465600	88560	-722040
China Southern	2006	8559360	951120	6875760	0,778424	286200	-4800	-374280
China Southern	2007	9058679	993961	8355479	0,136968	835200	76920	-602520
China Southern	2008	9830640	94320	8390160	0,458529	141960	-55200	-692400
China Southern	2009	9944999	-278521	9752519	0,309371	1082400	14400	-1144080
China Southern	2010	11312519	2540761	10777200	0,390552	1375800	84720	-385440
Cimber Sterling	2004							
Cimber Sterling	2005							
Cimber Sterling	2006							
Cimber Sterling	2007			77506		8389		
Cimber Sterling	2008	113721	23062	103387		15020	2126	-6196
Cimber Sterling	2009	135934	19443	100847		20063	236	-11392
Cimber Sterling	2010	141728	32950	94962	0,883353	-7959	-2312	-15887
Comair	2004			30953	1,362728	2706		
Comair	2005	62280	21513	37790	1,727107	16515	-38	-9433
Comair	2006	72157	23370	45311	1,88284	16539	4280	-8374
Comair	2007	95360	21465	60843	3,651906	24525	-2079	-13798
Comair	2008	102986	42907	78008	1,917633	12983	12796	9708
Comair	2009	129819	32426	82084	1,500805	31531	-1044	-21373
Comair	2010	153071	-3531	89267	1,416387	22353	6447	-11534
Copa Holdings	2004							
Copa Holdings	2005			462516	3,438977	90508		
Copa Holdings	2006	37614	256958	646882	3,879928	147036	9610	-7912
Copa Holdings	2007	47224	343699	780721	2,13136	168675	9144	-21064
Copa Holdings	2008	56368	187700	979480	1,458201	150560	784	-25946
Copa Holdings	2009	57153	105369	952346	1,92343	214651	4248	-25721
Copa Holdings	2010	61401	351977	1075253	1,731077	222529	6533	-35243
Cyprus Air	2004							
Cyprus Air	2005			127581	-0,47296	-25725		
Cyprus Air	2006	211943	-47678	109701	-0,72249	5753	2394	-7690
Cyprus Air	2007	195775	20300	103360	0,18697	19801	-751	-74208
Cyprus Air	2008	236658	22960	81817	0,443276	7567	-1058	-13429
Cyprus Air	2009	218145	-62476	65598	0,300652	-13839	-6707	8874
Cyprus Air	2010	186939	-12761	59917	0,331586	-24327	25674	22201
Easy Jet	2004			403088	1,557051	203618		
Easy Jet	2005	1616378	305488	519476	0,718204	239120	8418	-22692
Easy Jet	2006	1965298	339526	848754	0,494328	274744	38430	-26352
Easy Jet	2007	2590426	216550	1141676	0,524262	330498	32696	-18910
Easy Jet	2008	3069520	690032	1345172	0,959971	361364	-7564	-111020
Easy Jet	2009	3776266	370880	1966884	0,811379	164090	-5368	-104798
Easy Jet	2010	4480572	373686	2352282	0,944536	443348	-79544	-151158
Finnair	2004			865800	1,304797	135000		
Finnair	2005	1475700	172700	844400	0,646593	192100	30400	-71600
Finnair	2006	1620900	118500	1012300	0,544638	95900	6200	-412700
Finnair	2007	1633000	190900	1168900	0,950493	302000	68700	-28700
Finnair	2008	2133200	82100	1272100	1,231597	120200	-56800	-158300
Finnair	2009	2026200	-424900	1469000	1,525879	-120500	-45900	-146200
Finnair	2010	2405000	185600	1406600	1,14756	61200	55500	-43300

Company	Year	T ₁ in thousands of Euro	Δ sales in thousands of Euro	PPE in thousands of Euro	BM	CFO in thousands of Euro	Δ Rec	TA in thousands of Euro	
Iceland Air	2004								
Iceland Air	2005				205950				
Iceland Air	2006	642740	80890		229350	0,940653	63680	220	
Iceland Air	2007	766170	58300		228320	0,900361	38890	17940	-7130
Iceland Air	2008	667600	475090		367980	1,514339	29380	43900	-20760
Iceland Air	2009	988300	-324040		270140	3,991508	87810	-55770	-71640
Iceland Air	2010	889640	73520		275940	2,285699	143290	38450	-14080
Irkut	2004				151800	3,314559		115077	
Irkut	2005	761864	68741		174121	2,051919	-81949	-32906	202077
Irkut	2006	1047999	70380		177223	2,780512	-55532	57462	53337
Irkut	2007	1159048	105797		234398	2,183751	82095	-26467	-27963
Irkut	2008	1379560	155369		287203	0,313716	122591	263270	132498
Irkut	2009	2012594	314884		298875	0,78352	-30000	-245598	-360050
Irkut	2010	1722903	277835		304213	0,569334	-33973	113435	275012
Jazeera Airways	2004								
Jazeera Airways	2005								
Jazeera Airways	2006				144316		25655		
Jazeera Airways	2007	151525	36105		207177		22221	1282	-10998
Jazeera Airways	2008	227154	38349		105161	0,369686	3625	13681	2713
Jazeera Airways	2009	200168	-7387		73692	0,467032	24191	20334	-1600
Jazeera Airways	2010	202042	-9442		436496	0,565836	7543	-36143	-51896
Kenya Airlines	2004								
Kenya Airlines	2005				258080	1,112851		76850	
Kenya Airlines	2006	448220	105700		466540	0,356038	88100	15650	-21470
Kenya Airlines	2007	692940	59880		541060	0,493463	73490	4320	-25370
Kenya Airlines	2008	772870	16790		525180	1,077863	66500	14240	-19360
Kenya Airlines	2009	767800	113580		510510	1,883976	34110	24080	-14910
Kenya Airlines	2010	759530	-10860		498560	0,719323	64790	-15990	-87340
Lufthansa	2004				9151000	0,824941		1883000	
Lufthansa	2005	17922000	1100000		9230000	0,756814	1978000	302000	-954000
Lufthansa	2006	19084000	1784000		9450000	0,484669	2148000	295000	-747000
Lufthansa	2007	19308990	2571010		10739000	0,821745	2986000	1196000	-273000
Lufthansa	2008	22300990	2450000		11364000	1,321986	2508000	-365000	-1352000
Lufthansa	2009	22380000	-2587010		13411000	1,13111	1998000	-7000	-1522000
Lufthansa	2010	26356990	5041010		14150000	1,09411	3012000	361000	-1583000
Merdiana	2004				35742		9470		
Merdiana	2005	127311	26135		16647	0,547458	-8760	-10722	-174
Merdiana	2006	160169	18360		55408	0,261631	-28751	22413	15052
Merdiana	2007	153463	32455		19567	-0,16522	-22458	4640	1499
Merdiana	2008	114211	46088		13065	0,664067	-22046	4031	9907
Merdiana	2009	129118	-78186		17739	-0,05691	-16863	-9462	-15528
Merdiana	2010	118181	313937		48203	0,160784	-26715	56600	-59110
Norwegian	2004				4416	1,56375		-11810	
Norwegian	2005	48094	99084		4787	8,514977	15506	15399	15834
Norwegian	2006	77830	125990		29698	7,015898	9823	23313	9429
Norwegian	2007	125495	167024		30949	6,93775	59531	7107	-13971
Norwegian	2008	295072	260027		164292	1,330641	-50122	-38221	-55864
Norwegian	2009	405486	140761		318086	2,456365	118796	84621	66299
Norwegian	2010	652835	142630		541013	2,262016	92661	161	-42978
Qantas	2004				9682714	0,896964		1579526	
Qantas	2005	13882907	1022576		9963875	1,004321	1540500	-58144	-952819
Qantas	2006	14326018	704206		9776250	1,049993	1600540	-68493	-1068870
Qantas	2007	15152516	1163275		9723557	0,556777	1859186	116999	-265282
Qantas	2008	15488266	932516		9749390	0,995155	1681436	45899	-1084512
Qantas	2009	15562605	-1295521		9602450	1,256565	891910	-199791	-1213282
Qantas	2010	15838710	-616200		9887640	1,191789	1032530	-78210	-973280

Company	Year	T ₁ in thousands of Euro	Δ sales in thousands of Euro	PPE in thousands of Euro	BM	CFO in thousands of Euro	Δ Rec	TA in thousands of Euro
Regional Express	2004				13658		-1683	
Regional Express	2005	26696	13242		19342		2480	127
Regional Express	2006	38263	33520		36030	0,601232	22146	-102
Regional Express	2007	76609	41919		87457	0,324009	32646	3427
Regional Express	2008	123133	25337		91171	0,876472	21386	2379
Regional Express	2009	127267	-8899		99832	1,292823	23995	-6267
Regional Express	2010	132502	-15734		138113	1,236023	24027	2776
Royal Jordanian	2004				149289		26600	
Royal Jordanian	2005	254648	53849		154143		39107	-156
Royal Jordanian	2006	267280	36255		144819		40447	4345
Royal Jordanian	2007	286086	102222		201527	0,431013	71046	-814
Royal Jordanian	2008	349161	171314		254540	0,64723	31778	13614
Royal Jordanian	2009	393076	-111741		248169	0,621901	41223	-11193
Royal Jordanian	2010	402194	92588		234447	0,865966	35752	5390
Ryan Air	2004				1923362	0,421241	536425	
Ryan Air	2005	3585578	320082		2552585	0,379145	610686	9223
Ryan Air	2006	4647834	434252		3090245	0,330593	744895	17873
Ryan Air	2007	5653747	664125		3518545	0,281695	1061221	-8468
Ryan Air	2008	6943319	581851		4370194	0,599436	858759	14525
Ryan Air	2009	7719612	278334		4446685	0,566396	504023	212
Ryan Air	2010	7793192	56285		5263324	0,5241	1063230	1149
SAS	2004				2658260	0,884487	-168960	
SAS	2005	6183980	419540		2140269	1,494284	165770	293370
SAS	2006	6214120	-122100		1643510	1,170979	231220	-334180
SAS	2007	5476460	-937860		1477960	0,797052	315260	-213840
SAS	2008	5288800	103840		1554520	0,7181	-291610	-11770
SAS	2009	4668729	-910469		1713140	0,873125	-375540	160820
SAS	2010	4546960	-461451		1626020	0,512709	-17050	-249920
Singapore Airlines	2004				9285969	1,169748	1084214	
Singapore Airlines	2005	12193900	1373110		9335745	1,165723	1697020	115046
Singapore Airlines	2006	13322156	810202		9470067	1,272534	1696349	180560
Singapore Airlines	2007	14255389	703513		9950137	1,370432	2114077	181719
Singapore Airlines	2008	15855120	901641		10049201	1,223422	2695529	88145
Singapore Airlines	2009	16174272	14518		9755364	0,851755	1128744	-350384
Singapore Airlines	2010	15139285	-2006290		9188979	1,344597	1298080	-77714
Sky West	2004				23		438	
Sky West	2005	2739	40843		35852		10986	13243
Sky West	2006	75042	76174		36577	1,340525	11157	-2567
Sky West	2007	90442	38474		51993	1,908266	25805	8491
Sky West	2008	112959	65535		61880	1,320485	25746	9084
Sky West	2009	132913	-4086		54529	0,684368	11355	-892
Sky West	2010	118913	41909		71048	1,086178	32554	1242
TAM	2004				293268		150823	
TAM	2005	837764	462642		315128	0,276241	135054	87079
TAM	2006	1289275	695313		324591	0,391039	296090	38181
TAM	2007	2074218	330675		323853	0,37235	4773	98783
TAM	2008	2602494	1000755		3100676	0,82598	445878	111755
TAM	2009	5158587	-283605		3334951	0,945472	93059	-53742
TAM	2010	5216209	606131		3571859	1,15708	261088	168298
TUI Travel	2004							
TUI Travel	2005							
TUI Travel	2006							
TUI Travel	2007				1607350	0,931148	606706	
TUI Travel	2008	11567552	7279862		1129964	1,075412	452620	251442
TUI Travel	2009	11128840	-99430		1176080	0,802051	265960	-186050
TUI Travel	2010	10904360	-564860		1234640	0,822691	630740	-125660
Virgin Holdings	2004				536320	0,247946	163134	
Virgin Holdings	2005	1135290	243371		893152	0,467725	331677	10888
Virgin Holdings	2006	1626729	116567		952969	0,38398	158189	-15773
Virgin Holdings	2007	1512995	222134		1125750	0,287521	354078	4012
Virgin Holdings	2008	1820950	87216		1845440	1,872675	265519	19118
Virgin Holdings	2009	2636388	168428		2090103	1,741642	100883	17854
Virgin Holdings	2010	2659298	271760		2175581	1,432118	315368	18091