

**Erasmus University Rotterdam**

**Erasmus School of Economics**

**Accounting and Finance**

**Master's thesis**

## **The impact of the financial crisis on accounting conservatism in the Netherlands**

### **Abstract**

This research investigates the impact of the financial crisis on conservatism for Dutch companies. Financial data from companies listed on the AEX, AMX and ASX has been used to compare the level of conservatism in the pre-crisis period with the level of conservatism during the financial crisis period. I expect earnings to be more conservative during the crisis period compared with the pre-crisis period. Surprisingly, the results show that Dutch listed companies are not conservative at all. In contrast, the earnings are rather non-conservative. After splitting the sample in the pre-crisis period and the crisis period the results show that Dutch listed companies were not asymmetrically sensitive to losses and gains within the pre-crisis period. For the crisis period, companies became non-conservative. This indicates that earnings became more sensitive to gains than losses during the financial crisis.

**Key words:** conservatism, financial crisis, positive accounting theory, Basu model.

Author: H.G. Leune

Student no: 362159

Supervisor: Drs. R. van der Wal RA

Co-reader:

Date: August 2014

## Preface

For my master thesis, I investigate the impact of the financial crisis on accounting conservatism. I choose for this subject, because of my interest in the financial crisis and financial accounting and because the financial crisis, and to a lesser extent accounting conservatism, are discussed extensively during the master's program Accounting and Finance.

It was difficult to start up with my thesis, also because I worked at the same time on the finance department of Frames Energy Systems. However, at a certain moment I fully focus myself on the thesis, which enhances the progress of writing my thesis significantly. I would like to thank my thesis supervisor, Drs. R. van der Wal for his guidance and useful comments. Together with the useful comments of my thesis supervisor it became more enjoyable to work on my thesis and to finish my thesis.

Geerten Leune

Rotterdam, August 2014

## Table of Contents

Preface .....	2
Table of Contents.....	3
1. Introduction .....	6
1.1 Introduction .....	6
1.2 Reason why the problem is selected .....	8
1.3 Relevance of the problem within accounting and auditing.....	10
1.4 Research question and sub questions .....	12
1.5 Accounting theory and methodology .....	12
1.6 Structure of the paper .....	14
1.7 Summary .....	14
2. The financial crisis, accounting conservatism and financial accounting theory .....	15
2.1 Introduction .....	15
2.2 The financial crisis .....	15
2.3 Motivations for conservatism .....	16
2.4 Conceptual framework IASB .....	20
2.5 Accounting theory.....	22
2.5.1 Normative and positive accounting research .....	22
2.5.2 Market based accounting research approach .....	23
2.5.3 Positive accounting theory.....	25
2.5.4 Usefulness of accounting data .....	27
2.6 Summary .....	28
3. Literature study.....	29
3.1 Introduction .....	29
3.2 Prior research.....	29
3.2.1 Conservatism defined .....	29
3.2.2 Conservatism.....	30
3.2.3 Advantages and disadvantages for conservatism.....	31
3.2.4 Conservatism over time .....	32

3.2.5	Conservatism and economic crises.....	34
3.2.6	Differences in conservatism between countries .....	37
3.3	Elements to use.....	39
3.4	Summary .....	41
4.	Research design .....	42
4.1	Introduction .....	42
4.2	Hypotheses .....	42
4.3	Selection of model to measure conservatism .....	45
4.4	Sample and data selection .....	49
4.5	Methodology.....	50
4.6	Summary .....	55
5.	Results and analysis .....	56
5.1	Introduction .....	56
5.2	Results.....	56
5.2.1	Testing the assumptions for multiple regression.....	56
5.2.2	Testing hypothesis 1 .....	57
5.2.3	Testing hypothesis 2 .....	60
5.2.4	Testing hypothesis 3 .....	62
5.2.5	Analysis of the results .....	65
5.3	Summary .....	67
6.	Summary and conclusion .....	69
6.1	Introduction .....	69
6.2	Conclusion.....	69
6.3	Limitations of the research .....	71
6.4	Suggestions for further research .....	71

References .....	72
Appendices.....	76
Appendix I: Literature study .....	76
Appendix II: Sample selection.....	81
Appendix III: Statistical output.....	82

# 1. Introduction

## 1.1 Introduction

Since 2007 a lot has been changed in the global economy. In 2007 the housing market collapsed in the US, leading to the subprime mortgage crisis. Most people thought this crisis should not have such a large impact on countries outside of the US. However, the crisis developed into a worldwide financial crisis. In 2008, the financial crisis expanded to the Netherlands and the crisis is not over yet. The financial crisis likely has an impact on financial reporting, but it is difficult to verify the impact exactly. This paper will investigate if the financial crisis has an impact on accounting conservatism for Dutch listed companies.

Accounting conservatism can be considered as a prudent way of financial reporting. When there is uncertainty about the accounting method which should be used, the method that is least likely to overstate assets and income will be chosen. Under conservative accounting losses and liabilities are recognized when they are likely and revenues and assets are only recognized when they are assured of being received. The purpose of accounting conservatism is to prevent overstatement of assets and revenues, because overstatement is more harmful for shareholders, creditors etc. than understatement (Watts 2003a). Although many studies investigated the role of conservatism in financial reporting, there is no formal definition for accounting conservatism. One definition often used in the literature is the definition of Basu (1997): “accountants’ tendency to require a higher degree of verification for recognizing good news than bad news in financial statements”. Basu (1997) interprets this definition as: “earnings reflects bad news more quickly than good news”. Based on the definition of Basu (1997), it can be concluded that by applying conservative accounting profits will be realized when they are certain, while losses will be taken when they are likely. The result is that losses are incorporated faster in accounting income than gains. In the literature study more definitions of conservatism will be discussed.

To investigate the impact of the financial crisis on accounting conservatism, this research will examine empirically whether there is an association between the financial crisis and the level of accounting conservatism for Dutch listed companies. More specifically, does the financial crisis affect the application of accounting conservatism in financial reporting for Dutch companies? The financial crisis could have a negative effect on accounting conservatism since profits are declining for many companies. A way to reduce the decline in accounting earnings is to report less conservatively. There are more reasons to assume that the financial crisis has an impact on accounting conservatism, but these reasons will be discussed later in this paper.

Although most companies suffered from the financial crisis some companies did not suffer from the financial crisis or only marginally. If the financial crisis has an impact on conservatism, it could be that the level of conservatism only has been changed for companies that are really hit by the financial crisis and that the financial crisis has no impact on conservatism for companies that did not suffer the financial crisis or only marginally. As a reason this research will also distinguish the sample by companies which suffered the most from the crisis and companies which suffered the least from the crisis to investigate if the changes in conservatism differs between these two groups.

Before investigating the association between accounting conservatism and the financial crisis, it is important to mention the four types of conservatism. The four types of conservatism are:

- Conditional conservatism
- Unconditional conservatism
- Earnings conservatism
- Balance sheet conservatism

In many studies the distinction is made between conditional and unconditional conservatism or between earnings and balance sheet conservatism. Beaver and Ryan (2005) explicitly distinguish conditional and unconditional conservatism. Unconditional (also called ex ante) conservatism is news independent. This type of conservatism occurs by applying predetermined conservative accounting policies (Balachandran and Mohanram 2011). An example of unconditional conservatism is accelerated depreciation. In this case the reported depreciation is higher than the economic depreciation, leading to a book value below the economic value of the asset. Conditional conservatism (also called ex post or news dependent) is event-driven. Under conditional conservatism book values are adjusted downwards in case of unfavorable circumstances but not adjusted upwards in case of favorable circumstances (Beaver and Ryan 2005). This implies that bad news will be included immediately in the current accounting statements, while good news is more likely to be reflected over a longer period (Herrmann et al. 2008). An example of conditional conservatism is impairment accounting for long-lived tangible and intangible assets. Under this method, the book value of the asset will be adjusted downwards when the economic value is lower than the book value, but not adjusted upwards when the economic value is higher than the book value. To conclude, unconditional conservatism occurs due to aspects of the accounting process chosen by the reporting entity and conditional conservatism occurs due to changing economic circumstances (Beaver and Ryan 2005). Lara and Mora (2004) make the distinction between earnings conservatism and balance sheet conservatism and define earnings conservatism as: “a timelier recognition of bad news in earnings relative to good news”, which is derived from Basu (1997). For balance sheet conservatism, they use the definition: “the existence of a persistent understatement

of the book value figure with respect to market's valuation of the firm", derived from Feltham and Ohlson (1995).

Lara et al. (2007) qualify earnings conservatism as conditional conservatism just like Beaver and Ryan (2005) and balance sheet conservatism as unconditional conservatism. Although earnings conservatism and balance sheet conservatism are not exactly the same as conditional and unconditional conservatism, respectively, in this thesis the qualification of earnings conservatism as conditional conservatism and balance sheet conservatism as unconditional conservatism will be used as well. The focus of this thesis will be on conditional conservatism. This is because conditional conservatism is news dependent, so events like a financial crisis are more likely to have an impact on conditional conservatism than on unconditional conservatism.

### **Financial crisis**

By some researchers (e.g. Claessens and Kose 2013,<sup>1</sup>) the recent financial crisis is considered as the worst recession since the great depression of the 1930s. The first signs of the financial crisis became visible in 2006 when the housing prices in the US began to decline. The crisis erupted in the summer of 2007 in the US and expanded to the developed countries at the beginning of 2008 and to the emerging countries at the end of 2008 and the early 2009 (Dabrowski 2009).

## **1.2 Reason why the problem is selected**

Accounting conservatism is an important and influential subject in accounting. Sterling (1967) considers conservatism as the most influential principle of valuation in accounting and Penndorf (1930) claims that conservatism in accounting has already existed since the Middle Ages. Because of the large impact of conservatism on accounting it is important to investigate how conservatism exists, which factors influence conservatism and what the consequences of conservatism are.

During the last decades research to accounting conservatism has been conducted which investigated the relation between conservatism and factors like value relevance (e.g. Balachandran and Mohanram 2011), the introduction of IFRS (e.g. Hellman 2008) and bankruptcy (e.g. Lee et al. 2012). Although a lot of literature investigates the relation between accounting conservatism and other factors, to my knowledge, no literature investigates the impact of the current financial crisis on accounting conservatism.

---

<sup>1</sup> <http://www.economist.com/news/schoolsbrief/21584534-effects-financial-crisis-are-still-being-felt-five-years-article>



Because of the huge impact of the financial crisis on the economy, it is valuable to investigate if the financial crisis has an effect on accounting conservatism. The financial crisis could have different effects on the level of accounting conservatism:

- First, companies can be more conservative during the financial crisis. Profits are declining or changing in losses for many companies, which results in uncertainty about the future of the company. In that case investors are more likely to demand more conservative accounting, which could be a reason to report more conservatively (Kodres and Pritsker 1998).
- Second, companies could have incentives to report more aggressively, because for many companies the profit margins are under pressure during the financial crisis, leading to less conservative accounting. In this case, companies report less conservatively to cover their losses (Herrmann et al. 2008).
- Another possibility is that the financial crisis does not affect the level of accounting conservatism.

Information about the financial crisis and conservatism and the potential relations between these two phenomena can be valuable for standard setters to anticipate to these phenomena if necessary. Knowing the changes in accounting conservatism is also relevant for financial analysis for comparing the financial statements of companies (Givoly and Hayn 2000).

Developments in accounting conservatism over time are investigated extensively, but this research investigates conservatism in the period before the financial crisis. For instance, Basu (1997) found indications for increasing conservatism in the period from 1963 to 1990 and Givoly and Hayn (2000) found that conservatism in financial reporting increased in the period between 1950 and 1998, mainly in the period from 1978 to 1998. In the period between 1950 and 1998 economic crisis had passed as well, for example the two oil crises in 1973 and in 1979. However, these crises had a smaller impact on the global economy than the current financial crisis and the effects of these crises on conservatism are not investigated specifically. Moreover, Basu (1997) and Givoly and Hayn (2000) investigated conservatism over time in the United States, so the results may be different for Dutch companies due to differences in the accounting environment. A major reason for the absence of literature that investigates the relation between conservatism and the financial crisis is that the financial crisis emerged recently and is not over yet.

Although there is, to my knowledge, no literature which investigates the relation between conservatism and the current financial crisis, the relation between economic crises and accounting conservatism has been investigated before. Herrmann et al. (2008) investigated the impact of the Asian financial crisis on the level of conservatism for Thai companies and found that Thai companies

reported less conservatively during the Asian financial crisis compared to the period after the Asian financial crisis. Vichitsarawong et al. (2010) also studied the impact of the Asian financial crisis on accounting conservatism and they came to the same conclusion. Despite these interesting findings and useful information, it is not reliable to generalize the findings to this research without extensive research, because Asian companies and the Asian financial crisis differ from Dutch companies and the current financial crisis. The Asian financial crisis differs from the financial crisis in magnitude, because the Asian financial crisis mainly hit the Asian countries (Herrmann et al. 2008), while the current financial crisis hits the whole world. Further, the Netherlands and Thailand have different cultures, corporate governance structures, accounting standards etc. For instance, the required accounting standard for Dutch listed companies is IFRS, while the Asian countries had their own individual accounting standards during the Asian financial crisis. Despite the differences it is interesting to investigate whether the results of the studies that investigated the impact of the Asian financial crisis on conservatism for Asian companies comply with the effect of the financial crisis on conservatism applied by Dutch companies.

### **1.3 Relevance of the problem within accounting and auditing**

Accounting conservatism is an important subject in accounting and auditing and the economic role and consequences of accounting conservatism are investigated extensively in financial accounting research. For example (Balachandran and Mohanram 2011) investigated if the decline in the value relevance of accounting is driven by accounting conservatism and LaFond and Watts (2008) investigated the information role of conservatism in accounting. Conservatism also has a significant focus in discussions among regulators, practitioners and academics. Conservatism could be useful when there is uncertainty in some cases. However, misuse of conservatism should be banned, because it leads to misleading and incorrect accounting information (Needles et al. 2005).

According to the International Accounting Standards Board (IASB), financial information should be useful for the users of it and should give a true and fair view of the financial situation and the performance of the reporting entity (IASB conceptual framework 2010). The IASB does not favor conservative accounting, because they state that conservatism reduces the quality of accounting information (IASB conceptual framework 2010). As a result, research to the impact of the financial crisis on conservatism could be relevant for accounting standard setters. When they know the effects of the financial crisis on conservatism, they can anticipate by changing the accounting rules or supervision if necessary.

Since the development of positive accounting theory, decision usefulness of accounting information has become more important than truthfulness of accounting information. This is because a true or

perfect accounting concept is not possible since managers and investors prefer different accounting concepts. As a reason, the element decision usefulness of accounting information became more important in accounting frameworks like the IASB framework (Scott 2009). Approaches to evaluate the usefulness of accounting information for decision making are the value relevance approach and the information content approach, indicating the relation of accounting numbers with capital market values. These approaches will be discussed more extensively in section 2.5.4. There is discussion whether conservatism enhances the information content and value relevance of accounting information and if it contributes to a true and fair view of the reporting entity. Knowledge about the developments in accounting conservatism is important, because it could have implications for the value relevance and the information content of accounting information and measures (Barth et al. 2001).

The financial results in the company's financial statements may be significantly influenced by the degree of conservatism. In the extreme form, conservatism implies anticipate no profits, but anticipate all losses (Bliss 1924). By using this method, the financial figures will be quite different from the financial figures provided by a non-conservative accounting method. This illustrates the large impact of accounting conservatism on financial accounting. The important role of conservatism in accounting can also be illustrated by the following examples:

- Sterling (1967) rates conservatism as the most influential principle of valuation in accounting.
- Vichitsarawong et al. (2010) describes conservatism as a basic concept of financial reporting.
- Penndorf (1930) argues that conservatism has influenced accounting practice for at least 500 years.

Because accounting conservatism plays an important role on the transparency and comparability of financial accounting information (Ball et al. 2000), financial analysts and investors should know the developments in accounting conservatism. This information is necessary for a good insight in the financial situation of a company and for a good comparison of the financial performance of companies over time. When a financial analyst analyzes the financial statements over time that are affected by large fluctuations in conservatism, adjustments for these fluctuations in conservatism are necessary to make a good analysis. As an example, when a financial analyst analyzes market to book ratios, increasing market to book ratios do not necessarily imply equity overpricing. The higher ratios could also be driven by increasing conservatism (Givoly and Hayn 2000).

Knowledge about the developments in conservatism is relevant for financial researchers as well. For instance, a time series analysis of financial statements does not provide useful results when the

analysis does not control for changes in conservatism, because conservatism changes the relation between earnings, cash flows and accruals (Givoly and Hayn 2000). Due to the important role of conservatism in accounting, knowledge about changes in conservatism is important for accounting research to subjects like the value relevance of accounting information and accrual accounting.

To summarize, knowledge about developments in accounting conservatism is important, because it can provide useful information for those who make decisions based on accounting information (e.g. investors, regulators and financial analysts).

#### **1.4 Research question and sub questions**

In this thesis the impact of the financial crisis on conservatism will be investigated. To get a better understanding of what will be investigated in this paper the following research question has been provided:

***Is there an association between the financial crisis and the level of conservatism for Dutch companies?***

To come to a good answer of the research question the following sub questions will be answered:

1. What is accounting conservatism?
2. What are the motivations for accounting conservatism?
3. What are the accounting rules of the IASB related to conservatism?
4. Which theories can be used for this research?
5. What are the results of prior studies which could be useful for this paper?
6. Is there a difference in the level of conservatism between the period before the financial crisis and the period within the financial crisis?
7. What are the limitations of this research and what are the suggestions for further research?

#### **1.5 Accounting theory and methodology**

##### **Theory**

There are several approaches and theories that can be used in accounting research. Approaches to perform accounting research are the normative and the positive (also called empirical) approach. The normative approach is concerned with prescription while the positive approach is concerned with prediction and explanation (Ryan 2002). In this research the effects of the financial crisis on conservatism will be investigated empirically. Based on the literature study the hypothesis will be drawn to give a prediction for the effect of the financial crisis on conservatism. As a reason the

positive (empirical) approach will be used in this research, because this research is concerned with prediction and explanation just like the positive approach.

The positive approach consists of different elements. The elements relevant for this thesis are the market based accounting theory approach and the Positive Accounting Theory (PAT) from Watts and Zimmerman (1986). Market based accounting research investigates how the market react on reported accounting statements. The market based accounting theory approach is a statistical approach and will be used in this research to measure accounting conservatism of Dutch listed companies. The PAT is concerned with prediction and explanation and investigates the influences of accounting choices of managers. The agency theory plays an important role in the PAT. The agency theory is concerned with explaining behavior of managers (Ryan 2002) and states that there is a conflict between the manager and the contracting parties of the company. Due to information asymmetry between the manager and the contracting parties of the firm, managers can bias accounting information in a way that it positively influences their own welfare, but negatively affect the company and its contracting parties. Earnings can be biased in a positive way by applying less conservative accounting, showing the relevance of this theory within accounting conservatism. The PAT is based on three hypotheses, which predict the behavior of managers. The hypotheses can be used to predict the incentives of managers to report less or more conservatively during the financial crisis. For example, based on the fact that the profits of most companies declined during the financial crisis, it could be that managers bias earnings in a positive way to get a bonus as high as usual. This may result in less conservative reporting. The Efficient Market Hypothesis (EMH) will also be discussed in this research, because this hypothesis was important for the development of positive accounting research.

## **Methodology**

To investigate the impact of the financial crisis on conservatism, applied by Dutch listed companies, a research question has been defined. The answer to the research question will be found by answering a number of sub-questions. Based on the literature study the hypotheses will be drawn, which will be tested empirically. Researchers have developed different models to measure accounting conservatism. Many researchers use the Basu model to measure conservatism, but there are other possibilities as well. For instance, Hogartaigh et al. (2009) recommend a combination of different models to measure conservatism. Based on a review of the different models to measure accounting conservatism one or more models will be chosen. To investigate if the level of conservatism for Dutch companies has been changed during the financial crisis, archival data from

the financial reports will be used to analyze whether there is an association between accounting conservatism and the financial crisis.

## **1.6 Structure of the paper**

In this chapter an introduction of the research has been given. The concept of accounting conservatism is explained; answering the first sub question: “What is accounting conservatism?” Chapter two will elaborate the motivations for accounting conservatism, answering the second sub question. Furthermore, the financial crisis will be explained. Chapter two ends with answering the third and fourth sub questions: “What are the accounting rules of the IASB related to conservatism?” and: “Which theories can be used for this research?” The literature study follows in chapter three and will provide an answer to the fifth sub question: “What are the results of prior studies which could be useful for this paper?” The research design will be provided in chapter four. The research design also includes the hypotheses development, which is based on the literature study. Chapter five will provide and analyze the results from the empirical research to answer sub question six: “Is there a difference in the level of conservatism between the period before the financial crisis and the period within the financial crisis?” Chapter six will present the conclusion and will answer the last sub question: “What are the limitations of this research and what are the suggestions for further research?”

## **1.7 Summary**

In this chapter the subject of the research has been introduced. The subject that will be investigated is the impact of the financial crisis on conservatism, applied by Dutch listed companies.

Conservatism is an important subject in accounting research and knowledge about the impact of the financial crisis on conservatism could be valuable for standard setters, financial analysts, researchers etc. This research focuses on conditional conservatism, because conditional conservatism is news dependent and therefore more likely to be influenced by the financial crisis than unconditional conservatism, which is news independent. This chapter also mentioned the methodology and theory which will be used and the way in which this research will be conducted. Furthermore it is explained what accounting conservatism is, providing an answer to the first sub-question.

## 2. The financial crisis, accounting conservatism and financial accounting theory

### 2.1 Introduction

To have a better understanding of the financial crisis this chapter starts with an explanation of the origins of the crisis. After explaining the financial crisis the chapter will discuss the motivations for conservatism, answering the second sub question “What are the motivations for conservative accounting?” Then the legislation related to conservatism for Dutch listed companies will be discussed to answer the third sub question “What are the accounting rules of the IASB related to conservatism?” The accounting theory which is relevant for this research will be provided in the fifth section answering the fifth sub question “What are the results of prior studies which could be useful for this paper?”

### 2.2 The financial crisis

The financial crisis has a large impact on the global economy. Before the financial crisis, few people expected a crisis which could have such a huge impact. Institutions like the Federal Reserve did not foresee the financial crisis as well and Federal Reserve Chairman Alan Greenspan argued that it was impossible for regulators to foresee the financial crisis (Hendrickson 2013). With the strong supervision of institutions like the central banks etc. a crisis which such an impact was considered to be impossible. Nevertheless a financial crisis arose, by some researcher considered as the worst recession since the great depression in 1930 (e.g. Claessens and Kose 2013;<sup>2</sup>).

The financial crisis has multiple causes. A major reason for the crisis was the excessive risk-taking in the period before the crisis. One of the results of the excessive risk-taking was the implosion of the housing market in the US. Before the financial crisis, prices like housing prices increased for a long period and the assumption was that the increase should continue. However, the increase in housing prices did not continue, leading to a lot of troubles starting in the US.

Because the Federal Reserve lowers the interest rate on treasury bills to only one percent, investing in treasury bills was no longer attractive and therefore investors started looking for alternatives and found these alternatives, inter alia, in the mortgage market. Banks assume housing prices should continue to increase and therefore they were very easy in issuing mortgages. Even people without income, a job or assets (called subprime borrowers) could get a mortgage based on the assumption

---

<sup>2</sup> <http://www.economist.com/news/schoolsbrief/21584534-effects-financial-crisis-are-still-being-felt-five-years-article>

of increasing housing prices. The banks transformed these risky mortgages together with low-risk mortgages into packages, called collateralized debt obligations (CDOs). These CDO's were assumed to be low risk securities due to the diversification effect.

Investors liked to invest in the CDOs, because the rate of return exceeds the rate of return on treasury bills significantly. Due to the low interest rates, investors borrowed extra money to invest based on the assumption that the returns would exceed the cost of borrowing. The investors assumed their investments were relatively safe, but this is only true when housing prices keep increasing. However, in 2006 housing prices in the US began to decrease with all its consequences.

In contrast to most homeowners, homeowners living in the US could leave their house to the bank in case of a mortgage default without having any further obligations to the bank at all. Due to progressive interest rates on the mortgages, increasing variable interest rates etcetera, many subprime borrowers could not pay the monthly charges any longer and they default on their mortgage. The banks became owner of these houses and put them up for sale. Due to an increasing number of homeowners who default on their mortgage, the banks owned more and more houses leading to an increasing supply of houses and consequently to the largest decline in nominal housing prices since the Great Depression of the 1930s (Wheelock 2006).

Due to the collapsed housing market banks became in financial distress, because they had to revalue their assets to the current market prices leading to huge financial losses. After bail-outs of Freddy Mac and Fenny Mae, Lehman Brothers went bankrupt in September 2008, creating a lot of panic in the financial markets. Banks did not trust each other any longer and became very restrained in lending money. Non-financial companies strongly decreased their investment and expenditures, which had a large negative impact on the real economy.

### **2.3 Motivations for conservatism**

As mentioned before, the influence of conservatism on accounting has a long history. The question is: why does conservatism exist in accounting? Several studies such as Watts (2003a); Watts (2003b) and Holthausen and Watts (2001) discuss the motivations to apply conservatism in accounting. A good understanding of the explanations for conservatism is important for this research, because changes in the level of conservatism could be caused by changes in these explanations. It is valuable to investigate, eventually in further research, if the explanations have been changed during the financial crisis and if so, whether these changes create fluctuations in conservatism or not.

Watts (2003a) gives four explanations for the existence of conservatism, which are contracting, litigation, income taxes and regulation. Because the research of Watts (2003a) is based on the US,



the regulatory explanation given by Watts (2003a) is less relevant for this research. To investigate the role of regulation in conservatism for Dutch companies, section 2.4 will discuss the accounting standards for Dutch listed companies and the role of conservatism within these standards. The contracting explanation includes some elements from the agency theory, a theory that predicts the behavior of managers. For example, the contracting explanation argues that conservatism can reduce the opportunistic behavior of the management. The agency theory claims that managers are able to influence the financial figures in the company's financial reports, so they could also affect the level of conservatism. Due to this reason the agency theory will be discussed in section 2.5. First the four explanations of conservatism will be discussed.

### **Contracting explanation**

Contracting involves the contracts of various parties with the organization of the firm. Examples of such contracts are contracts between the firm and debt holders, called a debt contract, and management compensation contracts. The contracting parties will be informed about the financial performance of the firm by the financial reports, indicating the contracting use of accounting. The contracting use of accounting has already existed for a long time (Watts 2003a) and several studies investigated the relation between contracting and conservatism and found evidence for a relation between these items (e.g. Beatty et al. 2008)

Since accounting measures, used in the financial reports, inform contracting parties about the financial performance of the company and assess manager's performance as well, conflicting interests may arise. Managers are motivated to introduce bias and noise into the contractual accounting measures to increase their own welfare even if it is harmful for the company and its contracting parties (Watts and Zimmerman 1986). These situations may occur, because the different parties have asymmetric information and because managers do not always have the same interests as the contracting parties of the firm due to their limited tenure and limited liability. For example, managers often receive a bonus if the value of the company's assets increased significantly, but debt holders do not receive additional compensation if the value of the assets increased. Due to this reason, managers may make decisions that are favorable for themselves, but unfavorable for the contracting parties of the firm and the firm itself. Costs arising by actions of the managers that negatively affect firm value are called agency costs. Conservatism is a way to reduce the agency costs, because it constrains managerial opportunistic behavior to understate losses and liabilities and to overstate the revenues and assets (Watts 2003a). LaFond and Watts (2008) investigated if the information asymmetry between outside equity investors and managers affect the level of conservatism and found a positive association between these two elements. This gives additional

support to believe that contracting is a motivation for conservatism and that the outside equity investors demand for conservatism to reduce agency costs. Other studies such as Beatty et al. (2008) found evidence for a positive association between debt contracts and conservatism, which also supports the indication that contracting is a motivation for conservatism.

### **Litigation explanation**

Litigation can be considered as an explanation for conservatism, because litigation is much more likely in case of overstated earnings or assets compared to the case of understated earnings and assets (Holthausen and Watts 2001). This is because overstatement of earnings or assets is much more harmful for shareholders than understatement of earnings or assets, making litigation costs for overstatement the highest. Due to litigation, managers are motivated to report conservatively (Watts 2003a). The litigation explanation for conservatism is supported in several studies. For example, Bushman and Piotroski (2006); Liao et al. (2013) and Basu (1997) found a positive relationship between litigation risk and conservatism.

Important to highlight are the differences in the litigation environment between countries. Highly litigious countries are mainly common-law-based countries like the US and the UK. Less litigious countries are mainly code-law-based countries like the Netherlands. The litigation explanation for conservatism is likely to be less evident for the Netherlands compared to common-law countries due to the lower litigation costs. In the literature study the differences in litigation between countries will be discussed more extensively.

### **Income tax explanation**

For companies it is beneficial to defer fiscal income from the perspective of reducing the net present value of taxes to be paid. As a result, income taxes could be a motivation to apply conservative accounting (Watts 2003a). Important to realize is the separation between fiscal income and reported accounting income in the Netherlands. Taxes have to be paid on fiscal earnings and not on reported earnings, so the question is: does conservatism in fiscal earnings also lead to conservative reported earnings? If this is true, income taxes are likely to play a role in financial reporting and in the application of conservatism as well, otherwise probably less or not at all. Variations in the relation between income taxes and reported accounting income can be used to predict variations in the effect of income taxes on conservatism (Watts 2003b).

### **Regulatory explanation**

According to Watts (2003a), regulation also stimulates companies to be conservative. Although the FASB and the IASB state that they do not favor conservatism, they should likely prefer

understatements of companies' earnings and net assets to overstatements of companies' earnings and net assets. Some accounting rules are also conservative. For example, IAS 36 prescribes that the value of an asset should be impaired if the economic value is lower than the book value, but the asset should not be adjusted upwards if the economic value is higher than the book value. Another example is the requirement of the creation of provisions for warranty costs. More information about conservatism and the IASB is given in chapter 2.4.

Watts (2003a, 2003b) found that the contracting and shareholder litigation explanations are major reasons for the existence of conservatism, while the effect of taxation and regulation on conservatism is much weaker. These outcomes are important for this study to have a good understanding of conservatism and the explanations of it. Analyzing the differences in shareholders litigation and the contracting use of accounting during the financial crisis can be useful, because these factors can be a cause for eventually fluctuations in conservatism.

### **Non-conservatism explanations**

Except the four explanations for conservatism, Watts (2003b) also discussed earnings management and the abandonment option. He considers these phenomena as explanations that do not imply conservatism. Earnings management can be used to manage earnings downwards, which can be considered as conservative accounting, but Watts (2003b) considers earnings management as a non-conservatism explanation, because earnings management does not understate the assets systematically. Earnings management is used to manage the earnings in a way to meet the pre-determined targets and could press as well as heighten the earnings. Scott (2009) defined earnings management as: "the choice by a manager of accounting policies so as to achieve specific objectives".

Although conservative accounting presses current earnings or net assets, it should be realized that there is always a reverse effect in the future. Hellman (2008) distinguishes between conservative accounting methods that always result in a lower value of the assets relative to the non-conservative accounting method (called consistent conservatism) and between conservative accounting methods that only temporary result in a lower value of the assets compared to the non-conservative method (called temporary conservatism). Both types of conservatism could lead to the shifting of income between periods, but temporary conservatism is caused by changes in accounting estimates and consistent conservatism by the chosen accounting methods (Hellman 2008). As a reason, temporary conservatism could be viewed as conditional conservatism and consistent conservatism as unconditional conservatism. Under consistent conservatism the reverse effect is likely to be later

than under temporary conservatism, because accounting estimates could be changed every year, while accounting methods are applied for a longer period. Although conservatism has a reverse effect, conservatism is applied in accounting, because of the motivations for conservatism mentioned before.

## 2.4 Conceptual framework IASB

Companies could report conservatively, but they should do it within the boundaries of the accounting standards in which managing of the earnings is allowed. Although accounting standard setters like the FASB and the IASB do not prescribe explicitly how to deal with accounting conservatism, the standards give the boundaries in which conservatism is allowed. In the IASB framework, conservatism is called prudence which is defined as: “the inclusion of a degree of caution in the exercise of the judgments needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities or expenses are not understated” (IASB framework 1989). In this section the role of conservatism in accounting legislation will be discussed. Since this study investigates accounting conservatism for Dutch listed companies, this study mainly refers to the International Financial Reporting Standards (IFRS) issued by the IASB. Since January 2005, all companies listed on European securities markets are obliged to report according to IFRS. The IASB uses the term prudence, meaning conservatism, in their framework. To avoid confusion, in this section the term conservatism will be used as a synonymous for the term prudence.

In the IASB conceptual framework from 2010 the objective of general purpose financial reporting is defined as: “to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity”. Many stakeholders cannot obtain this financial information directly from the reporting entity and should use the information which is reported in the financial reports. To provide useful financial information for stakeholders the information should be relevant and faithful according to IFRS. Conditions that can enhance the usefulness of financial information are comparability, timeliness, verifiability and understandability (IASB conceptual framework 2010). Perfectly faithful information should be complete, neutral and free from error (IASB conceptual framework 2010).

An interesting question is: is the application of conservatism in conflict with the just mentioned requirements for useful information? In the IASB framework from 1989 conservatism was viewed as a characteristic of reliability so the IASB favor a conservative way of reporting, but it should be applied with care. This point of view has been changed in the IASB conceptual framework from 2006. In the framework from 2006 conservatism is viewed as an undesirable characteristic of faithful and

reliable financial reporting information, because it is in conflict with neutrality. Conservatism also creates bias in the financial statements, which reduces the comparability of the financial reports (IASB 2006).

In contrast with the pre-2010 conceptual framework, which describes the concept of conservatism, the revised version of the conceptual framework from 2010 does no longer include any reference to conservatism (prudence) at all. This is because including conservatism in the conceptual framework does not coincide with neutrality and conservatism in one period often leads to non-conservative financial reporting information in later periods.<sup>3</sup>

The exclusion of conservatism from the IASB framework leads to a lot of criticism. Proponents for conservatism (e.g. the Institute of Chartered Accountants in England and Wales (ICAEW), argue that conservatism is desirable since it can prevent the negative effects of too optimistic estimates of the management and further, assets, revenues, liabilities and losses which existence is uncertain may be no longer recognized in the financial reports.<sup>4</sup> Therefore, the proponents for conservatism claim for the inclusion of conservatism in the IASB framework. The IASB counters this argument by claiming that conservatism in one period often leads to overstated financial performance in future periods making conservatism not prudent and neutral (IASB conceptual framework 2010). Other proponents argue that financial reporting is a way to influence decision-making and therefore it cannot be neutral. The IASB counters this argument by claiming that information is not neutral if it is biased so that it could influence the predetermined actions of users. Because conservatism is in conflict with neutrality the IASB considers conservatism as undesirable. Nevertheless, conservatism is still applied in financial reporting and more surprisingly, the IASB framework also stimulates conservatism in several accounting standards. An example is the lower-of-cost-or-market method for inventories. If the market value of an item exceeds its cost, the more conservative cost value is used under this method, but if the market value falls below the cost, the more conservative market value is used. The inclusion of conservatism in a number of IFRS' is also a reason that the concept of conservatism should be described in the IASB conceptual framework according to several parties, for example the Association of Chartered Certified Accountants (ACCA).<sup>5</sup>

Several studies investigate the relation between IFRS and conservatism. Hellman (2008) examined the impact of three IFRS accounting standards, subjected to conservative accounting. He found that IFRS reduce the consistent application of conservatism, but at the same time, it enhances the

---

<sup>3</sup> <http://www.ifrs.org/Meetings/MeetingDocs/Other%20Meeting/2013/October/AP3%20-%20prudence%20stewardship.pdf>

<sup>4</sup> <http://economia.icaew.com/news/july2013/iasb-lacking-in-prudence>

<sup>5</sup> <http://www.accaglobal.com/my/en/discover/news/2014/01/conceptual-framework.html>

application of temporary conservatism. Gassen and Sellhorn (2006) examined the effect of IFRS on conservatism and found that companies, reporting under IFRS, show more conditional conservatism than companies not reporting under IFRS. This is surprising since the IASB does not desire conservatism.

Although the IASB and FASB does not favor accounting conservatism it is applied in financial accounting and moreover, accounting practice became more conservative in the period from 1950 to 1998 (Givoly and Hayn 2000). For the standard setters it is important to know if the financial crisis influences the level of conservatism to change the accounting rules or supervision on companies if necessary. Therefore it is important to study the impact of the financial crisis on conservatism.

## **2.5 Accounting theory**

Financial accounting research already exists for a long time. First, accounting theory emerged out of accounting practice, but later researchers developed theories with prescriptions for the accounting practitioners, called normative theories. In the 1950s researchers began to test the hypotheses which were the basis for the normative prescriptions empirically. This kind of empirical research is also called positive accounting research. The early empirical studies led to the development of the efficient market hypothesis (Watts and Zimmerman 1986). Tests of the efficient market hypothesis found results which were contrary to the hypotheses underlying the normative prescriptions, creating a prominent role for positive accounting research. The purpose of accounting theory is to predict and explain accounting theory (Watts and Zimmerman 1986). Financial accounting research is based on several theories. This subsection will discuss the theories which could be useful for this research. Further, different research approaches to perform accounting research and the approach that will be used in this research will be given.

### **2.5.1 Normative and positive accounting research**

The approaches to perform financial accounting research are the normative and the positive approach. The positive approach is also called the empirical approach, because it is concerned with empirical research. The normative approach is based on the classical theory, which is characterized by the thought that there is only one truth. Furthermore the classical theory claims that the true economic reality cannot be expressed and the users of info accept this info at face value (Ryan 2002). The normative approach prescribes how things should be done so it can be characterized as a prescriptive approach. The positive approach obtains information from empirical research and is based on facts and neutrality. The positive approach could also be used to test the hypotheses which are a basis for the normative approach empirically. In contrast with the normative approach, which is a prescriptive approach, the positive approach is concerned with prediction and explanation (Ryan

2002). Positive accounting theory is important, because it can predict and explain the consequences for parties (e.g. financial analysts and investors) who make decisions on accounting information (Watts and Zimmerman 1986).

To investigate if there is an association between the financial crisis and accounting conservatism, some hypotheses which predicts the effects of the financial crisis on conservatism, will be tested empirically. Therefore this research is concerned with prediction rather than with prescription, giving support for using the positive approach rather than the normative approach.

The positive approach can be divided in different elements. These elements are: market based accounting research, positive accounting theory (PAT), information economics, the behavioral approach and critical perspectives. To investigate the effect of the financial crisis on conservatism, the market based accounting research approach and the PAT will be used in this research. Important to realize is that the PAT, popularized by Watts and Zimmerman (1986), is one of the positive theories in accounting. As discussed earlier the positive accounting approach is concerned with prediction and explanation of accounting theory. The PAT of Watts and Zimmerman (1986) is also concerned with prediction and explanation, but is focused on the behavior of managers.

### **2.5.2 Market based accounting research approach**

The market based accounting approach emerged from several studies which investigated the predictive ability of accounting information. Under the market based accounting research approach the market reaction to reported accounting statements is tested (Ryan 2002), so this can be considered as research, studying the information content of these accounting statements. The market based accounting research approach is a statistical approach and is used in many studies (e.g. Basu 1997; Balachandran and Mohanram 2011) to measure accounting conservatism. Important in market based accounting research are the Efficient Market Hypothesis (EMH) and the Capital Asset Pricing Model (CAPM). The CAPM is used to make a prediction for the expected return on securities. The EMH and the CAPM also have an important role in the development of positive accounting research. Because of the important role of the EMH in accounting research the hypothesis will be discussed more comprehensively.

#### **Efficient market hypothesis**

Before the existence of the EMH the assumption was that accounting reports were the only source of company information (Watts and Zimmerman 1986). Because managers were flexible in choosing the accounting procedures, researchers assumed that managers could report the earnings they want and as a consequence could mislead the stock market. Based on this assumption and the absence of

a single concept for measuring earnings, researchers argued that earnings numbers were useless (Watts and Zimmerman 1986). As a result, researchers claimed that accounting procedures should be the same for all companies to make earnings useful.

The EMH led to another view of accounting reports. The EMH citizens the assumptions discussed above and conclude that accounting earnings could be useful if they are associated with stock prices. Ball and Brown (1968) investigated if accounting earnings and stock prices were associated and found empirical evidence for an association between these variables. The association between earnings and stock prices could imply that earnings reflect factors which are already incorporated in stock prices, but could also imply that the announcement of earnings convey information to the stock market. If the earnings announcement conveys information to the stock market the earnings have information content. Ball and Brown (1968) found evidence for both of these effects of earnings on stock prices.

The EMH states that all publicly available information is reflected in stock prices and that capital markets react in an efficient and unbiased manner to this information. The market is efficient if stock prices reflect immediately and fully all available information. The question is: which information is available. The EMH gives three possibilities, the weak, the semi-strong and the strong form. Under the weak form stock prices only contain historical info on share prices. Under the semi-strong form stock prices contain all publicly available information and under the strong form stock prices reflect all available (publicly and insider) information at that time. According to Watts and Zimmerman (1986) and many other researchers, the existing evidence is consistent with the semi-strong form making this form the most likely one. As a result, in this thesis it will be assumed that the market is efficient in the semi-strong form.

The EMH is important for research to accounting conservatism. Given the relation between accounting earnings and stock prices and the EMH researchers began to investigate predictions and explanations of accounting choices. For example, Watts (2003a, 2003b) explains why managers choose for conservative accounting procedures instead of non-conservative accounting procedures.

Furthermore, based on the evidence for an association between accounting numbers and stock prices, several studies measure the level of conservatism by analyzing the association between these variables. For example, Beaver and Ryan (2000) use the book-to-market ratio to measure the level of conservatism and Basu (1997) measures conservatism by investigating if accounting earnings incorporate positive stock returns faster than negative stock returns. Basu (1997) uses negative



stock returns as a proxy for bad news and positive returns as a proxy for good news, based on the EMH that stock prices immediately and fully reflect all available information.

### 2.5.3 Positive accounting theory

The PAT is concerned with prediction and explanation and represents an extreme form of empiricism in accounting research (Watts and Zimmerman 1986). PAT studies the contractual relationships of different parties to the firm and the role of accounting within these relationships and focusses on the influences of the accounting choices of managers and predicts and explains accounting behavior of managers. PAT is important, because it can predict and explain the consequences for parties (e.g. financial analysts and investors) who make decisions on accounting information (Watts and Zimmerman 1986).

Researchers in the field of positive accounting theory who were trying to explain accounting practice have introduced the property rights theory of the firm. In this theory, the firm is a nexus of contracts between self-interested individuals (Watts and Zimmerman 1986). The intention of these contracts is to counter the problem that parties only act in a way that maximizes their own welfare at the cost of the firm value. The property right theory hypothesize that accounting is important to set up the contract terms for management compensation contracts, debt contracts etcetera and to monitor those contract terms.

An important theory within PAT is the agency theory, which studies the role of financial accounting in the contractual relationship between shareholders and managers, called the agency relationship (Watts and Zimmerman 1986). The agency theory states that there is a conflict between the principal and the agent. The principal is the one who supplies capital (e.g. outside shareholders) and the agent is the supplier of labor (e.g. the manager). The agency theory assumes that the principal and the agent both try to maximize their own wealth, leading to conflicting interests between these parties. Agents could take decisions to increase their own welfare while these actions reduce the value of the firm, which is negative for the principals' welfare. The problem is that the principal cannot always observe the actions of the agent, due to the information asymmetry between these parties. The costs arisen from value-reducing actions by managers are called agency costs.

The agency theory may be relevant for this research, because managers are able to influence the level of conservatism in the financial reports. For instance, managers can be non-conservative by increasing the current profits at the cost of future profits. Watts and Zimmerman (1990) discussed three hypotheses which predict the actions of managers. The hypotheses are the bonus plan

hypothesis, the debt/equity hypothesis and the political cost hypothesis. In the next paragraphs these hypotheses will be discussed.

### **Bonus plan hypothesis**

As discussed earlier, the agency theory assumes that there are conflicting interests between the agent and the principal. A way to persuade the agent to act in the way the principal should do is to give the agent advantage when the company performs well. This can be done by providing the manager a bonus, dependent on the performance of the company. Empirical research studied the effect of bonus plans and most studies concluded that bonuses are positively correlated with accounting earnings (Watts and Zimmerman 1986). Based on this correlation the bonus plan hypothesis is that, *ceteris paribus*, managers of firms with bonus plans are more likely to use accounting methods that increase current period income at the cost of future period income (Watts and Zimmerman 1986). Managers are motivated to do this in order to receive a higher bonus.

### **Debt/equity hypothesis**

Debt contracts usually contain covenants that use accounting numbers to restrict value-reducing activities by managers (Watts and Zimmerman 1986). The debt/equity hypothesis states that, *ceteris paribus*, the higher a firm's debt/equity ratio, managers are more likely to choose accounting methods that increase current period income at the cost of future period income (Watts and Zimmerman 1986). The reason behind this hypothesis is that managers are motivated to report higher earnings to mitigate the debt constraints.

### **Political cost hypothesis**

The political cost hypothesis is that, *ceteris paribus*, the larger the firm, the more likely the manager is to use accounting methods that defer current period income to future periods (Watts and Zimmerman 1986). The reason for this prediction is that high profits often lead to political consequences. For example, high profits could lead to stricter regulation or could lead to the belief that the firm exploits other parties.

Shifting reported earnings from future periods to the current period can be considered as non-conservative accounting and deferring current period income to future periods can be considered as conservative accounting. Relevant for this thesis is whether the hypotheses could predict the effects of the financial crisis on conservatism. The hypotheses will be used for the development of the hypotheses in this research.

#### 2.5.4 Usefulness of accounting data

Accounting information is a means of providing economic information to the users of it. The IASB conceptual framework (2010) states: “Financial statements are prepared for the purpose of providing information that is useful in making economic decisions”. An interesting question is; when is accounting information useful and does conservatism contribute to the quality of accounting information? As mentioned before, the usefulness of accounting information can be evaluated by the information content approach and the value relevance approach.

##### **Information content approach**

Accounting information (e.g. accounting earnings) could reflect the factors that affect the stock prices, but could also convey information to the stock market. In that case the earnings have information content (Watts and Zimmerman 1986). As mentioned before, Ball and Brown (1968) found evidence for the existence of information content in accounting earnings. Basu (1997) investigates the effect of conservatism on the information content of earnings announcements.

Basu (1997) expects that the abnormal stock returns of unexpected ‘bad earnings news’ are lower than for unexpected ‘good earnings news’. This is because earnings are expected to incorporate bad news immediately due to the conservatism principle, while earnings incorporate good news over a longer period. As a result, the effect of ‘good earnings news’ may be expected to be more persistent, so the announcement of ‘good earnings news’ reflects news about current earnings as well as future earnings. In contrast, the announcement of ‘bad earnings news’ only reflects information about current earnings. Therefore, the market reaction to ‘good earnings news’ is expected to be higher than for ‘bad earnings news’, giving the announcement of ‘good earnings news’ more information content. The results of Basu (1997) are consistent with this prediction. Based on this finding we could conclude that conservatism reduces the information content. This is one of the reasons that the IASB does not favor accounting conservatism.

##### **Value relevance approach**

Accounting measures are value relevant if they have a consistent association with stock market values. (Barth et al. 2001). Numerous studies studied the value relevance of accounting measures to evaluate its use or proposed use in accounting standards (Holthausen and Watts 2001).

Balachandran and Mohanram (2010) investigated if the decline in value relevance is driven by increased conservatism. Although some researchers claim that the decline in value relevance is driven by increasing conservatism, Balachandran and Mohanram (2010) found no evidence for this association. In contrast, they found that companies with a steady level of conservatism show a larger decline in value relevance than companies with increasing conservatism. This should indicate that

the value relevance is not negatively affected by accounting conservatism, which could be considered as beneficial.

## 2.6 Summary

This chapter has answered the second, third and fourth sub question. The chapter starts with an explanation of the financial crisis. The collapse of the US housing market in 2006 is considered as the main cause of the financial crisis. The financial crisis expanded to the developed countries (including the Netherlands) at the beginning of 2008 and to the emerging countries at the end of 2008 and the early 2009. Further, the motivations for conservatism, the conceptual framework of the IASB and the role of conservatism within this framework have been discussed. The IASB considers conservatism as undesirable since it is in conflict with neutrality. Nevertheless, conservatism is still applied in financial reporting and several studies found that conservatism increased over time. The last section discussed the accounting theory, relevant for this study. In this research the empirical approach will be used to investigate whether the financial crisis has an impact on conservatism. To measure conservatism the market based accounting research method will be used. Furthermore, the PAT, including the agency theory is discussed, because of the role of managers in the application of accounting conservatism.

## 3. Literature study

### 3.1 Introduction

Literature about conservatism is comprehensive. This chapter will discuss and summarize several studies concerning accounting conservatism which could be useful for this thesis answering the fifth sub question: “What are the results of prior studies which could be useful for this paper?” First, the relevant studies will be summarized. Second, the elements of the studies which can be used for this research will be provided.

### 3.2 Prior research

This section will discuss the different definitions for conservatism, literature about the role of conservatism in financial accounting and the advantages and disadvantages of conservatism. Further, this section will mention the literature which investigates the developments of conservatism over time, the relation between conservatism and financial crises and the differences in conservatism between countries.

#### 3.2.1 Conservatism defined

In the accounting literature, different definitions for conservatism have been developed. The traditional definition of conservatism is the definition of Bliss (1924): “anticipate no profits but anticipate all losses”. This can be considered as the extreme form of conservatism in which profits should only be realized when they are absolutely certain and losses when they are likely. More recent studies introduce many other definitions. A definition of conservatism, frequently used in accounting research is the definition of Basu (1997): “accountants’ tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses”.

Watts (2003a) defines conservatism as: “a stronger verifiability requirement for the recognition of gains than for the recognition of losses”. This definition provides the possibility to make a distinction in the level of conservatism: the higher the required verification for gains compared to the required verification for losses, the higher the level of conservatism.

In the paper of Beaver and Ryan (2005), conservatism is defined as: “the on average understatement of the book value of net assets relative to their market value”. With this definition the book values are undervalued to give a prudent view of the value of the assets.

The IASB and the FASB use their own definitions for conservatism. The IASB calls conservatism prudence and their definition is: “the inclusion of a degree of caution in the exercise of the

judgments needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities or expenses are not understated” (Accounting standards board statement, 1999). The FASB defines conservatism as: “a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered” (FASB concepts 1980).

Although many definitions for conservatism exist the essence of all definitions is the same. Accounting conservatism captures the difference in the verification of gains and losses in which conservatism requires a higher verification for gains than for losses. In this thesis the definition of Basu (1997) will be used: “accountants’ tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses”.

### **3.2.2 Conservatism**

Research to conservatism is very comprehensive. One of the first papers concerning conservatism is the paper of sterling (1967). This paper discussed the role of conservatism in accounting and in valuation. Sterling (1967) submitted two hypotheses. The first hypothesis is: “Conservatism is the fundamental principle of valuation in accounting”. The second hypothesis is: “Conservatism is the premise, often tacit, from which the historical cost-realization rule is derived”. Sterling (1967) found evidence to support the first hypothesis. The arguments to consider conservatism as the most fundamental principle of accounting are:

1. Accounting naturally tends to be conservative.
2. Conservatism dominates other principles like the realization principle and the cost principle when these principles conflict with each other.
3. Literature about valuation usually justifies conservatism in valuation.
4. Criticasters of conservatism contradict themselves, because they deny the principle of conservatism while they often take conservatism as a basic criterion in valuation.
5. Arguments for the historical cost-realization principle are not convincing, because the historical cost-realization principle is derived from the conservatism principle and not vice versa.

Sterling (1967) also argued that the second hypothesis could be accepted. He considered the historical-cost principle not as a fundamental principle of accounting, but as a derivation from conservatism. This is because the historical cost principle almost always demands conservatism. For example, if the market value of the assets is above book value, no adjustment will be made. In contrast, when the market value of the assets is below the book value the assets should be amortized. Furthermore, cost figures are easy to obtain, but the items are often estimated at a

lower value, indicating conservatism. The last argument is the fact that costs are related to periods or products by causally derived rules, but other values than costs could be attached as well indicating that causality is not a necessary element of the cost rule.

A paper often referred to in the accounting literature, is the paper of Basu (1997). Basu (1997) re-examines the conservatism principle and interprets conservatism as earnings reflect bad news more quickly than good news. Basu (1997) investigated the effect of conservatism on reported financial statements. The most important subjects investigated in this paper are if there is asymmetry in the recognition of good news versus bad news in earnings and whether the length of the period in which good news or bad news has an effect on earnings is the same or not. Basu (1997) uses stock returns (positive/negative) to investigate if publicly available bad news (negative returns) is more timely incorporated in earnings than publicly available good news (positive returns). The outcome of the research is that the effect of bad news is much more timely incorporated in accounting earnings than the effect of good news. Basu (1997) also found that negative earnings changes are less persistent than positive earnings changes. This is due to the finding that the effect of unexpected good news on earnings is spread over a longer period, while accounting earnings incorporate bad news almost immediately. With these outcomes Basu (1997) shows the existence of conservatism in accounting.

### **3.2.3 Advantages and disadvantages for conservatism**

Many studies investigated conservatism and its role in financial accounting. The question is whether accounting conservatism is desirable or not. Proponents of conservatism claims that conservatism is beneficial since it reduces costs like agency costs. Opponents of conservatism claim that conservatism is harmful for the quality of the financial statements, because it harms the neutrality of financial reporting. To get a better view of the usefulness of conservatism, the pros and cons will be discussed in this section.

Watts (2003a) considers conservatism as beneficial, because conservatism can be used to constrain moral hazard caused by the conflicting interests between the parties to the firm. For instance, the bonus of a manager can depend on the value of the earnings. Conservatism constrains overstatement of earnings leading to a lower chance of unjustified bonus costs for managers, called agency costs. Reduction of agency costs increases firm value, which can be viewed as beneficial for all parties to the firm indicating the positive effect of conservatism.

Ball et al. (2000) also consider conservatism as beneficial and they claim that timeliness and conservatism together enhances transparency in the financial statements. They also argue that

conservatism leads to a more quickly binding of dividend and leverage restrictions and that conservatism reduces the probability that uninformed users of accounting information are misled by optimistic non-accounting information, released by the management. This enhances the ability to monitor the management, debt positions and other contracts.

Francis et al. (2013) investigated explicitly if conservatism is beneficial for shareholders. Their results show that conservatism is beneficial for shareholders since it mitigates information risk and it counters agency problems.

Opponents of conservatism argue that conservative accounting earnings leads to non-conservative accounting earnings in the future, but Watts (2003a) combats this argument. Under conservative reporting future earnings will be higher due to the asymmetric verifiability of good news versus bad news. However, the incorporation of gains in earnings at the moment they are verifiable does not make earnings non-conservative according to Watts (2003a).

Other researchers claim that the increase in conservatism negatively affects the value relevance of accounting information (e.g. Jenkins 1994). Balachandran and Mohanram (2011) counter this argument, because they found no evidence for a negative association between conservatism and value relevance. In contrast, they found that companies with a steady level of conservatism show a greater decline in value relevance compared to companies with increasing conservatism. Sterling (1967) and Watts (2003a) also claim that conservatism increases the verifiability and reliability of the financial statements. This suggests conservatism affects the value relevance of accounting information rather positively than negatively.

As discussed before, the IASB and the FASB consider conservatism as unfavorable, because it is in conflict with neutrality, which is considered as a necessary characteristic for useful accounting information. In contrast with the IASB and the FASB, most researchers consider conservatism as beneficial for users of the companies' financial reports. Several papers (e.g. Watts 2003a, 2003b; Francis et al. 2013) recommend standard setters to be careful with discouraging accounting conservatism, because of the positive effects of conservatism for parties of the firm.

### **3.2.4 Conservatism over time**

Knowing the developments of conservatism over time is relevant for this study to see if the developments in conservatism have been changed during the financial crisis. As discussed before, conservatism has already existed since the Middle Ages according to Penndorf (1930). However, research to conservatism over time studied particularly the developments in conservatism within the 20<sup>th</sup> and 21<sup>st</sup> century. The findings of these papers will be summarized in this section.



Basu (1997) investigated the variation in conservatism over the period 1963 to 1990 for listed US companies. Basu (1997) found that conservatism increased in the period from 1970 to 1990 and did not detect significant evidence for conservatism prior to 1970. Furthermore, Basu (1997) divided the period from 1963 to 1990 in four sub periods, based on the legal liability exposure of auditors and managers for late announcements of bad news. This is because Basu (1997) expect a relation between conservatism and the auditors' exposure to legal liability since conservatism reduces auditor's liability exposure. Collins and Kothari (1989) found an increase in auditor's liability exposure in the period from 1963 to 1990 and divided this period into four different liability regimes that are used in the study of Basu (1997). The period 1963-1966 is characterized as a low auditors' liability regime, 1967-1975 as a high auditors' liability regime and the periods 1976-1982 and 1983-1990 as a low and high auditors' liability regime, respectively. Basu (1997) compared the degree of conservatism between these periods and found that the degree of conservatism was higher in the 'high liability regimes' than in the 'low liability regimes'. This indicates a positive association between auditors' legal liability exposure and conservatism, which is consistent with the argument that managers use conservatism to reduce the litigation exposure (Basu 1997). Important to realize is that other variables could cause the fluctuations in conservatism as well, because Basu (1997) do not prove causality between conservatism and auditor's legal liability.

A remarkable result in the study of Basu (1997) is the lack of significant evidence for the existence of conservatism in the period prior to 1970, while different studies claim that conservatism already existed prior to 1970. For example, Holthausen and Watts (2001) argue that conservatism should already exist prior to 1970 based on the view that conservatism arises from the contracting use of accounting, which already existed long before 1970 (Basu 1997). Holthausen and Watts (2001) give the limited number of observations used in the research of Basu (1997) as a potential reason for the inconsistency in the results. Holthausen and Watts (2001) also investigated conservatism over time, but for the period 1927 to 1993. They found just like Basu (1997) no significant conservatism in the period 1963 to 1967, but they found significant conservatism in the period 1927-1941, on which they concluded conservatism already existed prior to 1970. The results of the study of Holthausen and Watts (2001) provide no significant evidence for the existence of conservatism for the period 1942 to 1953, but this could be due to price controls during the Second World War and the Korean War. Holthausen and Watts (2001) also found a sharp increase in accounting conservatism from 1973 onwards and give the establishment of the FASB in 1973 as a possible explanation, but they did not provide evidence for causality.

Balachandran and Mohanram (2011) investigated the relation between conservatism and the value relevance of accounting information. They found an increase in conservatism over the period 1975 to 2004. This increase is driven by a significant increase in activities that are subjected to conservative accounting like advertising and R&D costs and by an increasing demand for conservatism in the accounting standards. Balachandran and Mohanram (2011) found a decline in value relevance, especially for companies with a steady level of conservatism, leading them to the conclusion that conservatism does not induce a decline in the value relevance of accounting information.

Another study which investigates the developments in conservatism over time is the study of Givoly and Hayn (2000). The period for this research is from 1950 to 1998. Givoly and Hayn (2000) investigated changes in earnings, cash flows, accruals and the relations between these elements over time. They found that profitability (measured by the earnings) declined in the period 1950 to 1998. Surprisingly, the decline in profitability is not accompanied by a corresponding decline in cash flows, leading to high accumulative negative accruals in this period. These results provide evidence for increasing conservatism during the second half of the 20th century. Givoly and Hayn (2000) give increasing litigation and FASB announcements that stimulate conservatism as possible reasons for the increase in conservatism.

Based on the papers discussed above, it can be concluded that conservatism increased in the second half of the 20<sup>th</sup> century. Although several crises passed in the second half of the 20<sup>th</sup> century, those papers did not investigate the impact of a financial crisis on conservatism. However, other variables which can create fluctuations in conservatism have been investigated in several studies. Possible reasons for the increase in conservatism are the rise in litigation costs and the establishment of the FASB.

### **3.2.5 Conservatism and economic crises**

Although no studies investigated the association between the current financial crisis and accounting conservatism, several studies investigated conservatism during different economic circumstances. In this section, several studies which investigate the impact of the Asian financial crisis on conservatism, and conservatism across the business cycle will be discussed. The paper of Francis et al. (2013) will also be discussed, because that study investigates the relation between conservatism and shareholders value within the financial crisis period.

Herrmann et al. (2008) investigate the impact of the Asian financial crisis on conservatism for Thai companies and found that Thai companies in general reported less conservatively during the Asian

financial crisis (1997-1998) than in the period after the Asian financial crisis (1999-2003). Moreover, Herrmann et al. (2008) split their sample in companies, audited by Big 4 accountants and companies, audited by non-Big 4 accountants to investigate potential differences in conservatism between these companies. They found that Big 4 audit clients, in general, report more conservatively than non-Big 4 audit clients. Herrmann et al. (2008) also found that Big 4 audit clients reported more conservatively in the financial crisis period than in the post-crisis period, but in contrast, non-Big 4 clients reported less conservatively in the financial crisis period than in the post-crisis period. Due to this contradiction the difference in conservatism between Big 4 clients and non-Big 4 clients disappeared in the post-crisis period, which is probably a result of the adoption of international accounting standards and the improvement of supervision of non-Big 4 auditors.

Vichitsarawong et al. (2010) also investigated the impact of the Asian financial crisis on conservatism and found, just like Herrmann et al. (2008) that companies reported less conservatively during the Asian financial crisis relative to the post-crisis period. This study investigated the impact of the Asian financial crisis on conservatism not only for Thailand, but also for Hong Kong, Malaysia and Singapore. In addition, Vichitsarawong et al. (2010) studied the level of conservatism in the period before the Asian financial crisis and found that the level of accounting conservatism in the post-crisis period was even higher than in the pre-crisis period. Besides the impact of the Asian financial crisis on conservatism, Vichitsarawong et al. (2010) investigated the timeliness of earnings during the Asian financial crisis and found that accounting earnings were less timely in the crisis period compared to the non-crisis period. Timeliness indicates the degree in which economic income is recognized in accounting income (Ball et al. 2003). The faster publicly available news is incorporated in the earnings, the more timely the accounting earnings are (Basu 1997).

Another paper about the Asian financial crisis and conservatism is the paper of Gul et al. (2004). The addition of this paper, compared to the papers of Herrmann et al. (2008) and Vichitsarawong et al. (2010) is the research to the relation between audit fees and conservatism. Just as the papers discussed above, Gul et al. (2004) found that the level of conservatism was lower during the Asian financial crisis (1996-1997) compared to the non-crisis period (in this paper the period before the crisis, 1994-1995). In addition to this outcome, Gull et al. (2004) found that a lower level of conservatism leads to higher auditing fees, creating higher auditing fees for companies which report more aggressively during the crisis. This is explained as companies which are reporting more aggressively due to financial downturns (as the Asian financial crisis) have a higher probability to violate the accounting rules. This results in higher audit effort and audit fees, while the financial downturn already hit these companies financially.

In contrast to the papers discussed above, Francis et al. (2013) do not investigate the effect of a financial crisis on the level of conservatism itself. The study investigates the relation between conservatism and shareholders value. More specifically, does conservatism affect shareholders value and if so, to what extent. The results of Francis et al. (2013) could be valuable for this paper, because they examine the relation between conservatism and shareholders value during the financial crisis period, defined as the period of October 2007 until March 2009. Francis et al. (2013) found that conservatism has a positive association with firm stock performance and consequently with firm/shareholders value, during the financial crisis. The outcome applies to both conditional and unconditional conservatism. Further, this research shows that the relation between stock returns and conservatism depends on the corporate governance environment of the company. The impact of conservatism on stock performance is stronger for companies with a weak corporate governance environment than for companies with a strong corporate governance environment. The impact of conservatism on stock performance is also stronger for firms with higher bid-ask spreads or lower analyst forecast accuracy.

In the last part of their research, Francis et al. (2013) studied the influence of conservatism on various real activities. The results are as follows: (1) during the financial crisis, earnings management increases for companies in general, but conservative companies show a significantly lower increase in earnings management than less conservative companies, (2) conservative companies enjoy significantly lower costs for debt financing and are exposed to lower default risk than less conservative companies, (3) conservative companies increase their investments, while less conservative companies reduce their investments during the financial crisis, but there is no significant difference in the acquisition activities between conservative and less conservative companies, (4) both conservative and less conservative companies reduced their R&D expenditures and cash holding, but the reduction for less conservative companies is significantly larger. The relations between conservatism and real activities possibly explain partially the way in which conservatism affects firm value during the crisis period. With their research, Francis et al. (2013) would investigate if conservatism is beneficial for shareholders. Although many studies found empirical evidence that conservatism is beneficial for debt holders (e.g. Zhang 2008; Beatty et al. 2008), few studies found empirical evidence for beneficial effects of conservatism for shareholders. After empirical research, Francis et al. (2013) conclude that conservatism is beneficial for shareholders.

Jenkins et al. (2009) investigate if earnings conservatism and value relevance varies across the business cycle. They distinguish between periods of economic recession and economic expansion.

The sample period is from 1980 to 2003. In this period, 1980 until 1982, 1990 and 2001 are classified as periods of economic recession and the remaining years are classified as periods of economic expansion. Jenkins et al. (2009) expect earnings conservatism to be lower during economic recessions than during economic expansions, because of several reasons. First, litigation, an explanation for conservatism (Watts 2003a), is more likely during economic recessions. Second, investors are likely to prefer more conservatism during economic recessions due to increasing uncertainty. Third, companies increase outside funding in times of economic recessions, leading to a higher demand for conservative accounting. As predicted, Jenkins et al. (2009) found that earnings are more conservative during economic recessions than during economic expansions. Furthermore, Jenkins et al. (2009) found that current earnings are more value relevant in economic recessions relative to economic expansions. In contrast, the value relevance of future earnings is higher during economic expansions.

### **3.2.6 Differences in conservatism between countries**

Many studies investigated accounting conservatism. However, most of these studies are based on the US and not on European countries like the Netherlands. Several studies investigated the differences in conservatism between the US and other countries. The results of these studies could be relevant for this study, because different studies in this literature study are based on the US, while this study investigates conservatism in the Netherlands.

Ball et al. (2000) investigated the differences in conservatism and the timeliness of accounting income between code-law countries and common-law countries. In code-law systems there is high political influence in accounting practices compared to low political influence in common-law systems where accounting practices are mainly determined in the private sector. Ball et al. (2000) found that accounting income in the common-law countries is more timely than in code-law countries. This is due to the faster recognition of losses in accounting income, identifying a higher level of conservatism in the common-law countries. Ball et al. (2000) also found that the level of conservatism in the UK (common-law country) is significantly lower than in other common-law countries. They argued this difference in conservatism is due to the existence of primarily private debt in UK versus primarily public debt in the other common-law countries and due to lower expected litigation costs and less stringent regulation in the UK than in the other common-law countries. Ball et al. (2000) argue that the demand for conservatism for private debt is lower than for public debt, because for private debt there is less information asymmetry between private lenders and managers. The litigation and regulation explanations are discussed in section 2.3

The results of Ball et al. (2000) related to the difference in conservatism between the UK and the US are supported by Huijgen and Lubberink (2005). However, Huijgen and Lubberink (2005) did not investigate the differences in conservatism between US companies and UK companies, but between UK companies cross-listed in the US and UK companies only listed in the UK. The results show a higher level of conservatism in UK GAAP earnings for the UK companies cross-listed in the US compared to UK GAAP earnings for the UK companies without US listing. Huijgen and Lubberink (2005) give the differences in contracting and litigation between the US and UK as possible explanations. First, the litigation exposure in the US is significantly higher than in the UK, which stimulates more conservatism in accounting in the US. Second, listening on the US market exposes the company with higher disclosure standards, stricter enforcement and higher scrutiny. In this case, companies bond itself to stricter disclosure standards to provide reliable information to a broader range of potential investors and to improve their reputation. To improve the reputation company managers may report more conservative. This is also called the bonding explanation. Huijgen and Lubberink (2005) also examined whether a difference in the level of conservatism between US GAAP earnings and their US GAAP counterparts exist or not. The results did not show a significant difference in the level of conservatism between these earnings.

Lara and Mora (2004) investigated the level of both earning conservatism and balance sheet conservatism across eight European countries (UK, Germany, France, Switzerland, the Netherlands, Italy, Spain and Belgium) for the period 1987-2000. The results provide evidence for both types of conservatism in all countries. Lara and Mora (2004) also investigated the differences in conservatism between common-law countries (UK) and code-law countries (the other European countries). They expect balance sheet conservatism to be lower and earnings conservatism to be higher in the UK than in the other European countries due to differences in the legal and institutional environment between common-law and code-law countries. Regarding balance sheet conservatism, the statistical results are in line with the prediction. However, for earnings conservatism, the results are not consistent with the prediction. Lara and Mora (2004) found no significant differences in earnings conservatism between UK and the other European countries, except for Germany, which shows significantly less earnings conservatism than the UK. They also found that balance sheet conservatism reduces earnings conservatism. This is consistent with the study of Beaver and Ryan (2005) who found that unconditional conservatism reduces conditional conservatism.

The studies discussed above investigated differences in conservatism between common-law and code-law countries. Ball et al. (2003) claim that it is incomplete and misleading to classify countries only on their formal standard setting (code law or common law), because the institutional

environments and enforcement mechanisms also play a role in financial reporting practice since they influences the preparers' financial reporting incentives. Because the accounting standards of the Asian countries are derived from common-law sources, one would expect the characteristics of accounting income of Asian companies to be the same as the characteristics of accounting income of other common-law countries. However, Ball et al. (2003) investigated the relation between accounting and economic income in four Asian countries (Hong Kong, Malaysia, Singapore and Thailand) and found that this relation does not correspond with the relation between accounting income and economic income of other common-law countries. Ball et al. (2003) found evidence for the existence of conservatism for the common-law countries and code-law countries, but they found no evidence for conservatism within the Asian countries. They also found that the timeliness of accounting income for the Asian countries is equal to the timeliness of accounting income for code-law countries and lower than the timeliness of common-law accounting income. Furthermore, they found that conservatism and the timeliness of accounting income differs between the four Asian countries. The results confirm the prediction of Ball et al. (2003) that separating the countries only by a code-law and common-law standard setting provide incomplete and misleading results.

Based on the studies, discussed in this section it can be concluded that the accounting standards together with the institutional environment and enforcements mechanisms of a country significantly influences accounting conservatism. Potential factors which could account for variation in accounting conservatism between countries are differences in litigation costs, supervision and accounting regulation. The results show that it is not appropriate to generalize results of studies that investigate conservatism to other countries without a good understanding of the accounting environment of the country.

### **3.3 Elements to use**

The previous section discussed the studies which could be useful for this research and on which the hypotheses will be drawn. To have a good overview of these studies, appendix I includes a table with the results of these studies and the research methods and samples that are used. In this section the elements which could be used from these studies will be provided.

The literature study starts with different definitions for conservatism used in prior research. In this thesis the definition of Basu (1997) will be used which is: "accountants' tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses".

Several studies discuss the usefulness of accounting conservatism and most studies consider conservatism as beneficial for users of the companies' financial reports. Although researchers

generally consider conservatism as favorable the IASB considers conservatism as unfavorable since it is in conflict with neutrality of information, regarded as a required characteristic of accounting information (IASB conceptual framework 2010). This could indicate that the IASB try to ban conservatism, leading to decreasing conservatism. Nevertheless, the accounting standards of the IASB (IFRS) give room to apply conservatism in financial reporting. As a result, conservatism is still being applied in financial reporting.

The studies that investigated conservatism over time provide evidence for increasing conservatism in the period from 1970 to 2004. Possible explanations for the increase in conservatism are the establishment of the FASB in 1970 and increasing litigation costs. Watts (2003a) also gives litigation as an explanation for conservatism. The results could give an indication for a continuing increase in conservatism after 2004. Important to realize is that the evidence for increasing conservatism is based on research to conservatism in the US, so the results for Dutch companies may be different.

To my knowledge, there is no literature which investigates the impact of the current financial crisis on conservatism. However, several studies investigate the impact of the Asian financial crisis on conservatism. These studies found that the level of conservatism is lower in the period of the Asian financial crisis than in the period before and after the financial crisis. The results of these studies could indicate that the level of conservatism for Dutch listed companies is higher during the financial crisis than in the period before the crisis.

Another study which investigates the changes in conservatism between different economic conditions is the study of Jenkins et al. (2009). They studied earnings conservatism across the business cycle and distinguish between periods of economic recession and economic expansion. Based on the studies, which found a lower degree of conservatism during the Asian financial crisis relative to the non-crisis periods the degree of conservatism may expected to be lower during an economic recession than during a period of economic expansion. However, Jenkins et al. (2009) found the opposite. They show that earnings conservatism was higher during economic recessions than during economic expansions.

The contrast in the results between the study of Jenkins et al. (2009) and the studies which investigate the impact of the Asian financial crisis on conservatism makes it more doubtful what the impact of the financial crisis on conservatism is. It also makes it interesting to investigate whether the current financial crisis has a negative impact on conservatism, like the negative impact of the Asian financial crisis on conservatism or whether the financial crisis has a positive impact on conservatism, which could be expected based on the results of Jenkins et al. (2009).



Several studies which investigate the differences in conservatism between countries separate between code-law and common-law countries. They found that conservatism in accounting differs between code-law and common-law countries. For instance, most studies found a higher level of conservatism in common-law countries than in code-law countries. Lower litigation costs and less stringent regulation in code-law countries are given as explanations for the differences in conservatism, indicating the important role of litigation and regulation on conservatism. These findings show that the results of US-based studies and other common-law countries could not be generalized to the code-law countries, without extensive research. Lara and Mora (2004) qualify the Netherlands as a code-law country, however, Ball et al. (2000) qualify the Netherlands as a common-law country, because it has several elements of a common-law system. In this research the Netherlands will be qualified as a code-law country, but differences in conservatism between common-law and code-law countries are likely to be less pronounced for the Netherlands than for typical code-law countries like Germany, because the Netherlands also has some characteristics of a common-law system (Ball et al. 2000).

Important to keep in mind are the findings of Ball et al. (2003). They conclude that the institutional environments and enforcement mechanisms also play a significant role in financial reporting practice and as a consequence it is misleading to classify countries only on their formal standard setting (code law or common law). For example, based on the indication for higher conservatism in common-law countries, conservatism in the common-law-based Asian countries may be expected to be lower than in code-law countries. However, Ball et al. (2003) found a lower level of conservatism in the Asian countries relative to the code-law countries. Based on these findings it should be realized that other aspects than the differences between code-law and common-law are important as well and that the results of prior research could be totally different for the Netherlands. The findings of Ball et al. (2003) could also possibly explain the contrary results of Jenkins et al. (2009) who investigate the impact of recessions in the US and the studies that investigate the impact of the Asian financial crisis on conservatism for Asian companies.

### **3.4 Summary**

This chapter discussed the results of prior research which could be relevant for this thesis. First, more information about conservatism is given. Further, changes in conservatism over time, the effects of a crisis on conservatism and differences in the level of conservatism between countries have been discussed. Appendix I includes a table with the results of these studies and the samples and the research methods that are used. The literature study ended with the elements which can be used for this research.

## 4. Research design

### 4.1 Introduction

This chapter will provide the research design. First, the hypotheses which will be tested will be provided. Then, several models to measure conservatism will be reviewed to choose a model appropriate for this research. Based on this model it will be explained how the model will be used to test the hypotheses. Further, this chapter will provide Libby boxes, the sample, and the way to obtain the data for this sample.

### 4.2 Hypotheses

In the previous chapters, several theories and prior research related to accounting conservatism have been discussed. Based on these theories and the results of prior research the hypotheses will be drawn.

Several studies investigated conservatism over time. These studies found that accounting conservatism in the US increased over the period 1970 to 2004 (e.g. Basu 1997; Holthausen and Watts 2001; Balachandran and Mohanram 2004). Based on these results the increase in conservatism may be expected to continue. Important to realize is that the studies which investigated conservatism over time did not investigate the impact of financial crises on conservatism and moreover, the period from 1970 to 2004 does not include a financial crisis with such a large impact as the current financial crisis. Although these studies did not investigate the impact of a financial crisis on conservatism, several other studies investigated the impact of the Asian financial crisis on conservatism. Herrmann et al. (2008) found that Thai companies reported less conservatively during the Asian financial crisis relative to the post-crisis period. Vichitsarawong et al. (2010) also investigated the impact of the Asian financial crisis on conservatism, but in addition to Herrmann et al. (2008) they also studied conservatism in the period before the crisis. The results showed lower conservatism during the Asian financial crisis relative to the period after the crisis as well as the period before the crisis. Gull et al. (2004) also found lower accounting conservatism in the period before the Asian financial crisis relative to crisis period. The findings of these studies could indicate that conservatism did not increase over the last period as we could expect from studies like Basu (1997) and Holthausen and Watts (2001), but decreases due to the financial crisis.

To my knowledge, no research has examined the impact of the current financial crisis on accounting conservatism in the Netherlands. Therefore, this research will extend the literature by investigating the impact of the current financial crisis on conservatism for Dutch listed companies. Based on

accounting theory and prior research, which found lower conservatism during the Asian financial crisis, I expect the impact of the financial crisis on conservatism to be negative. I base my prediction on (1): the expectation that due to the financial crisis, companies are under pressure to report less conservatively to cover the decline in profitability, (2) the results of prior research, which indicate a negative impact of the Asian financial crisis on conservatism for Thai companies, and (3) the hypotheses of the PAT, giving indications for less conservatism during a financial crisis. The indications for less conservatism during a financial crisis, viewed from the hypotheses of the PAT will be explained in the following paragraphs.

The bonus plan hypothesis states that managers of firms with bonus plans are more likely to use accounting methods that increase current period income at the cost of future period income. This could be achieved by less conservative reporting. Because of the negative impact of the financial crisis on income I expect managers to be motivated to increase current period income at the cost of future income to receive an acceptable bonus. This should indicate a negative impact of the financial crisis on conservatism.

The debt/equity hypothesis states that a higher debt/equity ratio motivates managers to choose accounting methods that increase current period income at the cost of future period income. Debt/equity ratios are likely to be increased during the financial crisis, because equity decreased for many companies, while debt is more likely to remain relatively stable. As a reason, viewed from the debt/equity hypothesis a negative impact of the financial crisis on conservatism may be expected.

The political cost hypothesis states that the larger the firm, the more likely the manager is to use accounting methods which defer current period income to future periods, because high profits often lead to political consequences. Due to the financial crisis, I expect that fewer managers are motivated to defer earnings viewed from the political cost argument, because lower profits give less support to accept the political cost hypothesis. This may indicate a negative impact of the financial crisis on conservatism.

Despite of the arguments for a negative impact of the financial crisis on conservatism, there are reasons to assume the financial crisis affects conservatism positively as well. First, based on the litigation explanation, the financial crisis could have a positive impact on conservatism. Litigation risk is likely to be higher during a financial crisis, because shareholders litigation is more likely if stock prices decline sharply (Jenkins et al. 2009). Companies report generally more conservatively to address the heightened litigation risk (Jenkins et al. 2009). This is consistent with the argument of Watts (1993) that litigation encourages conservative reporting, because litigation is more likely in

case of overstated earnings and assets compared with understated earnings and assets. Second, investors are likely to demand more conservative accounting, because of the uncertainty about the future during the financial crisis (Kodres and Pritsker 1998). Consistent with these arguments for a positive impact of a financial crisis on conservatism, Jenkins et al. (2009) found that earnings are more conservative during economic recessions than during economic expansions. This is in contrast with the studies discussed before, which show a negative impact of the Asian financial crisis on conservatism.

Although there are reasons to believe the financial crisis has a negative as well as a positive impact on conservatism, I expect the impact of the financial crisis on conservatism to be negative. To test this prediction, the following hypothesis has been established.

**H1:** Companies report less conservatively during the financial crisis compared with the pre-crisis period.

Due to the financial crisis profit margins are under pressure for many companies resulting in decreasing earnings. Lowering the degree of conservatism could be a way to reduce the decline in accounting earnings. This effect is consistent with the findings of Herrmann et al. (2008), Vichitsarawong (2010) and Gull et al. (2004), which show that companies report less conservatively during the Asian financial crisis. As a result, I expect companies to be less conservative during the financial crisis compared to the pre-crisis period. However, some of the companies do not or hardly suffer from the financial crisis and make profits that are quite as high as before the financial crisis. For these companies the impact of the financial crisis on conservatism may be expected to be lower or even negligible. The studies which investigated the impact of the Asian financial crisis on conservatism, discussed in section 3.2.5, do not separate between companies that really suffer from the Asian financial crisis and companies that do not or only marginally suffer from the Asian financial crisis. Therefore, this thesis will extend the literature by investigating whether the association between the financial crisis and the level of conservatism differs between companies which suffered the most from the financial crisis and companies which suffered the least from the financial crisis.

If the financial crisis has a negative association with conservatism, I expect the decrease in conservatism to be only applicable to companies that really suffer from the financial crisis and less or not to companies that do not or only suffer a little from the financial crisis. Further, even if the results of the whole sample indicate no association between the financial crisis and conservatism, an association may be found after splitting the sample between companies which suffered the most

from the crisis and companies which suffered the least from the crisis. Based on the prediction given before, the following hypothesis has been defined:

**H2:** Companies which suffered the most from the financial crisis show a larger decrease in conservatism when comparing the pre-crisis period with the crisis period than companies which suffered the least from the financial crisis.

If the level of conservatism in the period before the financial crisis differs significantly from the level of conservatism during the financial crisis, an association between the financial crisis and conservatism may be expected. However, this could be an indirect effect of declining profits as well. It may be possible that conservatism is associated with profitability and as a result, indirectly associated with the financial crisis. As far as I know, no literature investigated the association between profitability and accounting conservatism. Herrmann et al. (2008) studied if the indication for a negative impact on conservatism disappears if leverage, size and growth are incorporated in their model as control variables, but they did not include a control variable for profitability. Francis et al. (2013) studied the association between conservatism and stock performance during the current financial crisis and found that conservatism is significantly positively associated with stock performance. However, this does not mean that stock performance is positively associated with conservatism as well and moreover, profitability and stock performance are not perfectly correlated (Basu 1997). Therefore, this thesis will examine if there is an association between profitability and conservatism. Based on the prediction that companies report less conservatively during the financial crisis compared with the pre-crisis period due to declining profit margins, I expect companies with losses or relatively low profits to be less conservative than companies with relatively high profits. To test this prediction the following hypothesis has been provided:

**H3:** Companies with losses or relatively low profits report less conservatively than companies with relatively high profits.

### 4.3 Selection of model to measure conservatism

In the accounting literature several models are used to measure accounting conservatism. The question is: which model is the most appropriate model for this research? In this section the characteristics of different models will be discussed to find an appropriate model for this research.

Hogartaigh et al. (2009) discuss five key models measuring conservatism, which are: (1) Basu's (1997) Asymmetric Timeliness (AT) of earnings measure, (2) Ball and Shivakumar's (2005) Asymmetric-Accruals-to-Cash-Flow (AACF) measure, (3) Penman and Zhang's (2002) Hidden Reserves (HR) measure, (4) Givoly and Hayn's (2002) Negative Accruals (NA) measure, and (5) the Market-To-

Book ratio (MTB) measure. Hogartaigh et al. (2009) discussed the construct validity of these models implying to which degree measures the model what it is supposed to measure. Hogartaigh et al. (2009) distinguish between models which measure conditional conservatism and models which measure unconditional conservatism. Basu's (1997) AT model (called Basu model from now) and Ball and Shivakumar's (2005) AACF (called AACF model from now) model are classified as models measuring conditional conservatism, while the MTB ratio, Givoly and Hayn's (2000) NA model and Penman and Zhang's (2002) HR model are classified as models measuring unconditional conservatism. In addition to the models discussed by Hogartaigh et al. (2009) the skewness of earnings model from Givoly and Hayn (2000) will be discussed. This model also measures conditional conservatism. Since this research investigates the impact of the financial crisis on conditional conservatism, only the Basu model, the AACF model and the skewness of earnings model will be discussed.

### **The Basu model**

As mentioned before, the Basu model measures conservatism by measuring the asymmetry in the recognition of good news versus bad news in earnings. If the earnings recognize bad news more quickly than good news, the earnings are considered to be conservative. Stock returns are used to measure news, in which negative returns indicate bad news and positive returns indicate good news. The higher the asymmetric verifiability of bad news versus good news in earnings, the higher the level of conservatism. The regression of the Basu model is as follows:

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

**X<sub>it</sub>** = earnings per share for firm i in fiscal year t

**P<sub>it-1</sub>** = opening stock market price per share at the beginning of the fiscal year for firm i

**R<sub>it</sub>** = return on firm i from 9 months before fiscal year-end t to three months after fiscal year-end t

**DR<sub>it</sub>** = dummy variable, equal to 1 if R<sub>it</sub> is negative (bad news) and equal to 0, otherwise (good news).

The dummy variable DR<sub>it</sub> measures the level of conservatism by measuring the additive response of earnings to bad news over good news. The higher the coefficient β<sub>1</sub>, the higher the level of conservatism. The Basu model measures the level of conservatism based on earnings. This implies that the Basu model measures earnings conservatism, which is qualified as conditional conservatism in this paper.

### ***Strengths and weaknesses of the Basu model***

The Basu model is used in a lot of studies and many studies that used this model provided results consistent with their theoretical predictions. This enhances the confidence in the reliability and the construct validity of the Basu model. Further, the Basu model is appropriate to use for large samples, because the data is easy to obtain. Although many studies use the Basu model, the model also has its limitations and weaknesses. Limitations are: (1) the  $R^2$  measures and coefficient estimates of the Basu model are biased unless the data meets the very restrictive conditions (Dietrich et al. 2007), (2) the Basu model does not take into account firm specific characteristics making it inappropriate to investigate conservatism between different companies (Hogartaigh et al. 2009), (3) the Basu model assumes there is no conservatism when there is no asymmetric verifiability between positive and negative returns. However, returns do not include all non-earnings information since markets are not efficient in the strong form. In this thesis, markets are assumed to be efficient in the semi strong form, so stock returns do not represent earnings news perfectly. This could provide bias in the results of the Basu model. (4), Beaver and Ryan (2005) found that conditional conservatism is preempted by unconditional conservatism. The Basu model does not incorporate this effect, and (5) conservatism is observed on aggregated earnings and the cumulative economic impact of the investigated period, making it impossible to investigate conservatism for individual economic events. This implies firms could be conservative for individual economic events, but due to the aggregation of the earnings and stock returns, it could be that the Basu model does not observe conservatism for these individual events.

### **Ball and Shivakumar's (2005) asymmetric accrual to cash flow model**

The Basu model can only be used to measure conservatism for listed companies. Therefore, Ball and Shivakumar (2005) designed a model, being able to measure conservatism for non-listed companies, called the AACF model. The model is as follows:

$$ACC_t = \beta_0 + \beta_1 DCFO_t + \beta_2 CFO_t + \beta_3 DCFO_t * CFO_t + \epsilon_t$$

**ACC<sub>t</sub>** measures the accruals by the total of  $\Delta$  inventory +  $\Delta$  debtors +  $\Delta$  other current assets –  $\Delta$  creditors –  $\Delta$  other current liabilities – depreciation.

**CFO<sub>t</sub>** = cash flow from operations for period t

**DCFO<sub>t</sub>** = a dummy variable, equal to 0 if  $CFO_t \geq 0$  and equal to 1 if  $CFO_t < 0$ .

The AACF model is comparable with the Basu model. Both models use a dummy variable to measure the asymmetric verifiability of bad news versus good news, indicating the level of conservatism. The difference is that the Basu model uses stock returns to distinguish between good and bad news,

while the AACF model uses the cash flow from operations to distinguish between good and bad news. Further, the Basu model uses earnings per share as the dependent variable, while the AACF model uses accruals as the dependent variable.

### ***Strengths and weaknesses of the AACF model***

Strengths of the AACF model are: (1) it can be used to measure conservatism for both listed and non-listed companies, (2) conservatism is more likely to influence the accrual component of earnings than the cash flow component of earnings (Hogartaigh et al. 2009). In contrast with the Basu model, Ball and Shivakumar (2005) only use the accrual component of earnings. A weak point is that the AACF model has been used significantly less in accounting research relative to the Basu model, so it is less proven to be a reliable model.

### **The skewness of earnings model**

Givoly and Hayn (2000) investigate conservatism by analyzing the skewness of earnings. The earnings distribution is symmetric if the mean of the earnings is equal to the mode and the median of the earnings. If the recognition of good news and bad news in earnings is asymmetric the distribution of earnings should be skewed, which means that one side of the mean value contains more observations than the other side. When the earnings are more sensitive to bad news than to good news (i.e. earnings are conservative) the distribution should be negatively skewed, because in that case losses are more quickly incorporated in the earnings, while profits are incorporated in the earnings over a longer period. Givoly and Hayn use Return On Assets (ROA) and Cash Flow from Operations (CFO) to investigate if earnings are negatively skewed. The skewness of a distribution can be computed with the following formula:

$$Y = E(x - \mu)^3 / \sigma^3$$

Y = skewness of the distribution

E(x -  $\mu$ ) = expected ROA or CFO – the mean of the ROA or CFO

$\sigma$  = standard deviation of ROA or CFO

Negative outcomes indicate conservatism and positive outcomes indicate non-conservatism.

### ***Strengths and weaknesses of the skewness of earnings model***

Just like the AACF model the skewness of earnings model can be used to measure conservatism for both listed and non-listed companies, which can be considered as a strength of the model.

Weaknesses of the skewness of earnings model are: (1) the earnings could be negatively skewed due to earnings management, mainly when managers apply big bath accounting, (2) the skewness of



earnings is likely to be more influenced by unconditional conservatism than by conditional conservatism (Ryan 2006).

### **Choice of model**

Several studies show that the Basu model is the model which is most frequently used in accounting research to measure conservatism (e.g. Ryan 2006; Hogartaigh et al. 2009) and in many studies the Basu model provided results, consistent with the predictions established in these studies. This indicates that the Basu model is an appropriate model to measure accounting conservatism. Ryan (2006) compared the Basu model with other models, which measure conservatism (e.g. the MTB ratio and the NA model) and concluded that other models could be better to measure overall conservatism, but these measures are likely to measure primarily unconditional conservatism. Because of these reasons, Ryan (2006) claims that Basu's model is the most appropriate model to measure conditional conservatism. Therefore, the Basu model will be used in this research.

## **4.4 Sample and data selection**

To test the hypotheses in this research data has been gathered from companies listed on the Euronext Amsterdam stock exchange as per July 2015. Because some stocks are not traded actively, only the companies listed on the AEX, AMX and ASX are selected. These indices contain the 75 most actively traded stocks. The data is gathered for the period 2005 to 2013, which is divided in two periods: 2005-2007 and 2008-2013, representing the pre-crisis period and the financial crisis period, respectively. Stocks that are not traded on Euronext Amsterdam since 2005 are removed from the sample. Financial institutions, insurance and real estate industries (SIC 6000-6999) are excluded from the sample since these institutions are subjected to different accounting rules. After removing the companies that do not meet these criteria, a sample of 54 companies remains. For these companies the data is available for all years of the period 2005-2013, resulting in 486 firm-year observations. Table 1 in appendix II contains a list of the 54 companies, which represents the sample that will be used for this research.

Stock prices are obtained from the Datastream database and the other variables like the total assets are gathered from Worldscope. The stock returns are computed by dividing the opening stock price nine months before the fiscal year-end to the opening stock price three months after the fiscal year-end, consistent with Basu (1997). The stock prices are taken nine months before the fiscal year-end and three months after the fiscal year-end to exclude the market response to earnings of the previous year.

## 4.5 Methodology

As mentioned before, the Basu model will be used to investigate if the financial crisis has an association with conservatism, testing the first hypothesis. By adding a dummy variable to the Basu model, it will be tested whether conservatism differs between the pre-crisis period and the financial crisis period. This results in the following regression:

$$X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + PRE (\alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it}) + \epsilon_t \quad (1)$$

$X_{it}$  = earnings per share for firm  $i$  in fiscal year  $t$

$P_{it-1}$  = opening stock market price per share at the beginning of the fiscal year for firm  $i$

$R_{it}$  = return on firm  $i$  from 9 months before fiscal year-end  $t$  to three months after fiscal year-end  $t$

$DR_{it}$  = dummy variable, equal to 1 if  $R_{it}$  is negative (bad news) and equal to 0, otherwise (good news).

$PRE$  = dummy variable, equal to 0 if the observation falls in the pre-crisis period (2005-2007) and equal to 1 if the observation falls in the crisis period (2008-2013).

I expect  $\beta_1$  to be significantly positive, indicating earnings of Dutch listed companies being conservative. Based on the first hypothesis the coefficient  $PRE * \beta_1$  is expected to be significantly negative, implying conservatism to be lower in the crisis period than in the pre-crisis period.

As a robustness check the first hypothesis will be done by running the original Basu model for both the pre-crisis and the crisis period. The Basu model will be run on the paired sample since the variables of the companies for the pre-crisis period are available for the crisis period as well. As a result, the model will not control for firm specific characteristics.

The second hypothesis examines if the potential association between the financial crisis and conservatism depends on the degree in which companies suffered from the financial crisis. The sample is split into two groups. The first group of companies includes observations from companies that suffered the most from the crisis and the second group includes observations from companies which suffered the least from the crisis. To separate between these two groups of companies, the average net income in the pre-crisis period and the average net income in the crisis period will be compared for all companies individually. Based on the change in average net income the sample will be divided between companies which suffered the most from the crisis and companies which suffered the least from the crisis. By including a dummy variable to the Basu model the interaction will be measured between conservatism and the degree to which companies suffered from the financial crisis. This results into the following regression:

$$X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + \beta_2 INFL * R_{it} + \beta_3 INFL * R_{it} * DR_{it} + \epsilon_t \quad (2)$$

The dummy variable INFL is equal to 0 for the companies that suffered the least from the financial crisis and equal to 1 for the companies that suffered the most from the financial crisis. The coefficient  $\beta_3$  is expected to be significantly negative indicating that companies which suffered the most from the financial crisis are less conservative than companies which suffered the least from the financial crisis.

The third hypothesis states that companies which report losses or relatively low profits are more conservative than companies with relatively high profits. This hypothesis will be tested in the same way as the second hypothesis, only the dummy variable INFL will be replaced by the dummy variable LOSS. The dummy variable LOSS measures the difference in conservatism for companies which report relatively high accounting earnings and companies which report negative or relatively low accounting earnings. The regression is as follows:

$$X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + \beta_2 LOSS * R_{it} + \beta_3 LOSS * R_{it} * DR_{it} + \epsilon_t \quad (3)$$

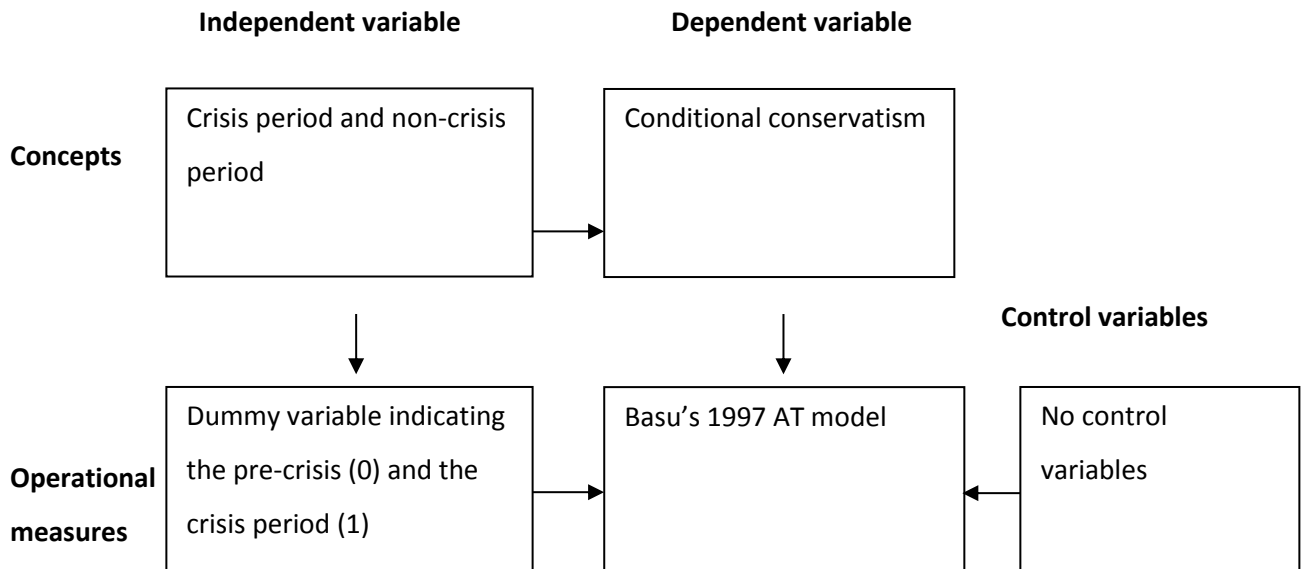
The dummy variable LOSS is equal to 0 if the company reported relatively high profits and equal to 1 if the company reported losses or relatively low profits. I expect the coefficient  $\beta_1$  to be significantly positive indicating earnings being conservative and the coefficient  $\beta_3$  to be significantly negative indicating lower conservatism for companies with losses or relatively low profits than for companies with relatively high profits. The profitability of the company will be determined by the net income of the company.

The hypotheses will be rejected if the results significantly differ from the predictions stated above. A significance level of 5% will be used.

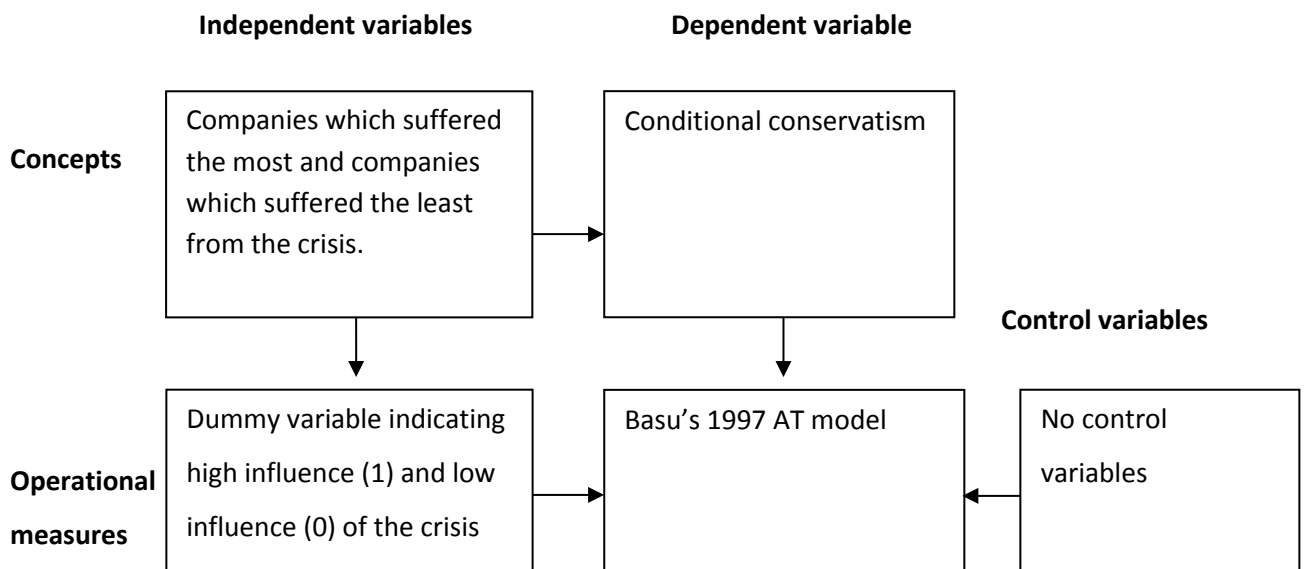
**Libby boxes**

To get a clear view how the hypotheses will be tested, three Libby boxes have been drawn based on the research design. The Libby boxes are as follows:

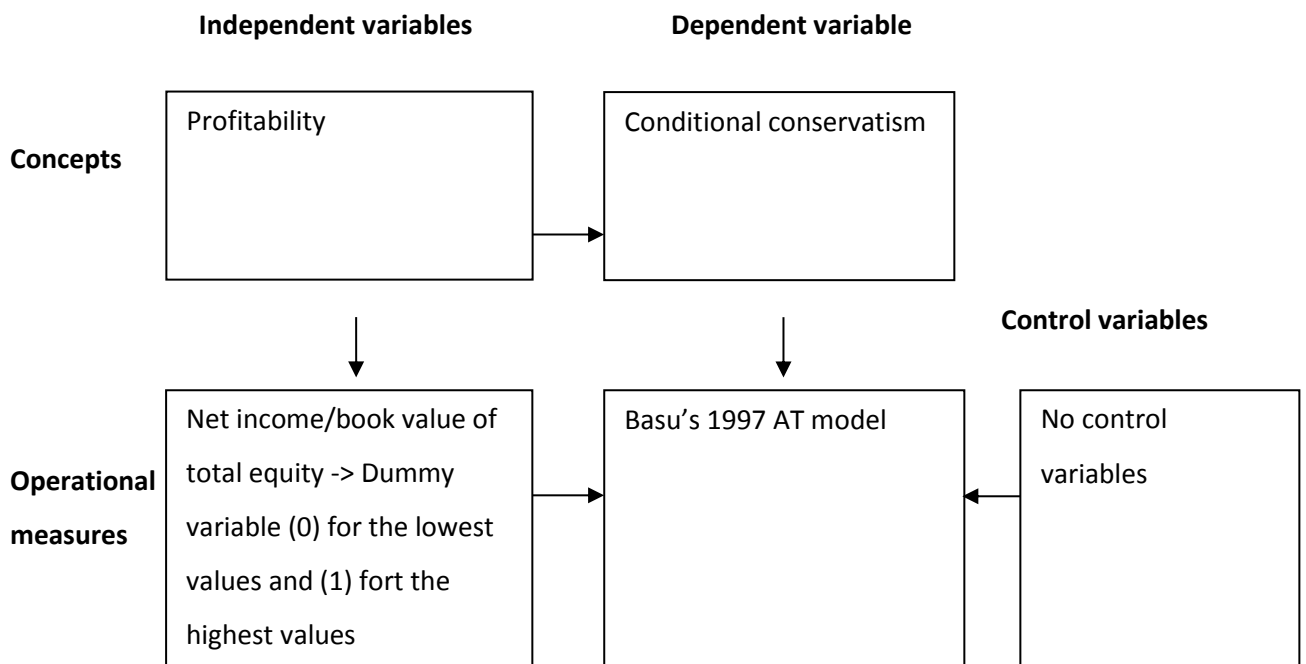
**Hypothesis 1:**



**Hypothesis 2:**



**Hypothesis 3:**



The Libby boxes are drawn to give a clear view how the hypotheses will be tested. Important elements in empirical research are the construct validity, the internal validity and the external validity.

The construct validity indicates the degree to which degree the model measures what it is supposed to measure. For all three hypotheses the dependent variable is the level of conditional conservatism, which is measured by the Basu model. As discussed before, the Basu model is used in a lot of studies and most of these studies provided results consistent with their theoretical predictions. This indicates that the Basu model has relatively high construct validity. Nevertheless, it should be realized that the Basu model does not exactly measure the level of conditional conservatism, which could be considered as a limitation of the research.

The internal validity implies how well the research captures the causality between the dependent and the independent variable. That means for this research, how well does the model capture the association between the financial crisis and conditional conservatism?

The impact of the financial crisis on conservatism will be investigated by including a dummy variable in the Basu model, which split the sample period in the pre-crisis and the crisis period. When the results show a difference in conservatism between the pre-crisis and the crisis period, this does not necessarily mean that there is causality between the financial crisis and conservatism. For example, the difference in the level of conservatism could also be driven by decreasing profits. In that case,

profitability can be qualified as a confounding variable, because profitability is correlated with the pre-crisis and the crisis period and with conservatism. Exclusion of a variable that controls for profitability leads to a spurious association between the financial crisis and conservatism, resulting in a low internal validity of the research. Because of this reason, the third hypothesis investigates whether conservatism and profitability are correlated. The second hypothesis also attempts to increase the internal validity of the research by testing if the impact of the financial crisis differs between companies which suffered the most from the financial crisis and companies which suffered the least from the financial crisis. As a further control for confounding, the first hypothesis will be tested by performing a paired sample test, so the group of companies in the pre-crisis period includes the same companies as in the crisis period. This reduces the chance that firm-specific characteristics indicate an association between the financial crisis and conservatism.

Despite of the effort to increase the internal validity, confounding variables etc. could exist, reducing the internal validity. Possibilities which could increase the internal validity are among others: (1) the inclusion of control variables in the regressions, for example the leverage, size and growth of the company, like Herrmann et al. (2008) did in their research, and (2) the use of multiple models to measure conservatism.

The external validity indicates the extent to which the results of the sample can be generalized to the whole population. In this study, the sample consists of 54 Dutch listed companies listed on the AEX, AMX or AScX. The total number of companies that are listed on the AEX, AMX and the AScX is 75, so the external validity for the total group of listed companies on these indices is expected to be high. The sample does not incorporate the financial institutions, insurance and real estate industries, because these companies are subjected to different accounting rules. Therefore, the results of this research cannot be generalized to those companies. When we consider the external validity for all Dutch companies, which include the private companies as well, the external validity is expected to be lower for this total population. Ball and Shivakumar (2005) investigated the level of conservatism for both listed and private companies in the UK and found that the level of conservatism is lower for private companies. However, this does not necessarily mean that the impact of the financial crisis on conservatism for Dutch private companies differs from the impact of the financial crisis on conservatism for Dutch listed companies. In this thesis the impact of the financial crisis on conservatism for private companies will not be investigated and discussed, but this could be a suggestion for further research.

## 4.6 Summary

In this section the research design has been presented. The hypotheses have been developed, which will be tested to provide an answer to the research question. Based on the literature study and the accounting theory, I expect the financial crisis to be negatively associated with conservatism. Several models, which measure conditional conservatism, have been assessed to select a model, appropriate for this research. The model that will be used is the Basu model. To examine if the degree of conservatism differs between the pre-crisis and the crisis period a dummy variable will be included in the Basu model. Further it will be tested if the association between the financial crisis and conservatism differs between companies that suffered the most from the crisis and companies that suffered the least from the crisis. Finally, it will be tested if profitability is associated with conservatism, because a change in conservatism between the pre-crisis and crisis period could also be an indirect effect of declining profits. The sample on which the research will be performed consists of 54 Dutch listed companies from the period 2005 to 2013 resulting in 486 firm-year observations.

## 5. Results and analysis

### 5.1 Introduction

This chapter will present the results from testing the hypotheses. Based on the results the sixth sub question will be answered: “Is there a difference in the level of conservatism between the period before the financial crisis and the period within the financial crisis?” By testing the second and third hypothesis it will be investigated if there are factors, which could explain the potential impact of the financial crisis on conservatism.

### 5.2 Results

#### 5.2.1 Testing the assumptions for multiple regression

To use multiple regression a number of assumptions should be met. When these assumptions are not satisfied, the result provided by the regression analysis could be misleading. The assumptions which will be tested are: (1) linearity, (2) homoscedasticity, and (3) normally distributed errors.

##### **Linearity**

In this research the method of multiple linear regression will be used. For this method the relationship between the dependent variable and the independent variables should be linear. Linearity may be tested by analyzing the residuals, which are the differences between the predicted values and the observed values. If the residuals show no pattern, the relationship could be considered as linear. Figure 1 in appendix III shows the residuals arisen from running the Basu model. The figure shows that the residuals are equally distributed around the mean of zero indicating a linear relationship between the dependent and independent variables, so the first condition for multiple regression has been met.

##### **Homoscedasticity**

By applying multiple regression the residuals should be homoscedastic. This implies that the variance in the residuals should be the same for each level of the dependent variable. In the Basu model the earnings per share are deflated by the opening stock prices at the beginning of the year to control for heteroscedasticity. Nevertheless, the residuals could be heteroscedastic. To test if the residuals are homoscedastic, the standardized residuals are plotted against the standardized predicted values. Figure 1 in appendix III presents the results and shows that the variance in the residuals does not depend on the value of the dependent variable so the results indicate that the residuals are homoscedastic. Hence, the second condition for multiple regression has been met.



### Normally distributed residuals

Under the assumption of normality, the residuals should be normally distributed with an average value of zero. The predicted values should be equal or almost equal to the observed value so the most residuals should have a value of zero or close to 0. As a result, the residuals should follow a normal distribution. Figure 2 in appendix III shows that the histogram of the residuals looks like the histogram of a normal distribution. Only a peak can be found around zero. Figure 3 in appendix III supports this conclusion.

The distribution could be strongly affected by outliers in the dependent variable ( $X_{it}/P_{it}-1$ ) or the independent variable ( $R_{it}$ ). This could be a reason for non-normality of the residuals. Figure 4 and 5 show the values for the dependent and independent variables in a boxplot. The figures show that there are no significant outliers in the variables. As a result, winsorizing the dataset seems to be useless. To be sure the outliers are not responsible for the non-normality of the residuals the top and bottom 1% of the returns and the earnings variables have been winsorized. As predicted, winsorizing the returns and earnings variables does not solve the non-normality of the residuals. Therefore, the dataset will not be winsorized.

After testing the assumptions for multiple regression, it can be concluded that the assumptions of linearity and homoscedasticity are met. Only the distribution of the residuals is quite peaked, but in general the assumptions to use multiple regression are met. Based on these findings the Basu model, which is a multiple regression model, can be considered as an appropriate model to measure conservatism for this research.

### 5.2.2 Testing hypothesis 1

As discussed in the previous chapter, I expect conservatism to be lower during the financial crisis on which the following hypothesis has been defined:

**H1:** Companies report less conservatively during the financial crisis compared with the pre-crisis period.

Before testing the first hypothesis the original Basu model will be run on the whole sample to investigate if conservatism exists at all. As mentioned before, under conservatism the coefficient  $\beta_1$  should be significantly positive. The results provided by the Basu model are presented in table 1. Surprisingly, the Basu model shows a significantly negative  $\beta_1$  indicating that earnings are non-conservative. More specifically, table 1 shows that accounting earnings are significantly more sensitive to good news than to bad news since the coefficient for good news,  $\beta_0$  (0,066) is higher than the coefficient for bad news,  $\beta_0 + \beta_1$  (-0,0016). Table 1 in appendix III includes the correlation

matrix after running the Basu model. This table also shows the higher correlation of earnings to good news than to bad news.

Table 1

Basu model: $X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 Rit + \beta_1 Rit * DR_{it} + \epsilon_t$					
$\alpha_0$	$\alpha_1$	$\beta_0$	$\beta_1$	$R^2$	$n$
,037	-,019	,066	-,082	0,037	486
(-2,95)***	(-0,97)	(3,02)***	(-2,26)***		

Significance level indicated by \*\*\*, \*\*, and \* for 1 percent, 5 percent and 10 percent level, respectively.  
 White (1980) t-statistics in parentheses.  
 Variable definitions:  
 $X_{it}$  = earnings per share for firm i in fiscal year t;  
 $P_{it-1}$  = opening stock market price per share at the beginning of the fiscal year for firm i;  
 $R_{it}$  = return on firm i from 9 months before fiscal year-end t to three months after fiscal year-end t;  
 $DR_{it}$  = dummy variable, equal to 1 if  $R_{it} < 0$  and equal to 0, otherwise.

The negative  $\beta_1$  indicates that companies report not conservatively, but aggressively. Further, the  $R^2$  of the Basu model, run on the whole sample is 3,7% indicating that 3,7% of the variation in the earnings (dependent variable) is explained by the variance in the stock returns. This is a low value, but that is because the Basu model tries to test whether there is an asymmetry in the recognition of bad news versus good news in earnings and not to explain the variance in accounting earnings. The low value of the  $R^2$  corresponds with prior studies like Basu (1997) and Herrmann et al. (2008).

After splitting the sample in positive and negative returns the  $R^2$  for the positive returns sample is 3,1% versus a  $R^2$  of 0,2% of the negative returns sample (see appendix III, table 2). These results support the outcome in table 1, indicating earnings being more concurrently sensitive to good news than to bad news, which can be considered as non-conservative accounting. This is surprising since the studies discussed in the literature study found evidence for conservatism.

Because the Basu model provides results that do not correspond with the predictions stated before, the asymmetry in earnings will also be investigated by using the skewness of earnings model from Givoly and Hayn (2000) to enhance the robustness of the research. Figure 6 in appendix III shows the distribution of the ROA for the whole sample. The distribution of the ROA's is pretty symmetric, so the skewness of earnings method gives no indication for both conservatism and non-conservatism for the period 2005 until 2013. Just as the results provided by the Basu model the skewness of earnings model shows no conservatism as well. However, in contrast with the results from the Basu model the skewness of earnings model does not indicate that earnings are non-conservative.

The results in table 1 could indicate that earnings are not conservative in the pre-crisis period as well as the crisis period. However, it could also be that earnings are non-conservative in the pre-crisis

period, but conservative in the crisis period. Regression model 1 will be run to investigate if the asymmetry in the recognition of news in earnings differs between the pre-crisis period and the crisis period in order to test the first hypothesis.

Table 2 presents the outcome of regression 1. For the pre-crisis period the sensitivity of earnings to good news ( $\beta_0$ ) is 0,027 versus 0,031 ( $\beta_0 + \beta_1$ ) for bad news. This should indicate that earnings are more sensitive to bad news than they are to good news, indicating conservatism. However, the results are not significant so the conclusion that earnings are conservative in the pre-crisis period is not reliable. For the crisis period the coefficient PRE ( $\beta_0$ ) is 0,056, which should indicate that earnings in the crisis period are more sensitive to good news compared with the pre-crisis period. The coefficient PRE ( $\beta_1$ ) is negative, indicating that the sensitivity of earnings to bad news decreased during the financial crisis, relative to the period before the crisis. This should indicate that earnings became less conservative during the financial crisis. However, the results provided by running regression 1 are insignificant as well, making the conclusions unreliable. Because Basu (1997) predicts that earnings are conservative, he also predicts a positive intercept. This is because under conservatism earnings incorporate bad news immediately, while good news will be recognized in future periods as well. In table 2 the intercept  $\alpha_0$  is positive and the intercept PRE ( $\alpha_0$ ) is negative. This could indicate that earning became less conservative in the crisis period, but because the other coefficients are not significant, this conclusion has a low reliability as well.

**Table 2**

Regression 1: $X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 Rit + \beta_1 Rit * DR_{it} + PRE (\alpha_0 + \alpha_1 DR_{it} + \beta_0 Rit + \beta_1 Rit * DR_{it}) + \epsilon_t$						
Time dummy	$\alpha_0$	$\alpha_1$	$\beta_0$	$\beta_1$	$R^2$	$n$
	0,079 (3,59)***	0,003 (0,08)	0,027 (0,71)	0,004 (0,05)	0,073	486
PRE	-0,061 (-2,3)**	-0,037 (-0,88)	0,056 (1,23)	-0,13 (-1,56)		

Significance level indicated by \*\*\*, \*\*, and \* for 1 percent, 5 percent and 10 percent level, respectively.  
 White (1980) t-statistics in parentheses.  
 Variable definitions:  
 PRE = dummy variable, equal to 0 for the pre-crisis period and equal to 1 for the crisis period.  
 See for the other variable definitions table 1

As a robustness check the Basu model will be run for the pre-crisis period and the crisis period individually. Based on the results presented in table 1 and 2, earnings may expected to be non-conservative in both periods, while non-conservatism may expected to be more pronounced in the crisis period than in the pre-crisis period. The results are given in table 3. Just like the results presented in table 2, the results in table 3 show no significant asymmetry in the recognition of good

news and bad news in earnings during the pre-crisis period and earnings are not significantly correlated with returns at all in that period. The results also show, just like the results presented in table 2, that earnings are non-conservative in the crisis period since the earnings are more sensitive to good news ( $\beta_0 = 0,083$ ) than they are to bad news ( $\beta_0 + \beta_1 = -0,043$ ). In contrast to the results presented in table 2, which are insignificant, the coefficients  $\beta_0$  and  $\beta_1$  for the crisis period are significant. This provides more evidence that earnings are indeed non-conservative during the crisis period.

Table 3

Basu model: $X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 R_{it} + \beta_1 R_{it} * DR_{it} + \epsilon_t$						
<u>Period</u>	<u><math>\alpha_0</math></u>	<u><math>\alpha_1</math></u>	<u><math>\beta_0</math></u>	<u><math>\beta_1</math></u>	<u><math>R^2</math></u>	<u>n</u>
<b>Pre-crisis</b>	0,079 (6,62)***	0,003 (0,15)	0,027 (1,31)	0,004 (0,09)	0,03	162
<b>Crisis</b>	0,018 (1,02)	-0,034 (-1,24)	0,083 (2,68)***	-0,126 (-2,58)***	0,047	324

Significance level indicated by \*\*\*, \*\*, and \* for 1 percent, 5 percent and 10 percent level, respectively.  
White (1980) t-statistics in parentheses.  
See for the other variable definitions table 1

Since the outcome of regression model 1 shows that earnings of Dutch listed companies are not conservative, but significantly aggressive the first hypothesis should be rejected, even though the earnings became less or more non-conservative. Nevertheless, based on the first hypothesis earnings may expected to be more non-conservative during the crisis period compared with the pre-crisis period. The results presented in table 2 and 3 show that there is no asymmetry in the sensitivity of earnings to bad news and good news during the pre-crisis period, but for the crisis period the earnings became non-conservative. This indicates that earnings became more non-conservative, which corresponds with the prediction stated before. Nevertheless, the first hypothesis should be rejected.

To summarize, the first hypothesis should be rejected since earnings are not conservative at all. During the pre-crisis period earnings are not significantly correlated with earnings, but during the crisis period earnings are correlated with earnings, especially for positive earnings indicating that earnings are non-conservative in the crisis period.

### 5.2.3 Testing hypothesis 2

By testing the second hypothesis it will be investigated if there is asymmetry in the recognition of good news and bad news in earnings for companies that suffered the most from the crisis and companies that suffered the least from the crisis. Further, it will be tested if the sensitivity of

earnings to bad news and good news differs between those two groups of companies. The second hypothesis is as follows:

**H2:** Companies which suffered the most from the financial crisis show a larger decrease in conservatism when comparing the pre-crisis period with the crisis period than companies which suffered the least from the financial crisis.

Because the results, presented in the previous section, indicate that Dutch listed companies do not report conservatively, but aggressively, the second hypothesis could be rejected in advance. Nevertheless, the sensitivity of earnings to good news versus bad news may be different for companies that suffered the most from the crisis and companies that suffered the least from the crisis. This will be tested by running regression 2. First, the sample is divided based on the extent to which companies suffered from the financial crisis. As mentioned before, the separation is made based on the change in average net income between the pre-crisis period (2005-2007) and the crisis period (2008-2013). For 31 companies the average net income has been decreased and for 23 companies the average net income has been increased. Table 4 presents the results after splitting the sample between the crisis and the pre-crisis period and running the second regression.

Table 4

Regression 2: $X_{it} / P_{it-1} = \alpha_0 + \alpha_1 DR_{it} + \beta_0 Rit + \beta_1 Rit * DR_{it} + \beta_2 INFL * Rit + \beta_3 INFL * Rit * DR_{it} + \epsilon_t$								
Period	$\alpha_0$	$\alpha_1$	$\beta_0$	$\beta_1$	$\beta_2$	$\beta_3$	$R^2$	n
Pre-crisis	0,077 (6,56)***	0,013 (0,7)	0,013 (0,58)	0,149 (2,65)***	0,038 (1,48)	-0,2 (-3,55)***	0,102	162
Crisis	0,024 (1,34)	-0,038 (-1,37)	0,094 (2,97)***	-0,174 (-3,01)***	-0,079 (-1,56)	0,143 (1,94)*	0,058	324

Significance level indicated by \*\*\*, \*\*, and \* for 1 percent, 5 percent and 10 percent level, respectively.  
White (1980) t-statistics in parentheses.  
Variable definitions:  
INFL = a dummy variable, equal to 0 for companies that suffered the least from the crisis and equal to 1 for companies that suffered the most from the crisis.,  
See for the other variable definitions table 1 and 2

Consistent with the results provided in table 2 and 3, table 4 also shows no significant asymmetry in the sensitivity of earnings to good news versus bad news during the pre-crisis period. In fact, current earnings are not significantly correlated with current returns at all during the pre-crisis period. The coefficient  $\beta_1$  is significantly positive, indicating that earnings are conservative, but this outcome is not reliable since the coefficient  $\beta_0$  is insignificant. The coefficient  $\beta_3$  is also significant and has a negative value. This should indicate that companies which suffered the most from the crisis are less conservative or more aggressive in reporting than companies which suffered the least from the

crisis. However, due to the insignificant values of the other coefficients these conclusions are not reliable, making the conclusion meaningless.

In contrast to the pre-crisis period, earnings within the crisis period are significantly correlated with both positive and negative returns. The coefficient  $\beta_0$  has a value of 0,094 and  $\beta_1$  a value of -0,174. This indicates that earnings are more sensitive to good news than to bad news, indicating that Dutch listed companies report not conservatively, but aggressively. This result is consistent with the results presented in section 5.2.2. If we consider the differences in the sensitivity of earnings to good and bad news between companies which suffered the most and companies which suffered the least from the financial crisis, it can be seen that the coefficients  $\beta_2$  and  $\beta_3$  has a negative and a positive value, respectively. This should indicate that the earnings of companies which suffered the most from the crisis are less non-conservative than the earnings of companies which suffered the least from the crisis. However, these coefficients are not significant at the 5 percent level, making the results less reliable. Only  $\beta_3$  is quite significant with a p-value of 5,3%. Although the results are not very significant they indicate that, during the financial crisis, companies which suffered the most from the crisis are less non-conservative than companies which suffered the least from the crisis. As mentioned before, the second hypothesis should be rejected, because the results indicate that Dutch listed companies are non-conservative. Nevertheless, based on the second hypothesis, companies which suffered the most from the financial crisis may expected to be more non-conservative than companies which suffered the least from the crisis, since companies in general became significantly non-conservative in reporting during the financial crisis. However, as discussed before, companies which suffered the least from the financial crisis report more aggressively than companies which suffered the most from the financial crisis. This gives additional support to reject the second hypothesis.

#### 5.2.4 Testing hypothesis 3

By testing the third hypothesis it will be investigated whether profitability has a correlation with conservatism. When the results provide a significant correlation between profitability and conservatism it could be a reason for changes in the asymmetric sensitivity of earnings to good and bad news, between the pre-crisis period and the crisis period since profits have been declined for many companies due to the financial crisis. The third hypothesis is as follows:

**H3:** Companies with losses or relatively low profits report less conservatively than companies with relatively high profits.

To test the differences in conservatism between profitable and loss making companies, the sample has been split by including a dummy variable based on the net income of the observations. Observations with a negative net income are assigned to the LOSS sample and observations with a positive net income are assigned to the other group. The total number of observations is 486, which is equal to 54 companies times 9 (year 2005 to 2013) observations per company. The sample consists of 79 observations with a negative net income and 407 observations with a positive net income. To investigate the differences in conservatism between the positive net income observations and the negative net income observations, regression 3 has been run. The results are presented in table 5, panel A. All coefficients are significant at the 1 percent level, except the intercept  $\alpha_1$ . Based on the results provided by testing the first hypothesis, earnings may be expected to be non-conservative rather than conservative. For the observations with a positive net income, the coefficient  $\beta_0$  is significantly positive (0,084), while the coefficient  $\beta_1$  is significantly negative (-0,175). This indicates that earnings from the positive net income sample are significantly non-conservative, which is consistent with the results provided by testing the first hypothesis. The coefficients  $\beta_2$  and  $\beta_3$  are significantly negative and positive, respectively. This indicates that the earnings of the negative net income sample are less non-conservative than the earnings of the positive net income sample. For the observations with a negative net income, earnings are even conservative since the sum of the coefficients for good news ( $\beta_0 + \beta_2 = -0,347$ ) is lower than the sum of the coefficients for bad news ( $\beta_0 + \beta_1 + \beta_2 + \beta_3 = 0,179$ ). Based on these results it could be concluded that earnings for negative net income observations are conservative, while earnings for the positive net income observations are non-conservative. This should imply that companies report conservatively when they report losses and non-conservatively when they report profits. However, the results could be biased, because negative incomes often coincide with negative returns and as a result negative net incomes may be expected to be more sensitive to bad news than to good news.

Table 5

Regression 3: $X_{it} / Pit-1 = \alpha_0 + \alpha_1 DR_{it} + \beta_0 Rit + \beta_1 Rit * DR_{it} + \beta_2 LOSS * Rit + \beta_3 LOSS * Rit * DR_{it} + \epsilon_t$								
Regression 3 (2): $X_{it} / Pit-1 = \alpha_0 + \alpha_1 DR_{it} + \beta_0 Rit + \beta_1 Rit * DR_{it} + \beta_2 LOSS2 * Rit + \beta_3 LOSS2 * Rit * DR_{it} + \epsilon_t$								
	$\alpha_0$	$\alpha_1$	$\beta_0$	$\beta_1$	$\beta_2$	$\beta_3$	$R^2$	$n$
<b>Panel A</b>	0,043	-0,029	0,084	-0,175	-0,431	0,701	0,203	486
	(3,77)***	(-1,6)	(4,19)***	(-4,96)***	(-7,61)***	(9,97)***		
<b>Panel B</b>	0,039	-0,02	0,073	-0,149	-0,031	0,144	0,055	486
	(3,08)***	(-1,03)	(3,19)***	(-3,51)***	(-0,96)	(2,8)***		

Significance level indicated by \*\*\*, \*\*, and \* for 1 percent, 5 percent and 10 percent level, respectively.  
White (1980) t-statistics in parentheses.  
Variable definitions:  
LOSS = dummy variable equal to 0 for the positive net income observations and equal to 1 for the negative net income observations.  
LOSS2 = dummy variable equal to 0 for the most profitable companies and equal to 1 for the least profitable companies.  
See for the other variable definitions table 1

To counter this problem, the sample is also divided by the most profitable and the least profitable companies. For each year the net income is divided by total equity. Then the average of these annual ratios has been computed for each company over the period 2005 until 2013. The median of these ratios is 0,12. Companies with an average net income/total equity ratio equal or lower than the median of 0,12 are assigned to the sample with the least profitable companies and companies with a ratio higher than 0,12 are assigned to the sample with the most profitable companies. By running regression 3, the differences in the sensitivity of earnings to good news versus bad news will be investigated for these two groups. The dummy variable LOSS is replaced by LOSS2, which is equal to 0 for the most profitable companies and equal to 1 for the least profitable companies. Table 5, panel B presents the results after running the third regression including the dummy variable LOSS2. Consistent with the results in table 5, panel A, the most profitable companies report aggressively since  $\beta_1$  is significantly negative and the least profitable companies report less aggressively than the most profitable companies since the coefficients  $\beta_2$  and  $\beta_3$  are negative and positive, respectively. However, in contrast with the results presented in table 5, panel A, the least profitable companies report not conservatively, but aggressively since the sensitivity of earnings to good news ( $\beta_0 + \beta_2 = 0,042$ ) is higher than the sensitivity of earnings to bad news ( $\beta_0 + \beta_1 + \beta_2 + \beta_3 = 0,037$ ). Based on these two tests there is an indication that the least companies as well as the most profitable companies report non-conservatively. Further, companies with the lowest profits report significantly less aggressively than companies with the highest profits.

As a robustness check, regression 3 has been run for the pre-crisis and the crisis period separately. The results, presented in table 3 in appendix III, show no significant coefficients for the pre-crisis period, consistent with the prior tests. For the crisis period the results correspond with the findings presented in table 5, panel B, giving additional evidence to the indication that the increase in non-conservative reporting is not an indirect effect of decreasing profits due to the financial crisis.

Based on the results provided by regression 3 the third hypothesis should be rejected. First, the most profitable as well as the least profitable companies report rather aggressively than conservatively. Second, based on the third hypothesis, earnings of the least profitable companies are expected to be more non-conservative than the earnings of the most profitable companies. However, the results show the opposite effect, giving additional support to reject the third hypothesis. As a result, it can be concluded that companies became not non-conservative during the financial crisis due to the decline in profits.



### 5.2.5 Analysis of the results

The results provided in the previous sections do not correspond with the hypotheses presented in section 4.2 and therefore, all hypotheses have been rejected. Based on the results of prior research, the first hypothesis states that companies report less conservatively during the financial crisis compared with the pre-crisis period. First, it has been tested whether Dutch listed companies report conservatively at all. Based on the results of studies which found evidence for conservatism in Europe (e.g. Lara and Mora 2004), earnings of Dutch listed companies may be expected to be conservative. However, the results show that the earnings of Dutch listed companies for the pre-crisis period are not significantly correlated with returns at all and as a result earnings are not conservative, but also not non-conservative. The outcome could be explained since the IASB does not favor asymmetry in the recognition of bad news and good news in earnings since 2006, because it harms the neutrality of financial reporting information. Before 2006 the IASB considered conservatism as a qualitative characteristic of financial reporting information and therefore they regarded conservatism as favorable. This could be a reason that prior studies (e.g. Lara and Mora 2004) found evidence for conservatism in Europe before 2006, while this study found no evidence for conservatism in the period from 2005 to 2013. Furthermore, most studies, discussed in the literature study are based on financial data of US-companies. The asymmetric sensitivity of earnings to bad news relative to good news, in the Netherlands is likely to be lower than in the US, because of the higher litigation costs in the US, which is a motivation for conservatism (Liao et al. 2013; Basu 1997). Ball et al. (2000) investigated conservatism between code-law and common-law countries and found that the level of conservatism is higher in common-law countries than in code-law countries, while conservatism is the highest in the US. These results support the indication that conservatism in the Netherlands is lower than in the US.

Herrmann et al. (2008), Vichitsarawong et al. (2010) and Gull et al. (2004) found that Thai companies reported less conservatively in the Asian financial crisis period compared with the non-crisis periods (pre-crisis period or post crisis period). Therefore, I expect the impact of the financial crisis on conservatism to be negative for Dutch companies. Since the earnings of Dutch listed companies are not sensitive to stock returns at all within the pre-crisis period, earnings may be expected to be non-conservative during the financial crisis period. The results correspond with this prediction, but since earnings are not conservative the first hypothesis has been rejected. The results are not consistent with the results of Jenkins et al. (2009), who found that US companies report more conservatively during economic recessions relative to economic expansions. A reason could be the differences in the accounting standards together with the differences in the institutional environment and enforcements mechanisms between the Netherlands and the US.

There are several possible explanations for the higher sensitivity of earnings to good news versus bad news in the crisis period compared with the pre-crisis period. An explanation could be the higher litigation risk within the financial crisis period. It could also be that companies report non-conservatively during the crisis period to cover the decline in profitability. The possible reasons for a higher sensitivity of earnings to good news versus bad news in the crisis period compared with the pre-crisis period are discussed more extensively in section 4.2.

When the financial crisis has an impact on conservatism, I expect the impact especially accounts for companies which suffered the most from the financial crisis. Based on this prediction, the second hypothesis states that companies which suffered the most from the financial crisis show a larger decrease in conservatism when comparing the pre-crisis period with the crisis period than companies which suffered the least from the financial crisis.

Since the results indicate that Dutch listed companies became non-conservative during the financial crisis, while their earnings were not asymmetrically sensitive to good news and bad news in the pre-crisis period, I expect the earnings became especially non-conservative for companies which suffered the most from the financial crisis. However, the results showed that companies which suffered the most from the financial crisis report less aggressively than companies which suffered the least from the crisis. Based on this outcome the second hypothesis has been rejected. The reasons for these findings could be caused by higher litigation risk and the demand for conservative accounting of the investors during the financial crisis. Companies from the sample which suffered the most from the crisis show sharper declines in stock prices than companies which suffered the least from the financial crisis. Since shareholders litigation is more likely in case of sharp declines in stock prices, these companies report generally more conservatively to address the heightened litigation risk (Jenkins et al. 2009). Further, investors are more likely to demand conservative accounting if companies make losses due to the uncertain future prospects (Kodres and Pritsker 1998). These reasons are discussed more extensively in section 4.2.

The last hypothesis states that companies with losses or relatively low profits report less conservatively than companies with relatively high profits. Since the results indicate that Dutch listed companies report non-conservatively, I expect the least profitable companies to be more non-conservative than the most profitable companies. The results do not correspond with the prediction. They indicate that the least profitable companies are less non-conservative than the most profitable companies. The results can be explained with the same arguments, discussed in the previous paragraph, which are the litigation explanation and the demand for conservative accounting if companies make losses.

### 5.3 Summary

This chapter tested the hypotheses, which are provided in chapter four. First, it has been tested whether Dutch listed companies are conservative at all by using the Basu model. Surprisingly, the results indicate that Dutch listed companies report aggressively instead of conservatively. The outcome of regression 1 shows that earnings are neither conservative nor non-conservative during the pre-crisis period, but the earnings became significantly non-conservative during the crisis period. Based on these results the first hypothesis “Companies report less conservatively during the financial crisis compared with the pre-crisis period” has been rejected. The second hypothesis “Companies which suffered the most from the financial crisis show a larger decrease in conservatism when comparing the pre-crisis period with the crisis period than companies which suffered the least from the financial crisis” has been rejected as well since the earnings are non-conservative, and because companies which suffered the most from the crisis are less non-conservative than companies which suffered the least from the financial crisis. The third hypothesis has also been rejected, because the most profitable companies as well as the least profitable companies are both significantly non-conservative and moreover, the least profitable companies report less aggressively than the most profitable companies.

Based on the results from testing the hypotheses the sixth sub question “Is there a difference in the level of conservatism between the period before the financial crisis and the period within the financial crisis?” can be answered with no. First, the results show no conservatism at all in both the pre-crisis period and the crisis period. Second, the results show that earnings are not asymmetrically sensitive to good news and bad news in the pre-crisis period, while they became non-conservative in the pre-crisis period. Based on these findings it could be concluded there is no difference in the level of conservatism between the period before the financial crisis and the period within the financial crisis. However, the sensitivity to good and bad news has been changed since earnings became non-conservative during the crisis period, while they were not asymmetrically sensitive to good news and bad news in the period before the financial crisis.

The findings that Dutch listed companies report not conservatively at all are not consistent with the predictions that are based on prior studies. Several studies found evidence for conservatism, but these studies investigated conservatism in Europe before the period that is investigated in this research or conservatism in other countries, like the US. A reason that this research found no conservatism for Dutch companies in the period 2005 to 2013 could be the changed view of the IASB to conservatism, since 2006. Before 2006 the IASB considered conservatism as a qualitative characteristic of financial reporting information, but from 2006 they have considered conservatism

as unfavorable since it is in conflict with the neutrality of financial reporting information. Further, the level of conservatism in the Netherlands is expected to be lower than in the US, because several studies found lower conservatism in Europe than in the US, e.g., Ball et al. (2000).

## 6. Summary and conclusion

### 6.1 Introduction

This chapter will provide a summary of the research and a presentation of the conclusions. Further, the limitations of the research will be discussed. To get more insight in the impact of the financial crisis on conservatism, several suggestions for further research will be given, which may also be able to solve the limitations of this research. Based on this information the sixth sub question will be answered: “What are the limitations of this research and what are the suggestions for further research?” This chapter will also answer the research question.

### 6.2 Conclusion

In this thesis I investigate the impact of the financial crisis on conservatism for Dutch listed companies. Although several studies investigated conservatism over time or the impact of the Asian financial crisis on conservatism, as far as I know, no studies investigated the impact of the current financial crisis on conservatism for Dutch companies.

Conservatism can be divided into conditional and unconditional conservatism. Conditional conservatism is news dependent and unconditional conservatism is news independent. As a result, events like a financial crisis are more likely to have an association with conditional conservatism than with unconditional conservatism. Therefore, this research focuses on conditional conservatism. The research question, which will be answered in this research, is: ***“Is there an association between the financial crisis and the level of conservatism for Dutch companies?”***

Based on prior literature and accounting theory I predict that the financial crisis has a negative impact on conservatism. The association between the financial crisis and conservatism has been tested by using the Basu model. The Basu model tests if there is asymmetry in the sensitivity of accounting earnings to positive and negative stock returns, whereas a higher sensitivity of earnings to negative stock returns indicates conservatism.

First, it has been tested whether Dutch listed companies report conservative at all and if the level of conservatism within the pre-crisis period differs from the level of conservatism within the crisis period. Surprisingly, Dutch companies report not conservatively, but non-conservatively (i.e., aggressively). After analyzing the sensitivity of earnings to bad news and good news for the pre-crisis period and the crisis period, I found that earnings in the pre-crisis period are not significantly correlated with stock returns at all, while earnings became significantly non-conservative during the crisis period.

Second, it has been investigated whether the change in conservatism between the pre-crisis period and the crisis period depends on the degree to which companies suffered from the crisis. I predict that companies which suffered the most from the crisis show a larger decline in conservatism than companies which suffered the least from the crisis. The results do not support this prediction since Dutch listed companies report not conservatively in both the pre-crisis and the crisis period. Furthermore, the results indicate that companies which suffered the most from the crisis report less non-conservatively during the financial crisis than companies which suffered the least from the crisis.

Third, the impact of profitability on conservatism has been studied to investigate if the impact of the crisis on conservatism is an indirect effect of declining profits due to the financial crisis. I expect the level of conservatism to be lower for the least profitable companies relative to the most profitable companies. The results do not support the hypothesis since they indicate that both groups report non-conservatively and moreover, the most profitable companies are significantly more non-conservative than the least profitable companies.

Based on the results discussed in the previous paragraphs, the answer to the research question is that there is no association between the financial crisis and the level of conservatism for Dutch companies. This is because earnings are not conservative in both the pre-crisis and the crisis period. In the pre-crisis period earnings are not significantly sensitive to stock returns at all, but earnings became non-conservatively during the financial crisis, so the sensitivity of earnings to positive versus negative stock returns has been changed, but earnings are not conservative in both periods.

The results of this research are not consistent with the results of prior research since this research found no evidence for conservatism at all for Dutch listed companies, while prior studies found evidence for conservatism. However, prior studies investigated conservatism in Europe before the period that is investigated in this research or conservatism in other countries, like the US and the Asian countries. The level of conservatism in the Netherlands is likely to be lower than in the US, because several studies found lower conservatism in European countries than in the US (e.g. Ball et al. 2000). Another reason that this study found no evidence for conservatism in the Netherlands could be the removal of conservatism as a qualitative characteristic of financial reporting information in the IASB conceptual framework. Before 2006 the IASB considered conservatism as a qualitative characteristic of financial reporting information, but from 2006 they have considered conservatism as unfavorable since it is in conflict with the neutrality of financial reporting information.

### **6.3 Limitations of the research**

This research found that the earnings of Dutch listed companies were not asymmetrically sensitive to good news and bad news within the pre-crisis period, while earnings became non-conservative during the financial crisis. Despite several robustness checks to enhance the reliability of the results, this research is subjected to a number of limitations. First of all it should be realized that there is no perfect model to measure conditional conservatism. Based on a review of several models measuring conservatism, the Basu model has been chosen, but this model also has its limitations and weaknesses. Further, it is difficult to determine the period of the financial crisis exactly. Based on prior literature the period before 2008 has been classified as the pre-crisis period and the period from 2008-2013 has been classified as the crisis period. Another limitation is that this research does not control for unconditional conservatism. This could be a limitation, because several studies (e.g. Beaver and Ryan 2005; Roychowdhury and Watts 2007) provide evidence for a negative correlation between conditional and unconditional conservatism. Other control variables like firm specific characteristics (e.g. the leverage ratio and the size of the company) are also not included in the models in this research. Another point is the limited sample size. Since this research investigates the impact of the crisis on conservatism for Dutch listed companies, the sample size is 54 companies after deleting the financial institutions, companies with missing data etcetera, which is quite low.

### **6.4 Suggestions for further research**

In the previous section the limitations of this research have been discussed. Among others, these limitations could be addressed in further research. First, it should be interesting to investigate if the level of unconditional conservatism has been changed during the financial crisis since several studies found evidence for a correlation between conditional and unconditional conservatism. Second, this research only investigates conservatism for Dutch listed companies. For non-listed companies the impact of the financial crisis on conservatism may be different. In further research the impact of the financial crisis on conservatism for non-listed companies could be investigated as well to examine if the conclusions are the same as for Dutch listed companies. Third, it should be interesting to investigate if the impact of the financial crisis on Dutch companies is the same for other European countries. By studying the impact of the financial crisis on conservatism for European countries the sample size can also be increased due to the availability of more financial data.

## References

- Balachandran, S., and P. Mohanram. 2011. Is the decline in the value relevance of accounting driven by increased conservatism? *Review of Accounting Studies* 16 (2): 272-301.
- Ball, A., R., A. Robin, and J.S. Wu. 2003. Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of Accounting and Economics* 36 (1-3): 235-270.
- Ball, R., and P. Brown. 1968. An empirical evaluation of accounting income numbers. *Journal of Accounting Research* 6 (2): 159-178.
- Ball, R., S. P. Kothari, and A. Robin. 2000. The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics* 29: 1-51.
- Barth, M.E., H. William, H. Beaver, and W.R. Landsman. 2001. The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics* 31: 77-104.
- Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24: 3-37.
- Beatty, A., J. Weber, and J. J. Yu. 2008. Conservatism and debt. *Journal of Accounting and Economics* 45: 154-174.
- Beaver, W. H., and S.G. Ryan. 2005. Conditional and unconditional conservatism: concepts and modeling. *Review of Accounting Studies* 10 (2) & (3): 269-309.
- Bliss, J.H. 1924. Management through accounts. *The Ronald Press Co., New York*.
- Bushman, R.M., and J.D. Piotroski. 2006. Financial reporting incentives for conservative accounting: The influence of legal and political institutions. *Journal of Accounting and Economics* 42: 107-148.
- Claessens, S. and M.A. Kose. 2013. Financial crises: explanations, types, and implications. *Center for Economic Policy research, Discussion paper No. 9329*
- Collins, D.W., and S.P. Kothari. 1989. An analysis of intertemporal and cross-sectional determinants of earnings response coefficients. *Journal of Accounting and Economics* 11 (2): 143-182.



- Dabrowski, M. The Global Financial Crisis: Lessons for European integration. *CASE Network Studies & Analyses* 384.
- Feltham, G. A., and J. A. Ohlson. 1995. Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research* 11: 689–731.
- Francis, B., I. Hasan, and Q. Wu. 2013. The Benefits of Conservative Accounting to shareholders: evidence from the financial crisis. *Accounting Horizons* 27 (2) 319-346.
- Gassen, J., and T. Sellhorn. 2006. Applying IFRS in Germany – determinants and consequences. *Betriebswirtschaftliche Forschung und Praxis*, 58 (4): 365-386.
- Givoly, D., and C. Hayn. 2000. The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economics* (29): 287–320.
- Gul, F.A., B. Srinidhi, and T. Shieh. 2004. The Asian Financial Crisis, Accounting Conservatism and audit fees: evidence from Hong Kong. Available at:  
[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=315062](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=315062).
- Hellman, N. 2008. Accounting conservatism under IFRS. *Accounting in Europe* 5 (2): 71-100.
- Hendrickson, J.M. 2013. Financial crisis: The United States in the early twenty-first century. *Palgrave Macmillan*.
- Herrmann, D.R., S. Pornupatham, and T. Vichitsarawong. 2008. The impact of the Asian financial crisis on auditors' conservatism. *Journal of International Accounting Research* 7 (2): 43-63.
- Hogartaigh, C., R. Wang, and T. Zijl. 2009. Measures of accounting conservatism: a construct validity perspective. *Journal of Accounting Literature* 28: 165-203.
- Holthausen, R.W., R.L. Watts. 2001. The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics* 31: 3–75.
- Huijgen, C., and M. Lubberink. 2005. Earnings Conservatism, Litigation and Contracting: The Case of Cross-Listed Firms. *Journal of Business Finance & Accounting* 32 (7) & (8): 1275-1309.

- IASB, International Accounting Standards Board. 2006. Preliminary views on an improved conceptual framework for financial reporting: the objective of financial reporting and qualitative characteristics of decision-useful financial reporting information. Discussion paper. *London: International Accounting Standards Committee Foundation.*
- Jenkins, D.S., G.D. Kane, and U. Velury. 2009. Earnings conservatism and value relevance across the business cycle. *Journal of Business Finance & Accounting* 36 (9) & (10): 1041-1058.
- Kodres, L.E., and M. Pritsker. 1998. A rational expectations model of financial contagion. *The Journal of Finance* 57 (2): 769-799.
- LaFond, R., and R. L. Watts. 2008. The information role of conservatism. *The Accounting Review* 83: 447-478.
- Lara, J., and A. Mora. 2004. Balance Sheet versus Earnings Conservatism in Europe. *European Accounting Review* 13 (2): 261–292.
- Lara, J., D. Osma, and F. Penalva. 2007. Board of Directors' Characteristics and Conditional Accounting Conservatism: Spanish Evidence. *European Accounting Review* 16 (4): 727–755.
- Lee, S.C, J.L. Chen, I.M. Jiang, and C.J. Hsu. 2012. Accounting conservatism and bankruptcy. *Journal of Accounting, Finance & Management Strategy* 7 (2): 53-70.
- Liao, Y., W. Chi, and Y. Chen. 2013. Auditor economic dependence and accounting conservatism: evidence from a low litigation risk setting. *International Journal of Auditing* 17: 117-137.
- Needles, B.E., M. Powers, and S. Crosson. 2005. Principles of accounting.
- Pae, J., D.B. Thornton, and M. Welker. 2005. The link between earnings conservatism and the price to book ratio. *Contemporary Accounting Research* 22: 693–717.
- Penman, S. H., and X.-J. Zhang. 2002. Accounting conservatism, the quality of earnings, and stock returns. *The Accounting Review* 77: 237–264.
- Penndorf, B., 1930. The relation of taxation to the history of the Balance Sheet. *The Accounting Review* 5 (3): 243-251.
- Roychowdhury, S., and L. Watts. 2007. Asymmetric timeliness of earnings, market-to-book and conservatism in financial reporting. *Journal of Accounting and Economics* 44 (7): 2–31.
- Ryan, S.G. 2006. Identifying conditional conservatism. *European Accounting Review* 15 (4): 511-525.

- Ryan, B., R.W. Scapens, and M.Theobald. (2nd ed.). 2002. Research method & methodology in finance & accounting. *Academic Press Limited 1992*.
- Scott, W. (5th ed.) 2009. Financial accounting theory. *Upper Saddle River, NJ: Prentice Hall*.
- Sterling, R. 1967. Conservatism: The fundamental principle of valuation. *Abacus 3 (2): 109–132*.
- Vichitsarawong, T., L.L. Eng, and G.K. Meek. 2010. The Impact of the Asian Financial Crisis on conservatism and timeliness of earnings: Evidence from Hong Kong, Malaysia, Singapore, and Thailand. *Journal of International Financial Management and Accounting 21 (1): 32-61*.
- Watts, R.L. 2003a. Conservatism in Accounting, Part I: Explanations and Implications, *Accounting Horizons, 17 (3): 207-221*.
- Watts, R.L. 2003b. Conservatism in Accounting, Part II: Evidence and Research Opportunities, *Accounting Horizons, 17 (4): 287-301*.
- Watts, R.L., and J.L. Zimmerman. 1986. Positive Accounting Theory. *Prentice-Hall, inc., Englewood Cliffs, New Jersey*.
- Wheelock, D.C. 2006. What happens to banks when house prices fall? U.S. regional housing busts of the 1980s and 1990s. *Federal Reserve Bank of St. Louis Review 88 (5): 413-29*.
- Zhang, J. 2008. The contracting benefits of accounting conservatism to lenders and borrowers. *Journal of Accounting and Economics 45: 27–54*.

## Appendices

### Appendix I: Literature study

Authors	Object	Sample	Research meth.	Results/conclusions
<b>Conservatism (§3.2.2)</b>				
Sterling, R. (1967)	Conservatism as a fundamental principle of valuation in traditional accounting.	—	Review paper: no empirical research.	Sterling (1967) considers conservatism as the fundamental principle of valuation and explains why.
Basu, S (1997)	The conservatism principle and the asymmetric timeliness of earnings.	All firm-year observations from 1963-1990 with returns data on the CRSP NYSE/AMEX monthly files.	Positive accounting theory and using the market based accounting research approach. Use of archival data.	<ol style="list-style-type: none"> <li>1) Sensitivity of earnings to negative returns is 2 to 6 times as large as the concurrent sensitivity of earnings to positive returns.</li> <li>2) Negative earnings changes are less persistent than positive earnings changes.</li> <li>3) Conservatism has increased significantly in the period 1970-1990 and the level of conservatism is higher in periods of high auditors' liability.</li> <li>4) No evidence for conservatism in the period 1963-1966.</li> </ol>

<b>Conservatism over time (§3.2.4)</b>				
Holthausen and Watts (2001)	Evaluation of research to the value relevance of accounting information and the inferences of this research for standard setting.	Firm year Observations from 100 companies in the period 1927-1993 from the CRSP Monthly Price File	Review paper, but also some empirical research has been performed, based on positive accounting theory and the market based accounting research approach. Use of archival data and the regression is similar to the study of Basu (1997)	Conservatism increased significantly in the period 1970-1993 and mainly from 1973, possibly due to the introduction of the FASB; however no evidence for causality is given. Unlike the results of Basu (1997) this study found significant evidence for the existence of conservatism prior to 1970.
Balachandran and Mohanram (2011)	Is the decline in the value relevance of accounting driven by increased conservatism?	100.984 firm year observations (1975-2004) from the Compustat Annual Industrial dataset and only from which the data is available in the CRSP monthly return file.	Positive accounting theory. The market based accounting research approach and the information content approach are used. Use of archival data.	Conservatism increased in the period 1975-2004. Contrary to findings of other studies, this study found no evidence for a decline in value relevance of accounting due to increasing conservatism. In fact, firms without increasing conservatism show the most significant decline in conservatism.
Givoly and Hayn (2000)	Research to developments in conservatism over time by investigating the changes in time-series properties of earnings, cash flows and accruals.	Data from all firms on the 1999 Compustat database over the period 1950-1998. Return information was retrieved from the Center for Research in Security Prices (CRSP) database	Positive accounting theory; market based accounting research approach. Use of archival data.	Profitability, measured by accounting earnings has been declined in the period 1950-1998. However, this decline is not consistent with declined cash flows, resulting in high accumulative negative accruals. These results provide evidence for increasing conservatism.

<b>Conservatism and economic crises (§3.2.5)</b>				
Herrmann et al. (2008)	The impact of the Asian financial crisis on conservatism for Big 4 audit clients and non-Big 4 audit clients.	2,534 firm-year observations from listed companies in Thailand over the period from 1997 to 2003.	Positive accounting theory; market based accounting research approach. Use of archival data.	Thai companies in general reported less conservatively during the Asian financial crisis than after the financial crisis. Furthermore, Big 4 audit clients reported more conservatively than non-Big 4 audit clients during the Asian financial crisis. However, this difference disappeared in the period after the Asian financial crisis.
Vichitsarawong et al. (2010)	The Impact of the Asian financial crisis on conservatism and timeliness of earnings for listed companies in Hong Kong, Malaysia, Singapore, and Thailand.	Data from listed companies in Hong Kong, Malaysia, Singapore, and Thailand, obtained from the Global Vantage database over the period 1995–2004.	Positive accounting theory; market based accounting research approach. Use of archival data.	Companies reported less conservatively during the Asian financial crisis relative to the period around the crisis. Furthermore, in the period after the financial crisis the level of conservatism was even higher compared to the level of conservatism before the Asian financial crisis.
Gul et al. (2004)	The impact of the Asian financial crisis on accounting conservatism and audit fees.	2,638 firm-year observations from companies listed in Hong Kong over the period 1990-1997.	Positive accounting theory; market based accounting research approach. Use of archival data.	1) Conservatism decreased within the Asian financial crisis. 2) A lower level of conservatism results in higher audit effort, leading to higher auditing fees. As a consequence, companies that report more aggressively during the Asian financial crisis are subjected to higher audit fees.
Francis et al. (2013)	The benefits of conservative accounting to shareholders, investigated in the period of the financial crisis.	6,326 U.S. public companies within the period of January 2007 to December 2009, defined as the financial crisis period.	Positive accounting theory; market based accounting research approach. Use of archival data.	Stock performance and conservatism are significantly positively correlated during the financial crisis. The correlation is stronger for firms with weaker corporate governance or higher information asymmetry. Based on the empirical evidence they conclude that conservatism benefits shareholders, because it contributes to a better monitoring of agency problems and it mitigates information risk.

Jenkins et al. (2009)	Earnings conservatism and value relevance across the business cycle.	120.700 firm-year observations from US-listed companies from 1980 to 2003.	Positive accounting theory; market based accounting research approach. Use of archival data.	1. Earnings are more conservative during economic recessions compared to economic expansions. 2. The value relevance of current earnings is higher during economic recessions, but the value relevance for future earnings is lower during economic recessions.
<b><i>Differences in conservatism between countries (§3.2.6)</i></b>				
Ball et al. (2000)	The effect of international institutional factors on conservatism and timeliness of earnings.	40.359 firm-year observations from Australia, Canada, UK and USA (common-law countries) and France, Germany and Japan (code law-countries). Data period: 1985-1995.	Positive accounting theory; market based accounting research approach. Use of archival data.	1) Accounting income in the common-law countries is more timely than in code-law countries. 2) The level of conservatism is higher in common-law countries than in code-law countries and the level of conservatism is the highest in the U.S.
Huijgen and Lubberink (2005)	Difference in conservatism for UK companies cross-listed in the US and UK companies not listed in the US.	All sponsored Level-II (non-capital-raising) and Level-III (capital-raising) American Depositary Receipts (ADR) firms with shares traded on the LSE and the NYSE or Nasdaq, resulting in a sample of 86 companies. Data period: 1993-2002.	Positive accounting theory; market based accounting research approach. Use of archival data.	Higher level of conservatism for UK companies cross-listed in the US compared to UK companies only listed on the US Stock Exchanges.

Lara and Mora (2004)	Balance sheet versus earnings conservatism in Europe.	20.583 firm year observations from eight European countries which are the United Kingdom (common law) and Germany, France, Switzerland, the Netherlands, Italy, Spain and Belgium (code law) for the period 1988-2000.	Positive accounting theory; market based accounting research approach. Use of archival data.	All the eight countries show balance sheet and earnings conservatism. The code law countries show more balance sheet conservatism than the UK (common law), but these differences do not apply to earnings conservatism.
Ball et al. (2003)	Properties of accounting income in four Asian countries.	2726 annual earnings announcements within the period 1984–1996 from companies in four Asian countries: Hong Kong, Malaysia, Singapore and Thailand.	Positive accounting theory; market based accounting research approach. Use of archival data.	1) No evidence for conservatism for the Asian countries 2) The timeliness of accounting income in the Asian countries is similar to the timeliness of accounting income in code law countries, while the accounting standards in the Asian countries are based on common law, under which accounting income generally is timelier.



## Appendix II: Sample selection

Table 1

Aalberts Industries	HES - Beheer
Accell Group	ICT Automatisering
Ahold Koninklijke	Kendrion
Air France-KLM	KPN KON
Akzo Nobel	Nedap
Amsterdam Commodities NV	Neways Electric International
Arcadis	Nutreco
Arcelormittal	Oranjewoud
ASM International	Ordina
ASML Holding	Philips Electronics Koninklijke
Ballast Nedam	Postnl
BAM Groep Koninklijke	Randstad Holding
Be Semiconductor	Reed Elsevier (AMS)
Beter Bed Holding	Royal Dutch Shell A
Boskalis Westminster	Royal Imtech
Brill (Koninklijke)	SBM Offshore
Brunel International	Sligro Food Group
Docdata	Stern Groep
DPA Group	Telegraaf Media Groep
DSM Koninklijke	Ten Cate
Exact Holding	TKH Group
Fugro	Tom Tom
Galapagos	Unilever Certificates
Gemalto	USG People
Grontmij	Vopak
Heijmans	Wessanen
Heineken	Wolters Kluwer

# Appendix III: Statistical output

Figure 1

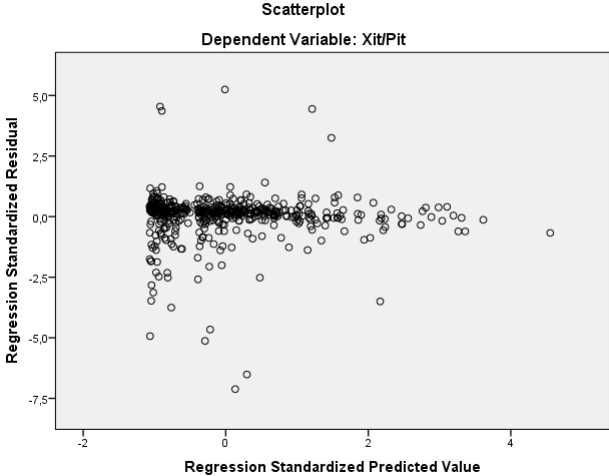


Figure 2

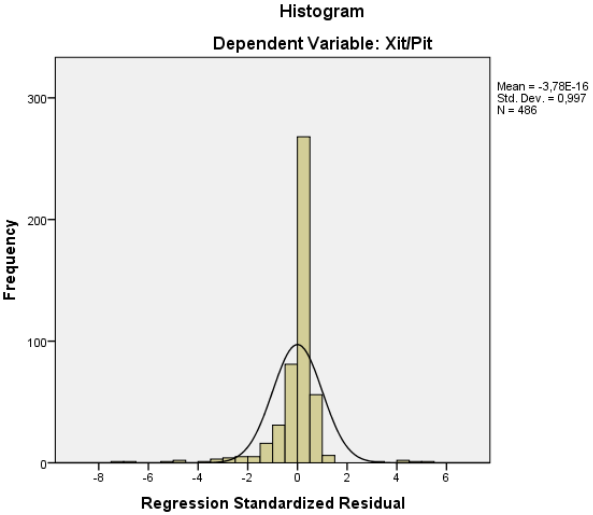


Figure 3

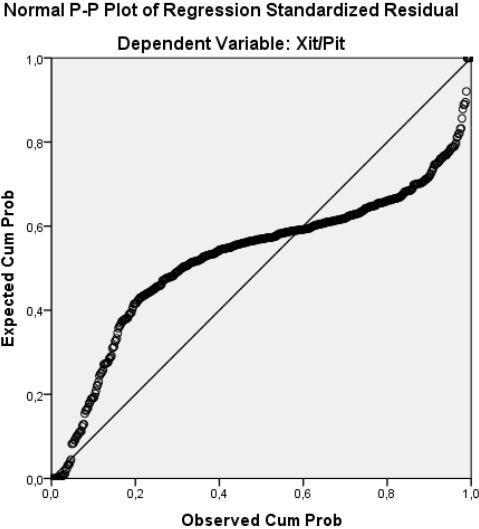


Figure 4

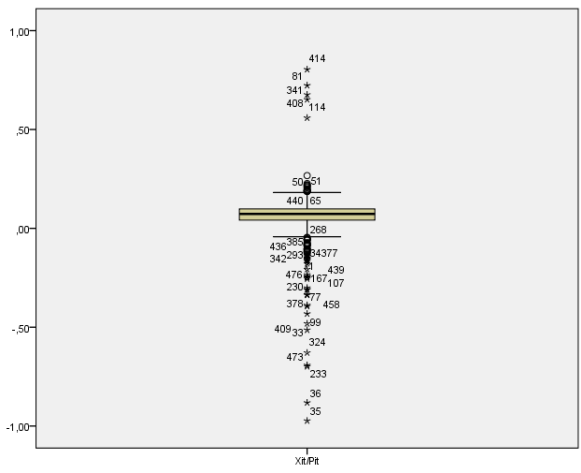


Figure 5

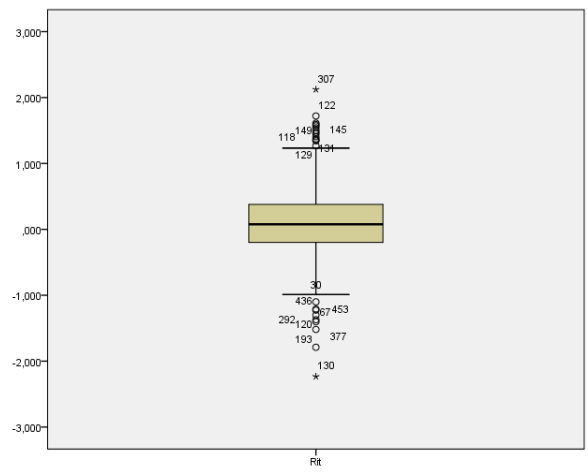


Figure 6

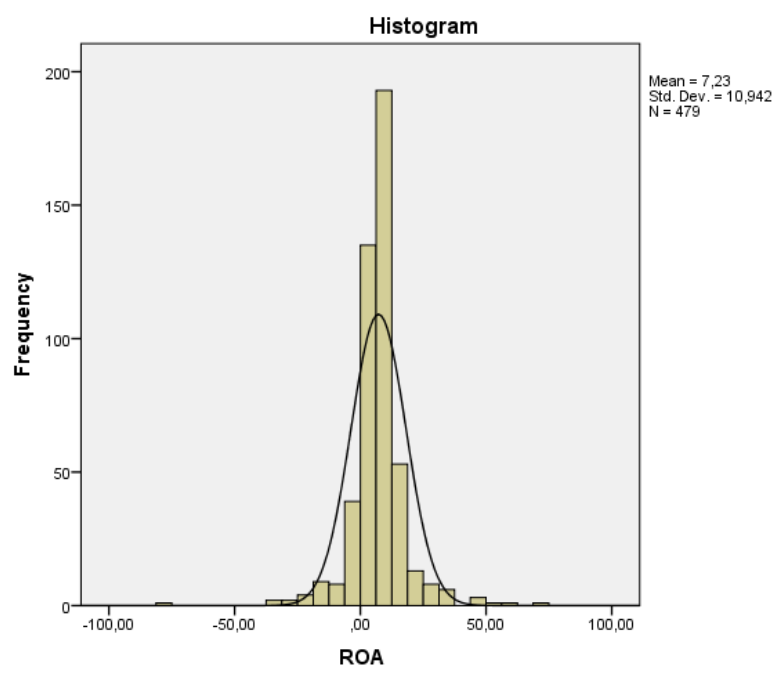


Table 1

		Correlations			
		Xit/Pit	DRit	Rit	RitxDRit
Pearson Correlation	Xit/Pit	1,000	-,137	,163	,068
	DRit	-,137	1,000	-,724	-,635
	Rit	,163	-,724	1,000	,780
	RitxDRit	,068	-,635	,780	1,000
Sig. (1-tailed)	Xit/Pit	.	,001	,000	,069
	DRit	,001	.	,000	,000
	Rit	,000	,000	.	,000
	RitxDRit	,069	,000	,000	.
N	Xit/Pit	486	486	486	486
	DRit	486	486	486	486
	Rit	486	486	486	486
	RitxDRit	486	486	486	486

Table 2

Model Summary					
DRit	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
0	1	,175 <sup>a</sup>	,031	,027	,14410
1	1	,040 <sup>a</sup>	,002	-,004	,14408

a. Predictors: (Constant), Rit

Table 3

PRE	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
0	1	(Constant)	,079	,012		6,541	,000
		DRit	,003	,019	,017	,142	,887
		Rit	,026	,022	,172	1,171	,243
		RitxDRit	-,011	,050	-,035	-,231	,818
		LOSS2*Rit	,002	,027	,009	,074	,941
		LOSS2*Rit*DRit	,023	,054	,059	,427	,670
1	1	(Constant)	,021	,017		1,234	,218
		DRit	-,037	,027	-,108	-1,361	,175
		Rit	,092	,032	,304	2,933	,004
		RitxDRit	-,209	,056	-,388	-3,749	,000
		LOSS2*Rit	-,063	,050	-,123	-1,241	,216
		LOSS2*Rit*DRit	,204	,072	,291	2,840	,005