



Erasmus Universiteit Rotterdam
Erasmus School of Economics
MSc Economie en Bedrijfseconomie

Has financial reporting in the European Union become more conservative as a consequence of the current economic crisis?

Author: N.J.J. Pepping
Studentnumber: 302253
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Supervisor:
Drs. R.D. Achaibersing RA

Co-reader:
Dr. Drs. Drs. C. Esseboom

Abstract

With the use of the C-score model, the influence of the current economic crisis on the level of conservatism is studied. This study is performed for all listed companies in the European Union, where only the countries are included before the large expansion of the European Union in 2004. A comparison is made between the pre-crisis period (2005-2007) and the crisis period (2008-2010). Based on the outcomes there can be concluded that, on average, companies used conservatism in their reporting during 2005 till 2010. However, there is only an insignificant difference of 2.9% between the pre-crisis period and the crisis period. During the beginning of the crisis in 2008, a significant increase in accounting conservatism is seen. Companies become, initially, more prudent when economic conditions are becoming uncertain. When the economic crisis continues, pressure to show better results takes over, and as a consequence, accounting conservatism is decreased in 2009 and almost disappeared in 2010.

The results are significantly influenced by the financial companies which are included in the research sample. Only these companies increased their level of accounting conservatism enormously in 2008, which explains the peak in the total research sample. Therefore, the explanation that during an economic crisis, initially, companies become more prudent, only holds for financial companies. The explanation for this strong increase in conservatism of the financial companies is the increased power of the shareholder litigation explanation. Companies other than financial companies, immediately decreased their level of accounting conservatism after the start of the crisis. Based on these findings, there can be concluded that for these companies the pressure to decrease the level of conservatism, in order to show better results and avoid herding behavior, immediately takes over.

As shareholder litigation is an important explanation for conservatism, a difference in the research sample is made between high and low litigation risk companies. There can be concluded that companies with high litigation risk increased their level of conservatism, while companies with low litigation risk decreased their level of conservatism. So, in order to avoid claims and lawsuits, companies with high litigation risk are willing to increase their level of accounting conservatism.

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Chapter 1

Introduction

1.1 Background

Crises have been a common phenomenon in the financial world. Over the years, enterprises as well as investors have experienced panic whenever a financial crisis or scandals such as those of Enron and WorldCom hit stock values. “Accounting conservatism can be interpreted as the exercise of caution in the recognition and measurement of income and assets.” (Wu (2010), p.2). The application of more conservatism is a consequence of several circumstances that have an impact on the companies. In this case the important circumstance affecting management or governance to implement accounting policies changes, is the crisis.

Taking this information into consideration, some professionals might think that applying more conservative practices would be a good move in times of crisis, while other might think that stepping away from the prudence principle would be the best practice during the crisis. This thesis will study the explanations for accounting conservatism that have been defined in the article of Watts (2003a). These explanations are: contracting, corporate governance, shareholder litigation, taxation and accounting regulation.

1.2 Objectives

The main objective of this thesis is to describe the effect that the economic crisis has had on the application of accounting conservatism in financial reporting in the European Union. So, the thesis investigates whether listed companies have gone more or less conservative due to the crisis. Within this thesis the explanations for accounting conservatism as well as the effects of the current financial crisis over such explanations will be investigated. It is intended to gather enough information to be able to determine whether the practice of accounting conservatism

during the economic crisis is higher than during the pre-crisis period.

Because the economic crisis has been a recent event, and therefore there is not much research done yet, this thesis's results can be interesting to a broad public. For example, the accounting practices by identifying in which way the level of conservatism will change in times of crisis. Another example is the standard setting bodies by showing the effects of the crisis on the prudence principle.

1.3 Research questions

In this thesis there will be argued and investigated which explanations will cause changes in the level of accounting conservatism applied by companies during the crisis. In order to perform the research, the following main research question is established:

Has financial reporting in the European Union become more conservative as a consequence of the current economic crisis?

To answer the main research question, firstly the following sub-questions have to be answered:

- What is accounting conservatism?
- What are the incentives to use accounting conservatism?
- How can accounting conservatism be measured?
- What are the causes and consequences of the current economic crisis?
- What is the influence of the economic crisis on accounting conservatism?

1.4 Structure

The thesis has been divided into several chapters. Chapter two gives the reader of this thesis a theoretical background in order to understand and interpreted the results of the research. In this chapter accounting conservatism and the economic crisis are discussed. Chapter three is the literature review. In this chapter prior research about conservatism is discussed, together with the impact of the crisis on the explanations of accounting conservatism. The literature review

also provides findings from analogue papers in which the Asian crisis's effects on accounting conservatism were studied. In chapter four the research design is defined. In this chapter the hypotheses, data and measurement method are described. Chapter five discusses the results of the research and gives an analysis of these results. In chapter six are some of the limitations of this thesis introduced. Finally, in chapter seven, a summary is made together with the conclusion and recommendations for further research.

Chapter 2

Theoretical background

In this chapter the main concepts of this thesis are described and explained in order to understand and interpret the results of this research. In the first section, accounting conservatism is discussed and subsequently in the second section the current economic crisis is discussed.

2.1 Accounting conservatism

First, accounting conservatism is discussed. What is accounting conservatism? What are the incentives to use accounting conservatism and in which ways can conservatism be measured?

2.1.1 Definition of accounting conservatism

The accounting conservatism theory has been defined in a variety of accounting studies. For example Basu (1997) defines accounting conservatism as:

“ the accountant’s tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses” (Basu (1997), p.4).

Bliss (1924) has a more extreme interpretation of accounting conservatism, saying *“anticipate no profit, but anticipate all losses.”*

The International Accounting Standards Board (IASB) describes conservatism as a *“prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered”*¹. From this definition there can be concluded that uncertainty and risks are terms that apply well with regards to the economic crisis. Thus, accounting conservatism could be an interesting tool to use during the economic crisis.

¹Handboek Jaarrekening 2009, Page 138

From these definitions the most suitable definition is selected to answer the first sub-question: What is accounting conservatism? Accounting conservatism can be seen as a prudent approach to financial accounting by using more strict recognition requirements for profits compared to losses. Due to these strict recognition requirements, the matching principle is therefore unleashed. The matching principle is defined as the recognizing of all expenses and revenue incurred during the accounting period. When the revenue is realized it is recognized. But with the use of accounting conservatism, revenue is only recognized when all information relating to the transaction is realized. Especially, in many business decisions where there is a lot of uncertainty, implementing accounting conservatism reduces the risk by giving the most prudent reaction to this uncertainty. Considering this, the most suitable definition is the definition of the IASB. This definition is also the most recent definition and developed by the standard setters of the accounting standards which are used by the companies in this research.

2.1.2 Explanations for accounting conservatism

From the previous paragraph there can be concluded that accounting conservatism is basically an asymmetrical recognition of profits compared to losses. The consequence is mentioned by Watts (2003a) as “a persistent understatement of both cumulative net assets and cumulative accounting earnings.” Accounting conservatism is used for a number of reasons, like dealing with moral hazard and reducing litigation cost. In the next section the incentives and explanations for accounting conservatism are elaborated.

Contracting

“Conservative accounting is a means of addressing moral hazard caused by parties to the firm having asymmetric information, asymmetric payoffs, limited time horizons, and limited liability (Watts (2003a))”. Moral hazard will occur if the better informed party behaves in a way which is inappropriate from the viewpoint of the less informed party. In order to illustrate the contracting explanation two examples will follow below.

The first example of the contracting explanation is a debt covenant. These covenants are used as conditions of borrowing. This will decrease the credit risk for borrowers. Since the borrowers want their borrowed money in return while companies want to gain a high profit with the borrowed

money, there exist a conflict of interest. This can be reduced by the use of accounting conservatism in the reporting of the companies. If conservatism is applied, net assets are undervalued, which reduces opportunistic behavior. Also the consequences of a breach of the debt covenants will reduce opportunistic behavior. With the use of debt covenants, companies who lend money are tend to behave less opportunistic. Furthermore, it lowers the cost of capital because the credit risk for borrowers is decreased.

Another example of the contracting explanation is an executive compensation contract. There exists a difference between the interest of managers about how a company has to perform and third parties, like shareholders or investors. This conflict of interest is mentioned as the agency theory. The agency theory states that managers hold an advantageous information position to investors because of information asymmetry. If you assume that managers are mainly driven by self-interest, they will tend to use opportunistically accounting methods. Another problem is that managers have a limited time horizon, which can lead to negative net present value investments by the company. This can lead to financial statements providing investors a misrepresenting, opportunistic view of the company. Contracting explains that accounting conservatism can reduce the danger of opportunistic behavior by the management, and as a consequence, this will improve the confidence of investor and other users of financial statements.

Corporate governance

Because accounting conservatism accelerates awareness of bad financial results, especially in times of crisis, it is of the shareholders main interest to implement effective corporate governance policies. This requires high conservative accounting practices, in order to retain management from working towards their own benefit, instead of maximizing shareholder interest.

Garcia Lara, Garcia Osma, and Penalva (2009) predicts a “positive association between the monitoring role of governance mechanisms and conservatism. Specifically, we expect that the sensitivity of earnings to bad news will be higher for firms with stronger corporate governance”. An argument for these statements is that corporate governance is of great importance for the level of accounting conservatism into the company. Corporate governance helps to use assets efficiently, which mitigates the risk of managers who inappropriately distribute the assets in favor

of themselves, instead of other stakeholders. Therefore, there can be concluded that corporate governance leads to better monitoring of the management.

Shareholder litigation

The shareholder litigation explanation is based on the assumption that overstatement of earnings and net assets increases the probability of lawsuits and claims against the company, while understatement of earnings and net assets decreases this probability. Therefore, in this same order of words, Garcia Lara et al. (2009) argues that “conservative accounting, on average, defers earnings and generates lower net assets, likely reducing expected litigation costs for the firm.” Also Watts (2003a) mentioned in his article that the difference in likelihood of litigation, influence the management to report conservative values for earnings and net assets. Over the period 1963-1990, Basu (1997) reports empirical evidence of a positive relation between changes in accounting conservatism and changes in auditor’s litigation exposure.

Taxation

Taxation is another explanation for accounting conservatism. By applying more conservative methods, companies are able to defer the recognition of earnings. As a consequence, they can defer a part of the taxes which should be paid in a determined year. This asymmetric recognition of profits and losses will reduce taxable income and consequently it will decrease the tax expenses over the year.

Accounting regulation

The last explanation for accounting conservatism mentioned by Watts (2003a) is accounting regulation. This explanation should be interpreted as follows: when standard-setters and regulators design and implement accounting standards, they have a political responsibility for the consequences of these standards. To protect their reputation and avoid trouble, they are more tending to design conservative accounting standards. Gotti (2007), mentions in his research that “conservatism is used by standard-setters and regulators as a means of reducing exposure to reputational damage caused by overvaluation of firm value/income due to accounting standards.”

2.1.3 Conditional and unconditional conservatism

In the literature about accounting conservatism, accounting conservatism can be defined and measured in two different ways. It can be classified as conditional conservatism (earnings conservatism) and unconditional conservatism (balance sheet conservatism). These two approaches will be discussed below.

Conditional conservatism

This type of accounting conservatism explains that conservatism reflects bad news more quickly than good news, implying systematic differences in the timeliness and persistence of earnings. Conditional conservatism is also called earnings conservatism, ex-post conservatism or news-dependent conservatism. In case of bad news, the depreciation/amortization of net assets is much timelier instead of writing up net assets in case of good news, which is barely done in practice. So, expenses and losses are immediately recognized in the income statement, while there is a higher degree of verification needed to recognize revenues and gains in the income statement. As a result of the asymmetrical verification requirements, both net assets and accounting earnings are, in case of conditional conservatism, understated. Conditional conservatism is often measured and identified in literature. An example is the article of Basu (1997): he states that earnings reflect bad news earlier and more complete than good news. The focus in this thesis is on conditional conservatism. This kind of conservatism is consistent with the contracting and litigation explanations, which are the most sensitive explanations during the crisis. The changes caused by the crisis are further elaborated in section 3.5.

Unconditional conservatism

Another type of conservatism is unconditional conservatism. When the management of a company has implemented a strategy of unconditional conservatism, they are understating the book value of net assets by using specific accounting standard and rules. During their whole operating time, net assets are understated in the balance sheet. This is the reason that unconditional conservatism is often called balance sheet conservatism. Other names for unconditional conservatism are news independent conservatism or ex-ante conservatism. Feltham and Ohlson (1995) designed a model to measure unconditional conservatism by associating book value with market

value, the market-to-book ratio. The higher the difference between book value and the market value of net assets, the higher the level of unconditional conservatism.

2.1.4 Measurement methods of accounting conservatism

In literature, several different methods to measure conservatism can be distinguished. Based on a survey of Wang(2009) there can be concluded that the most used model to measure conservatism is Basu's asymmetric timeliness measure (AT). See table 2.1:

	AT	AACF	MTB /BTM	NA	HR	Others
No. of papers	37	7	13	10	9	9

Table 2.1: Measurement methods of accounting conservatism

Where AT is the asymmetric timeliness measure of Basu (1997), AACF is the asymmetric-accruals-to-cash flow measure of Ball and Shivakumar (2005), MTB/BTM is the market-to-book ratio, NA is the negative accruals measure of Givoly and Hayn (2000) and HR is the hidden reserves measure of Penman and Zhang (2002). The accruals method, market-to-book method and the asymmetric timeliness measure of Basu are further explained in the next sections:

Accruals

Accruals are expenses or revenues which cover an accounting period, but the cash completion is done in the prior or next accounting period. Conservative accounting advance the recognition of losses but defer the recognition of gains. This asymmetry between the recognition of expenses and revenues will lead to an asymmetry in the accruals. The losses are totally accrued, but the gains are not. So, when companies using conservatism in accounting, the accumulated accruals are understated and the periodic accruals are negative. In the paper of Givoly and Hayn (2000), accounting conservatism is measured by these negative and accumulated accruals.

Market-to-book ratio

The market-to-book ratio (MTB) shows the understatement of net assets relative to market value if a company is using conservatism. It reflects the asymmetric verification between the early recognition of expenses and the deferred recognition of income. This measure model is often used in the literature to detect conservatism. Examples of articles which are using the MTB ratio are Beaver and Ryan (2000), Feltham and Ohlson (1995) and Ahmed and Duellman (2007). The article of Beaver and Ryan (2000) described the assumption that conservative accounting hence the understatement of book-to-market ratios because net assets are understated. They regressed the MTB ratios on the company dummy variables and returns for a couple of years. The coefficient of the dummy variables predicts the variation between the book value of the firm and the market values of equity. The lower the coefficient of the dummy variables, the lower is the book value compared to the market values. This indicates a higher degree of conservatism in accounting.

The market-to-book ratio is a very noisy measurement method of accounting conservatism. This is because the MTB ratio also shows the growth opportunities and economic rents generated from assets-in-place.

Asymmetric timeliness measure model

To measure accounting conservatism, Basu (1997) refers to the association between stock price movements and earnings in periods of good and bad news. The asymmetric timeliness of earnings can be explained by the fact that bad news is quicker reflected in earnings than good news. Thus, when companies are using accounting conservatism, bad news is more reflected in earnings than good news. Consequently, in periods of bad news, the earnings are expected to be more correlated with the stock price movements compared to periods with good news. These periods of bad and good news are identified by the sign of the period's stock return. To test this hypothesis the following regression is used:

$$EPS_{it}/P_{it} = \alpha + \beta R_{it} + \eta DR_{it} + \gamma R_{it}DR_{it} + \epsilon_{it} \quad (2.1)$$

Where EPS_{it} is the earnings per share in year t for firm i , P_{it} is the openings stock price at the

beginning of the year. R_{it} is the annual stock return for the firm and DR_{it} is a dummy variable which has a value of 1 when R_{it} is negative and has a value of 0 when R_t is positive. β measures the response to earnings when returns are positive and $\beta + \gamma$ measures the earnings when returns are negative. When there is conservatism, $\beta + \gamma$ is greater than β .

The findings of Basu's research is that for companies with a negative unexpected return the regression coefficient is higher than for companies with a positive unexpected return. The recognition of bad news in stock prices is thus timelier than the recognition of good news. Because this measure method is often used in literature, a conclusion which can be made is that the model is widely applied. This implies that results obtained from Basu's model are consistent with the theoretical expectations by researchers, which improves the credibility of this model.

Although this model is often used in literature, the model has some limitations. These limitations are described below.

One of the limitations is that bad news is not automatically recognized in the earnings immediately. Following Beaver and Ryan (2005), bad news in earnings is not always recognized. Reasons for this are, for example, the buffers which can be build up for impairments and in conjunction with this, difficulties in assessing these impairments.

According Khan and Watts (2009), the Basu model has some limitations because it will "either measure the industry-year using cross-section of firms in the industry or for a firm using a time-series of firm-years". The limitation of the industry-year measure is that the Basu model assume homogeneous of all firms in one specific industry, while the limitation for time series analyses of firms is the assumption that firm's characteristics will not change during the time. In the next paragraph Khan and Watts' C-score model is discussed, which is capturing some of these limitations.

C-score model

A recent proxy to measure conservatism is the C-score by Khan and Watts (2009). This model is based on the asymmetric timeliness of earnings model of Basu. The main difference between the

C-score and the Basu model is that the C-score captures variation in accounting conservatism. This is very important because most of the changes in accounting conservatism are both time- and firm-specific.

The variation is captured by the following firm-specific characteristics: size, market-to-book ratio and leverage. These variables are varying with conservatism according to theory and also empirically (LaFond and Watts (2008)).

So, the C-score is estimate by using the Basu model, but it considers the size, market-to-book ratio and leverage to diminish the variation by firm-specific characteristics. Khan and Watts (2009) selected these three firm-specific characteristics because they want to capture the four explanations for accounting conservatism (contracts, litigation, taxation and regulation) described by Watts (2003a). They state that these four explanations all vary with the investment opportunity set(IOS) of companies. So, capturing variation in the IOS can capture the variation in conservatism. To capture the IOS of companies they use the market-to-book ratio, size and leverage since these characteristics are common measurement methods for the firm's IOS.

Market-to-book ratio: The market-to-book ratio can be defined as the ratio between the market value and the book value of the company. When a company has a high market value compared to their book value, it is able to generate new sales and therefore they have relative more growth options. As a consequence of these growth options, the agency costs should also increase. To mitigate these agency costs, a company can implement a higher level of conservatism. So, the expected relation between the market-to-book ratio and conservatism is positive. Another factor which can strengthen this positive relationship is that companies with a relative high market-to-book ratio have a more volatile stock return because of the risky growth options. To decrease the probability of lawsuits, which increases when stock returns are more volatile, a company can again implement a higher level of conservatism.

Size: The size of a company can be seen as an indicator of the maturity of the company. When a company is more mature, there are more analysts who are following the company, which means a richer information environment. This will reduce uncertainty and eventually information asym-

metries. The reduction in information asymmetries will be weakened by the fact that larger companies have a more complex structure and more complex operations. According to the literature (Easley, Hvidkjaer, and O'Hara (2002)), the net effect is that those companies which are more mature have lower information asymmetries compared to smaller companies. Since information asymmetry is part of the contracting explanation for conservatism, lower information asymmetries will lower the level of accounting conservatism. Shareholder litigation, another explanation for conservatism, is likely to increase for larger companies. Because larger companies are more resistant for suits and are more used to suits, people are more likely to sue large companies instead of small companies. This will increase litigation risk and subsequently the level of conservatism. Thus, conservatism will decrease as a consequence of lower information asymmetries and will increase as a consequence of higher litigation risk. Therefore, the relation between the size of a company and the level of conservatism is not clear.

Leverage: Leverage is measured as the ratio between debt and equity. When this ratio is high, meaning a high amount of debt compared to equity, the agency conflicts between lenders and shareholders are high. Accounting conservatism will value net assets at a lower bound which reduces the dividend payments and subsequently opportunistic behavior. Therefore, there remain sufficient net assets to repay lenders. Contracting will increase as a consequence of these agency conflicts which imply a higher level of conservatism. Another consequence of high leverage is that the company becomes more risky, which increases the shareholder litigation incentive for conservatism. So, the expected relation between leverage and conservatism is positive.

To measure the C-score, Khan & Watts uses the model of Basu:

$$X_i = \beta + \beta_2 D_i + \beta_3 R_i + \beta_4 D_i R_i + \epsilon_i \quad (2.2)$$

X_i is the earnings per share in year i divided by the opening stock price in year i , R_i is the annual stock return in year i and D_i is a dummy variable which has a value of 1 if R is negative and has a value of 0 when R is positive. β_3 reflects the timeliness of good news and β_4 measures the timeliness of bad news over good news. Considering Basu's formula, Khan & Watts measure the G-score and C-score which estimates the timeliness of good (G-score) and bad (C-score) news as a linear function of firm-specific characteristics:

$$G - score = \beta_3 = \mu_1 + \mu_1 Size_i + \mu_1 M/B_i + \mu_1 Lev_i \quad (2.3)$$

$$C - score = \beta_4 = \lambda_1 + \lambda_1 Size_i + \lambda_1 M/B_i + \lambda_1 Lev_i \quad (2.4)$$

In these formulas $Size_i$ stands for the size of the company in year i measured by the natural logarithm of the total equity, M/B_i stands for the market-to-book ratio in year i measured by the market value at year end divided by the book value per share and Lev_i stands for the leverage of a firm in year i measured by the percentage of total debt to common equity.

The sum of the G-score and C-score is the total bad news timeliness while the C-score will measure accounting conservatism. Khan & Watts state: “Empirical estimators of μ_i and λ_i , $i=1-4$, are constant across firms, but vary over time since they are estimated from annual cross-sectional regressions”. The G- and C-score will change over time because of the change in μ_i and λ_i , $i=1-4$ and the firm characteristics, but also because of the change in cross-sectional variation in the market-to-book ratio, size and leverage. The G-score and C-score are implemented in formula (2) and together with some extra terms to control for the interaction term, the model used to estimate the C- and G-score is:

$$\begin{aligned} X_{it} = & \beta + \beta_2 D_i + R_i(\mu_1 + \mu_2 Size_i + \frac{\mu_3 M}{B_i} + \mu_4 Lev_i) \\ & + D_i R_i(\lambda_1 + \lambda_2 Size_i + \frac{\lambda_3 M}{B_i} + \lambda_4 Lev_i) \\ & + (\delta_1 Size_i + \frac{\delta_2 M}{B_i} + \delta_3 Lev_i + \delta_4 D_i Size_i \\ & + \frac{\delta_5 D_i M}{B_i} + \delta_6 D_i Lev_i) + \epsilon_i \end{aligned} \quad (2.5)$$

2.1.5 Conclusion

The best suitable definition for accounting conservatism is described by the IASB as “a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered”.

There are several reasons why the management of a company could implement accounting conservatism in their financial reporting. The most well known and accepted incentives and explanations for conservatism are contracting, shareholder litigation, taxation and accounting regulation. Contracting is an instrument which can be used to mitigate moral hazard, which is caused by asymmetric information and limited time horizons among different parties. Some examples of the contracting explanation are debt contracts, executive compensation contracts and corporate governance. The second explanation is shareholder litigation. When a company is overstating their net assets and earnings, the probability of lawsuits should increase. That is why a company can lower their expected litigation costs by implementing accounting conservatism. The third explanation focuses on taxation. Companies are able to defer taxes when they are using conservative methods in recognition earnings. This will reduce taxable income and taxes to be paid. The last explanation is the accounting regulation explanation. This explanation is not influenced by a company but by accounting setters and regulators. They have political responsibility for the consequences of accounting standards, and so they will design conservative accounting standards to avoid damage to their professional reputation. Considering the impact of the crisis, the contracting- and shareholder litigation incentives are the most changeable incentives during the crisis for companies. Also the accounting regulating explanation become more important for accounting setters and regulators.

There are several measurement methods for measuring accounting conservatism. Often used methods are for example the accrual method and the market-to-book ratio method. The asymmetry between the recognition of expenses and revenues will lead to an asymmetry in accruals, while the market-to-book ratio shows the understatement of net assets relative to market value when a company is using conservatism. Because the market-to-book ratio also shows the growth opportunities of the net assets, this is a noisy measurement method. The most used method to measure conservatism is developed by Basu (1997). He refers to the association between stock price movements and earnings in periods of good and bad news. The core of this asymmetric timeliness measure model is that bad news is timelier reflected in earnings than good news. Also this model has some limitations. One of these limitations is that the model assumes homogeneous of all firms and that firm's characteristics will not change during the time. A model which captures these limitations is the C-score model of Khan and Watts (2009). This model is based on the model of Basu (1997) but it also captures some of the firm-specific characteristics. Because

most changes in accounting conservatism are both time- and firm specific, this model is most suitable for measuring conservatism and will be used in this thesis.

2.2 The economic crisis

In this section the current economic crisis is described. After a short introduction, the causes and consequences of the economic crisis are discussed which leads to answering the sub-questions: What are the causes and consequences of the current economic crisis?

2.2.1 Introduction

The economic crisis, which started as a financial crisis, has its origin with the bursting of the housing bubble in the United States in the summer of 2007. Major financial institutions that had borrowed and invested in subprime mortgages reported significant losses. They became in trouble and had to write-off hundreds of billions dollars. As a consequence, there was a lack of trust between the financial institutions because it was not clear who was involved in these subprime mortgages. Although the concerns about the financial institutions raised, most people in Europe believed that the European economy was resistant for these financial problems.

After the bankruptcy of Lehman Brothers and the intervening of the American government to rescue Fannie Mae and Freddy Mac in September 2008, this believe changed in Europe. The problems for these large financial institutions also contaminated several other financial institutions in Europe and the United States. As a consequence, worldwide panic broke out. Stock markets decline dramatically and several other banks became in trouble. Some examples are: Fortis, Bear Stearns and ABN-AMRO. It is because governments bailed out some major financial institutions to provide economic stability, otherwise the consequences of the crisis were not be foreseen.

2.2.2 Causes of the economic crisis

The first cause of the economic crisis is the lending practices of a lot of financial institutions in the United States. They sold a high amount of subprime mortgages to their customers. These subprime mortgages are having easier loan incentives because of the long-term trend in rising housing prices. At the start of 2008, almost 10% of the mortgages were subprime mortgages. Because the demand for houses decreased and the supply for houses increased, the housing prices started to drop. This also declined the value of the subprime mortgages. Banks which were involved in the subprime mortgages report huge losses and had to write-off hundreds of billions dollars. The uncertainty in the financial market caused a lack of trust between financial institutions. The interbank money market suffered from this, because the rates for short-term loans in the interbank market are sharply increased (see figure 2.1) and as a consequence there was almost no borrowing and lending between financial institutions. This lack of liquidity caused problems for banks to cope with their short-term debts. After the bankruptcy of Lehman Brothers, worldwide panic broke out and several other financial institutions in Europe and the United States became in trouble.

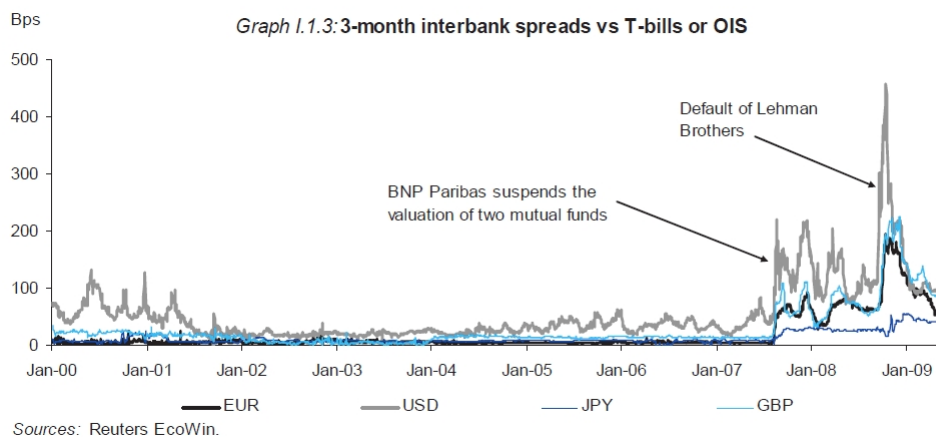


Figure 2.1: The interbankmarket during 2000 and 2009

Another cause of the economic crisis is the usage of Collateralized Debt Obligations (CDO) and Credit Default Swaps (CDS) by financial institutions. CDO are a special kind of obligations where the certainty is provided by collateral. This collateral mostly exists of a bundle of mortgages. CDS are contracts between two parties where the credit risk is transferred to a third

party. These financial instruments which are based on loans and bonds, are over-the-counter trades which mean that they are not traded on an exchange. So CDS trades are not visible for the public. Former SEC chairman Cox once said: “The virtually unregulated over-the-counter market in credit-default swaps has played a significant role in the credit crisis”. These financial instruments (CDS and CDO) take advantage of a low credit risk. These instruments are sold to customers based on the increasing housing prices. The risks which were associated with those instruments were misinterpreted by banks and caused overstating of future earnings and a too optimistic view of the performance of the financial institutions.

The last cause discussed in this thesis is the failures at companies which are a consequence of weaknesses in corporate governance. One of these weaknesses is the remuneration systems implemented by companies. In some companies the bonus of the management are not in line with the strategy and risk appetite of the company. Managers did behave in a way which is not in line with the long-term interest of the company. Assuming that managers are having a limited time horizon and limited liability, they will behave in an opportunistic way. A study of Lapido, Nestor, and Risser (2008), which investigated the CEO remuneration of European banks in 2006, state that 24% of the annual salary is fixed salary, 36% is annual cash bonuses and the remaining 40% is for long term bonuses. This implies significant short term incentives for managers which are not in line with the long term strategy of the company. Another corporate governance issue is the fact that some researches (Moody’s (2005) and Guerra and Thal-Larsen (2008)) conclude that the board member of banks often have a lack of banking- and financial experience. When board members have not enough experience in times of crisis, the probability of failures at these companies during the crisis could increase.

2.2.3 Consequences of the economic crisis

One of the main consequences of the economic crisis is the intervention of government in some financial institution to prevent these institutions from bankruptcy. Governments now own some financial institutions and had some major participation in other institutions. When the government has interest in these companies, they have to be more conservative in accounting because the companies are now indirectly part of the taxpayers.

Another consequence of the crisis is a sharp increase in the number of lawsuits. During the economic crisis, a lot of investors lost a significant amount of money, which increases the probability of lawsuits against companies. In a report of Advisen ² can be seen that the number of securities suits in the United States rose during the economic crisis. The year 2010 was a record year in the amount of lawsuits filed, with 1196 lawsuits filed. This amount is only a little higher than 2009, with 1171 lawsuits filed. Compared to the relative calm year 2005, which was in the pre-crisis period, the amount of lawsuits increased with 71% at the end of 2010 (see figure 2.2).

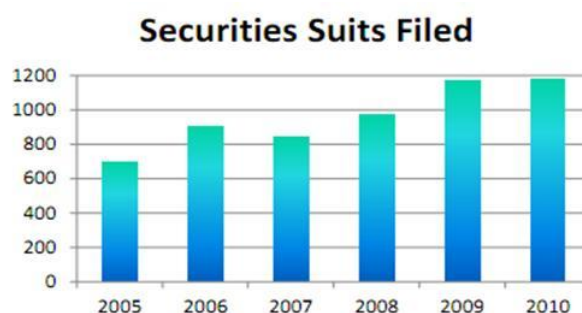


Figure 2.2: Amount of suits in the United States during 2005 and 2010

Figure 2.3 shows the major types of suits. In most of the cases there was securities fraud involved. These suits were filed by regulators and law enforcement agencies when there was a violation of securities laws. Another 33% of the cases was because of a breach of fiduciary duty. These suits were filed when directors or managers failed to fulfill the fiduciary duties, which are the result from federal and state securities laws. A note to this article is that the results were gathered in the United States and are therefore not automatically a benchmark for the European Union. This is because suing is more common in the United States compared to the European Union.

The remunerations for management prior to the crisis are for many people seen as a main cause of the crisis. They handled in self-interest and take inappropriate risk to higher the short term profits. This led to a lot of critics which increased the awareness towards the excessive bonus culture. As a part of the improved corporate governance codes, the remunerations for management are now visible for all stakeholders. The revision of the bonuses led in some cases to a decrease of the remunerations for management and even some managers take distance from their bonuses at all.

²https://www.advisen.com/downloads/sec_lit_Q42010_report.pdf

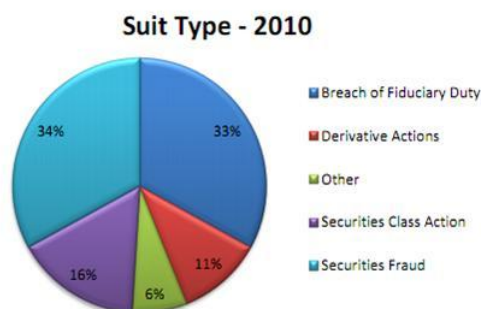


Figure 2.3: Type of suits in 2010

Never before, accounting standards have been so much to the forefront of high level political and economic debate as during the current economic crisis. Because of the impact of the crisis, there were a lot of concerns and critics about the International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS). Maybe the most criticized part of IFRS is the fair value measurement method. “The accounting method based on observable transaction prices or, if none are available, evaluation models.” One of the main problems with fair value accounting is that guidance to measure fair value is inconsistent across the standards. The response from the IASB to these inconsistencies is to make a single standard where is explained how to measure fair value where fair value in the existing standards is permitted or required. Another comment on fair value is the fact that it is hard to measure the fair value in illiquid markets. To solve this, the IASB implemented an external expert advisory panel, which is able to measure the fair value in illiquid markets.

Also standard IAS 39 about financial instruments is going to be revised. In this standard the recognition and measurement of financial instruments is described. The current standard is complex and the information disclosed by this standard is not always very useful. The purpose of the revised standard is to make this standard simpler and improve the usefulness of the financial statements.

A consequence concerning the use of credit default swaps, which is one of the causes of the crisis, are some proposals to regulate the trading in CDS. In January 2009, there was a proposal in the United States for legislation which forbids the trade in CDS. Another suggestion was the

establishment of a central clearinghouse to give more transparency in this market. In 2010 the pressure to implement regulations around CDS grows but till now, there are still no changes in the use of CDS.

2.2.4 Conclusion

In this conclusion an answer will be given to the sub-question: What are the causes and consequences of the current economic crisis. Among a lot of causes for the economic crisis mentioned in literature³, some of the most important causes are described in this thesis. The first cause is the troubles caused by the subprime mortgages. Uncertainty about which financial institutions are affected by the decline of the value of these mortgages resulted in a lack of trust between financial institutions. As a consequence, there was no trading and borrowing which caused a lack of liquidity and banks became in trouble. After the bankruptcy of Lehman Brothers, worldwide panic broke out and several other financial institutions in Europe and the United States become also in trouble. Also the use of CDO and CDS by financial institutions plays a significant role in the arise of the crisis. The risks involved with these instruments were misinterpreted and caused overstating of future earnings and a too optimistic view of the performance of these financial institutions. The last cause mentioned in this thesis is the failure in corporate governance. An example of this failure is the excessive remuneration of some managers which was not in line with the risk appetite of the company. Considering the limited time horizon and limited liability, managers had incentives to behave in an opportunistic way. There can be concluded that there is no single cause which can explain the crisis, but that there are a lot of different causes which together resulted in the start and development of the economic crisis.

The consequence of the economic crisis are also numerous. In view of accounting conservatism, an important consequence is the increase in the number of lawsuits. Because many people lost a significant amount of money, the probability of lawsuits against companies increased. This resulted in an increase of 71% in the number of lawsuits in 2010, compared to 2005. Another consequence of the crisis is an improvement in the corporate governance codes. As part of these corporate governance codes, the remunerations of managers are now visible for everyone which resulted in decreased remunerations. The last mentioned consequence of the crisis is the revision

³See Mark Jickling: Causes of the Financial Crisis for an overview

of some accounting standards. Especially the fair value measurement method received a lot of critics. The guidance to measure fair value is inconsistent across the standards. The response from the IASB to these inconsistencies is to make a single standard where is explained how to measure fair value.

Chapter 3

Literature review

In this chapter prior research about accounting conservatism is discussed. The first section is about the existence of conservatism in literature. Section two continues with the effects of the implementation of IFRS on accounting conservatism. In sections three and four an overview is given of the Asian crisis and the comparison with the current economic crisis. Subsequently, in section five the expected link between the economic crisis and accounting conservatism is described. Finally, this chapter ends with a conclusion.

3.1 Existence of accounting conservatism

The paper of Basu (1997) is seen as one of the most important articles in the field of accounting conservatism. In this article, Basu characterizes conservatism as the timelier recognition of bad news in earnings compared to good news. Since efficient financial markets represent all public available news; news is measured as the return go up (good news) or go down (bad news). The elaboration of the measurement model of Basu can be found in section 2.4. Basu investigated all firm year observations on the CRSP NYSE/AMEX between 1963 and 1990. The conclusion from this research is that earnings are more sensitive to negative unexpected returns compared to positive unexpected returns. So, earnings are timelier in reporting bad news than good news, which implies accounting conservatism.

Givoly and Hayn (2000) investigated all companies which are included in the Compustat database in the period 1950-1998. They detect that the percentage of companies which report losses increased from 2-3% to 35% at the end of the research period. Considering the cash flows from operations to assets which do not show this trend, they concluded that these losses are not because of the economic performance but because of the accruals. Givoly and Hayn (2000) used four methods to measure conservatism: the Basu model, the market-to-book ratio, the accruals

method and the skewness of earnings method. All these methods shows an increase in conservatism during the research period.

Also some research is performed which measured the difference in accounting conservatism between countries and coherent different regulations. An example is the article of Ball, Kothari, and Robin (2000). They investigated the relation between institutional factors and earnings properties in seven countries. The results of this research indicated that in code-law countries (France, Germany and Japan) accounting income is less timely compared to common-law countries (Australia, Canada, United Kingdom and the United States).

In the article of Grambovas, Giner, and Christodoulou (2006) their research about earnings conservatism in both the United States and the European Union is described. They used the reversed model of Basu to measure conservatism, which is using the closing stock prices and net income after extraordinary items. Grambovas et al. (2006) concluded that between 1989 and 2004 accounting conservatism increased in both the United States and the European Union. In the European Union in these years there were a lot of major economic events, like the Maastricht Treaty and the introduction of the euro, which can have an influence on the practice of accounting conservatism. Since conservatism both increases in the United States and the European Union between 1989 and 2004, there is no evidence that these events influence conservatism. So, there are no major differences in the change of timeliness of earnings between the United States and the European Union.

Pope and Walker (1999) investigated the differences in accounting conservatism between the United States and the United Kingdom. These two countries both use their own financial reporting standards, which are US-GAAP and UK-GAAP. The conclusion from this article is that earnings, concerning bad news, are timelier in the United Kingdom than in the United States between 1976 and 1996. An explanation for these differences is that US-GAAP is rules-based while UK-GAAP is more principles-based.

In the article of Garcia Lara et al. (2009), the effects of the four explanations for accounting conservatism (contracting, shareholder litigation, taxation and regulation) mentioned by Watts

(2003a) are investigated. They researched the influence of these four explanations on both conditional and unconditional conservatism. The sample used in this research consists of all listed US firms in the period between 1964 and 2005. The outcomes of this research are that the contracting explanation causes conditional conservatism while the shareholder litigation, taxation and accounting regulation explanation causes both earnings and balance-sheet conservatism. They also show that the taxation and regulation pressure, which vary during the time, give managers incentives to shift the income of the company to periods with lower taxation and regulation pressure.

3.2 Effects of the implementation of IFRS on accounting conservatism

Since 2005, all listed companies in the European Union are obligated to report their financial statements following the International Financial Reporting Standards (IFRS). These standards include the old International Accounting Standards (IAS), which are revised and elaborated, together with some new standards. An important difference with the IAS and other local Generally Accepted Accounting Principles (GAAP), is that the basis for reporting under IFRS is based on fair value. The 'old' reporting regulation allows companies to value their assets for the purchase price, but with IFRS for some assets fair value is the basis. Examples of these assets valued at fair value are financial instruments. In 2005, the European Union endorsed the revised version of IAS 39 where the recognition and measurement of financial instruments is described. In this revised version, financial instruments are measured by their fair value.

Before the introduction of IFRS in the European Union, every country used their own local accounting regulation. So, the implementation caused mixed changes in the different countries. Because IFRS is principle-based, countries which used a rules-based accounting system has to make huge changes. The Anglo-Saxon countries, like the United Kingdom and Ireland, already used a principle-based system together with a 'true and fair view' approach, what is also in line with IFRS. For these countries, only a few changes had to been made. Continental European countries used local accounting systems which were rules-based. These countries had to change to regulation which requires more estimates and which are more forward looking. An-

other important point is that the professional judgments of the auditors become more important.

In the article of Piot, Dumontier, and Janin (2010) some of the specific consequences of the implementation of IFRS are described. The first change is described in IFRS 3. In this standard is mentioned that the amortization of goodwill is replaced by impairment tests and the goodwill is only amortized when necessary. This first method of the amortization of goodwill is systematic and news-independent, while impairment tests are more news dependent. The expected change of this more neutral accounting standard is that conditional accounting conservatism will decrease. Another change which can lead to a decrease of conditional conservatism, is the requirement to capitalize purchased or internally developed intangible assets that meet the criteria of IAS 38. The recognition of these assets gives the opportunity to less conditional conservatism in future depreciations.

Andre and Filip (2011) investigates the change in level of accounting conservatism caused by the implementation of IFRS. In this article they researched 7213 firm-years observations from European listed companies between 2003 and 2007, which had to adopt IFRS in 2005. Andre and Filip (2011) examined the level of conditional accounting conservatism in the pre-IFRS period and the post-IFRS period. The results confirm the decrease of accounting conservatism after the implementation of IFRS for the whole sample. Only a few countries show a positive but not significant coefficient (Norway, Denmark and Ireland), while seven countries had a significant negative coefficient (Germany, Spain, Greece, Portugal, France, Switzerland and the Netherlands). Another finding from this research is a significant decrease of accounting conservatism in Code law countries, while this is not significant for Common law countries. The important outcome of this research is that differences between European Union countries are almost disappeared.

What can be concluded from these articles is that financial reporting is sensitive to incentives which influence the behavior of managers. Therefore, the introduction of IFRS has influence on the financial reporting practice in the European Union. Due to this important impact on the financial reporting practice, and consequently on the level of accounting conservatism, this thesis will investigate the period after the introduction. So, the research period will start in 2005 to diminish the effect of IFRS and the several different accounting systems prior to IFRS.

3.3 Accounting conservatism during the Asian crisis

In this section, literature about accounting conservatism during the Asian crisis is discussed. This provides an analogy which can be used as a foundation for this research.

Gul, Srihidhi, and Shieh (2002), study accounting conservatism during the financial crisis of Hong Kong, between 1996 and 1997. The results of their study show a diminished level of accounting conservatism in these years. The most important reason for this decline as mentioned by Gul et al. (2002) is the pressure on managers to report more positive news. A consequence of this decline in accounting conservatism is the possibility to violate standards and regulation because of a more aggressive form of reporting.

So, an important consequence of the economic crisis is the pressure on managers to report more good than bad performance to their investors. Bad news to investors will increase uncertainty and as a consequence the herding behavior. Kaminsky and Schmukler (1999) stated in their article that the huge daily fluctuations on the stock market in Asia during the crisis (1997-1998) are influenced by the herding behavior of investors on the stock market. They conclude that “investors over-react to bad news.” Kodres and Pritsker (2002) also give evidence for the increase in information asymmetry during the crisis. They argue that “when the macroeconomic variables are stable, most companies will be in sound financial condition, and therefore knowledge of companies’ access to emergency funding from public or private sources will have relatively little value” (Kodres and Pritsker (2002), p. 794). During the crisis, investors can judge companies only on the access to the emergency lines of credit. Because investors cannot obtain information from other sources of credit, the information of informed investors are more valuable. This will increase information asymmetry and as a consequence the contagion effect.

Based on the above finding of Kodres and Pritsker (2002) and Kaminsky and Schmukler (1999), Vichitsarawong, Eng, and Meek (2010) investigates if companies during a crisis will choose a more aggressive form of accounting to give more positive information in order to reduce the negative impact of the crisis. Their research focuses on four East Asian countries (Hong Kong, Malaysia, Singapore and Thailand) around 1997, which is the most significant year in the Asian crisis. The results show that companies are likely to be less timely in releasing bad news and

are less conservative in accounting. After the crisis the companies in these countries improved their corporate governance, for example through improved regulation and supervision, what improved timeliness of earnings and conservatism after the financial crisis. The conclusion of their research is that during the crisis, timeliness and conservatism are low in these countries. But accounting conservatism improved in the post-crisis period and is even higher than before the crisis.

From the Asian financial crisis can be concluded that an important effect of the crisis is that companies are less timely in releasing bad news. As a consequence, accounting conservatism during the crisis is diminished. Another conclusion is that the financial crisis has a positive impact on accounting conservatism because improved corporate governance, conservatism in the post-crisis period is higher than the pre-crisis period.

3.4 Comparison between the current economic crisis and the Asian crisis

Because the Asian crisis is the most serious crisis in the last decades, the influence of this crisis to accounting conservatism can be compared to the influence of the current economic crisis on conservatism. The conclusion from the Asian crisis is that conservatism decreased during the crisis. But these results are not automatically comparable to the recent crisis. The main difference between these two crises is caused by the characteristics of the economies and financial systems in the emerging countries in East-Asia and those in the developed Western world. Prior 1997, the regulation in the Asian countries was less strict than the regulation in the Western world. Also the financial markets were more mature and developed in the Western world in contrast to the financial markets in the Asian countries.

Another difference between Asia and the Western world is that the Western world learned some lessons from the past due to prior crises, like the Great Depression and the collapse of the Bretton Woods monetary system. These crises improved the supervisory and insurance systems in the Western world to be more resistant to a future crisis.

Despite the results of the most serious predecessor of the current crisis shows a decrease in the

level of accounting conservatism, this conclusion cannot automatically be expected for the results of this thesis. The more regulated and better supervised financial market in the Western world decreases the incentives of the managers to decline the level of accounting conservatism in crisis times. The crisis can even lead to a higher level of conservatism due to the reasons described in the next section.

3.5 Effect economic crisis on accounting conservatism

This section will provide a summary of the expected link between the economic crisis and accounting conservatism. This section is divided into the three main explanations for accounting conservatism: contracting, shareholder litigation and taxation.

3.5.1 Contracting

This part illustrates the contracting explanation and how accounting conservatism deals with the problem of moral hazard. When taking a look at the economic crisis, opportunistic behavior conducted by managers is an important cause of the economic crisis. For example, investment bankers provided a lot of subprime-mortgages. These are loans to people who have difficulty maintaining the repayment schedule. Considering this, it can be expected that investors would have demanded more protection during the economic crisis, thus more stringent debt contracts. Stringent debt contracts will express itself in higher levels of accounting conservatism.

In order to attract capital, it can be expected that it gives management incentives to apply higher levels of accounting conservatism, because the contracting explanation gains more power during the economic crisis.

3.5.2 Shareholder litigation

One of the major effects of the economic crisis is the fact that it puts pressure on managers to report more positive news. Managers attempt to show more positive than negative performance to the stock market in order to report to shareholders and stakeholders as well as expected. The

pressure on managers makes companies vulnerable to them acting on their own benefit instead of in favor of the shareholders or the company's benefit. Applying higher levels of accounting conservatism in the policies of a company, is a good way to prevent management harming the company by acting towards their own benefit. The possibility of overstating assets or earnings, in order to meet their own goals, would be reduced as more conservative methods are applied.

So, it is expected that, during the economic crisis in which thousands of investors have lost significant amounts of money, there will be an important rise of litigation against publicly held firms. During the economic crisis it did; the economic crisis caused a great increase in litigation, a reaction that hit in 2008 and became worse in 2010, due to several causes such as securities fraud (see figure 2.2 and 2.3).

3.5.3 Taxation

In times of crisis, organizations try cutting costs as much as possible. It is understandable that during a crisis, in which all organizations have been affected, the levels of taxes to be paid will decrease proportionally as gains decrease. However, management of organizations could, by applying more conservative methods, have the opportunity to defer some of the taxes that have to be paid in the current year. This could be legally achieved by deferring gains and recognizing all losses at once.

For this reason, there can be concluded that the taxation explanation gains more value during the economic crisis, because it gives management incentives to apply higher levels of accounting conservatism.

3.6 Conclusion

The existence of accounting conservatism is demonstrated in several articles. Basu (1997) concludes that earnings are more sensitive to negative unexpected returns compared to positive unexpected returns. However, the level of conservatism differs between countries and coherent different regulations. Ball et al. (2000) found that code-law countries are less timely in recognizing

earnings compared to common-law countries. The effect of the implementation of IFRS is a reducing of the differences between the levels of conservatism in the European Union. In general, the consequences of IFRS are a decrease of accounting conservatism, caused by the more neutral view of IFRS. To diminish the effects of different local accounting standards before mandatory IFRS in the European Union, the research period starts in 2005.

The effect of the Asian crisis on the level of accounting conservatism is used as an analogy for this research. Gul et al. (2002) and Vichitsarawong et al. (2010) show a diminished level of accounting conservatism during the crisis years. Most important reason is the pressure on managers to report more positive news. Bad news to investors will increase uncertainty and as a consequence herding behavior. These conclusions cannot automatically be translated to the current economic crisis. The more regulated and better supervised financial market in the Western world decreases the incentives of the managers to decline the level of conservatism during the crisis.

The expected outcome of the link between the economic crisis and accounting conservatism is hard to define. On the one hand, is expected that conservatism will increase during crisis time. Due to the increased power of the contracting explanation, the incentives for managers to apply higher levels of conservatism are also increased. Furthermore, due to the higher risk of being sued, companies could prevent this by a higher level of conservatism. On the other hand, is expected that conservatism will decrease during the crisis. The pressure on managers to report more positive news to shareholders and stakeholders is the most important reason to decrease the level of conservatism. This is also in line with the findings from the Asian crisis.

Chapter 4

Research design

4.1 Introduction to the research design

The central problem which is addressed in this study is the impact of the economic crisis on accounting conservatism. Based on the effects described in the literature review, it would be expected that an economic crisis will lead to a trend of more conservative and stringent approach of rules and regulations. Besides changes in laws and regulation the current crisis has resulted in an increase in litigation cases as can be seen in figure 2.2. The expected trend of more conservative methods during the economic crisis is also positive affected by the defense mechanism to prevent opportunistic behavior of managers (contractual explanation), which is seen as an important cause of the economic crisis. However, other theories (Kodres and Pritsker (2002) and Kaminsky and Schmukler (1999)) state that accounting conservatism would actually “decline because of the pressure that is put on managers to report only good news during bad times”.

This thesis aims to find evidence on existence and magnitude of the assumed relation between the crisis and accounting conservatism. For that reason, a comparison will be made between the level of accounting conservatism drawn by companies prior to the economic crisis, and the accounting conservatism of companies during the economic crisis.

4.2 Methodology

The C-score model of Khan and Watts (2009) will be used to measure accounting conservatism. One of main advantages of the C-score is that this model also takes the time series and cross-sectional variation in individual firm characteristics in consideration.

$$\begin{aligned}
X_i = & \beta + \beta_2 D_i + R_i(\mu_1 + \mu_2 Size_i + \frac{\mu_3 M}{B_i} + \mu_4 Lev_i) \\
& + D_i R_i(\lambda_1 + \lambda_2 Size_i + \frac{\lambda_3 M}{B_i} + \lambda_4 Lev_i) \\
& + (\delta_1 Size_i + \frac{\delta_2 M}{B_i} + \delta_3 Lev_i + \delta_4 D_i Size_i \\
& + \frac{\delta_5 D_i M}{B_i} + \delta_6 D_i Lev_i) + \epsilon_i
\end{aligned} \tag{4.1}$$

Where X_i is the earnings per share in year i divided by the opening stock price in year i , R_i is the annual stock return in year i and D_i is a dummy variable which has a value of 1 if R is negative and has a value of 0 when R is positive. The firm-specific characteristics in this formula are the following: $Size_i$ is the size of the company in year i measured by the natural logarithm of the total equity, M/B_i is the market-to-book ratio in year i measured by the market value at year-end divided by the book value per share and Lev_i is the leverage of a firm in year i measured by the percentage of total debt to common equity.

This formula is estimated every year to obtain the variables $\lambda_i = 1 - 4$. These variables are substituted in the C-score model and together with the market-to-book ratio, size and leverage the C-score is calculated.

$$C - score = \beta_4 = \lambda_1 + \lambda_1 Size_i + \lambda_1 M/B_i + \lambda_1 Lev_i \tag{4.2}$$

4.3 Hypotheses

4.3.1 Hypothesis one

The main question of this thesis is: ‘**Has financial reporting in the European Union become more conservative as a consequence of the current economic crisis?**’. To answer this main question the first hypotheses has to be investigated:

H₀₁: During the current economic crisis, accounting conservatism in the financial statements is lower than in the pre-crisis period.

H₁₁: During the current economic crisis, accounting conservatism in the financial statements is higher than in the pre-crisis period.

In order to test these hypotheses, the results of the pre-crisis period and the results during the crisis are compared. The crisis period in Europe is considered as the period between 2008 and 2010, while the pre-crisis period is considered as the period 2005 until 2007. A limitation to this research is that even though 2010 is a year that could be considered as of recovery to many organizations worldwide, there are still countries that are in crisis times. Examples are Greece and Portugal. It could be argued that the economic crisis was not ended by the end of 2010. For this reason, it is not stated in this thesis that the end of the crisis took place in 2010, but the period between 2008 and 2010 is considered as the period in which the European financial world suffered as a consequence of the crisis.

4.3.2 Hypothesis two

Because shareholder litigation is an important explanation for accounting conservatism, the relation between the risk of litigation and the change in accounting conservatism during the crisis will also be investigated in this thesis. To test if this explanation can explain the difference in the level of conservatism between the pre-crisis period and the crisis period, the second hypotheses will be investigated.

H₀₂: Companies with high risk of litigation didn't increase their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis.

H₁₂: Companies with high risk of litigation increased their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis.

Prior research about this topic shows that companies with high risk of litigation will apply higher levels of accounting conservatism due to fear to be sued. By establishing this hypothesis, highly risky companies are expected to increase their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis.

To investigate this hypothesis, firstly companies with high risk of litigation have to be selected. To establish this group a model is needed to measure the probability of litigation. The model which is used in this research is the model of Shu (2000). In his research he established the following model to estimate the probability of litigation:

$$\begin{aligned}
 FbbLit = & -10.049 + 0.276 * Size + 1.153 * Inventory + 2.075 * Receivables \\
 & +1.251 * ROA + 0.088 * Currentratio + 1.501 * Leverage \\
 & +0.301 * Salesgrowth - 0.371 * Stockreturn - 2.309 * stockvolatility \\
 & +0.235 * Beta + 1.464 * Stockturnover + 1.060 * Delistdummy \\
 & +0.928 * Technologydummy + 0.463 * Qualifiedopiniondummy
 \end{aligned} \tag{4.3}$$

Where size is the natural logarithm of the total assets, inventory is the inventory divided by lagged assets, receivables is the receivables divided by lagged assets, ROA is the ratio of net income and total assets, current ratio is the ratio of current assets and liabilities, leverage is the ratio of liabilities and assets, stock return is the annual return, stock volatility is the standard deviation of the stock returns, stock turnover is the percentage of shares which are traded at least once a year. The technology dummy is 1 if the firm's SIC code is in the 2830s, 3570s, 7370s, 8730s and between 3825 and 3829 and 0 for all other SIC codes. The delist dummy is 1 if the firm is delisted within the next year and is 0 otherwise. The dummy qualified opinion is 1 if the auditor gives a qualified opinion and 0 otherwise.

To establish the sample, this regression will be run to all the companies included in sample and, after the results are obtained, the top 300 will be selected. This group will be composed by the companies with higher risk of litigation. The level of accounting conservatism of these companies will be analyzed between 2005-2007 and 2008-2010 in order to obtain a level of variation of accounting conservatism. The results of the companies with a high risk of litigation will be compared to the results of the companies which are not in the top 300 of companies with high risk of litigation.

4.4 Data

4.4.1 Hypothesis one

The data for investigating the first hypothesis consists of the annual data for stock returns, earnings per share, the size measured as the natural logarithm of total equity, market-to-book ratio and the leverage, measured as total debt divided by total equity. This data is gathered from the Worldscope database. This database contains detailed financial statement data from public companies around the world. The data is obtained for all listed companies in the European Union, before the large expansion of the European Union in 2004. So, the countries included in this research are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom. The sample period is 2005-2010. This period is divided in the pre-crisis period, which is between 2005 and 2007, and the crisis period, which is between 2008 and 2010.

Descriptive Statistics (whole period)					
	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	24559	-3,70	1,85	,0074	,22527
Dummy Stock return	24559	,00	1,00	,4676	,49896
Stock return	24559	-1,00	4,15	,0957	,60591
Stock return * Size	24559	-9,70	30,92	,3212	2,42574
Stock return * MTB	24559	-57,06	310,39	,4961	4,89631
Stock return * Leverage	24559	-29,80	93,37	-,0283	1,66135
Stock return * Dummy	24559	-1,00	,00	-,1577	,23510
stock return					
Stock return * Dummy	24559	-9,57	2,23	-,5869	1,04984
Stock return * Size					
Stock return * Dummy	24559	-57,06	,58	-,2905	1,20671
Stock return * MTB					
Stock return * Dummy	24559	-29,80	,68	-,2194	1,08858
Stock return * Leverage					
Ln(Size)	24559	-2,53	11,88	4,2500	2,23438
Market-to-book ratio	24559	,00	74,85	2,4307	3,83971
Leverage	24559	,00	34,06	1,0541	2,43457
Dummy Stock return * Size	24559	-2,53	11,72	1,8354	2,49177
Dummy Stock return * MTB	24559	,00	74,85	,9364	2,69966
Dummy Stock return *	24559	,00	34,06	,5684	2,05941
Leverage					
Valid N (listwise)	24559				

Table 4.1: European Union 2005-2010

The data can significantly be influenced by extreme observations. Instead of removing these outliers, the data is adjusted through winsorising. This means that the observations stay significant high or low, but it ensures that the drawn conclusions are not incorrect because of the outliers. All observations above (or below) the threshold of average plus (minus) three times standard deviation are replaced by this threshold. This is done for all variables used in both hypothesis one and hypothesis two.

Table 4.1, 4.2 and 4.3 show the descriptive statistics and number of observations for all variables included in C-score model of Khan and Watts (2009). This is performed for the whole European Union in the periods 2005-2010, 2005-2007 and 2008-2010. For the detailed information about the descriptive statistics and number of observations of all separated countries, see appendix A. All firm year observations with missing values are excluded from the sample.

Descriptive Statistics (pre-crisis period)					
	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	11496	-3,70	1,16	,0343	,17594
Dummy Stock return	11496	,00	1,00	,3519	,47757
Stock return	11496	-1,00	4,15	,1857	,51815
Stock return * Size	11496	-9,70	30,92	,5182	1,74291
Stock return * MTB	11496	-57,06	310,39	,5777	5,35766
Stock return * Leverage	11496	-25,01	49,21	,0849	1,13827
Stock return * Dummy stock return	11496	-1,00	,00	-,0837	,16050
Stock return * Dummy	11496	-5,22	2,20	-,2753	,59387
Stock return * Size	11496	-57,06	,58	-,2255	1,04125
Stock return * MTB	11496	-11,96	,18	-,0871	,45161
Stock return * Leverage	11496				
Ln(Size)	11496	-2,53	11,88	4,2782	2,21782
Market-to-book ratio	11496	,00	74,85	2,8671	3,80020
Leverage	11496	,00	15,37	,9575	1,99495
Dummy Stock return * Size	11496	-2,53	11,72	1,3321	2,23358
Dummy Stock return * MTB	11496	,00	74,85	,9033	2,60655
Dummy Stock return * Leverage	11496	,00	15,37	,3548	1,34601
Valid N (listwise)	11496				

Table 4.2: European Union 2005-2007

The tables show that the whole sample consist of 24.559 firm year observations, divided in 11.496 firm year observations for the pre-crisis period and 13.063 firm year observations for the crisis period. The impact of the crisis on the stock returns is clearly visible in these tables. The average stock return in the whole research period is 0.096, while the stock return of the pre-crisis period is

Descriptive Statistics (crisis period)					
	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	13063	-1,81	1,85	-,0163	,25879
Dummy Stock return	13063	,00	1,00	,5702	,49507
Stock return	13063	-1,00	3,80	,0165	,66376
Stock return * Size	13063	-9,57	24,88	,1478	2,88538
Stock return * MTB	13063	-39,13	158,42	,4242	4,44989
Stock return * Leverage	13063	-29,80	93,37	-,1280	2,00694
Dummy stock return *	13063	-1,00	,00	-,2228	,26869
Stock return					
Stock return * Dummy	13063	-9,57	2,23	-,8612	1,26536
Stock return * Size					
Stock return * Dummy	13063	-39,13	,13	-,3477	1,33288
Stock return * MTB					
Stock return * Dummy	13063	-29,80	,68	-,3358	1,42110
Stock return * Leverage					
Ln(Size)	13063	-2,40	11,61	4,2252	2,24865
Market-to-book ratio	13063	-,00	63,37	2,0465	3,83340
Leverage	13063	,00	34,06	1,1391	2,76150
Dummy Stock return * Size	13063	-2,40	11,44	2,2784	2,61990
Dummy Stock return * MTB	13063	,00	63,37	,9654	2,77879
Dummy Stock return *	13063	,00	34,06	,7564	2,51077
Leverage					
Valid N (listwise)	13063				

Table 4.3: European Union 2008-2010

0.186 and for the crisis period 0.017. This is a significant decrease of almost 91%. The influence of the crisis can also be seen in the increase of the dummy stock return from 0.352 in the pre-crisis period, to 0.570 in the crisis period. Another significant difference between the pre-crisis and crisis period is the earnings per share divided by the opening stock price. This variable dropped from 0.034 to -0.016. The last remarkable difference is the decrease of the average market-to-book ratio of the companies from 2.867 to 2.047. The decrease in market-to-book ratio implies that investors valued the companies lower during the crisis compared to the pre-crisis period. This is a logical consequence of the economic crisis, when there is a lot of uncertainty at the stock markets.

The volatility of both earnings and stock return is increased between the pre-crisis period and the crisis period. The standard deviation of the earnings is increased from 0.176 to 0.259 and the standard deviation of the stock returns is increased from 0.518 to 0.664. As expected, during crisis times, earnings and stock returns are more volatile due to the increased concerns and uncertainty on the stock markets.

4.4.2 Hypothesis two

According the following formula, there are a lot of variables used to investigate the second hypothesis. ‘Companies with high risk of litigation didn’t increase their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis.’

$$\begin{aligned}
 FbbLit = & -10.049 + 0.276 * Size + 1.153 * Inventory + 2.075 * Receivables \\
 & + 1.251 * ROA + 0.088 * Currentratio + 1.501 * Leverage \\
 & + 0.301 * Salesgrowth - 0.371 * Stockreturn - 2.309 * stockvolatility \\
 & + 0.235 * Beta + 1.464 * Stockturnover + 1.060 * Delistdummy \\
 & + 0.928 * Technologydummy + 0.463 * Qualifiedopiniondummy
 \end{aligned}
 \tag{4.4}$$

The data included in this hypothesis are: size, inventory, receivables, return on assets, current ratio, leverage, stock return, stock volatility, stock turnover, delist dummy, technology dummy, and the dummy qualified opinion. In paragraph 4.3.2 is described how these variables should be interpreted and how they are estimated.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ln(Size)	2090	5,01	19,20	12,1913	2,20978
Inventory/Lagged assets	2090	,00	2,16	,1457	,17226
Receivables/lagged assets	2090	,00	3,57	,2710	,21372
Return on assets	2090	-1,43	1,33	,0385	,16446
Current ratio	2090	,00	29,09	1,9247	2,01813
Leverage	2090	,01	3,45	,5479	,25388
Sales growth	2090	-1,00	8,15	,1906	,52762
Stock return	2090	-,85	2,27	,2472	,50192
Stock volatility	2090	,08	,79	,3326	,12693
Beta	2090	-,97	4,60	,8387	,59165
Stock turnover	2090	,00	,98	,1713	,22571
Delist dummy	2090	,00	,00	,0000	,00000
Technology dummy	2090	,00	1,00	,2636	,44071
Auditors dummy	2090	,00	1,00	,0239	,15285
Litigation risk	2090	-9,29	1,78	-5,0079	1,24506
Probability of litigation	2090	,00	,86	,0147	,04046
Valid N (listwise)	2090				

Table 4.4: Descriptive statistics litigation risk

The data is obtained for all listed companies in the European Union before the large expansion of the European Union in 2004. So, the countries included in this research are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom. The sample period is 2006. Because hypothesis two investigates if companies with higher litigation risk will raise their level of conservatism during the crisis more than other companies, the year of measurement of litigation risk have to be right before the crisis. Since the crisis already started in 2007 in the United States, variables which are used in this hypothesis are influenced. For that reason, litigation risk at companies is measured in 2006.

Table 4.4 shows the descriptive statistics for the European Union in 2006. After removing the missing observations for all variables, 2090 observations are included in this hypothesis. The most important outcome of this table is that litigation risk is between -9.29 and 1.78 with an average risk of -5.01 and a standard deviation of 1.25. The absolute values are useless but the relative outcomes of this variable are important for this research. Therefore, to calculate the relative outcome of the litigation risk, the probability of litigation variable is included. This variable is calculated following this inverse logit formula:

$$P = \frac{e^{Litigationrisk}}{(1 + e^{Litigationrisk})}$$

P = probability of litigation.

The probability of litigation variable is varying between 0.00 and 0.86. For companies with a probability of 0.00, there is, according to the model of Shu (2000), practically no change of litigation. While for companies with a probability of 0.86, a high change of litigation is present. From all companies, the top 300 is selected as companies with high litigation risk. These companies are shown in appendix B.

The average level of the probability of litigation risk of the top litigation companies is 0.061 according table 4.5, while the average level of litigation risk for the other companies is 0.007, according table 4.6.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ln(Size)	300	6,84	19,20	14,4292	2,17125
Inventory/Lagged assets	300	,00	2,16	,1884	,25388
Receivables/lagged assets	300	,01	3,57	,4002	,35724
Return on assets	300	-,97	,90	,0779	,11047
Current ratio	300	,30	29,09	1,5535	1,85023
Leverage	300	,01	3,45	,6968	,29276
Sales growth	300	-,39	8,15	,3514	,96574
Stock return	300	-,71	2,27	,2583	,39260
Stock volatility	300	,13	,66	,2741	,08754
Beta	300	-,44	4,60	1,0350	,66770
Stock turnover	300	,00	,98	,4460	,33726
Delist dummy	300	,00	,00	,0000	,00000
Technology dummy	300	,00	1,00	,4433	,49761
Auditors dummy	300	,00	1,00	,0367	,18826
Probability of litigation	300	,02	,86	,0611	,09346
Valid N (listwise)	300				

Table 4.5: Descriptive statistics high litigation risk

What can be seen in these tables is that the amount of receivables divided by lagged assets is on average 15% higher for companies with high litigation risk. As the relative amount of receivables is higher, there is more risk that a part of the outstanding balances will not pay in the end. The sales growth for companies with a high risk of litigation is more than two times as large as the sales growth of the other companies. An explanation for this difference, is that companies which increase their activities (measured by the growth in sales) are more exposed to risk compared to companies with stable activities during the year.

After selecting the 300 companies with the highest litigation risk, the variables needed to perform the C-score model are gathered for these companies. This is performed for the whole European Union in the period 2005-2010. Tables C.1 till C.6 from appendix C show the descriptive statistics for the years 2005 till 2010 for companies with high litigation risk. These descriptives are used for the calculation of the C-score model. Refer to section 5.3 and 5.4.

The descriptive statistics for the remaining 1790 companies which are not in the top segment of litigation risk are shown in table C.7 till C.12. Also these descriptive statistics are used in the calculation of the C-score in the following chapter.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ln(Size)	1790	5,01	19,02	11,8163	1,98331
Inventory/Lagged assets	1790	,00	1,25	,1385	,15336
Receivables/lagged assets	1790	,00	1,32	,2493	,16952
Return on assets	1790	-1,43	1,33	,0319	,17100
Current ratio	1790	,00	27,33	1,9869	2,03880
Leverage	1790	,01	3,25	,5229	,23789
Sales growth	1790	-1,00	8,15	,1636	,40513
Stock return	1790	-,85	2,27	,2454	,51806
Stock volatility	1790	,08	,79	,3424	,12985
Beta	1790	-,97	3,76	,8058	,57157
Stock turnover	1790	,00	,98	,1252	,16031
Delist dummy	1790	,00	,00	,0000	,00000
Technology dummy	1790	,00	1,00	,2335	,42319
Auditors dummy	1790	,00	1,00	,0218	,14603
Probability of litigation	1790	,00	,02	,0069	,00541
Valid N (listwise)	1790				

Table 4.6: Descriptive statistics low litigation risk

4.5 Conclusion

This research provides empirical evidence about the relation between accounting conservatism before the crisis and accounting conservatism during the crisis. The pre-crisis period is defined as the period between 2005 and 2007, and the crisis period is considered as the period between 2008 and 2010. The method of testing the hypothesis is by means of a regression model, since this is a quantitative study. To measure accounting conservatism, the C-score model of Khan and Watts (2009) is used. This model is based on the model of Basu (1997), but it also takes the time series and cross-sectional variation in individual firm characteristics in consideration. Data is obtained for all listed companies in the European Union, before the large expansion of the European Union in 2004. For both hypotheses the descriptive statistics are determined and presented. These descriptive statistics are used as input in the C-score model in the following chapter.

Chapter 5

Results and analysis

In this chapter, the results are described and an analysis is presented to discuss the results of the research. The first paragraph will present the results of hypothesis one and subsequently an analysis of these results is made in the second paragraph. The third and fourth paragraph will discuss and analyze the results of hypothesis two.

5.1 Results hypothesis one

For investigating the first hypothesis; during the current economic crisis, accounting conservatism in the financial statements is higher compared to the pre-crisis period, the model of Khan and Watts (2009) is used to measure accounting conservatism before and during the crisis. The model of Khan and Watts (2009) is defined as:

$$\begin{aligned} X_{it} = & \beta + \beta_2 D_i + R_i(\mu_1 + \mu_2 Size_i + \frac{\mu_3 M}{B_i} + \mu_4 Lev_i) \\ & + D_i R_i(\lambda_1 + \lambda_2 Size_i + \frac{\lambda_3 M}{B_i} + \lambda_4 Lev_i) \\ & + (\delta_1 Size_i + \frac{\delta_2 M}{B_i} + \delta_3 Lev_i + \delta_4 D_i Size_i \\ & + \frac{\delta_5 D_i M}{B_i} + \delta_6 D_i Lev_i) + \epsilon_i \end{aligned} \quad (5.1)$$

To measure accounting conservatism, the C-score is estimated as follows:

$$C - score = \beta_4 = \lambda_1 + \lambda_1 Size_i + \lambda_1 M/B_i + \lambda_1 Lev_i \quad (5.2)$$

First, the whole sample period (2005-2010) is investigated. The regression is runned for each year in the sample period to let the coefficients vary during the years. In this way, there can be seen if listed companies in the European Union apply accounting conservatism. Considering

this research, it is important to know if companies use conservatism at all. The mean of these coefficients are shown in table 5.1 below. Refer to appendix D for the outcomes of the separate regressions for each year.

Independent variable	2005	2006	2007	2008	2009	2010	Average	Sign.
(Constant)	0,05	-0,088	-0,082	0,005	-0,238	-0,03	-0,064	0,155
Dummy stock return	0,058	-0,043	0,002	0,034	0,037	-0,067	0,004	0,252
Stock return	-0,014	-0,013	0,046	-0,185	-0,088	0,066	-0,031	0,189
Stock return * Size	0,219	0,005	0,003	0,037	0,008	-0,003	0,045	0,152
Stock return * MTB	0,074	-0,002	-0,006	-0,022	0,001	-0,002	0,007	0,112
Stock return * Leverage	0,026	-0,008	0,016	-0,068	-0,003	0,017	-0,003	0,091
Stock return * Dummy stock return	0,349	0,421	0,432	0,632	0,125	-0,042	0,320	0,028
Stock return * Dummy Stock return * Size	-0,028	-0,023	-0,027	-0,062	0,007	0,03	-0,017	0,032
Stock return * Dummy Stock return * MTB	-0,014	-0,011	-0,011	0,007	-0,004	-0,013	-0,008	0,336
Stock return * Dummy Stock return * Leverage	-0,033	-0,039	0	0,092	0,009	0	0,005	0,395
Ln(Size)	-0,014	0,013	0,013	0,005	0,021	0,021	0,010	0,022
Market-to-book ratio	-0,001	-0,002	-0,005	-0,005	0,003	0,001	-0,002	0,166
Leverage	-0,004	-0,002	-0,004	-0,007	-0,019	-0,009	-0,008	0,145
Dummy Stock return * Size	0,002	-0,002	0	0	0	0,001	0,000	0,541
Dummy Stock return * MTB	-0,003	0,004	0,001	0,001	0,006	-0,001	0,001	0,444
Dummy Stock return * Leverage	-0,001	-0,024	0,004	0,013	-0,008	-0,001	-0,003	0,339

Table 5.1: Mean coefficients of the regression results 2005-2010

The most important outcome of this table is the Stock return * Dummy stock return coefficient. This significant positive coefficient shows that, on average, companies used conservatism in their reporting during the period 2005-2010. The significant negative Stock return * Dummy stock return * Size coefficient, implies that larger companies used less conservatism in their reporting compared to smaller companies.

Year	D*Ret	D*Ret*Size	Size	D*Ret*MTB	MTB	D*Ret*Lev	Lev	C-score
2005	0,349	-0,028	4,24	-0,014	2,77	-0,033	1,01	0,158
2006	0,421	-0,023	4,28	-0,011	3,12	-0,039	0,92	0,252
2007	0,432	-0,027	4,30	-0,011	2,71	0,000	0,94	0,286
D = dummy Ret= return Size = (ln) size MTB = market-to-book ratio Lev = leverage Average 2005-2007								0,232

Table 5.2: C-score results pre-crisis period

For answering the first hypothesis, the annual coefficients for the regression of both periods (pre-crisis period and crisis period) are obtained. Together with the annual firm-size characteristics, the C-score can be calculated for each year with formula 5.2. The results of the pre-crisis period are shown in table 5.2.

The average C-score for the pre-crisis period is 0.232. Within this period, accounting conservatism, measured by the C-score, increased from 0.158 in 2005 till 0.286 in 2007.

Year	D*Ret	D*Ret*Size	Size	D*Ret*MTB	MTB	D*Ret*Lev	Lev	C-score	
2008	0,632	-0,062	4,15	0,007	1,81	0,092	1,22	0,500	
2009	0,125	0,007	4,11	-0,004	2,07	0,009	1,13	0,156	
2010	-0,042	0,030	4,44	-0,013	2,28	0,000	1,06	0,062	
D = dummy Ret= return Size = (ln) size MTB = market-to-book ratio Lev = leverage								Average 2008-2010	0,239

Table 5.3: C-score results crisis period

The same table is made for the results of the crisis period (see table 5.3). The average C-score for the crisis period is 0.239, which is a small increase of 2.9% compared to the crisis period. Remarkable is the high C-score in 2008 of 0.500. The outcomes of the whole research period are also displayed in figure 5.1. An increase of conservatism is seen, with a peak in the starting year of the crisis, and significantly dropped after the start of the crisis. These results are discussed in the next paragraph.

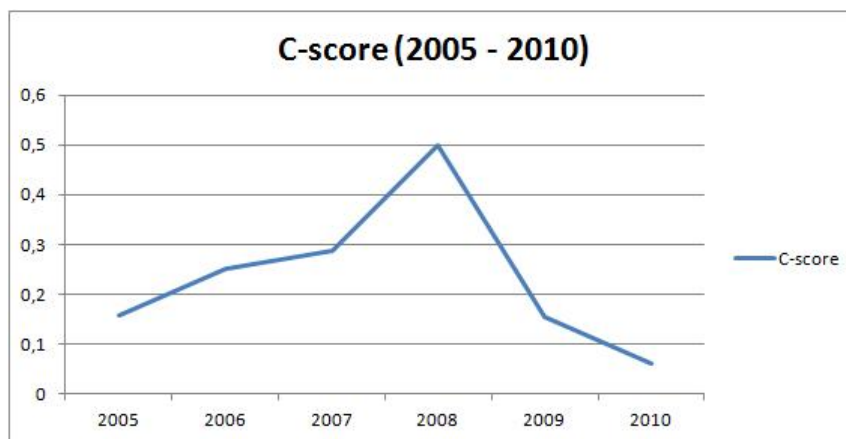


Figure 5.1: C-score during the whole research period

Accounting conservatism by industry

As the causes of the crisis, described in section 2.2.2, are mainly caused by the financial sector, it is interesting to see if there are any differences between different industries. Therefore, the results which are displayed in figure 5.1 are split in four different industries based on their SIC codes. These industries are:

- Financial companies. Average number of companies included: 1039.
- Services companies. Average number of companies included: 792
- Manufacturing companies. Average number of companies included: 1320
- Other companies. Average number of companies included: 936

The results of the breakdown into industries (together with the total results) are shown in figure 5.2.

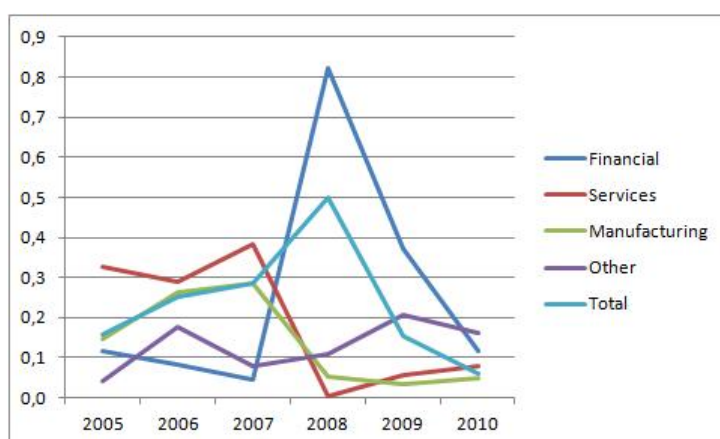


Figure 5.2: C-score during the whole research period split by industry

There are some remarkable results displayed in the figure above. First of all, the peak in 2008 is the result of the major increase in the level of accounting conservatism in the financial industry. In 2007, right before the start of the crisis, the C-score of the financial companies is only 0.05. This is lowest level of conservatism of all industries. When the financial crisis has erupted, financial companies enormously increased their level of accounting conservatism till 0.82 in 2008. Therefore, as the financial industry covers a significant part of the whole research sample (25.4%), the total results are moved along this peak in 2008. The decrease in 2009 and 2010 in the total

research sample is also mainly caused by the sharp decrease of the level of conservatism in the financial industry. In 2010, the differences between the industries are almost disappeared.

The other industries show a different pattern during the start of the crisis. In 2007, before the start of the crisis, the level of C-score for services (0.38) and manufacturing (0.29) companies is in line with the C-score of the whole sample (0.29). But, contrary to the total sample, the level of accounting conservatism for these two industries decreased immediately after the start of the crisis. For both industries, the use of conservatism is almost disappeared in 2008 (0.08 for services companies and 0.05 for manufacturing companies) and remains approximately constant in 2009 and 2010. At the end of the research period, the level of conservatism of all industries is approximately similar.

5.2 Analysis hypothesis one

Table 5.1 shows the results of the C-score for the whole research period. Based on these figures, there can be concluded that the companies in the European Union used conservatism in their reporting, during 2005 till 2010. These results are in line with for example the articles of Khan and Watts (2009) and Basu (1997). Khan and Watts (2009) found conservatism in the United States between 1963 and 2005 using the C-score model as a measure of accounting conservatism. In the article of Basu (1997), the existence of accounting conservatism is also demonstrated with the use of the Basu model. According to his research, earnings are timelier in showing bad news instead of good news.

The results in the previous paragraph indicated that there exists only a small difference between accounting conservatism in the pre-crisis period and the crisis period. There is only an insignificant difference of 2.9% between these two periods. Based on these findings: Hypothesis one, during the current economic crisis, accounting conservatism in the financial statements is lower than in the pre-crisis period, should be rejected. However, what is shown in figure 5.1, is that there is peak in conservatism during the start of the economic crisis. In 2008, accounting conservatism is more than doubled, compared to the pre-crisis period. This indicates that when the crisis started, managers became uncertain about the economic environment and became more conservative. As the crisis developed and continued, conservatism decreased during 2009 and is

almost disappeared in 2010. What can be concluded from this trend is that, when the crisis is taking longer, conservatism dropped.

An explanation for this decrease is that managers become less prudent as the crisis is taking longer, in order to show better results to the outside world. Bad news to investors will increase uncertainty and as a consequence herding behavior. Therefore, the long-term view of managers is that the benefits of reporting less conservative earnings are higher than the possible disadvantages. These results are also described in the articles of Kodres and Pritsker (2002) and Kaminsky and Schmukler (1999). They state that accounting conservatism would actually “decline because of the pressure that is put on managers to report only good news during bad times”. Also the results from the Asian crisis are in line with the decrease in conservatism found in this study. Vichitsarawong et al. (2010) mentioned that the companies are less timely in reporting bad news, which implies a lower level of conservatism. Although the European Union is more regulated and better supervised, the decline in conservatism during the Asian crisis is also seen in the European Union during 2009 and 2010.

In the article of Khan and Watts (2009) an average C-score of 0.105 is calculated, which is lower compared to C-score in the European Union between 2005 and 2010 (0.236). A reason for the difference between the two studies is the influence of the crisis on the results of this research. For example, if 2008 is excluded from the results, the average C-score is already dropped to 0.183 in the European Union. In the research period of Khan and Watts (2009) there is not such a crisis included as in the period covered in this research. Another reason for the difference in C-score between this research and the research of Khan and Watts (2009) is that, based on the article of Pope and Walker (1999), in the United States earnings, concerning bad news, are less timely compared to the more principle-based European Union.

Another conclusion is that larger companies used less conservatism in their reporting compared to smaller companies during 2005 and 2010. These results are also in line with Khan and Watts (2009). Because large companies are, in general, more mature and are followed by more analyst, there is more information available of larger companies. Therefore, there is less uncertainty about these companies, which reduces the information asymmetries. The reduction in information asymmetries will be weakened by the fact that larger companies have a more complex

structure and more complex operations. But, based on this research, there can be concluded that the net effect is that larger companies show less conservatism in reporting compared to smaller companies.

Accounting conservatism by industry

Based on the results of the split in different industries (refer to figure 5.2), there can be concluded that the financial companies played an important role in the movements in accounting conservatism during the research period. In the pre-crisis period, the level of accounting conservatism is lower compared to the other companies. This is consistent with the generally assumed risk practiced by financial companies before the crisis period. Most of the causes of the crisis are caused by financial companies which acts too risky. Examples are the lending practices of a lot of financial companies and the use of CDO and CDS by these companies.

In 2008, after the start of the crisis in the European Union, a major increase in conservatism is seen in the reporting of the financial companies. The increase of financial companies explains the peak which is seen in the total research sample. The explanation for this strong increase in conservatism is the increased power of the contracting and shareholder litigation explanation, as described in the article of Garcia Lara et al. (2009). In this article a positive link is found between the contracting- and shareholder litigation explanation of accounting conservatism and the level of conservatism applied. For the non-financial companies, an opposite trend in the first year of the crisis is visible. These companies decreased their level of accounting conservatism in 2008. An explanation for this decrease is the pressure on managers to report only good news during crisis times.

In 2009 and 2010 the level of accounting conservatism is significantly decreased for the financial companies. In order to show better results to the outside world, managers of the financial companies become less prudent again, as the crisis is taking longer. Even for the financial companies, which face a high litigation risk, the long-term view of managers is that the benefits of reporting less conservative figures are higher than the possible disadvantages.

Conclusion: The first hypothesis, ‘*during the current economic crisis, accounting conservatism in the financial statements is lower than in the pre-crisis period*’, should be rejected. However, another conclusion can be drawn from the previous mentioned findings. During the beginning of the crisis in 2008, a significant increase in accounting conservatism is seen. The increase between the pre-crisis period and 2008, is 120%. This indicates that companies become, initially, more prudent when the economic conditions are becoming uncertain. But, when the economic crisis continues, pressure to show better results takes over, and as a consequence, accounting conservatism is decreased in 2009 and further decreased in 2010. In the long run, managers want to avoid bad news to investors, as this will increase uncertainty and as a consequence herding behavior.

The results are significantly influenced by the financial companies which are included in the research sample. Only these companies increased their level of accounting conservatism enormously in 2008, which explains the peak in the total research sample. Therefore, the explanation that during an economic crisis, initially, companies become more prudent, only holds for financial companies. Companies other than financial companies, immediately decreased their level of accounting conservatism after the start of the crisis. Based on these findings, there can be concluded that for these companies the pressure to decrease the level of conservatism, in order to show better results, immediately takes over.

5.3 Results hypothesis two

The second hypothesis investigates if companies with a high risk of litigation increase their level of conservatism more than other companies during the crisis. Because shareholder litigation is an important explanation for conservatism, it is likely that companies with a high risk of litigation become more prudent during the crisis. To measure litigation risk, the model of Shu (2000) is used. This is done for the year 2006. The top 300 companies with high risk of litigation are presented in appendix B.

In table 5.4 the outcomes of the C-score model of the companies with a high litigation risk are shown. The average C-score of the pre-crisis period is 0.03 compared to 0.05 in the crisis period. For the companies with a low litigation risk, the C-score is increased in the crisis period (0.10)

Year	D*Ret	D*Ret*Size	Size	D*Ret*MTB	MTB	D*Ret*Lev	Lev	C-score	
2005	0,313	-0,022	6,08	-0,050	3,43	-0,053	1,04	-0,047	
2006	0,527	-0,077	6,26	0,056	3,97	-0,102	1,23	0,142	
2007	0,042	-0,008	6,36	-0,028	3,40	0,084	1,17	-0,006	
2008	0,412	0,021	6,29	-0,314	1,83	0,000	1,43	-0,031	
2009	0,126	0,021	6,40	-0,012	2,18	-0,167	1,29	0,019	
2010	0,142	-0,013	6,55	0,025	2,19	0,057	1,02	0,170	
D = dummy Ret= return Size = (ln) size MTB = market-to-book ratio Lev = leverage								Average 2005-2010	0,041

Table 5.4: C-score results companies with high litigation risk

compared to the pre-crisis period (0.04). See table 5.5. But, what stand out, are the differences between the outcomes of the first and second hypotheses. The explanation for these differences, is that the results from the second hypothesis are mainly not significant. Refer to appendix E for the separate regressions where the significance levels are shown. The results are significantly influenced by the volatility of the variables related to the firm-specific characteristics.

Year	D*Ret	D*Ret*Size	Size	D*Ret*MTB	MTB	D*Ret*Lev	Lev	C-score	
2005	0,269	-0,047	4	-0,038	2,85	0,001	0,79	-0,027	
2006	0,222	-0,007	4,1	-0,008	3,18	-0,095	0,77	0,095	
2007	0,176	-0,021	4,24	-0,015	2,78	0,027	0,78	0,066	
2008	0,149	-0,064	4,2	0,026	1,75	0,070	0,95	-0,008	
2009	0,11	-0,010	4,21	0,002	1,98	-0,002	0,95	0,070	
2010	0,246	0,01	4,4	-0,025	2,26	0,008	0,9	0,241	
D = dummy Ret= return Size = (ln) size MTB = market-to-book ratio Lev = leverage								Average 2005-2010	0,073

Table 5.5: C-score results companies with low litigation risk

Based on these results, no conclusion can be given about hypothesis two. Therefore, the model of Basu (1997) is used to obtain results which are significant. As in the Basu model a regression can be made for the total pre-crisis period and the total crisis period instead of for each separate year, more firm year observations are included. This increased the significance of the regressions. Another explanation for the increased significance is that there are fewer variables included in the model.

In table 5.6 and 5.7 the results of the companies with a high risk of litigation are shown. In the pre-crisis period, the earnings measure of the negative returns (Dummy stock return * Stock

return) is 0.107 and is increased to 0.215 in the crisis period. This implies that companies with a high risk of litigation, on average, increased the level of accounting conservatism.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
	1	(Constant)	,079			,008
	Dummy Stock return	-,015	,017	-,046	-,898	,369
	Stock return	,020	,014	,059	1,388	,166
	Dummy stock return *	,107	,064	,083	2,015	,046
	Stock return					

a. Dependent Variable: EPS/Closing price T-1

Table 5.6: Basu model companies with high litigation risk (2005-2007)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
	1	(Constant)	,042			,020
	Dummy Stock return	,025	,034	,042	,730	,465
	Stock return	-,049	,026	-,101	-1,863	,063
	Dummy stock return *	,215	,067	,185	3,206	,001
	Stock return					

a. Dependent Variable: EPS/Closing price T-1

Table 5.7: Basu model companies with high litigation risk (2008-2010)

Table 5.8 and 5.9 demonstrate the result of the companies with a lower risk of litigation. During the pre-crisis period, the Basu measure is 0.170. Prior to the start of the crisis, a higher level of conservatism is present, compared to the companies with a high litigation risk. At the time of the crisis, the Basu measure decreased to 0.023. A significant decrease (86.4 %) compared to the pre-crisis period and also a significant difference (89.3 %) with the high risk companies. In the next paragraph, these results will be analyzed.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	,045	,004		10,268	,000
	Dummy Stock return	-,017	,009	-,041	-1,965	,049
	Stock return	,043	,007	,117	6,658	,000
	Stock return * Dummy stock return	,170	,027	,128	6,304	,000

a. Dependent Variable: EPS/Closing price T-1

Table 5.8: Basu model companies with low litigation risk (2005-2007)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,030	,017		-1,724	,085
	Dummy Stock return	,043	,029	,035	1,494	,135
	Stock return	,120	,021	,127	5,686	,000
	Dummy stock return *	,023	,054	,010	1,819	,067
	Stock return					

a. Dependent Variable: EPS/Closing price T-1

Table 5.9: Basu model companies with low litigation risk (2008-2010)

5.4 Analysis hypothesis two

Based on the figures in the previous paragraph, there is significant difference visible between the change in accounting conservatism in the pre-crisis and crisis period between companies with a higher risk of litigation and with a lower risk of litigation. Therefore, the second hypothesis, *'companies with high risk of litigation didn't increase their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis'*, should be rejected. In the tables 5.6, 5.7, 5.8 and 5.9 is shown that the high litigation companies increased the level of accounting conservatism (0.107 to 0.215), while the low litigation companies decreased their level of conservatism (0.170 to 0.023).

The results are in line with the article of Basu (1997), where a relation is seen between conservatism and auditor's litigation exposure. In this article, he mentioned that over the period

1963-1990, there is empirical evidence for a positive relation between changes in auditor's litigation exposure and accounting conservatism.

This hypothesis was investigated in this thesis, because shareholder litigation is an important explanation for accounting conservatism. The expected outcome of this hypothesis was that high risk companies increase their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis. Based on hypothesis one, there is no general trend of increasing conservatism during the crisis and therefore this expectation cannot fully be confirmed. However, what can be concluded from this research, is that high risk companies increased their level of conservatism, while low risk companies decreased their level of conservatism.

Conclusion: The shareholder litigation explanation of accounting conservatism is an important indicator of the change in conservatism in times of crisis. This confirms that if companies face a high level of litigation risk, in times of crisis, they will apply a higher level of accounting conservatism.

The results of this hypothesis are partly consistent with the outcomes of the first hypotheses, where the results are analyzed by industry. In 2008, the financial companies increased their level of accounting conservatism, while the non-financial companies decreased their level of conservatism. This is in line with the results of the second hypotheses, since the high litigation companies are mainly financial companies and the low litigation companies are mainly non-financial companies. Because both hypotheses are analyzed with a different research model, the combined results cannot be analyzed further.

Chapter 6

Limitations

This chapter outlines the limitations for this study. As every study, there are some limitations of the study performed for this thesis. First of all, the methodology used for this research is the C-score model which is based on the Basu model (Basu (1997)). The Basu model captures accounting conservatism by the fact that if accounting conservatism exists, earnings are more closely coherent with stock returns when these returns are negative. This methodology, even bearing in mind that this model is considered as the most accepted way of measuring conservatism, is sometimes criticized. Most of the critics are based on the use of earnings as the dependent variable in his model. This variable would produce a biased measure of conservatism. An example is that the stock market under reacts to bad news compared to good news. Assuming this under reacting, it is possible that investor anticipate that negative earnings are more permanent compared to positive earnings, which can bias the outcomes of the Basu model.

As the C-score model is a recent model to measure accounting conservatism, there is not much research performed with this measurement method. Therefore, the results of this research are only compared with the article of Khan and Watts (2009). As this research model is relative new, it is hard to make a comparison with the general outcomes of this model and see if the results of this research are in line with these outcomes.

Another limitation of this study is the fact that, due to the nature of the methodology used, only listed companies in the European Union are included in the research. Therefore, a major part of the companies in the European Union are excluded from this research, while the conclusions are based on the whole European Union. Since non-listed companies are, in general, different in nature compared to listed companies, outcomes can be biased if these companies are also included in the research.

As previously mentioned in this thesis, it is hard to define the crisis period. The first indication for the arise of the crisis is the deteriorating of the housing market in the United States. Thereafter, a lot of proceedings succeeded each other, which ultimately led to the economic crisis as currently known. It is hard to define the actual starting point of the current economic crisis. The same applies for the ending point of the crisis. It is also difficult to indicate when the crisis is transferred to the European Union. Therefore, it is nearly impossible to indicate when the crisis actually starts and ends.

Chapter 7

Summary, conclusion and recommendations

In this thesis, a study is performed on the influence of the current economic crisis on the level of accounting conservatism in the European Union. First, accounting conservatism is defined to give an understanding of the most important concept of this thesis. Derived from the definition of the IASB, accounting conservatism can be seen as a prudent approach to financial accounting by using more strict recognition requirements for profits compared to losses. There are several reasons why the management of a company could implement accounting conservatism in their financial reporting. The most well known and accepted incentives and explanations for conservatism are contracting, shareholder litigation, taxation and accounting regulation. Especially the shareholder litigation explanation is important and further investigated in this thesis. When a company is overstating their net assets and earnings, the probability of lawsuits should increase. That is why a company can lower their expected litigation costs by implementing accounting conservatism.

The crisis is another important subject in this thesis. To have an understanding of the impact of the current economic crisis on the level of conservatism, the causes and consequences should be clear. Causes described in this thesis are: the subprime mortgages, the use of CDO and CDS by financial institutions and the failure in corporate government. The consequences of the economic crisis are also numerous. In view of accounting conservatism, an important consequence is the increase in the number of lawsuits. Another consequence of the crisis is the revision of some accounting standards. Especially, the fair value measurement method is subject to changes.

The most used method to measure conservatism is developed by Basu (1997). He refers to the association between stock price movements and earnings in periods of good and bad news. The

core of this asymmetric timeliness measure model is that bad news is timelier reflected in earnings than good news. However, this model has some limitations. One of these limitations is that the model assumes homogeneous of all firms and that firms characteristics will not change during the time. The C-score model of Khan and Watts (2009) captures these limitations. This model is based on the model of Basu (1997), but it captures some of the firm-specific characteristics. Because most changes in accounting conservatism are both time- and firm-specific, this model is most suitable for measuring conservatism.

With the use of the C-score model, the influence of the crisis on the level of conservatism is determined. First is determined if listed companies in the European Union use accounting conservatism at all. Based on the outcomes there can be concluded that these companies used conservatism in their reporting during 2005 till 2010. Subsequently, the levels of conservatism are compared between the period before the economic crisis (2005-2007) and the economic crisis (2008-2010). However, there is only an insignificant difference of 2.9% between these two periods. Based on this outcome, the first hypothesis; *‘during the current economic crisis, accounting conservatism in the financial statements is lower than in the pre-crisis period’*, should be rejected.

Within the crisis period itself, a remarkable pattern is visible. During the beginning of the crisis in 2008, a significant increase in accounting conservatism is seen. This implies that companies become, initially, more prudent when the economic conditions are becoming uncertain. But, when the economic crisis continues, pressure to show better results takes over, and as a consequence, accounting conservatism is decreased in 2009 and almost disappeared in 2010. In the long run, managers want to avoid bad news to investors, as this will increase uncertainty and as a consequence herding behavior. Also the fact that investors overreact to bad news is a reason to avoid bad news as much as possible.

The results are significantly influenced by the financial companies which are included in the research sample. Only these companies increased their level of accounting conservatism enormously in 2008, which explains the peak in the total research sample. Therefore, the explanation that during an economic crisis, initially, companies become more prudent, only holds for financial companies. Companies other than financial companies, immediately decreased their level of accounting conservatism after the start of the crisis. Based on these findings, there can be

concluded that for these companies the pressure to decrease the level of conservatism, in order to show better results, immediately takes over.

In the second hypothesis, '*companies with high risk of litigation didn't increase their level of accounting conservatism more than companies with a lower risk of litigation during the economic crisis*', the shareholder litigation explanation is linked to the level of conservatism and the economic crisis. Based on hypothesis one, there is no general trend of increasing conservatism during the crisis and therefore this expectation cannot fully be confirmed. There can be concluded that high risk companies increased their level of conservatism, while low risk companies decreased their level of conservatism. Thus, in order to avoid claims and lawsuits, companies with high risk of litigation are willing to increase their level of accounting conservatism.

The main research question: *has financial reporting in the European Union become more conservative as a consequence of the current economic crisis?* should be answered negative. What can be concluded from this research is that in general, the level of accounting conservatism between the pre-crisis and crisis period isn't increased. Only in the starting year of the crisis, financial companies significantly increased their level of conservatism, while non-financial companies immediately decreased their level of conservatism. In 2009 and 2010, also financial companies decreased their level of conservatism. Based on the second hypothesis, there is an indication that high litigation companies increased their level of accounting conservatism in crisis times, in order to avoid lawsuits, while low litigation companies decreased their level of accounting conservatism, in order to show better results to the outside world.

Recommendations

A recommendation for further research is to measure accounting conservatism not only with the C-score model, but also with other models, like accrual measures and market-to-book ratios. In this way the consistency of the existence of conservatism can be verified. If all these models measures conservatism in the research period, the results are not influenced by the choice of the measurement model.

Since the economic crisis is still ongoing, this research could be extended till the moment the economies are stabilized. The research period in this study is until the end of 2010, but nowadays, June 2012, the crisis is not over yet. It is interesting to see if the pattern shown in this study, a peak of conservatism in 2008 and thereafter a decrease in 2009 and 2010, continues in 2011 and further.

Furthermore, as also described in the article of Vichitsarawong et al. (2010) about the Asian crisis, it is interesting to compare the level of accounting conservatism between the pre-crisis period and the post-crisis period. To prevent for repetition of a crisis, more stringent and conservative rules and regulations could be implemented. This will increase the use of conservatism in the post-crisis period.

Another recommendation is to investigate the relation between the explanations for conservatism which are not covered in detail in this research (contracting, taxation and regulation), and the level of conservatism during the crisis. This research is focused on the shareholder litigation explanation, but also the contracting, taxation and regulation explanation could have an impact on the level of accounting conservatism.

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Appendix A

Descriptive statistics hypothesis one

Descriptive Statistics (2005)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	3485	-1,90	1,16	,0353	,19506
Dummy Stock return	3485	,00	1,00	,2425	,42864
Stock return	3485	-1,00	2,54	,2960	,51608
Stock return * Size	3485	-6,39	7,50	,2518	,67969
Stock return * MTB	3485	-19,97	16,99	,0532	,92141
Stock return * Leverage	3485	-25,01	13,16	,0149	,80653
Stock return * Dummy stock return	3485	-1,00	,00	-,0513	,12658
Stock return * Dummy	3485	-3,67	1,50	-,1388	,38070
Stock return * Size	3485	-19,27	,03	-,1519	,77518
Stock return * MTB	3485	-7,30	,03	-,0609	,38000
Stock return * Leverage	3485				
Ln(Size)	3485	-2,43	11,88	4,2426	2,21982
Market-to-book ratio	3485	,00	27,29	2,7736	3,38293
Leverage	3485	,00	15,09	1,0107	2,12652
Dummy Stock return * Size	3485	-2,43	10,74	,8063	1,75906
Dummy Stock return * MTB	3485	,00	27,29	,6579	2,23203
Dummy Stock return * Leverage	3485	,00	15,09	,2627	1,21113
Valid N (listwise)	3485				

Table A.1: European Union 2005

Descriptive Statistics (2006)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	3800	-3,70	1,01	,0374	,18990
Dummy Stock return	3800	,00	1,00	,2792	,44867
Stock return	3800	-1,00	4,15	,2465	,56600
Stock return * Size	3800	-9,70	30,92	1,1267	2,19374
Stock return * MTB	3800	-57,06	310,39	1,2520	8,79429
Stock return * Leverage	3800	-9,22	49,21	,2598	1,54636
Dummy stock return *	3800	-1,00	,00	-,0635	,14718
Stock return					
Stock return * Dummy	3800	-4,24	1,90	-,1707	,43982
Stock return * Size					
Stock return * Dummy	3800	-57,06	,03	-,2097	1,37467
Stock return * MTB					
Stock return * Dummy	3800	-9,22	,03	-,0497	,34814
Stock return * Leverage					
Ln(Size)	3800	-2,34	11,72	4,2811	2,22038
Market-to-book ratio	3800	,00	74,85	3,1238	4,81760
Leverage	3800	,00	11,87	,9238	1,85359
Dummy Stock return * Size	3800	-2,34	11,72	,9300	1,84327
Dummy Stock return * MTB	3800	,00	74,85	,8298	3,18006
Dummy Stock return *	3800	,00	11,87	,2218	1,00174
Leverage					
Valid N (listwise)	3800				

Table A.2: European Union 2006

Descriptive Statistics (2007)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	4211	-,69	,65	,0309	,14306
Stock return	4211	-1,00	2,21	,0395	,43448
Stock return * Size	4211	-5,22	14,49	,1897	1,75169
Stock return * MTB	4211	-18,27	46,59	,4033	2,68596
Stock return * Leverage	4211	-11,96	19,02	-,0149	,89438
Dummy Stock return	4211	,00	1,00	,5080	,50000
Stock return * Dummy	4211	-5,22	2,20	-,4825	,77474
Stock return * Size					
Stock return * Dummy	4211	-18,27	,58	-,3007	,86455
Stock return * MTB					
Stock return * Dummy	4211	-11,96	,18	-,1425	,56842
Stock return * Leverage					
Ln(Size)	4211	-2,53	11,50	4,3046	2,21395
Market-to-book ratio	4211	,00	21,92	2,7130	2,98773
Leverage	4211	,00	15,37	,9440	2,00507
Dummy Stock return * Size	4211	-2,53	11,37	2,1300	2,64261
Dummy Stock return * MTB	4211	,00	21,06	1,1727	2,27484
Dummy Stock return * Leverage	4211	,00	15,37	,5512	1,66307
Valid N (listwise)	4211				

Table A.3: European Union 2007

Descriptive Statistics (2008)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	4466	-1,46	1,39	-,0145	,21059
Dummy Stock return	4466	,00	1,00	,9057	,29223
Stock return	4466	-1,00	2,62	-,3816	,39269
Stock return * Size	4466	-9,57	22,64	-1,5825	1,98561
Stock return * MTB	4466	-39,13	24,79	-,5230	1,82966
Stock return * Leverage	4466	-29,80	24,67	-,5963	2,10004
Dummy stock return *	4466	-1,00	,00	-,4200	,26161
Stock return					
Stock return * Dummy	4466	-9,57	2,22	-1,7327	1,48983
Stock return * Size					
Stock return * Dummy	4466	-39,13	,13	-,6248	1,62029
Stock return * MTB					
Stock return * Dummy	4466	-29,80	,68	-,6302	2,02453
Stock return * Leverage					
Ln(Size)	4466	-2,40	11,49	4,1501	2,21240
Market-to-book ratio	4466	,00	49,35	1,8138	3,53145
Leverage	4466	,00	34,06	1,2168	3,23091
Dummy Stock return * Size	4466	-2,40	11,42	3,8021	2,44634
Dummy Stock return * MTB	4466	,00	49,35	1,5558	3,42000
Dummy Stock return *	4466	,00	34,06	1,1658	3,22718
Leverage					
Valid N (listwise)	4466				

Table A.4: European Union 2008

Descriptive Statistics (2009)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	4547	-1,26	1,13	-,0450	,28581
Dummy Stock return	4547	,00	1,00	,4142	,49263
Stock return	4547	-1,00	2,58	,2008	,64822
Stock return * Size	4547	-7,26	21,77	1,0195	2,90627
Stock return * MTB	4547	-37,03	88,36	,6651	3,61009
Stock return * Leverage	4547	-17,87	31,51	,1733	1,69793
Dummy stock return *	4547	-1,00	,00	-,1345	,22273
Stock return					
Stock return * Dummy	4547	-7,26	2,23	-,4365	,85943
Stock return * Size					
Stock return * Dummy	4547	-37,03	,00	-,2157	1,09959
Stock return * MTB					
Stock return * Dummy	4547	-17,87	,00	-,1734	,88151
Stock return * Leverage					
Ln(Size)	4547	-2,23	11,46	4,1117	2,26425
Market-to-book ratio	4547	,00	37,03	2,0668	3,54772
Leverage	4547	,00	19,08	1,1308	2,47277
Dummy Stock return * Size	4547	-2,23	11,44	1,4444	2,20715
Dummy Stock return * MTB	4547	,00	37,03	,6733	2,22355
Dummy Stock return *	4547	,00	19,08	,4934	1,82909
Leverage					
Valid N (listwise)	4547				

Table A.5: European Union 2009

Descriptive Statistics (2010)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	4050	-1,81	1,85	,0139	,27128
Dummy Stock return	4050	,00	1,00	,3716	,48329
Stock return	4050	-1,00	3,80	,2487	,71596
Stock return * Size	4050	-6,10	24,88	1,0771	2,82968
Stock return * MTB	4050	-37,98	158,42	1,1984	6,62579
Stock return * Leverage	4050	-21,12	93,37	,0503	2,12552
Dummy stock return *	4050	-1,00	,00	-,1046	,19000
Stock return					
Stock return * Dummy	4050	-6,10	1,94	-,3769	,78327
Stock return * Size					
Stock return * Dummy	4050	-37,98	,00	-,1904	1,16170
Stock return * MTB					
Stock return * Dummy	4050	-21,12	,00	-,1935	,98852
Stock return * Leverage					
Ln(Size)	4050	-2,33	11,61	4,4353	2,25683
Market-to-book ratio	4050	,00	63,37	2,2803	4,40535
Leverage	4050	,00	24,57	1,0627	2,49238
Dummy Stock return * Size	4050	-2,33	11,23	1,5344	2,48568
Dummy Stock return * MTB	4050	,00	63,37	,6425	2,42410
Dummy Stock return *	4050	,00	24,57	,6002	2,19286
Leverage					
Valid N (listwise)	4050				

Table A.6: European Union 2010

Appendix B

Top 300 litigation risk companies

1	Aalberts Industries NV	51	Carrefour SA
2	Abengoa SA	52	Carr's Milling Industries PLC
3	Acciona SA	53	Casino Guichard-P
4	Acerinox SA	54	Catering International Services
5	ACS Actividades Construccion Y Servicios	55	CDC Point Spa
6	Adidas AG	56	Cegedim
7	AEA Technology Group PLC	57	Celesio AG
8	Aegis Group PLC	58	Cementos Portland Valderrivas SA
9	AES Chemunex	59	Centrica PLC
10	AF AB	60	Centrotec Sustainable AG
11	Agfa-Gevaert NV	61	CFE
12	Akzo Nobel NV	62	Chemring Group PLC
13	Aldata Solution OYJ	63	CIR
14	Allgeier Holding AG	64	Coloplast A/S
15	Alten	65	Connect Group
16	Amper SA	66	Const Y Auxiliar De Ferr
17	Amplifon Spa	67	Continental AG
18	Andritz AG	68	Cookson Group PLC
19	Arcadis NV	69	Corero PLC
20	Arcandor AG	70	Costain Group PLC
21	Arquana International Print & Media	71	Cramo OYJ
22	Associated British Foods PLC	72	Croda International PLC
23	Astaldi	73	CSM NV
24	Astrazeneca PLC	74	Cycos AG
25	Atlas Copco AB	75	Daily Mail & General Trust PLC
26	Aubay	76	Daimler AG
27	Aurubis AG	77	Dalhoff Larsen & Horneman
28	Axis AB	78	Danone
29	B & B Tools AB	79	DCC PLC
30	Barco NV	80	Delhaize Group
31	Barratt Developments PLC	81	Deutsche Boerse AG
32	BASF SE	82	Deutsche Lufthansa AG
33	Bayer AG	83	Deutsche Post AG
34	Baywa AG	84	Deutsche Telekom AG
35	Bechtle AG	85	Devoteam SA
36	Beiersdorf AG	86	Dialight PLC
37	Beijer Electronics AB	87	Duerr AG
38	Bellway PLC	88	E On AG
39	Biesse	89	Ebiquity PLC
40	Bilfinger Berger SE	90	Eiffage
41	Billington Holdings PLC	91	Elcoteq SE
42	BMW AG	92	Elecnor SA
43	Boewe Systec AG	93	Electrolux AB
44	Bongrain	94	Enel Spa
45	Bouygues SA	95	Engineering II
46	BP PLC	96	ENI
47	Brunel International NV	97	Espanola Del Zinc SA
48	BT Group PLC	98	Esso
49	Bull	99	Etteplan OYJ
50	Carillion PLC	100	Eurofins Scientific AG

101	European Institute Of Science AB	151	Ixonos OYJ
102	Experian PLC	152	Jcdecaux SA
103	Faurecia	153	JM AB
104	Feedback PLC	154	Johnston Press PLC
105	Ferrovial SA	155	Keller Group PLC
106	Fiat Spa	156	Kerry Group PLC
107	Findel PLC	157	Kesko OYJ
108	Finmeccanica Spa	158	Konecranes OYJ
109	Floridienne SA	159	Koninklijke Ahold NV
110	Fomento Construcccion Y Contratas SA	160	Koninklijke BAM Groep NV
111	France Telecom	161	Koninklijke DSM
112	Fresenius SE	162	Koninklijke Philips Electronics Na
113	Fugro NV	163	Krones AG
114	Galliford TRY PLC	164	Kuka AG
115	Gamesa Corporacion Tecnologica SA	165	Lacroix SA
116	Genus PLC	166	Lanson-BCC
117	Getinge AB	167	LDC
118	Gigaset AG	168	Lemminkainen OYJ
119	Glanbia PLC	169	Leoni AG
120	Glaxosmithkline PLC	170	Logica PLC
121	Grafton Group PLC	171	Lottomatica
122	Groupe Open SA	172	Lotus Bakeries NV
123	Groupe Steria SCA	173	Man SE
124	Gruppo Coin	174	Mecelec
125	Halcor SA	175	Melexis NV
126	Haldex AB	176	Menzies (John) PLC
127	Hamon & CIE (International) SA	177	Merck Kgaa
128	Haulotte Group	178	Metro AG
129	Havas SA	179	Metso OYJ
130	Hays PLC	180	Michael Page International PLC
131	Headlam Group PLC	181	Michelin
132	Heidelberger Druckmaschinen	182	Mitie Group PLC
133	Hellenic Telecommunications Organisation	183	Monberg & Thorsen A/S
134	Hexagon AB	184	Mondadori Editore
135	Hiolle Industries	185	National Grid PLC
136	Hochtief AG	186	NCC AB
137	Hojgaard Holding A/S	187	Netgem
138	Hyder Consulting PLC	188	Neways Electric International
139	Icon PLC	189	Nexans SA
140	Imperial Tobacco Group PLC	190	Next PLC
141	Imtech NV	191	Nibe Industrier AB
142	Inchcape PLC	192	Nobia AB
143	Indesit Company	193	Nokia Corporation
144	Indra Sistemas SA	194	Novo Nordisk A/S
145	Interseroh SE	195	Obrascon Huarte Lain SA
146	Intralot SA	196	Oce NV
147	Invensys PLC	197	Olidata
148	Irce Spa	198	Omega Pharma NV
149	Iren Spa	199	Ordina NV
150	It Way Spa	200	Outokumpu OYJ

201	Oxford Instruments PLC	251	Siemens AG
202	PEAB AB	252	Simac Techniek NV
203	Pearson PLC	253	Sjaelso Gruppen A/S
204	Per Aarsleff A/S	254	Skanska AB
205	Pernod-Ricard	255	SKF AB
206	Persimmon PLC	256	Smiths Group PLC
207	Petroleos (Cepsa)	257	Snai Spa
208	PGO Automobiles	258	Soares Da Costa SA
209	Placoplatre	259	Sogclair
210	Plastic Omnium	260	Spectris PLC
211	Porsche Automobil Holding SE	261	Stada Arzneimittel AG
212	Portugal Telecom Sgps SA	262	Stef-TFE
213	Proffice AB	263	Stern Groep NV
214	Promotora De Informaciones SA	264	TAS Spa
215	Prosieben SAT 1 Media AG	265	Taylor Wimpey PLC
216	Qurius NV	266	TDC A/S
217	Randstad Holding NV	267	Tecnocom Telecomunicaciones SA
218	Readsoft AB	268	Tele2 AB
219	Reckitt Benckiser Group PLC	269	Telecom Italia
220	Renew Holdings PLC	270	Telefonica SA
221	Rentokil Initial PLC	271	Telford Homes PLC
222	Reply Spa	272	Tesco PLC
223	Repower Systems AG	273	Tessengerlo Chemie SA
224	Repsol YPF SA	274	TF1 (Television Francaise 1)
225	Ricardo PLC	275	The Capita Group PLC
226	Risc Group	276	Thyssenkrupp AG
227	RM PLC	277	Tiscon AG
228	RNB Retail And Brands AB	278	TKH Group NV
229	Rodriguez Group	279	Topps Tiles PLC
230	Rosier SA	280	Total SA
231	Royal Dutch Shell	281	Trinity Mirror PLC
232	RTL Group	282	UCB SA
233	RWE AG	283	Ultra Electronic Holdings PLC
234	S & T Systems Integration & Technology D	284	Umicore SA
235	Sacyr Vallehermoso SA	285	Unilever NV
236	Safran SA	286	Unilever PLC
237	Sainsbury (J) PLC	287	United Drug PLC
238	Saipem	288	USG People NV
239	Salzgitter AG	289	Vestas Windsystems A/S
240	Samse SA	290	VM Materiaux
241	Sanacorp Pharmaholding AG	291	Volkswagen AG
242	Sandvik AB	292	Volvo AB
243	SAP AG	293	Wolseley PLC
244	SAS AB	294	Wolters Kluwer NV
245	Savills PLC	295	WPP PLC
246	Scania AB	296	WSP Group PLC
247	Schneider Electric SA	297	WYG PLC
248	Securitas AB	298	Xstrata PLC
249	Seda Barcelona SA	299	YIT OYJ
250	Sensys Traffic AB	300	Yule Catto & Company PLC

Appendix C

Descriptive statistics hypothesis two

Descriptive Statistics (2005)					
	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	285	-,48	,99	,0819	,10341
Dummy Stock return	285	,00	1,00	,1368	,34429
Stock return	285	-,38	2,54	,3871	,44676
Stock return * Size	285	-2,66	7,50	,5173	,66355
Stock return * MTB	285	-1,94	3,90	,2686	,41585
Stock return * Leverage	285	-2,86	1,45	,0704	,23376
Stock return * Dummy	285	-,38	,00	-,0139	,04532
stock return					
Stock return * Dummy	285	-2,66	,11	-,0867	,30316
Stock return * Size					
Stock return * Dummy	285	-,86	,00	-,0334	,10853
Stock return * MTB					
Stock return * Dummy	285	-,50	,00	-,0172	,06231
Stock return * Leverage					
Ln(Size)	285	-,43	11,25	6,0841	2,26471
Market-to-book ratio	285	,48	27,29	3,4326	3,21586
Leverage	285	,00	15,09	1,0446	1,59374
Dummy Stock return * Size	285	-,43	10,74	,8696	2,34395
Dummy Stock return * MTB	285	,00	10,16	,3979	1,28690
Dummy Stock return *	285	,00	4,28	,1667	,54961
Leverage					
Valid N (listwise)	285				

Table C.1: High litigation companies 2005

Descriptive Statistics (2006)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	281	-,38	1,01	,0831	,10271
Dummy Stock return	281	,00	1,00	,1459	,35364
Stock return	281	-,51	4,15	,3300	,45279
Stock return * Size	281	-2,93	10,94	1,9262	2,37183
Stock return * MTB	281	-5,59	310,39	2,3189	18,55216
Stock return * Leverage	281	-5,17	11,07	,4011	1,18974
Dummy stock return *	281	-,51	,00	-,0185	,06494
Stock return					
Stock return * Dummy	281	-2,93	,00	-,0997	,35388
Stock return * Size					
Stock return * Dummy	281	-5,59	,00	-,0779	,42265
Stock return * MTB					
Stock return * Dummy	281	-5,17	,00	-,0402	,32724
Stock return * Leverage					
Ln(Size)	281	-,08	11,29	6,2599	2,19900
Market-to-book ratio	281	,43	74,85	3,9674	5,65619
Leverage	281	,00	11,87	1,2253	1,71325
Dummy Stock return * Size	281	,00	11,07	,8900	2,33618
Dummy Stock return * MTB	281	,00	16,85	,4958	1,71155
Dummy Stock return *	281	,00	11,87	,2203	1,05350
Leverage					
Valid N (listwise)	281				

Table C.2: High litigation companies 2006

Descriptive Statistics (2007)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	284	-,58	,33	,0659	,08159
Dummy Stock return	284	,00	1,00	,4401	,49728
Stock return	284	-,59	2,00	,0825	,36908
Stock return * Size	284	-4,45	9,82	,5936	2,24758
Stock return * MTB	284	-5,71	14,66	,4886	1,89487
Stock return * Leverage	284	-4,17	5,91	,0785	,73235
Dummy stock return *	284	-,59	,00	-,0962	,14819
Stock return					
Stock return * Dummy	284	-4,45	,00	-,5349	,86921
Stock return * Size					
Stock return * Dummy	284	-5,71	,00	-,2716	,64247
Stock return * MTB					
Stock return * Dummy	284	-4,17	,00	-,1208	,39239
Stock return * Leverage					
Ln(Size)	284	,11	11,35	6,3588	2,17948
Market-to-book ratio	284	,50	21,06	3,3979	3,10351
Leverage	284	,00	15,37	1,1730	1,55947
Dummy Stock return * Size	284	,00	10,61	2,6283	3,27849
Dummy Stock return * MTB	284	,00	21,06	1,2499	2,34673
Dummy Stock return *	284	,00	15,37	,5619	1,46085
Leverage					
Valid N (listwise)	284				

Table C.3: High litigation companies 2007

Descriptive Statistics (2008)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	281	-,91	1,39	,0285	,13658
Dummy Stock return	281	,00	1,00	,9502	,21797
Stock return	281	-,95	,60	-,4424	,24664
Stock return * Size	281	-7,94	6,27	-2,6817	1,77663
Stock return * MTB	281	-7,23	1,71	-,6210	,80997
Stock return * Leverage	281	-10,23	1,19	-,7076	1,38944
Dummy stock return *	281	-,95	,00	-,4490	,22979
Stock return					
Stock return * Dummy	281	-7,94	,41	-2,7312	1,64526
Stock return * Size					
Stock return * Dummy	281	-7,23	,00	-,6423	,78009
Stock return * MTB					
Stock return * Dummy	281	-10,23	,00	-,7149	1,38369
Stock return * Leverage					
Ln(Size)	281	-,67	11,42	6,2884	2,23932
Market-to-book ratio	281	,07	22,57	1,8333	2,12572
Leverage	281	,00	28,42	1,4294	2,59239
Dummy Stock return * Size	281	-,67	11,42	5,9730	2,58116
Dummy Stock return * MTB	281	,00	22,57	1,6436	2,02579
Dummy Stock return *	281	,00	28,42	1,3844	2,60405
Leverage					
Valid N (listwise)	281				

Table C.4: High litigation companies 2008

Descriptive Statistics (2009)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	279	-1,26	,42	-,0066	,24586
Dummy Stock return	279	,00	1,00	,2432	,42987
Stock return	279	-,88	2,58	,3555	,63277
Stock return * Size	279	-7,26	21,01	2,2584	4,00809
Stock return * MTB	279	-23,72	8,06	,6903	2,07893
Stock return * Leverage	279	-12,22	17,51	,4001	1,77949
Dummy stock return *	279	-,88	,00	-,0682	,17155
Stock return					
Stock return * Dummy	279	-7,26	,00	-,3799	1,00226
Stock return * Size					
Stock return * Dummy	279	-23,72	,00	-,1777	1,44778
Stock return * MTB					
Stock return * Dummy	279	-12,22	,00	-,1441	,86577
Stock return * Leverage					
Ln(Size)	279	-,29	11,46	6,4026	2,17648
Market-to-book ratio	279	,16	37,03	2,1787	2,66654
Leverage	279	,00	19,08	1,2880	2,07677
Dummy Stock return * Size	279	,00	10,50	1,3391	2,70234
Dummy Stock return * MTB	279	,00	37,03	,5094	2,48048
Dummy Stock return *	279	,00	19,08	,3582	1,52143
Leverage					
Valid N (listwise)	279				

Table C.5: High litigation companies 2009

Descriptive Statistics (2010)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	280	-1,81	,76	,0626	,18201
Dummy Stock return	280	,00	1,00	,3357	,47309
Stock return	280	-,95	3,80	,2297	,57613
Stock return * Size	280	-4,31	19,52	1,4276	3,18129
Stock return * MTB	280	-1,55	25,35	,9285	2,56168
Stock return * Leverage	280	-7,77	6,71	,1425	,89293
Dummy stock return *	280	-,95	,00	-,0752	,15374
Stock return					
Stock return * Dummy	280	-4,31	,21	-,4404	,89321
Stock return * Size					
Stock return * Dummy	280	-1,55	,00	-,0869	,20387
Stock return * MTB					
Stock return * Dummy	280	-7,77	,00	-,1293	,56934
Stock return * Leverage					
Ln(Size)	280	-,32	11,61	6,5497	2,18847
Market-to-book ratio	280	,14	27,60	2,3285	2,60720
Leverage	280	,00	10,54	1,0201	1,32091
Dummy Stock return * Size	280	-,32	11,18	2,1888	3,41741
Dummy Stock return * MTB	280	,00	8,51	,4881	1,01584
Dummy Stock return *	280	,00	10,54	,4436	1,13853
Leverage					
Valid N (listwise)	280				

Table C.6: High litigation companies 2010

Descriptive Statistics (2005)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	1720	-1,90	1,16	,0254	,20016
Dummy Stock return	1720	,00	1,00	,2727	,44546
Stock return	1720	-,92	2,54	,2924	,52161
Stock return * Size	1720	-6,39	4,75	,1867	,66109
Stock return * MTB	1720	-19,97	16,99	,0265	1,03233
Stock return * Leverage	1720	-25,01	13,16	-,0234	,91333
Stock return * Dummy	1720	-,92	,00	-,0553	,12506
stock return					
Stock return * Dummy	1720	-3,67	1,18	-,1587	,39088
Stock return * Size					
Stock return * Dummy	1720	-13,20	,00	-,1552	,66811
Stock return * MTB					
Stock return * Dummy	1720	-7,30	,00	-,0603	,35564
Stock return * Leverage					
Ln(Size)	1720	-2,43	11,88	4,0079	1,95795
Market-to-book ratio	1720	,14	27,29	2,8456	3,35447
Leverage	1720	,00	15,09	,7895	1,54025
Dummy Stock return * Size	1720	-2,43	8,74	,9232	1,79332
Dummy Stock return * MTB	1720	,00	27,29	,7154	2,26056
Dummy Stock return *	1720	,00	15,09	,2620	1,08234
Leverage					
Valid N (listwise)	1720				

Table C.7: Low litigation companies 2005

Descriptive Statistics (2006)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	1707	-2,58	1,01	,0327	,17896
Dummy Stock return	1707	,00	1,00	,2988	,45785
Stock return	1707	-,78	4,15	,2541	,58096
Stock return * Size	1707	-9,70	17,19	1,0566	2,13870
Stock return * MTB	1707	-11,08	310,39	1,3097	8,64938
Stock return * Leverage	1707	-6,62	49,21	,2304	1,85368
Dummy stock return *	1707	-,78	,00	-,0652	,13790
Stock return					
Stock return * Dummy	1707	-3,09	1,25	-,1985	,45362
Stock return * Size					
Stock return * Dummy	1707	-11,08	,00	-,1745	,65132
Stock return * MTB					
Stock return * Dummy	1707	-6,62	,00	-,0559	,33969
Stock return * Leverage					
Ln(Size)	1709	-2,34	11,72	4,1040	1,95108
Market-to-book ratio	1707	,21	74,85	3,1764	4,33008
Leverage	1707	,00	11,87	,7669	1,45535
Dummy Stock return * Size	1707	-2,34	11,72	1,0322	1,85710
Dummy Stock return * MTB	1707	,00	20,34	,7725	2,02563
Dummy Stock return *	1707	,00	11,87	,2468	1,02311
Leverage					
Valid N (listwise)	1707				

Table C.8: Low litigation companies 2006

Descriptive Statistics (2007)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	1698	-,69	,65	,0408	,13050
Dummy Stock return	1698	,00	1,00	,4817	,49981
Stock return	1698	-,91	2,21	,0819	,45015
Stock return * Size	1698	-5,18	14,49	,3670	1,86884
Stock return * MTB	1698	-15,79	46,59	,5089	2,68641
Stock return * Leverage	1698	-9,22	17,77	,0528	,93194
Dummy stock return *	1698	-,91	,00	-,1175	,17244
Stock return					
Stock return * Dummy	1698	-5,18	1,33	-,4442	,72118
Stock return * Size					
Stock return * Dummy	1698	-15,79	,58	-,2733	,76363
Stock return * MTB					
Stock return * Dummy	1698	-9,22	,18	-,1058	,47086
Stock return * Leverage					
Ln(Size)	1698	-2,53	11,50	4,2359	1,93392
Market-to-book ratio	1698	,00	21,06	2,7800	2,86164
Leverage	1698	,00	15,37	,7815	1,52204
Dummy Stock return * Size	1698	-2,53	9,56	1,9659	2,44292
Dummy Stock return * MTB	1698	,00	21,06	1,1589	2,27125
Dummy Stock return *	1698	,00	15,37	,3924	1,11596
Leverage					
Valid N (listwise)	1698				

Table C.9: Low litigation companies 2007

Descriptive Statistics (2008)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	1659	-1,46	1,39	,0081	,19883
Dummy Stock return	1659	,00	1,00	,9054	,29280
Stock return	1659	-,99	2,62	-,3696	,42393
Stock return * Size	1659	-6,92	22,64	-1,5443	2,12269
Stock return * MTB	1659	-24,28	13,69	-,4789	1,49748
Stock return * Leverage	1659	-23,06	24,67	-,3923	1,49081
Dummy stock return *	1659	-,99	,00	-,4188	,25080
Stock return					
Stock return * Dummy	1659	-6,92	1,02	-1,7551	1,34820
Stock return * Size					
Stock return * Dummy	1659	-24,28	,00	-,5858	1,28583
Stock return * MTB					
Stock return * Dummy	1659	-23,06	,00	-,4498	1,24064
Stock return * Leverage					
Ln(Size)	1659	-2,40	11,49	4,2013	1,93801
Market-to-book ratio	1659	,05	49,35	1,7540	3,13534
Leverage	1659	,00	34,06	,9520	2,38189
Dummy Stock return * Size	1659	-2,40	10,06	3,8384	2,21343
Dummy Stock return * MTB	1659	,00	49,35	1,4976	2,98771
Dummy Stock return *	1659	,00	34,06	,8983	2,36863
Leverage					
Valid N (listwise)	1659				

Table C.10: Low litigation companies 2008

Descriptive Statistics (2009)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	1664	-1,26	1,13	-,0253	,26033
Dummy Stock return	1664	,00	1,00	,3832	,48631
Stock return	1664	-,95	2,58	,2172	,59567
Stock return * Size	1664	-6,26	19,03	1,0925	2,76895
Stock return * MTB	1664	-11,48	40,33	,6365	2,33456
Stock return * Leverage	1664	-9,78	25,86	,1177	1,14415
Dummy stock return *	1664	-,95	,00	-,1104	,19879
Stock return					
Stock return * Dummy	1664	-6,26	1,67	-,3866	,78195
Stock return * Size					
Stock return * Dummy	1664	-11,48	,00	-,1563	,60836
Stock return * MTB					
Stock return * Dummy	1664	-9,78	,00	-,1307	,54492
Stock return * Leverage					
Ln(Size)	1664	-2,23	11,44	4,2050	1,99188
Market-to-book ratio	1664	,08	37,03	1,9804	3,00088
Leverage	1664	,00	19,08	,9522	1,98487
Dummy Stock return * Size	1664	-2,23	11,44	1,3997	2,16436
Dummy Stock return * MTB	1664	,00	37,03	,5918	1,85978
Dummy Stock return *	1664	,00	19,08	,4367	1,52598
Leverage					
Valid N (listwise)	1664				

Table C.11: Low litigation companies 2009

Descriptive Statistics (2010)

	N	Minimum	Maximum	Mean	Std. Deviation
EPS/Closing price T-1	1538	-1,81	1,85	,0120	,27307
Dummy Stock return	1538	,00	1,00	,3459	,47582
Stock return	1538	-1,00	3,80	,2700	,68173
Stock return * Size	1538	-6,03	21,14	1,1704	2,72694
Stock return * MTB	1538	-37,98	81,52	1,0749	4,90887
Stock return * Leverage	1538	-17,32	46,25	,1021	1,76225
Dummy stock return *	1538	-1,00	,00	-,0964	,17831
Stock return					
Stock return * Dummy	1538	-6,03	1,59	-,3644	,73859
Stock return * Size					
Stock return * Dummy	1538	-37,98	,00	-,1560	1,08211
Stock return * MTB					
Stock return * Dummy	1538	-17,32	,00	-,1604	,88185
Stock return * Leverage					
Ln(Size)	1538	-2,33	11,53	4,4031	2,00748
Market-to-book ratio	1538	,00	63,37	2,2571	3,83893
Leverage	1538	,00	24,57	,9049	2,07426
Dummy Stock return * Size	1538	-2,33	10,28	1,4263	2,29980
Dummy Stock return * MTB	1538	,00	63,37	,6050	2,78792
Dummy Stock return *	1538	,00	24,57	,4692	1,77575
Leverage					
Valid N (listwise)	1538				

Table C.12: Low litigation companies 2010

Appendix D

Regression results hypothesis

one

Model		Coefficients (2005)				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,050	,004		12,147	,000
	Dummy stock return	,058	,011	-,127	-5,246	,000
	Stock return	-,014	,003	-,038	-4,336	,000
	Stock return * Size	,219	,002	,763	94,793	,000
	Stock return * MTB	,074	,002	,348	36,677	,000
	Stock return * Leverage	,026	,002	,109	11,673	,000
	Stock return * Dummy	,349	,025	,227	14,223	,000
	stock return					
	Stock return * Dummy	-,028	,008	-,115	-7,359	,000
	Stock return * Size					
	Stock return * Dummy	-,014	,004	-,124	-7,972	,000
	Stock return * MTB					
	Stock return * Dummy	-,033	,008	-,064	-3,897	,000
	Stock return * Leverage					
	Ln(Size)	-,014	,001	-,159	-18,512	,000
	Market-to-book ratio	-,001	,001	-,022	-2,413	,016
	Leverage	-,004	,001	-,041	-4,829	,000
	Dummy Stock return * Size	,002	,001	,014	1,237	,216
	Dummy Stock return * MTB	-,003	,001	-,033	-2,330	,020
	Dummy Stock return *	-,001	,003	-,008	-,478	,633
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure D.1: Regression results 2005

Coefficients (2006)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
	B	Std. Error	Beta				
1	(Constant)	-.088	.022			-4,036	.000
	Dummy stock return	-.043	0,11	-.102		-1,955	.051
	Stock return	-.013	.034	-.038		-.378	.706
	Stock return * Size	.005	.003	.157		1,665	.096
	Stock return * MTB	-.002	.001	-.070		-2,799	.005
	Stock return * Leverage	-.008	.003	-.063		-3,051	.002
	Dummy stock return *	.421	.129	.326		3,258	.001
	Stock return						
	Stock return * Dummy	-.023	.013	-.167		-1,715	.086
	Stock return * Size						
	Stock return * Dummy	-.011	.004	-.004		-.143	.887
	Stock return * MTB						
	Stock return * Dummy	-.039	.016	-.072		-2,541	.011
	Stock return * Leverage						
	Ln(Size)	.013	.002	.152		6,980	.000
	Market-to-book ratio	-.002	.001	-.058		-2,288	.022
	Leverage	-.002	.002	-.024		-1,126	.260
	Dummy Stock return * Size	-.002	.001	-.047		-1,833	.067
	Dummy Stock return * MTB	.004	.002	.073		2,400	.016
	Dummy Stock return *	-.024	.006	-.127		-4,181	.000
	Leverage						

a. Dependent Variable: EPS/Closing price T-1

Figure D.2: Regression results 2006

Coefficients (2007)

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
				Beta		
1	(Constant)	-,082	,016		-5,002	,000
	Dummy stock return	,002	,010	,006	0,115	,908
	Stock return	,046	,039	,139	1,171	,242
	Stock return * Size	,003	,003	,089	,806	,421
	Stock return * MTB	-,006	,002	-,121	-3,824	,000
	Stock return * Leverage	,016	,004	,100	3,759	,000
	Dummy stock return *	,432	,084	,560	5,163	,000
	Stock return					
	Stock return * Dummy	-,027	,008	-,369	-3,631	,000
	Stock return * Size					
	Stock return * Dummy	-,011	,005	-,066	-2,078	,038
	Stock return * MTB					
	Stock return * Dummy	9,106E-5	,008	,000	,012	,991
	Stock return * Leverage					
	Ln(Size)	,013	,001	,196	8,977	,000
	Market-to-book ratio	-,005	,001	-,110	-4,243	,000
	Leverage	-,004	,002	-,051	-1,755	,079
	Dummy Stock return * Size	,000	,001	,010	,341	,733
	Dummy Stock return * MTB	,001	,002	,008	,244	,807
	Dummy Stock return *	,004	,003	,042	1,202	,229
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure D.3: Regression results 2007

Coefficients (2008)

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,005	,032		,160	,873
	Dummy stock return	,034	,028	,047	1,056	,291
	Stock return	-,185	,092	-,344	-2,007	,045
	Stock return * Size	,037	,008	,779	4,772	,000
	Stock return * MTB	-,022	,007	-,189	-3,157	,002
	Stock return * Leverage	-,068	,009	-,680	-7,893	,000
	Dummy stock return *	,632	,123	,786	5,133	,000
	Stock return					
	Stock return * Dummy	-,062	,011	-,883	-5,848	,000
	Stock return * Size					
	Stock return * Dummy	,007	,008	,051	,806	,420
	Stock return * MTB					
	Stock return * Dummy	,092	,010	,887	9,479	,000
	Stock return * Leverage					
	Ln(Size)	,005	,003	,049	1,497	,134
	Market-to-book ratio	-,005	,004	-,079	-1,255	,209
	Leverage	-,007	,011	-,109	-,658	,510
	Dummy Stock return * Size	,000	,002	,007	,247	,805
	Dummy Stock return * MTB	,001	,004	,015	,221	,825
	Dummy Stock return *	,013	,011	,205	1,205	,228
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure D.4: Regression results 2008

Coefficients (2009)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,238	,032		-7,355	,000
	Dummy stock return	,037	,018	,063	1,179	,238
	Stock return	-,088	,046	-,199	-1,915	,056
	Stock return * Size	,008	,004	,204	2,056	,040
	Stock return * MTB	,001	,002	,012	,489	,625
	Stock return * Leverage	-,003	,004	-,016	-,612	,541
	Dummy stock return *	,125	,128	,097	1,554	,121
	Stock return					
	Stock return * Dummy	,007	,012	,052	1,685	,092
	Stock return * Size					
	Stock return * Dummy	-,004	,008	-,016	-,525	,599
	Stock return * MTB					
	Stock return * Dummy	,009	,010	,027	,877	,381
	Stock return * Leverage					
	Ln(Size)	,021	,003	,165	7,553	,000
	Market-to-book ratio	,003	,002	,041	1,673	,094
	Leverage	-,019	,003	-,160	-5,539	,000
	Dummy Stock return * Size	,000	,001	,008	,310	,756
	Dummy Stock return * MTB	,006	,004	,049	1,541	,123
	Dummy Stock return *	-,008	,005	-,049	-1,406	,160
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure D.5: Regression results 2009

Coefficients (2010)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,030	,016		-1,892	,059
	Dummy Stock return	-,067	,029	-,120	-2,286	,022
	Stock return	,066	,017	,077	1,712	,087
	Stock return * Size	-,003	,004	-,092	-,926	,354
	Stock return * MTB	-,002	,001	-,057	-2,062	,039
	Stock return * Leverage	,017	,003	,136	6,293	,000
	Dummy stock return *	-,042	,127	-,029	-2,012	,044
	Stock return					
	Stock return * Dummy	,030	,012	,218	2,474	,013
	Stock return * Size					
	Stock return * Dummy	-,013	,007	-,056	-1,804	,071
	Stock return * MTB					
	Stock return * Dummy	,000	,008	,001	,020	,984
	Stock return * Leverage					
	Ln(Size)	,021	,003	,175	8,244	,000
	Market-to-book ratio	,001	,002	,012	,449	,653
	Leverage	-,009	,004	-,079	-2,315	,021
	Dummy Stock return * Size	,001	,001	,011	,427	,669
	Dummy Stock return * MTB	-,001	,004	-,005	-,158	,874
	Dummy Stock return *	-,001	,005	-,012	-,279	,781
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure D.6: Regression results 2010

Appendix E

Regression results hypothesis

two

Coefficients (2005)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta			
1	(Constant)	,082	,007		4,324	,000	
	Dummy stock return	-,005	,036	-	-,138	,891	
	Stock return	,008	,005	,016	,034	1,585	,114
	Stock return * Size	,121	,004	,778	30,331	,000	
	Stock return * MTB	,122	,010	,490	11,969	,000	
	Stock return * Leverage	-,042	,010	-,095	-4,043	,000	
	Stock return * Dummy stock return	,313	,120	,137	2,614	,009	
	Stock return * Dummy	-,022	,024	-,064	-,909	,364	
	Stock return * Size	-,050	,061	-,052	-,821	,412	
	Stock return * MTB	-,053	,127	-,032	-,420	,675	
	Stock return * Leverage	-,010	,001	-,220	-10,122	,000	
	Ln(Size)	-,012	,001	-,370	-9,877	,000	
	Market-to-book ratio	,006	,001	,086	3,954	,000	
	Leverage	,001	,002	,032	,602	,548	
	Dummy Stock return * Size	,001	,003	,007	,166	,869	
	Dummy Stock return * MTB	-,008	,011	-,044	-,746	,456	
	Dummy Stock return * Leverage						

a. Dependent Variable: EPS/Closing price T-1

Figure E.1: Regression results companies with high litigation risk 2005

Coefficients(2006)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,095	,027		3,459	,001
	Dummy stock return	-,092	,082	-,315	-1,120	,264
	Stock return	,006	,043	,027	,143	,886
	Stock return * Size	,009	,007	,201	1,249	,213
	Stock return * MTB	,000	,001	-,083	-,704	,482
	Stock return * Leverage	,010	,008	,115	1,171	,243
	Dummy stock return *	,527	,375	,333	1,405	,161
	Stock return					
	Stock return * Dummy	-,077	,069	-,266	-1,125	,262
	Stock return * Size					
	Stock return * Dummy	,056	,061	,230	,911	,363
	Stock return * MTB					
	Stock return * Dummy	-,102	,072	-,324	-1,406	,161
	Stock return * Leverage					
	Ln(Size)	-,002	,004	-,035	-,431	,667
	Market-to-book ratio	-,001	,002	-,037	-,376	,707
	Leverage	-,015	,006	-,252	-2,679	,008
	Dummy Stock return * Size	-,006	,005	-,126	-1,145	,253
	Dummy Stock return * MTB	,018	,012	,304	1,588	,113
	Dummy Stock return *	-,016	,019	-,164	-,859	,391
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure E.2: Regression results companies with high litigation risk 2006

Coefficients(2007)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,042	,030		-1,403	,162
	Stock return	,306	,067	1,385	4,562	,000
	Stock return * Size	-,023	,010	-,622	-2,341	,020
	Stock return * MTB	-,017	,006	-,386	-2,667	,008
	Stock return * Leverage	-,018	,014	-,164	-1,314	,190
	Dummy stock return *	,042	,172	,076	,242	,809
	Stock return					
	Stock return * Dummy	-,008	,023	-,086	-,357	,721
	Stock return * Size					
	Stock return * Dummy	-,028	,026	-,224	-1,102	,272
	Stock return * MTB					
	Stock return * Dummy	,084	,033	,402	2,543	,012
	Stock return * Leverage					
	Ln(Size)	,012	,004	,331	3,109	,002
	Market-to-book ratio	,005	,003	,208	1,817	,070
	Leverage	-,002	,007	-,045	-,326	,745
	Dummy Stock return * Size	-,013	,007	-,528	-1,922	,056
	Dummy Stock return * MTB	-,016	,007	-,452	-2,150	,032
	Dummy Stock return *	,016	,011	,283	1,485	,139
	Leverage					
	Dummy Stock return	,133	,054	,811	2,467	,014

a. Dependent Variable: EPS/Closing price T-1

Figure E.3: Regression results companies with high litigation risk 2007

Coefficients(2008)^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,109	,156		,700	,484
	Stock return	,039	1,232	,070	,032	,975
	Dummy Stock return	,161	,171	,257	,943	,346
	Stock return * Size	-,103	,128	-1,338	-,804	,422
	Stock return * MTB	,239	,484	1,418	,494	,621
	Stock return * Leverage	,051	,019	,515	2,723	,007
	Dummy stock return *	,412	1,239	,692	,332	,740
	Stock return					
	Stock return * Dummy	,076	,129	,921	,591	,555
	Stock return * Size					
	Stock return * Dummy	-,327	,485	-1,869	-,675	,500
	Stock return * MTB					
	Ln(Size)	-1,723E-5	,030	,000	-,001	1,000
	Market-to-book ratio	-,042	,050	-,651	-,844	,399
	Leverage	,127	,129	2,414	,982	,327
	Dummy Stock return * Size	-,015	,031	-,280	-,476	,634
	Dummy Stock return * MTB	,005	,051	,068	,089	,929
	Dummy Stock return *	-,107	,130	-2,043	-,824	,410
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure E.4: Regression results companies with high litigation risk 2008

Coefficients (2009)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-,101	,065		-1,557	,121
Dummy stock return	,132	,166	,224	,791	,430
Stock return	-,033	,117	-,084	-,277	,782
Stock return * Size	-,018	,015	-,293	-1,192	,234
Stock return * MTB	,047	,024	,395	1,911	,057
Stock return * Leverage	,038	,015	,278	2,627	,009
Dummy stock return *	,126	,304	,088	,413	,680
Stock return					
Stock return * Dummy	,021	,049	,084	,424	,672
Stock return * Size					
Stock return * Dummy	-,012	,049	-,071	-,244	,807
Stock return * MTB					
Stock return * Dummy	-,167	,065	-,586	-2,554	,011
Stock return * Leverage					
Ln(Size)	,028	,008	,247	3,318	,001
Market-to-book ratio	,000	,013	-,002	-,011	,991
Leverage	-,065	,012	-,547	-5,624	,000
Dummy Stock return * Size	-,006	,010	-,067	-,611	,541
Dummy Stock return * MTB	,041	,025	,415	1,665	,097
Dummy Stock return *	-,049	,031	-,305	-1,581	,115
Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure E.5: Regression results companies with high litigation risk 2009

Coefficients (2010)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,005	,052		-,093	,926
	Dummy stock return	-,110	,110	-,286	-1,001	,318
	Stock return	,035	,092	,112	,384	,701
	Stock return * Size	,003	,017	,056	,185	,853
	Stock return * MTB	-,007	,010	-,105	-,717	,474
	Stock return * Leverage	,009	,032	,043	,267	,789
	Dummy stock return *	,142	,279	,120	,510	,611
	Stock return					
	Stock return * Dummy	-,013	,044	-,064	-,295	,768
	Stock return * Size					
	Stock return * Dummy	,025	,123	,028	,201	,841
	Stock return * MTB					
	Stock return * Dummy	,057	,056	,177	1,013	,312
	Stock return * Leverage					
	Ln(Size)	,009	,008	,103	1,082	,280
	Market-to-book ratio	,001	,008	,019	,166	,868
	Leverage	,005	,017	,033	,260	,795
	Dummy Stock return * Size	,002	,008	,036	,251	,802
	Dummy Stock return * MTB	-,004	,022	-,024	-,193	,847
	Dummy Stock return *	,020	,028	,128	,741	,459
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure E.6: Regression results companies with high litigation risk 2010

Coefficients(2005)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,045	,006		7,152	,000
	Dummy stock return	-,035	,015	-,078	-2,256	,024
	Stock return	-,005	,004	-,013	-1,145	,252
	Stock return * Size	,229	,003	,756	76,001	,000
	Stock return * MTB	,065	,002	,337	26,510	,000
	Stock return * Leverage	,031	,003	,141	11,622	,000
	Stock return * Dummy stock return	,269	,048	,168	5,640	,000
	Stock return * Dummy stock return	-,047	,012	-,092	-3,949	,000
	Stock return * Size	-,038	,008	-,127	-4,631	,000
	Stock return * MTB	,001	,015	,001	,036	,971
	Stock return * Leverage	-,013	,001	-,125	-11,304	,000
	Ln(Size)	-,001	,001	-,016	-1,326	,185
	Market-to-book ratio	-,007	,002	-,051	-4,174	,000
	Leverage	,009	,003	,079	2,823	,005
	Dummy Stock return * Size	-,003	,002	-,039	-1,641	,101
	Dummy Stock return * MTB	,012	,004	,065	2,724	,007
	Dummy Stock return * Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure E.7: Regression results companies with low litigation risk 2005

Coefficients(2006)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,016	,015		1,088	,277
	Dummy stock return	-,002	,037	-,004	-,041	,967
	Stock return	,075	,020	,242	3,725	,000
	Stock return * Size	-,001	,005	-,014	-,239	,811
	Stock return * MTB	-,004	,001	-,191	-4,902	,000
	Stock return * Leverage	-,005	,003	-,055	-1,615	,106
	Dummy stock return * Stock return	,222	,087	,171	2,542	,011
	Stock return * Dummy	-,007	,024	-,017	-,279	,781
	Stock return * Size					
	Stock return * Dummy	-,008	,017	-,027	-,430	,667
	Stock return * MTB					
	Stock return * Dummy	-,095	,028	-,180	-3,430	,001
	Stock return * Leverage					
	Ln(Size)	,009	,003	,093	2,877	,004
	Market-to-book ratio	-,002	,001	-,057	-1,797	,072
	Leverage	-,007	,005	-,059	-1,610	,108
	Dummy Stock return * Size	-,001	,004	-,011	-,280	,780
	Dummy Stock return * MTB	,004	,005	,046	,905	,366
	Dummy Stock return * Leverage	-,049	,009	-,282	-5,465	,000

a. Dependent Variable: EPS/Closing price T-1

Figure E.8: Regression results companies with low litigation risk 2006

Coefficients(2007)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,019	,012		1,606	,108
	Dummy stock return	,016	,025	,060	,625	,532
	Stock return	,133	,026	,458	5,034	,000
	Stock return * Size	-,010	,005	-,146	-1,923	,055
	Stock return * MTB	-,008	,003	-,165	-2,926	,003
	Stock return * Leverage	,013	,007	,093	1,938	,053
	Dummy stock return *	,176	,061	,232	2,878	,004
	Stock return					
	Stock return * Dummy	-,021	,013	-,115	-1,632	,103
	Stock return * Size					
	Stock return * Dummy	-,015	,008	-,089	-1,844	,065
	Stock return * MTB					
	Stock return * Dummy	,027	,014	,099	1,975	,048
	Stock return * Leverage					
	Ln(Size)	,010	,002	,146	4,040	,000
	Market-to-book ratio	-,004	,002	-,080	-1,701	,089
	Leverage	-,007	,004	-,078	-1,638	,102
	Dummy Stock return * Size	,000	,002	,003	,064	,949
	Dummy Stock return * MTB	-,002	,003	-,033	-,603	,546
	Dummy Stock return *	,008	,007	,071	1,251	,211
	Leverage					

a. Dependent Variable: EPS/Closing price T-1

Figure E.9: Regression results companies with low litigation risk 2007

Coefficients(2008)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,079	,022		3,525	,000
	Dummy stock return	-,070	,049	-,103	-1,444	,149
	Stock return	,144	,052	,308	2,778	,006
	Stock return * Size	,034	,009	,359	3,643	,000
	Stock return * MTB	-,048	,012	-,364	-4,178	,000
	Stock return * Leverage	-,033	,011	-,246	-2,892	,004
	Dummy stock return *					
	Stock return	,149	,078	,188	1,902	,057
	Stock return * Dummy	-,064	,015	-,436	-4,292	,000
	Stock return * Size					
	Stock return * Dummy	,026	,015	,167	1,686	,092
	Stock return * MTB					
	Stock return * Dummy	,070	,014	,440	4,867	,000
	Stock return * Leverage					
	Ln(Size)	,002	,006	,023	,378	,705
	Market-to-book ratio	,010	,005	,160	1,896	,058
	Leverage	-,134	,022	-1,602	-6,083	,000
	Dummy Stock return * Size	-,002	,005	-,021	-,350	,726
	Dummy Stock return * MTB	-,016	,007	-,239	-2,354	,019
	Dummy Stock return *					
	Leverage	,140	,023	1,666	6,210	,000

a. Dependent Variable: EPS/Closing price T-1

Figure E.10: Regression results companies with low litigation risk 2008

Coefficients(2009)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,143	,030		-4,809	,000
	Dummy stock return	,101	,052	,189	1,946	,052
	Stock return	,116	,044	,268	2,632	,009
	Stock return * Size	-,013	,008	-,137	-1,550	,121
	Stock return * MTB	-,001	,006	-,008	-,137	,891
	Stock return * Leverage	,015	,010	,066	1,489	,137
	Dummy stock return * Stock return	,110	,124	,085	,889	,374
	Stock return * Dummy	-,010	,026	-,030	-,376	,707
	Stock return * Size					
	Stock return * Dummy	,002	,028	,005	,080	,936
	Stock return * MTB					
	Stock return * Dummy	-,002	,025	-,005	-,090	,929
	Stock return * Leverage					
	Ln(Size)	,027	,006	,207	4,802	,000
	Market-to-book ratio	,010	,005	,122	2,233	,026
	Leverage	-,037	,007	-,285	-5,411	,000
	Dummy Stock return * Size	-,017	,010	-,145	-1,699	,089
	Dummy Stock return * MTB	-,001	,010	-,008	-,113	,910
	Dummy Stock return * Leverage	,004	,010	,025	,406	,685

Figure E.11: Regression results companies with high litigation risk 2009

Coefficients(2010)^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,038	,023		-1,630	,103
	Dummy stock return	-,098	,055	,170	-1,780	,075
	Stock return	,091	,028	,227	3,222	,001
	Stock return * Size	-,003	,006	-,028	-,446	,656
	Stock return * MTB	-,005	,003	-,095	-2,086	,037
	Stock return * Leverage	,022	,007	,141	3,303	,001
	Dummy stock return *					
	Stock return	,246	,108	,161	2,272	,023
	Stock return * Dummy	,010	,026	,028	,391	,696
	Stock return * Size					
	Stock return * Dummy	-,025	,012	-,098	-2,062	,039
	Stock return * MTB					
	Stock return * Dummy	,008	,019	,025	,407	,684
	Stock return * Leverage					
	Ln(Size)	,015	,005	,110	3,231	,001
	Market-to-book ratio	,004	,003	,057	1,182	,237
	Leverage	-,030	,007	-,231	-4,180	,000
	Dummy Stock return * Size	,005	,005	,039	,956	,339
	Dummy Stock return * MTB	-,003	,005	-,028	-,527	,598
	Dummy Stock return *					
	Leverage	,011	,011	,072	1,001	,317

a. Dependent Variable: EPS/Closing price T-1

Figure E.12: Regression results companies with low litigation risk 2010