ERASMUS UNIVERSITEIT ROTTERDAM

Master thesis

Differences among U.S. Circuits: Do changes in shareholder litigation affect conservative reporting in the Ninth Circuit and the Seventh Circuit?

MSc in Accounting, Auditing & Control

Academic year 2016-2017

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Date: 29-05-2017

Acknowledgements

Hereby I present you my master thesis. This thesis represents the official end of my master study Accountancy, Auditing & Control at the ESE Erasmus University. The last several months, I have been working on this thesis and analyzed the effect of shareholder litigation on conservative reporting. This was sometimes difficult, but I also learned a lot during the whole thesis process. Hereby, I would like to thank some people who helped and supported me during this process.

First, I would like to thank my supervisor at the Erasmus University, Dr. F.M. Elfers, for his help, support, feedback and time during my whole thesis process. I am really grateful for his useful ideas and time which definitely have helped me to improve this thesis.

Secondly, I would like to thank Dr. P.Y.E. Leung for helping me with my thesis proposal and providing me with ideas for my thesis. I really appreciate all the time and effort she spent on helping me with my thesis proposal.

Furthermore, I want to thank EY Rotterdam for providing me the opportunity to write my thesis at their office. Especially, I want to thank my coach at EY, Steven de Haas, for the useful feedback he gave me during the thesis process and for all his time helping me with my questions during my internship. Furthermore, I would like to thank my buddy at EY, Joël Nelemans, for his useful information, help and support during my thesis internship.

Lastly, I would like to thank my boyfriend, family and friends for always listening to me and supporting me, not only during the thesis process, but during my whole study. Especially, I would like to thank my parents for providing me the opportunity to do what I like, for always supporting me and for helping and motivating me whenever needed, and Quinten, for always listening to me and supporting me when I was stressed or worried during the whole study.

Elisa van Bruggen
Rotterdam, May 2017

Executive Summary

This thesis examines the effect of a change in the level of shareholder litigation on conservative reporting. Two different judicial cases are analyzed, the Ninth Circuit SGI Case and the Seventh Circuit Tellabs Case, which both led to a change in shareholder litigation in the affected circuit. The main findings of this thesis implicate that Ninth Circuit firms reacted to the decrease in shareholder litigation risk in their circuit, by decreasing their level of conservative reporting. The findings also implicate that Seventh Circuit firms did not react to the increase in shareholder litigation in their circuit. No significant evidence is found of an increase in conservative reporting after the Tellabs Case. Furthermore, a number of smaller judicial decisions in other circuits are also analyzed. Results of this analysis also do not find significant evidence of a change in conservatism after the change in shareholder litigation risk. Therefore, this thesis concludes that firms only respond to large changes in litigation risk, but not to smaller changes. This implicates that shareholder litigation risk serves as an effective governance mechanism, but only when changes in shareholder litigations are large, and that firms use conservative reporting when they perceive this as beneficial to them.

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1. Introduction

Shareholders play an important role for firms, because they provide a lot of necessary resources. However, shareholders face the problem that management of a firm is inclined to work in their own best interest, and not in the best interest of their shareholders. An important mechanism for shareholders to align their goals with the goals of the management is the threat of a shareholder class action lawsuit. This threat of shareholder litigation can be helpful to mitigate management's incentives for earnings management or opportunistic disclosure, and can therefore be in the interest of shareholders. The right for shareholders to sue a firms finds its basis in the Securities Exchange Act of 1933 and the Securities Exchange Act of 1934. These Acts were revised by the Private Securities Litigation Reform Act (PSLRA) in 1995, which forms the basis for the current shareholder litigation environment. The introduction of the PSLRA led to a higher bar for plaintiffs to sue a firm, because the Congress implemented the 'strong inference' requirement. This means that shareholders need to have strong evidence that a firm's management acted with scienter, which is an intention of wrong-doing. However, this 'strong inference' was not clearly defined by the Congress, which made that the different legal U.S. Circuits interpreted this requirement in their own way. These different interpretations of the PSLRA led to a difference in the level of shareholder litigation risk among the legal U.S. Circuits. This thesis uses these different interpretations of the PSLRA to test whether the resulting differences in shareholder litigation risk among U.S. Circuits lead to different levels of conservative reporting in these Circuits. Shareholder litigation is one of the explanations for conservative reporting (Watts, 2003a). Furthermore, prior literature finds evidence of a positive relation between shareholder litigation and conservative reporting. To examine the relation between shareholder litigation and conservative reporting in this thesis, the following research question will be answered:

- Do changes in shareholder litigation risk among U.S. circuits influence the level of conservatism at firms located in the affected circuit?

Providing an answer to this research question is meaningful for several reasons. The first reason is the growing importance of conservatism in the last decades. Evidence of this growing importance is found by prior literature (Basu, 1997; Grambovas et al., 2006; Lobo and Zhou, 2006; Tucker and Zarowin, 2006). Second, conservatism is highly valued by management. A survey among managers of Dichev et al. (2013) asked respondents whether they agree with the statement that conservatism captures features of high quality earnings. 59% of the respondents agreed with this statement, indicating the importance of conservative reporting for managers.

Thirdly, policy makers seem not to take the growing importance of conservative reporting into account and prefer neutral reporting policies instead. In their joint exposure draft with the IASB, the FASB (2008) states that conservative reporting conflicts with neutrality and induces a bias in the financial statements. Therefore, the FASB favors fair value reporting instead of conservative reporting.

This preference of policy makers could lead to significant cost for shareholders and for the economy in general. According to Watts (2003a), conservative reporting is an important mechanism to ensure the efficiency of contracting. The asymmetric payoff and asymmetric information between shareholders and management of a firm can lead to opportunistic behavior of management, at the expense of the interest of shareholders. Conservative reporting serves as an efficient mechanism to mitigate this opportunistic behavior, by monitoring managers and contracts (Ball, 2001). The imposed favor of neutrality by the FASB can cause a shift away from conservative reporting, thereby increasing the possibility of managerial opportunistic behavior. Therefore, providing an answer to this research question is at first important for shareholders. The answer to this research question shows if litigation risk can serve as another incentive for managers to report conservative, thereby lowering the risk of managerial opportunistic behavior, despite the shift away from conservative reporting preferred by the FASB. Furthermore, this answer provide shareholders information about the relevance of the threat of shareholder litigation and the effectiveness of shareholder litigation as governance mechanism. The answer to this research question is also important for regulators and standard setters. It provides evidence for the effects of the PSLRA and shows whether the different interpretations of the PSLRA led to different reporting policies among firms in different U.S. Circuits. Next to that, an answer to this research question shows whether firms use conservative reporting as a means of mitigating the threat of shareholder litigation, although the FASB's favor of neutral reporting.

To answer the research question, the effect of two different judicial cases which affected shareholder litigation risk in two specific circuits will be examined. The first case, the 1999 SGI Case, had impact on the Ninth Circuit, the second case, the 2006 Tellabs Case, impacted the Seventh Circuit. To test for the effect of these judicial decisions on conservative reporting, two separate difference-in-difference analyses will be performed, in which the affected circuit forms the treatment group, and all other circuits form the control group. Furthermore, the Second Circuit (SGI Case) and the Second, Third and DC Circuit (Tellabs Case) will be used as additional control groups, because these circuits had the most stable litigation environment

during the sample period. The sample period for the SGI cases ranges from January 1, 1998 through March 31, 2002. The sample period for the Tellabs case ranges from January 1, 2004 through December 31, 2007. The difference-in-difference analysis will be executed by estimating an extended version of the Basu (1997) timeliness of earnings regression, which measures the level of conservative reporting among firms. This will be done with both raw values of earnings and return, as with market-adjusted values of earnings and return. Furthermore, two additional analyses will be performed. One of these analyses test for the effect of smaller judicial decisions among a number of circuits, the second analysis tests the effect of the Court of Appeals decision in the Ninth Circuit and the Seventh circuit by using the Basu (1997) persistence of earnings measure. Data for these analysis is available in CRPS and Compustat.

The results of the difference-in-difference analysis find evidence of a lower level of conservative reporting among Ninth Circuit firms after the 1999 SGI Case, which decreased the risk of shareholder litigation. On the other hand, no significant evidence is found for an increase in conservative reporting in the Seventh Circuit after the increase in litigation risk caused by the Court of Appeals decision in the 2006 Tellabs Case. Except for one of these cases, there is also no significant evidence of a decrease in conservative reporting as result of a number of smaller judicial decision among different circuits, which decreased the level of shareholder litigation risk. The persistence of earnings regression corroborates on these results. However, both the decision in the Tellabs Case and the smaller judicial decisions among a number of circuits have a much smaller impact on shareholder litigation risk than the decision in the SGI Case. Therefore, this thesis concludes that firms only adjust their conservative reporting after a judicial decision with a large impact. So, the answer to the research question is that changes in shareholder litigation risk among U.S. Circuits do indeed influence the level of conservatism at the firms in these circuits, but this only applies to Court of Appeal decisions which led to a big change in litigation risk in the affected circuit, and not to decisions which cause smaller changes in litigation risk.

This thesis contributes to prior literature by looking directly into the effect of litigation risk on conservative reporting. Prior literature examining the relation between conservatism and shareholder litigation does not look into this litigation risk directly, but uses features of companies which cause higher litigation risk. This features are the country where a firm is located, whether a firm is cross-listed with the United States, the industry of a firm, managerial characteristics, engagement in fraudulent reporting and being a public or a private firm. These

features all indirectly influence litigation risk. However, a limitation of these studies is therefore that the results can be influenced by factors other than litigation risk. This thesis looks directly into litigation risk, by examining the direct effect of two shocks in litigation risk caused by Court of Appeal decisions. These shocks only influence the circuit in which the Court of Appeals made the decision, and therefore, examining these shocks provides a natural-experimental setting. The main advantage of this setting is the fact that these shocks are exogenous to the firms located in a specific circuit, and therefore, the change in litigation risk is not determined by firm characteristics. This provides a unique research design which isolates the change in litigation risk and provides an exogenous treatment and control group. This allows this thesis to purely test for the effect of this change in litigation risk, and so the results of this thesis are not affected by other factors than the change in litigation risk.

The findings of this study contribute to prior literature because they show that firms only partly respond to a change in litigation risk. Firms do respond to a large change in litigation risk, but no do not respond to relatively smaller shocks in litigation risk. Prior literature has found a relation between shareholder litigation risk and conservative reporting, but did not look at the magnitude of shareholder litigation risk. Therefore, this thesis provides additional insights about firms' reactions to litigation risk and shows that these reactions are dependent on the magnitude of the litigation risk.

The findings of this thesis implicate that, although regulators favor neutrality in reporting, a lot of companies still report conservative. The results of the SGI Case show that firms decrease their conservative reporting when the risk of shareholder litigation decreases. This indicates that firms use this conservative reporting as a means to protect themselves against this shareholder litigation, but value this conservative reporting less important if shareholder litigation risk is lower. This means that firms do not take into account that the FASB favors neutrality in reporting, but use conservative reporting if they perceive this as beneficial to them. The findings of this thesis are also important for shareholders, because they implicate that shareholder litigation serves as a valuable mechanism to align the goals of shareholders with the goals of management. Like indicated by the results, firms adjust their level of conservative reporting when there is a change in litigation risk, and so adjust their reporting to shareholder litigation. However, the results also show that firms only react to a large change in shareholder litigation risk, so shareholder litigation is only really effective to induce conservative reporting when firms perceive shareholder litigation risk as large. Overall, the results of this thesis are important for both shareholders and for regulators and standard setters.

The remainder of this thesis is organized as follows. Section 2 provides a theoretical background and sets out the prior literature regarding the topic. Section 3 contains the hypotheses development. In section 4, the methodology to test for the research question is discussed. Section 5 explains the sample selection process, and section 6 describes the descriptive statistics, correlation between the variables and gives the results of both the main analyses and the additional analyses. Section 7 sets out the concluding remarks regarding the research question.

2. Theoretical framework

2.1. Research question

The purpose of this thesis is to examine the relation between shareholder litigation and conservatism. More specifically, this thesis uses the differences in pleading standards among U.S circuits caused by Court of Appeals decisions in these different legal circuits. By using these differences, this thesis attempts to answer the question whether changes in shareholder litigation among different U.S. circuits influence the level of conservatism among firms within these circuits.

Providing an answer to this question is meaningful for several reasons. At first, because of the growing importance of conservatism in the last decades. According to Basu (1997), conservatism influences the accounting practice since the 15th century. Basu (1997) examined the change in conservatism and found evidence of an overall increase in conservatism over the period 1963-1990. After dividing this period in four sub-periods of low and high auditor liability, he finds that conservatism is higher during periods of high litigation risk (Basu, 1997). Watts (2003a) states that there is an increase in conservatism in the accounting practice over the last 30 years. Other studies provide more recent evidence of an increase in conservatism. Evidence is found for a higher level of conservatism in the post-SOX period (Lobo and Zhou, 2006), an increase in conservatism until 2004 (Grambovas et al., 2006) and until 2005 (Tucker and Zarowin, 2006). However, Ryan and Zarowin (2003) and Liu and Thornton (2005) found evidence that conservatism declined in the period after the Private Securities Litigation Reform Act 1995, a period in which litigation risk decreased. Overall, this shows that conservatism has become more important over the past decades and implies that there is a relation between litigation risk and conservatism. Next to that, the number of shareholder lawsuits in the United States also increased over the last couple of years (Etzold and Keenan, 2012; Etzold and Daly, 2016).

Second, management considers conservatism as important. A survey by Dichev et al. (2013) shows that CFOs value conservatism. These CFOs were asked if they agree with the statement that conservatism captures features of high quality earnings. Of the respondents, 59% agreed with this statement. Furthermore, when asked which GAAP policies will produce high quality earnings, 75% agreed that conservative accounting policies lead to high quality earnings. As motivation for their answers, CFOs point out, among others, that with conservative reporting they are better insulated in negative circumstances when the market turns against them. This

implies that CFOs value conservative reporting as a save way to report, due to the fact that it creates protection against uncertainty.

Thirdly, answering this research question is important due to the fact that policy makers favor neutral reporting policies, despite the growing importance of conservatism. In their 2008 joint exposure draft, the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) state that conservatism is not desirable as response to uncertainty, because this will conflict with neutrality and induce a bias in the financial statement (FASB, 2008). The same argument is made in earlier FASB statements (FASB, 1980; FASB, 2000). The FASB supports fair value accounting, which does not comply with the asymmetric recognition of gains and losses (Goh & Li, 2011). Although regulation is one of the explanations for the existence of conservatism, current regulators seem to shift away from conservative reporting in their current standards. According to Watts (2003a), this shift could lead to significant costs for shareholders and for the general economy. The most important explanation for the existence of conservatism is contracting. This explanation states that there is asymmetric payoff and asymmetric information between managers of a firm and the stakeholders of that firm. This asymmetry could lead to managerial behavior which is in their own best interest, but harmful to the stakeholders of the firm. Conservatism in contracting creates an efficient mechanism to reduce these agency conflicts (Watts, 2003a). Conservatism could be helpful to monitor managers and to monitor contracts, like debt contracts (Ball, 2001). However, with the current shift away from conservative reporting, managerial behavior could change at the expense of the firms stakeholders, thereby imposing costs on these stakeholders and the economy.

The shift could also lead to significant costs for regulators itself. Regulation is one of the explanations for conservative reporting. The theory behind this explanation states that regulators face asymmetric regulatory costs. Stakeholders care more about overstated assets than about understated assets, and therefore, are more critical on these overstated assets. According to stakeholders, when more overstatement of assets is allowed, managers can use more discretion in their reporting and report more opportunistic. This leads to regulators facing more critic when standards allow more asset overstatements, which causes higher regulatory costs.

The above explained contemporaneous general increase in the importance of conservative reporting and decrease in importance of conservatism for regulators, together with the increase in shareholder lawsuits, shows the importance to provide an answer to the above explained

research question and indicates the contribution of this answer. The results can be relevant to standard setters and regulators, because they contribute to the insight of the degree of conservatism under different legal circumstances and possible differences herein, after implementation of the PSLRA 1995. The results give further insight in the relation between conservatism and litigation risk and show whether differences in pleading standards lead to differences in conservatism. If this is the case, this will show that shareholder litigation is an important mechanism to give management incentives to report in a way which is valued by shareholders, and may imply that the tendency of standard setters and regulators to shift away from conservative reporting may be undesirable. Next to that, the results indicate whether firms use conservative reporting to protect themselves against shareholder litigation risk, although the FASB favors neutral reporting. Furthermore, the results are relevant for stakeholders of the firm, because they provide further insight into the relevance of the threat of shareholder litigation in increasing the level of conservative reporting. This is important for stakeholders because, as stated above, conservatism reduces agency costs between stakeholders and the firms' management.

2.2. Theoretical concepts

2.2.1. Conservatism

Conservatism is a phenomenon that exist for many years and that was traditionally defined by Bliss (1924). Bliss explained conservatism as "anticipate no profits, but anticipate all losses". In the present days, this extreme definition is outdated and replaced by the more modern definition of Basu (1997): "The accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements". This means that accountants are tended to recognize losses more quickly than profits and therefore, losses are more timely reflected in the earnings number than gains (Basu, 1997). This asymmetric recognition of gains and losses leads to a persistent net asset understatement (Watts, 2003a). This definition explains the concept of conditional conservatism, which means news dependent conservatism. In this thesis, no further distinction between this form of conservatism and the other form of conservatism, unconditional conservatism, will be made and therefore, the term conservatism refers to conditional conservatism.

According to Watts (2003a), there are four different explanations for the use of conservative reporting: contracting, shareholder litigation, taxation and regulation. Evidence by Watts (2003b) suggests that contracting and shareholder litigation are the most important explanations

for conservatism. All these explanations arise from the asymmetric information of stakeholders of the firm and the asymmetric costs of litigation and criticism for firms and regulators (Watts, 2003a). This thesis will focus on the litigation explanation.

2.2.2. Shareholder litigation

The right for shareholders to sue a firm dates back to the implementation of the Securities Exchange Act of 1933 and the Securities Exchange Act of 1934. The Act of 1933 made it possible for investors to sue firms when they provided incorrect information in their process of going public. The act is intended to protect shareholders against this incorrect information (Drake and Vetsuypens, 1993). The Securities Exchange Act of 1934 also prohibits the provision of wrong information, but this Act regulates the secondary trading of stocks (Mahoney, 1999).

The Act of 1933 and the Act of 1934 were revised by the Private Securities Litigation Reform Act of 1995 (PSLRA) (King and Schwartz, 1997). The PSLRA forms an important basis for the current environment under which shareholders can sue a firm. The PSLRA was implemented in 1995 in order to limit the enormous amount of security lawsuits at that time. Before implementation of this act, shareholders could easily sue firms and did not need a lot of evidence of wrong-doing of a firm when they sued the firm. They could gather more evidence during the process. This resulted in a lot of frivolous lawsuits which were filed within a very short timespan (Johnson et al., 2006). By the implementation of the PSLRA, the bar for plaintiffs to sue a firm was increased by heightening the pleadings standards, thereby making it more difficult to sue a firm when a plaintiff does not have specific evidence of what went wrong (Johnson et al., 2000). After implementation, shareholders were required to have ‘strong inference’ of the wrong-doing. This resulted in a higher amount of dismissed securities class action lawsuits. Therefore, shareholder litigation risk for firms decreased after the implementation of the PSLRA. However, the Congress did not clearly define the ‘strong inference’ requirement and therefore, this requirement is implemented differently by different Court of Appeals and led to a split in litigation risk among the different U.S. Circuits (Stigi and White, 2008). The different cases which are examined in this thesis (SGI Case, Tellabs Case) result from Court of Appeals decisions within different circuits in the United States, which are made in the legal environment under the PSLRA, and in which this strong inference requirement is differently implemented. These cases resulted in a further decrease of litigation risk in the ninth circuit (SGI case) or an increase of litigation risk in the seventh circuit (Tellabs case).

2.3. The relation between conservatism and shareholder litigation

The above explained evidence of Basu (1997) shows that conservatism is higher during periods when auditor liability is high and lower during periods when auditor liability is low. This implies a relation between litigation risk and conservatism. This relation is also examined and described in prior literature.

According to Watts (2003a), there are four different explanations for conservative reporting: contracting, litigation, taxation and regulation. Among these four explanations, contracting and shareholder litigation are considered the most important (Watts, 2003b). The theoretical explanation behind the relation between conservatism and shareholder litigation starts with the explanation that there is greater likelihood for firms to be sued when their earnings are overstated instead of understated (Beaver, 1993; Watts, 1993). This is consistent with the asymmetric loss function of managers regarding shareholder lawsuits. When managers release a large negative earnings surprise, their chance to be sued increases. However, this is not the case when they release a large positive earnings surprise (Skinner, 1994). The greater probability to be sued is also the case for firms that show actual losses, instead of profits forgone (Kellogg, 1984). To decrease the chance of a shareholder lawsuit, firms are inclined to understate their earnings and to disclose actual losses earlier in their financial statements. Therefore, in order to prevent a shareholder lawsuit with possible high costs of litigation, managers have an incentive to report bad news earlier than good news, so to report conservative (Skinner, 1994; Kasznik and Lev, 1995). According to Ball (2001), in this way the threat of litigation risk forms a monitoring mechanism for shareholders, which leads to aligment of the incentives of management and shareholders.

Like explained above, the threat of litigation risk finds is basis in the Securities Exchange Act of 1933 and the Securities Exchange Act of 1934 and is significantly influenced by the Private Securities Litigation Reform Act of 1995. After implementation of the PSLRA, litigation risk declined, which resulted in a decline in conservative reporting (Ryan and Zarowin, 2003; Liu and Thornton, 2005).

The above theory explains the relation between conservatism and shareholder litigation. This relation is examined in a lot of studies. These studies use firm specific characteristics which affect the level of litigation risk, to examine if these characteristics lead to differences in conservative reporting among firms. These studies can be divided in studies which examine the difference in conservatism between countries with a different institutional arrangement and studies which investigate the differences in conservatism among firms within the same

country that are subject to different levels of litigation risk.

2.3.1. Differences in conservatism between countries

Differences in the legal system of firms can cause differences in the level of conservative reporting among these firms. Ball et al. (2000) make use of differential institutional arrangements by looking at common law countries and code law countries to examine the differences in conservative reporting in these countries. This study hypothesizes that accounting is more conservative in common-law countries than in code-law countries. This is hypothesized because in common-law countries, the disclosure market primarily determines which properties of accounting income are important, so this is mainly determined by shareholders. This in contrast to more political regulated code-law countries, which leave greater discretion to managers. The authors find results that confirm their hypothesis. Thereafter, the study is extended by focusing on the United Kingdom, a common-law country which is expected to be less conservative than the other common-law countries due to, among others, lower costs of litigation is this country, but more conservative than the code-law countries. This additional analysis shows that this is indeed the case. These results are consistent with the assumption that shareholder litigation risk influences conservatism (Ball et al., 2000). Ball et al. (2003) provide further evidence on the difference in conservatism among common-law and code-law countries. They examine the same countries as Ball et al. (2000) plus four Asian countries: Hong Kong, Singapore, Thailand and Malaysia. The accounting standards of these countries have been influenced by the standards of the United States and the United Kingdom in the past and are therefore supposed to have a heritage of common-law standards. However, the institutional structure of these countries is as such, that these countries also show traits of the code-law model: high political influence on accounting standards and private channels is used to solve information asymmetry, rather than public disclosure. The results show that conservative reporting in these four Asian countries is more similar to the conservative reporting in the code law countries than in the common-law countries, giving more evidence of a difference in conservative reporting among countries with different institutional arrangements. The results also argue that Hong Kong and Singapore, which are subject to higher shareholder litigation, incorporate losses more quickly than Malaysia and Thailand (Ball et al., 2003).

Giner and Rees (2001) look at institutional differences among European countries by focusing on France, Germany and the United Kingdom. These countries have a different legal tradition of civil law (France), code law (Germany) or common law (UK). Different models are used to

measure conservatism, which show mixed results, but the overall conclusion is that there exist differences between these three countries, with the UK being most conservative.
European countries also form the starting point for a study by Raonic et al. (2004), using differences in institutional frameworks among European countries. They find some evidence of conservatism differences among countries, but these differences are small.

Institutional differences also form the basis for the study of Bushman and Piotroski (2006). They examine differences in the quality of countries' judicial system and the impact of these differences on conservative reporting as their starting point. According to their results, conservative reporting is higher at firms located in countries with a high quality judicial system compared to firms located in countries with low quality judicial systems. Furthermore, the results also imply a higher degree of conservatism when public enforcement of security laws is stronger. The authors argue that a good legal environment can be caused both by the contracting and the litigation mechanism. To provide further evidence on this, they perform an additional analysis with these two mechanisms, but they do not find evidence of the role of securities-related litigation in conservatism differences. Concluding, this paper provides evidence on conservatism differences among different institutional environments, but cannot find specific evidence that these differences are caused by differences in the threat of shareholder litigation (Bushman and Piotroski, 2006).

Overall, these studies show that differences in the institutional arrangements among countries cause differences in the degree of conservatism in these countries, although some studies find little evidence on this. Furthermore, some studies further examine the mechanisms driving these conservatism differences and argue that the threat of shareholder litigation is one reason for the difference in conservative reporting. However, evidence found on this reason is mixed.

The research design of these studies is mostly the same. All these studies use different samples, per country, to estimate the Basu (1997) timeliness of earnings regression per country. Thereafter, these studies compare the R-squared of these different regressions to determine which country shows the highest level of conservative reporting. This means that this studies compare groups by estimating a regression per group. Therefore, these studies all use a cross-sectional research design to draw their conclusions. However, this has some important limitations, which are also stated in these papers. Firstly, these studies mention that omitted variables are a point of concern due to the comparison of countries. Countries can vary on different institutional factors, which are not all taken into account in these studies. Although some studies try to address this problem by including control variables, these studies also state

that there is still a risk of omitted variables. Another concern mentioned by these studies is the fact that stock returns are used in their research designs. The public disclosure and liquidity of these returns can vary among countries, which can cause noise in the estimated coefficients. So, although the main objective of these studies is to compare countries, this comparison between different countries also cause some important limitations to these studies.

2.3.2. Differences in conservatism between firms

The above described literature examines conservatism in different countries with a different legal environment. There is also a group of literature that examines firms with different characteristics which are located in the same country, to see if these different characteristics lead to differences in the degree of conservatism.

One of these characteristics is firms' cross-listing in the United States. Cross-listed firms face a higher threat of litigation, stricter enforcement of the Securities and Exchange commission (SEC) and increased disclosure and reconciliation requirements (Lang et al., 2003). Using this as their theoretical motivation, Lang et al. (2003) use a sample of firms in 21 different countries to show that firms which are cross-listed in the U.S. report more conservative than firms not cross-listed. Huijgen and Lubberink (2005) corroborate on the results of Lang et al. (2003), by examining cross-listed and non-cross-listed firms in the United Kingdom. The underlying motivation for their study is that cross-listed firms face a higher risk of litigation and a higher exposure to scrutiny of intermediaries, therefore providing higher quality information. The authors argue that enforcement in the U.S. is stricter and the likelihood of shareholder lawsuits is higher. This matches with the motivation of Lang et al. (2003). The results show evidence of a greater degree of conservatism at cross-listed firms than at non cross-listed firms (Huijgen and Lubberink, 2005).

Overall, these two studies argue that the higher threat of litigation in the U.S. is a reason that firms cross-listed in the U.S. report more conservative, giving evidence on the relation between conservatism and shareholder litigation.

Other studies use the fact that technology firms face a higher threat of shareholder litigation as their starting point to examine conservatism differences among firms. Kwon et al. (2006) argue that, among other explanations, firms in the high-tech industry face a higher risk of shareholder litigation because of the higher stock volatility in this industry, which could lead to greater decreases in the wealth of shareholders in this industry compared to shareholders in the low-tech industry. They assume that this higher threat of litigation leads to a higher level of

conservatism, because this aligns the incentives of management with shareholders' incentives (Kwon et al., 2006). By using five proxies of conservatism, Kwon et al. (2006) find results corroborating on this assumption and show evidence of a higher degree of conservative reporting at firms in the high-tech industry. However, the results do not distinguish between the different explanations for more conservative reporting.

This distinction between different explanations for higher conservatism among high-tech firms is made by Chandra (2011). He argues that higher conservatism can have two explanations: higher shareholder litigation and the use of conservative accounting standards, SFAS 2, by high-tech firms. Chandra (2011) uses the fact that conservative accounting standards influence unconditional conservatism and the threat of litigation influences conditional conservatism, to distinguish between these two explanations. His results show evidence for both explanations and show that conservatism is indeed higher among high-tech firms. Therefore, this study shows that both accounting standards and the threat of shareholder litigation form explanations for higher conservative reporting and therefore provide further evidence of the relation between litigation risk and conservative reporting.

Overall, these studies show that the higher threat of shareholder litigation among firms in the high-tech industry gives an explanation for the higher degree of conservatism among these firms.

Another feature of shareholder litigation is managers' liability coverage. This forms the basis for the study of Chung and Wynn (2008). Firms can insure themselves against liability, which results in a lower personal liability for managers of that firm. Therefore, when taking this insurances, the threat of liability reduces, because managers are insured against the costs of a lawsuit when a firm is sued. The authors therefore argue that managers have less incentives to report conservative when their liability coverage is higher, because of this lower threat of litigation. From a sample of Canadian firms, evidence is found that conservatism is indeed lower when managerial coverage is higher, thereby implying that managers are less inclined to report conservative when their liability risk is covered. Furthermore, an additional test shows that this link is even stronger for firms that are cross-listed with the United States, and therefore face a greater threat of litigation (Chung and Wynn, 2008).

Besides the coverage of their liability, managers also differ in their personal characteristics. Lubberink and Huijgen (2001) use the differences in managers' risk-aversion to examine if this leads to differences in conservatism. Their argumentation behind this is, among others, that conservatism reduces the chance to disappoint shareholders, thereby reducing the threat of

shareholder litigation. According to Lubberink and Huijgen (2001), personal characteristics of management are important because managers are the ones who are responsible for the financial reporting, and managers differ in their attitude among the avoidance of shareholder conflicts. They results show that managers who are more risk-averse are indeed inclined to report more conservative, and therefore, provide evidence that when managers care more about litigation risk, they report more conservative (Lubberink and Huijgen, 2001).

Another difference among firms is whether they engage in fraud or not. Alam and Petruska (2012) examine the reporting behavior of fraudulent firms in the period before the fraud, during the fraud and when the firm is under SEC investigation. More specifically, the authors use the timing of changes in litigation risk to examine if this causes differences in conservatism. The study shows that firms use a higher level of conservative reporting during the period in which they are under SEC investigation, compared to the pre-fraud and fraud period. During the period of investigation, the litigation risk is higher than during the period before this investigation, which implies that managers anticipate on this risk by using more conservative reporting (Alam and Petruska, 2012).

A last characteristics examined by prior literature is the difference between private and public firms. By examining firms in the United Kingdom, Ball and Shivakumar (2005) find evidence of a higher degree of timely loss recognition among public firms than private firms. They explain this difference by, among others, the fact that public companies face a higher risk of shareholder lawsuits.

This section shows that there are a lot of firm characteristics which can cause differences in the level of conservative reporting. All these characteristics have one commonality; they affect the level of litigation risk a firm faces. The results of the studies all show an increase in conservatism when the threat of litigation for firms increase.
Overall, prior literature implies a positive relation between the threat of shareholder litigation faced by firms and the level of conservative reporting at these firms.

The research designs of these studies also show a lot of commonalities. All these studies divide firms in two or more groups based on the characteristics of interest of that specific study, like cross-listing or engagement in fraud or not. Furthermore, the Basu (1997) timeliness of earnings regression (and sometimes also another conservatism measuring regression) is estimated for these different groups and the coefficients and R-squared of these regressions are compared. Although these studies all show interesting results regarding conservatism differences among groups, these studies also indicate some limitations of their research designs. The most

important limitation has to do with the possibility of correlated omitted variables. These studies indicate that their results could be influenced by other, omitted, differences between countries. Although some of these papers take this into account by including control variables (Chung and Wynn, 2008), they also state that this still does not rule out the possibility of omitted variables. Another limitation is the fact that these papers conclude that litigation risk causes a higher level of conservative reporting, but these studies also explain that they are not sure to which extent litigation risk influences the level of conservative reporting (Lang et al., 2003; Huijgen and Lubberink, 2005).

Overall, all the discussed studies have valuable implications regarding the effect of shareholder litigation on conservative reporting. However, these studies do not measure litigation risk directly, but use features of countries which should lead to a higher risk of litigation. Due to this indirect measure, there exist a possibility that these results are influenced by omitted variables, and it is not always possible to say to what extent litigation risk causes the found differences in conservatism.

2.4. Contribution

The above set out literature all shows evidence of a positive relation between shareholder litigation and conservatism. The literature review shows that there already exist a lot of studies which prove the existence of this relation. A commonality of these studies is that they examine this relation by making different samples, based on specific company features like for example location, liability insurance or industry. Thereafter, the Basu (1997) timeliness of earnings regression, and sometimes some other OLS-regressions, is estimated per sample, to estimate the degree of conservative reporting per sample. The samples are compared based on the resulted Basu (1997) coefficients and R-squared of these regressions, and conclusions are drawn based on the comparison of these samples. As explained above, this research design is subject to the threat of omitted correlated variables. Although some of the above mentioned studies try to address this issue, they all state that the possibility of omitted correlated variables cannot be ruled out completely. This is especially a problem for the studies comparing different countries, because there can exist important institutional differences between these countries. Furthermore, some of these studies address the issue that although they conclude that conservatism is influenced by litigation risk, they cannot say to what extent litigation risk causes these differences in conservative reporting.

These problems are caused by the fact that these studies make use of indirect measures of litigation risk to draw conclusions on. All these studies look at a firm specific feature which, to

their opinion, causes differences in litigation risk and therefore, can cause differences in conservatism. These studies use a cross-sectional design, in which they just compare groups of firms. These studies do not look at a specific event which causes a direct change in litigation risk.

This thesis, on the other hand, does use such a direct measure of litigation risk. Two different shocks in litigation risk are used, which cause an evident change in the level of shareholder litigation risk in one specific group, and does not cause such a change in all the other groups. These shocks are caused by two different Court of Appeals decisions, which led to a change in pleading standards among the Ninth Circuit and among the Seventh Circuit. These judicial decisions led to an immediate change in litigation risk, where after something changed in these two circuits, but not in the other U.S. circuits. Therefore, these events form a direct measure of litigation risk. By using these litigation shocks, a clear treatment group and control group can be designated, just as a clear pre-event and post-event period. Furthermore, these Court of Appeals decisions are independent of the specific characteristics of firms located in the circuit of the Court of Appeals decision, and are therefore exogenous to the firms located in the affected circuit. This provides this thesis with a unique, naturel experimental setting, which can be used by using a difference-in-difference research design. With this research method, the differences between the treatment group and control groups can be estimated, both in the pre-event period and in the post-event period. Therefore, this allows this thesis to conduct a study which is both cross-sectional and intertemporal.

The use of this research design is a big advantage of this study and shows the contribution to the already existing literature. Although a lot of research on the topic of this thesis is yet conducted, the part above sets out that these studies suffer from a number of important limitations, which does not allow these studies to examine the direct effect of shareholder litigation risk on conservative reporting. This thesis uses two events which cause a direct change in litigation risk, and therefore, allow for estimating the effect of litigation risk directly. The use of these events provides this thesis with a naturel experiment setting, in which the change in litigation risk is exogenous of firm characteristics. This has some important advantages. At first, because of this setting, firms are randomly assigned to the treatment and control group, and therefore, the division in groups is not affected by firm characteristics. This mitigates the problem of correlated omitted variables. Furthermore, both internal validity and external validity are guaranteed in a naturel experiment setting. A naturel experiment study combines the advantages of an observational study, in which the researcher has no control over the

independent variable, with the advantages of an experimental study, in which the researcher has full control over the independent variable. The advantage of an experimental setting is that the internal validity is high. This means that with this setting, the causal effect of interest is well kept. On the other hand, the external validity, so how well the results of a study can be generally applied, is low in an experimental setting. However, this external validity is high in an observational study. By using a natural experiment, these advantages are combined and so this setting provides both high internal and external validity. This naturel experiment setting is used by estimating a difference-in-difference regression. The benefit of this regression is that it mitigates the possibility of spurious results. This test guarantees that there are no other trends around at the same moment which cause the results found. Therefore, the employment of a natural experiment setting by a difference-in-difference analysis provides this thesis with a unique research design. The use of two events, which cause a direct shock in litigation risk and provide this thesis with a naturel experiment research design, allows this thesis to test for the effect of litigation risk directly, while the threat of correlated omitted variables and other trends causing the results is mitigated. Therefore, this thesis does not suffer from the problems mentioned in prior literature. This thesis therefore contributes to prior literature by examining litigation risk in a different way, a direct way, and uses a unique design which has a lot of advantages and that mitigates the limitations of prior literature.

3. Hypothesis development

3.1. Theory

The underlying theory for the relation between conservatism and shareholder litigation has its roots in the agency theory. Managers have more information about the financial performance of the firm than shareholders, which causes information asymmetry between managers and shareholders. Although information asymmetry in itself forms a cause of conservatism (LaFond and Watts, 2008), there are also two other mechanisms which lead to a decrease in information asymmetry and which cause conservatism: contracting and shareholder litigation. Under the contracting mechanism, conservatism is used as a means of enhancing contracting efficiency (Watts, 2003a). However, this thesis focuses on the other mechanism, shareholder litigation, which can function as a form of corporate governance. The threat of litigation works as a motivating mechanism for managers, stimulating them to report losses in a timely manner (Ball, 2001). According to Ball (2001), managers only engage in conservative reporting when they agree that they need to bond with the interest of the shareholders of their firm. They only do this when they will be penalized for not working in the best interest of shareholders. Litigation is a mechanism which forms a threat to be penalized, and therefore, forms an effective mechanism to force managers to work in the best interest of their shareholders, instead of their own interest (Ball, 2001). If managers want to avoid the chance to be sued, they can report conservative, thereby decreasing the information asymmetry (Ahmed and Duellman, 2007).

Next to asymmetric information, managers also face asymmetric costs, caused by the risk of a shareholder lawsuit. Managers are more likely to be sue for overstated assets and losses, than for understated assets and forgone profits (Kellogg, 1984; Beaver, 1993; Watts, 1993), so overstated assets and losses have a higher chance to generate litigation costs (Watts, 2003a). Managers try to avoid these costs by conservative reporting. These asymmetric litigation costs form thereby another mechanism to align the incentives of management and shareholders.

3.2. Hypothesis

The above theoretical explanation implies a positive relation between shareholder litigation and conservatism, because of the agency problems between shareholders and management of the firm, and the threat of litigation which results from these problems. The threat of shareholder litigation therefore forms an enforcement mechanism to report more conservative, so increasing this threat will increase conservative reporting. This positive relation is confirmed by prior literature on this topic, which is explained in the literature review. This literature shows that

institutional differences of countries lead to a different level of conservatism among these countries. Although some studies find evidence that this difference is caused by differences in shareholder litigation, this is not the case for all these studies. Furthermore, different firm characteristics can cause firms to report more conservative: cross-listing, high-tech firms, managers' liability coverage, managers' risk-aversion, fraud examinations and being a public firm. A commonality of all these characteristics is that they all lead to a higher threat of shareholder litigation, and thereby, to a higher level of conservatism.

The theoretical relation between conservatism and shareholder litigation and the evidence found in the prior literature implies a positive relation between conservatism and shareholder litigation. This thesis examines two judicial cases in which a Court of Appeals decision changed the pleading standards in a specific circuit. This change in pleading standards led to a change in the threat of litigation. Because of the above explained positive relation between shareholder litigation and conservatism, the expectation is that these changes in pleading standards lead to a change in the level of conservative reporting in the same direction. Based on this expected relation between conservatism and shareholder litigation, the hypotheses examined in this thesis are stated as follows:

H1: The level of conservative reporting among firms decreases when shareholder litigation risk decreases.

H2: The level of conservative reporting among firms increases when shareholder litigation risk increases.

Hypothesis 1 will be tested by examining the 1999 SGI Case in the Ninth Circuit, hypothesis 2 will be tested by looking at the 2006 Tellabs Case in the Seventh Circuit.

4. Research design

4.1. Measure of conservatism

Conservatism is the variable of interest in this thesis and will be operationalized by using the asymmetric timeliness of earnings measure of Basu (1997). This measure is widely used by other studies which examine accounting conservatism and it is the most widely used measure of conservatism in prior research (Ettredge et al., 2012). A lot of prior studies have examined the validity of this measure. Ettredge et al. (2012) have examined this measure by looking at restatements. The conclusion of their research is that the asymmetric timeliness measure is a valid measure to operationalize conservatism. This is also concluded by Ball et al. (2013), who investigated the usefulness of this measure by looking at the econometric validity. Hsu et al. (2012) disaggregated earnings into different components and classified these components as being likely or not to be affected by accounting conservatism. Their results also support the validity of the asymmetric timeliness measure as a measure of conservatism. Furthermore, this measure is used by all the papers which form the theoretical basis for this thesis and which examine the relation between litigation risk and conservatism. This provides additional evidence on the usefulness of this measure. Both the proven validity of this measure and the fact that this measure is widely used by other studies examining the relation between litigation risk and conservatism forms the motivation to use this measure in this thesis to operationalize conservatism.

According to Basu (1997), the asymmetric recognition of losses leads to systematic differences in the timeliness of earnings, because bad news is more timely incorporated in earnings than good news. To test this, Basu (1997) uses two different unexpected annual stock returns: negative and positive ones, which proxy for bad news and good news. It is expected that earnings are more strongly associated with negative unexpected earnings, because bad news is more timely reflected in earnings under conservative reporting. This prediction can be operationalized by testing the following regression:

$$X_i/P_{it-1} = \alpha_0 + \beta_1 DR_{it} + \beta_2 RET_{it} + \beta_4 RET_{it} * DR_{it} + \varepsilon_i \qquad (1)$$

In this regression, X_{it} measures earnings, P_{it-1} is the price per share at the beginning of the quarter, RET_{it} captures news by measuring returns, D_{it} is a dummy variable which equals 1 when RET<0 and 0 otherwise, *e* measures the residual, *i* indexes the firm and *t* indexes the quarter. Earnings is scaled by price to control for heteroskedasticity (Basu, 1997). β_3 measures the good news timeliness. The variable of interest in this regression is β_4, which captures the

incremental response to bad news, thereby capturing conservatism. $\beta_3 + \beta_4$ capture total bad news timeliness. This measure will be used to operationalize conservative reporting.

4.2. U.S. Circuits

The research design of this thesis uses the differences in pleading standards among different legal circuits in the United States. The United States have a system of common law, which means that the judicial opinions from judges form laws which must be followed. The legal system of the United States is divided into three different layers. The highest layer is the U.S. Supreme Court, followed by the U.S. Courts of Appeals, which consist of thirteen different circuits. The lowest layer is formed by the U.S. District Courts, which exist of ninety-four districts. This thesis focuses on the different circuits in the United States, the middle layer of the legal system.

The U.S. Courts of Appeals are organized into thirteen different circuits. Eleven of these circuits consist of a subdivision of the different states into these circuits. The Twelfth Circuit is formed by the District of Columbia and the Thirteenth Circuit performs lawsuits regarding special cases (Farnsworth, 2010). The division of the circuits by state is explained in Table 1 (appendix).

The Courts of Appeals only handles appeals from the district courts. A litigant can choose to appeal his case in the U.S. Courts of Appeals when he lost his case in the district court. In this case, the Court of Appeals uses the evidence gathered in the district course and reviews the case again, using this evidence. Once the Court of Appeals made his decision, this decision applies only to the specific circuit of that Court, and not to the other circuits in the Unites States. The decisions are mandatory and need to be followed by the District Courts within the circuit. In this thesis, differences in pleading standards among different circuits are used, which creates differences in the ease with which shareholders can sue a firm among these circuits. This thesis uses two different legal cases which cause these differences in pleading standards: the 1999 Silicon Graphics International Case and the 2006 Tellabs case.

4.3. Silicon Graphics International case 1999

The first legal case this thesis will examine is the 1999 Silicon Graphics International case (SGI). The Court of Appeals of the Ninth Circuit heightened the bar for plaintiffs to sue a firm in this case, thereby decreasing the shareholder litigation risk for firms within this circuit.

In this case, plaintiffs sued Silicon Graphics Inc. after fluctuations in the company's stock price during fall 1995. Plaintiffs abused Silicon Graphics Inc. of giving wrong and misleading

information about the financial performance of the company, thereby trying to increase the stock price. The case was first dismissed by the District Court, so the plaintiffs appealed the case in the Court of Appeals of the Ninth Circuit. During this case, the Ninth Circuit court interpreted the PSLRA pleading standards in such a way that after July 2, 1999, the pleading standards of the Ninth circuit were the highest among all circuits. During this case, it was decided that plaintiffs are required to plead for a heightened form of recklessness by the defendant. A plaintiff must explain "in great detail, facts that constitute circumstantial evidence of deliberately reckless or conscious misconduct" (Coffey, 1999). Before this decision, the pleading standards in the Ninth Circuit were one of the lowest among all circuits. This one Court of Appeals decision therefore caused an enormous change in litigation risk in the Ninth Circuit (Hopkins, 2012).

4.4. Tellabs case 2006

The second case this thesis will examine is the 2006 Tellabs case, which resulted in lower pleading standards in the Seventh Circuit, and therefore higher litigation risk for firms located in this circuit. In this lawsuit, plaintiffs sued Tellabs Inc., stating that this company has given a wrong impression of the strength and performance of their products, to hide the bad performance of their stock. According to the District Court, the plaintiffs lack 'strong inference', and therefore, the case was dismissed. Thereafter, the plaintiffs appeal the case in the Seventh Circuit Court of Appeals. The interpretation of the PSLRA by the Court of Appeals during this case led to a decrease in pleading standards for the Seventh Circuit after this court decision, because of the adoption of the 'reasonable person' requirement. The Seventh Circuit court stated that "we will allow the complaint to survive if it alleges facts from which, if true, a reasonable person could infer that the defendant acted with the required intent" (Stigi and White, 2008). This decision led to a higher risk of litigation for firms in this circuit, due to the lower pleading standards. This lower pleading standards applied only for a short period of time, because later on, the Supreme Court over-ruled this decision. Therefore, we look to the 'post' period in which this decision was active.

4.5. Empirical design

This thesis measures the change in conservative reporting after an event which changes the litigation risk in the Ninth Circuit or in the Seventh Circuit. The research design this thesis uses is based on the research design of Cazier et al. (2016).

The change in conservative reporting after the SGI case in the Ninth Circuit will be measured by extending the Basu (1997) regression as follows:

$$X_i/P_{it-1} = \alpha_0 + \beta_1 DR_{it} + \beta_2 NINTH\_CIRCUIT_{it} + \beta_3 POST_{it} + \beta_4 NINTH\_CIRCUIT_{it} x POST_{it} + \beta_5 DR_{it} * NINTH\_CIRCUIT_{it} + \beta_6 DR_{it} * POST_{it} + \beta_7 DR_{it} * NINTH\_CIRCUIT_{it} x POST_{it} + \beta_8 RET_{it} + \beta_9 RET_{it} * NINTH\_CIRCUIT_{it} + \beta_{10} RET_{it} * POST_{it} + \beta_{11} RET_{it} * NINTH\_CIRCUIT_{it} x POST_{it} + \beta_{12} RET_{it} * DR_{it} + \beta_{13} RET_{it} * DR_{it} * NINTH\_CIRCUIT_{it} + \beta_{14} RET_{it} * DR_{it} * POST_{it} + \beta_{15} RET_{it} * DR_{it} * NINTH\_CIRCUIT_{it} * POSt_{it} + \varepsilon_{it} \quad (2)$$

In this regression, X_{it} is earnings per share, measured as net income before extraordinary items divided by the number of common shares outstanding, P_{it-1} is the price per share at the beginning of the quarter, RET_{it} is return, measured as a compounding of the monthly returns, DR_{it} is a dummy variable, which equals 1 of RET<0, 0 otherwise, $NINTH\_CIRCUIT_{it}$ is a dummy variable which equals 1 for firms located in the Ninth Circuit, 0 otherwise and $POST_{it}$ is a dummy variable which equals 1 for the period after the change in litigation risk, 0 otherwise. The coefficient of interest in this regression is β_{15}, because this coefficient measures the extent to which firms in the Ninth Circuit report less conservative after the 1999 SGI case. This coefficient is expected to be negative, because firms in the Ninth Circuit are expected to report less conservative after the decrease in litigation risk.

The sample period that will be used for the SGI case is the same as the sample period used by Cazier et al. (2016). Following Cazier et al. (2016), this thesis uses firm-quarter observations. The sample period ranges from January 1, 1998 through March 31, 2002. The period from July 2, 1999 through December 31, 1999, so the third and fourth quarter of 1999, is excluded following Cazier et al. (2016). This is done to allow firms to react to the change in litigation risk and to adjust their reporting policies.

To test for the effect of the shock in litigation risk, two different control groups will be used. The first control group consist of all firms not located in the Ninth Circuit. The second control group consist of all firms located in the Second Circuit, following Cazier et al. (2016). This circuit can be used as control group because there were no changes in litigation risk among this circuit during the sample period (Cazier et al., 2016).

The change in conservative reporting after the 2006 Tellabs case is operationalized as follows:

$$X_i/P_{it-1} = \alpha_0 + \beta_1 DR_{it} + \beta_2 SEVENTH\_CIRCUIT_{it} + \beta_3 POST_{it} + \beta_4 SEVENTH\_CIRCUIT_{it} x POST_{it} + \beta_5 DR_{it} * SEVENTH\_CIRCUIT_{it} + \beta_6 DR_{it} * POST_{it} + \beta_7 DR_{it} * SEVENTH\_CIRCUIT_{it} x POST_{it} + \beta_8 RET_{it} + \beta_9 RET_{it} * SEVENTH\_CIRCUIT_{it} + \beta_{10} RET_{it} * POST_{it} + \beta_{11} RET_{it} * SEVENTH\_CIRCUIT_{it} * POST_{it} + \beta_{12} RET_{it} * DR_{it} + \beta_{13} RET_{it} * DR_{it} * SEVENTH\_CIRCUIT_{it} + \beta_{14} RET_{it} * DR_{it} * POST_{it} + \beta_{15} RET_{it} * DR_{it} * SEVENTH\_CIRCUIT_{it} * POSt_{it} + \varepsilon_{it} \quad (3)$$

The variables in this regression are the same as in Eq. (2), except for the $SEVENTH\_CIRCUIT_{it}$ variable. This is a dummy variable which equals 1 if the firm is located in the seventh circuit, 0 otherwise. In this regression, the coefficient of interest is also β_{15}. This coefficient captures the extent to which firms in the Seventh Circuit report more conservative after the 2006 Tellabs case. This coefficient is expected to be positive, because firms in the Seventh Circuit are expected to report more conservative after the increase in litigation risk.

The sample period that will be used for the Tellabs case is also the same as the sample period used by Cazier et al. (2016). The sample period ranges from January 1, 2004 through December 31, 2007. The first quarter of 2006, January 1, 2006 through March 31, 2006, is excluded from the sample. This is done to allow firms to react to the change in litigation risk and to adjust their reporting policies.

To test for the effect of the Tellabs case, two different control groups will be used. The first control group consist of all firms not located in the Seventh Circuit. The second control group consist of all firms located in the Second, Third and DC Circuits. According to Cazier et al. (2016), these circuits had the most stable pleading standards during the sample period.

5. Data and sample selection

This thesis uses two separate samples to test for the two different events which cause a shock in litigation risk among U.S. Circuits. The first sample tests for the effect of the court ruling in the SGI case on July 2, 1999. The final sample to test for the effect of this case consist of 59,523 firm-quarter observations from 6,387 different firms and covers the period from January 1, 1998 through March 31, 2002. The sample started with all firm-month observations between January 1, 1998 and March 31, 2002 with return data available on CRSP and is used to generate firm-quarter data about return and market-adjusted return. Thereafter, this dataset was merged with the dataset containing all firm-quarter observations from Compustat between January 1, 1998 and March 31, 2002, which resulted in a dataset with 123,861 firm-quarter observations. This dataset is used to obtain the earnings, market-adjusted earnings, size, market-to-book ratio, leverage and age variables, and to generate dummies which indicate whether a firm is located in the Ninth Circuit and whether an observation belongs to the pre-event or post-event period. During this process, 15,547 firm-quarter observations were dropped because of missing data. Next to that, the dataset is trimmed to remove outliers in the data. The dataset is trimmed at the 1st and the 99th percentile. All observations in these 1st and 99th percentiles are dropped, which resulted in the loss of 16,303 firm-quarter observations. Furthermore, firm-quarter observations from the third and fourth quarter of 1999 were dropped, to take into account that firms need some time to react to the change in litigation risk. Financial institutions are excluded from the sample. The final sample consist for 23 percent (13,496 firm-quarter observations) of firms located in the Ninth Circuit, for 9 percent (5,535 firm-quarter observations) of firms located within the Second Circuit and the other 68 percent (40,492 firm-quarter observations) is formed by firms in the other circuits. Of this final sample, the period from January 1, 1998 through June 30, 1999 forms the pre-event period and the period from January 1, 2000 to March 31, 2002 forms the post-event period. Panel A of Table 3 summarizes the sample selection process to arrive at the final SGI sample.

The same sample selection process is applied to arrive at the final sample to test for the effect of the Tellabs case. The final sample for this case consist of 45,632 firm-quarter observations from 4,335 different firms. Of this sample, 7 percent (3,195 firm-quarter observations) is formed by firms located in the Seventh Circuit, 18 percent (8,112 firm-quarter observations) is formed by firms located in the Second, Third or DC Circuit and the remaining 75 percent consist of firms located in the other circuits. Of this sample, the pre-event period is formed by the

Table 3

Sample selection

Panel A: SGI Case sample selection	
Started with all data from the CRSP database between January 1, 1998 to March 31, 2002	438,031
Firm-month observations eliminated during the generation of quarterly return data	(297,460)
Firm-quarter observations lost due to merge of CRSP and Compustat	(16,710)
Dropped SIC 6000-6799 firm-quarter observations	(17,646)
Firm-quarter observations eliminated because of missing Compustat data	(15,547)
Firm-quarter observations eliminated because of trimming of variables	(16,303)
Firm-quarter observations eliminated because of missing state data	(4,359)
Dropped third and fourth quarter of 1999	(10,483)
	59,523
Sample breakdown by U.S. Circuits	
Observations of firms within the Ninth Circuit	13,496
Observations of firms within the Second Circuit	5,535
Observations of firms within other Circuits	40,492
Panel B: Tellabs Case sample selection	
Started with all data from the CRSP database between January 1, 2004 to December 31, 2007	336,968
Firm-month observations eliminated during the generation of quarterly return data	(228,493)
Firm-quarter observations lost due to merge of CRSP and Compustat	(8,568)
Dropped SIC 6000-6799 firm-quarter observations	(15,092)
Firm-quarter observations eliminated because of missing Compustat data	(16,979)
Firm-quarter observations eliminated because of trimming variables	(12,422)
Firm-quarter observations eliminated because of missing state data	(5,760)
Dropped first quarter of 2006	(4,022)
	45,632
Sample breakdown by U.S. Circuits	
Observations of firms within the Seventh Circuit	3,195
Observations of firms within the Second, Third and DC Circuit	8,112
Observations of firms within other Circuits	34,325

period from January 1, 2004 through December 31, 2006. The post-event period is formed by the period from April 1, 2006 through December 31, 2007. Panel B of Table 3 summarizes the sample selection process to arrive at the final Tellabs sample.

6. Results

This section provides descriptive statistics and the results of the regression of earnings on return, to test for the effect of the change in pleading standards on conservative reporting in the Ninth Circuit and Seventh Circuit. Furthermore, this section provides the results of two additional analyses.

6.1. Descriptive statistics

6.1.1. SGI Case

Panels A, B and C of Table 4 present the SGI case descriptive statistics for the entire sample, for the Ninth Circuit and for the other circuits, respectively. These descriptive statistics cover the entire sample period. For the entire sample, the mean (median) value is -0.010 (0.006) for the earnings-to-price ratio and 0.015 (-0.009) for quarterly return. The market-adjusted values of earnings and returns are also included to perform an additional test with these adjusted variables. The market-adjusted earnings-to-price ratio has a mean (median) value of 8.73e-11 (0.015), the mean (median) value for market-adjusted return is -0.012 (-0.040). Of these results, it is remarkable that the mean and median value of earnings is negative, while the mean and median value of return is positive. This could possibly be explained by the Dot-Com bubble during the sample period. During this period, there was an euphoric mood on the markets due to stock speculation and the rise of stock prices. People only looked into these stock prices, but did not take the underlying economics of a firm into account. A lot of companies, especially tech-companies, did not succeed to make profit during these periods, but their stock prices continued to rise due to the stock speculation. Market-to-book ratio, size, leverage and age are included to give additional information on the dataset. The mean (median) value is 2.853 (1.874) for the market-to-book ratio, 1213.152 (162.176) for size, 0.493 (0.151) for leverage and 5.381 (4.523) for age. Panel B and C of Table 4 present the same information for the treatment group and the control group. All these values are at the quarterly level.

The differences between the treatment group and the control group are also tested. A paired t-test is used to test for the differences of the mean value of earnings and return between the treatment group and control group. A rank-sum test is performed to test for the differences in the median value of earnings and return. The (untabulated) results show a significant difference (1%-level) between the treatment group and the control group for the mean value of earnings and the median value of earnings, both in the pre-event period and the post-event period. The same results hold for the mean and median value of market-adjusted earnings. In the pre-period,

Table 4

Descriptive statistics SGI Case

Panel A: Descriptive statistics total sample (January 1, 1998 through March 31, 2002)						
	N	Mean	Q1	Median	Q3	Std. Dev
Earnings	59,523	-0.010	-0.016	0.006	0.018	0.064
Market-adjusted earnings	59,523	8.73e-11	-0.007	0.015	0.028	0.064
Return	59,523	0.015	-0.190	-0.009	0.177	0.321
Market-adjusted return	59,523	-0.012	-0.197	-0.040	0.138	0.289
M/B ratio	59,523	2.853	1.053	1.874	3.428	3.562
Size	59,523	1213.152	40.331	162.176	716.031	3723.224
Leverage	57,408	0.493	0.006	0.151	0.575	0.974
Age	34,930	5.381	2.334	4.523	7.367	4.046
Panel B : Descriptive statistics Ninth Circuit						
	N	Mean	Q1	Median	Q3	Std. Dev
Earnings	13,496	-0.019	-0.026	0.001	0.013	0.070
Market-adjusted earnings	13,496	-0.009	-0.016	0.009	0.023	0.069
Return	13,496	0.009	-0.234	-0.029	0.192	0.359
Market-adjusted return	13,496	-0.016	-0.231	-0.053	0.148	0.315
M/B ratio	13,496	3.428	1.174	2.181	4.211	4.043
Size	13,496	1132.194	41.354	153.757	646.406	3519.040
Leverage	12,824	0.332	0.0002	0.043	0.307	0.816
Age	9,514	4.932	2.082	4.166	6.877	3.709
Panel C: Descriptive statistics all other circuits						
	N	Mean	Q1	Median	Q3	Std. Dev
Earnings	46,027	-0.007	-0.012	0.008	0.019	0.062
Market-adjusted earnings	46,027	0.003	-0.003	0.016	0.029	0.062
Return	46,027	0.017	-0.178	-0.004	0.173	0.309
Market-adjusted return	46,027	-0.010	-0.189	-0.037	0.135	0.280
M/B ratio	46,027	2.685	1.022	1.803	3.230	3.390
Size	46,027	1236.890	39.963	164.938	734.970	3780.712
Leverage	44,584	0.539	0.012	0.196	0.643	1.011
Age	25,416	5.549	2.423	4.644	7.547	4.153

Earnings is the quarterly EP ratio of a firm, measured as quarterly net income before ordinary items divided by common shares outstanding, scaled by price at the beginning of the quarter. *Market-adjusted earnings* represents the quarterly EP ratio adjusted for the average EP ratio of all firms within that quarter. *Return* is the quarterly return, measured by compounding monthly returns from CRSP. *Market-adjusted return* is the quarterly return adjusted for the equal-weighted market return from CRSP. *M/B ratio* the market value of equity to the book value of equity. *Size* is market value of equity. Leverage is total debt to market value of equity. *Age* is the age of the firm measured in years.

Table 5

Pearson correlation SGI case

	Earnings	Market-adjusted earnings	Return	Market-adjusted return	Size	Market-to-book ratio	Leverage	Age
Earnings	1.000							
Market-adjusted earnings	0.993***	1.000						
Return	0.072***	0.089***	1.000					
Market-adjusted return	0.089***	0.093***	0.900***	1.000				
Size	0.237***	0.242***	0.125***	0.125***	1.000			
Market-to-book ratio	0.047***	0.040***	0.144***	0.141***	0.283***	1.000		
Leverage	-0.130***	-0.131***	-0.086***	-0.086***	-0.163***	-0.195***	1.000	
Age	0.088***	0.103***	0.063***	0.063***	0.088***	-0.062***	0.060***	1.000

This table provides information on the Pearson Correlation between the variables of interest. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively.

the mean value of return shows a significant difference (5%-level) between the two groups, but no significant difference in the median value of return is found. The same holds for the market-adjusted value of return. Both the mean and median value of return and market-adjusted return show a significant difference (1%-level) between the two groups in the post-event period.

Table 5 shows the Pearson correlation between these variables. The correlation between all these variables is significant at the 1%-level. Earnings and return are positively correlated. Size, market-to-book ratio and age are positively correlated with both earnings and return. Leverage is negatively correlated with earnings and return. These results are in line with prior literature (Goh and Li, 2011; Ramalingegowda and Yu, 2012; Liu and Elayan, 2015).

6.1.2. Tellabs case

Panels A, B and C of Table 6 present the Tellabs Case descriptive statistics for the entire sample, for the Seventh Circuit and for the other circuits, respectively. For the entire sample, the mean (median) value is 0.002 (0.009) for the earnings-to-price ratio and 0.015 (0.009) for return. The market-adjusted earnings-to-price ratio has a mean (median) value of 1.24e-11 (0.007), for market-adjusted return these values are -0.005 (-0.012). The mean (median) value is 3.126 (2.363) for market-to-book ratio, 2467.448 (481.209) for size, 0.267 (0.097) for leverage and 9.624 (9.268) for age. The same information for the treatment group and the control group is presented in panel B and C. All these values are at the quarterly level.

The differences between the treatment group and control group are also tested for the Tellabs case. The (untabulated) results show a significant difference (1%-level) between the treatment group and the control group for the mean value of earnings and the median value of earnings, both in the pre-event period and the post-event period. The same results hold for the mean and median value of market-adjusted earnings. The results do not show a significant difference between the treatment group and the control group for both the mean value and median value of return in the pre-event period. The same holds for the market-adjusted value of return. In the post-period, both the mean value and median value of return shows a significant difference between the treatment group and the control group. The same holds for market-adjusted return.

Table 7 shows the Pearson correlation between these variables. The correlation between all these variables is significant, except for the correlation between size and leverage and the correlation between age and return. Earnings and return are positively correlated. In this case, earnings is positively related with size and age, and negatively related with market-to-book

Table 6

Descriptive statistics Tellabs case

Panel A: Descriptive statistics total sample (Jan 1, 2004 through December 31, 2007)						
	N	Mean	Q1	Median	Q3	Std. Dev
Earnings	45,631	0.002	-0.003	0.009	0.016	0.029
Market-adjusted earnings	45,631	1.24e-11	-0.005	0.007	0.014	0.029
Return	45,631	0.015	-0.101	0.009	0.118	0.183
Market-adjusted return	45,631	-0.005	-0.116	-0.012	0.094	0.173
M/B ratio	45,631	3.126	1.566	2.363	3.758	3.030
Size	45,631	2467.448	137.370	481.209	1647.327	6592.940
Leverage	44,438	0.267	0.001	0.097	0.324	0.485
Age	25,757	9.624	6.142	9.268	12.764	5.350
Panel B: Descriptive statistics Seventh Circuit						
	N	Mean	Q1	Median	Q3	Std. Dev
Earnings	3,195	0.007	0.004	0.011	0.017	0.024
Market-adjusted earnings	3,195	0.005	0.002	0.009	0.015	0.024
Return	3,195	0.021	-0.076	0.016	0.107	0.167
Market-adjusted return	3,195	0.001	-0.094	-0.004	0.086	0.158
M/B ratio	3,195	2.931	1.522	2.237	3.522	2.572
Size	3,195	4160.451	180.313	704.899	2524.045	10351.06
Leverage	3,150	0.287	0.009	0.137	0.356	0.469
Age	1,468	10.072	6.174	9.845	13.539	5.775
Panel C: Descriptive statistics all other circuits						
	N	Mean	Q1	Median	Q3	Std. Dev
Earnings	42,436	0.001	-0.004	0.008	0.015	0.029
Market-adjusted earnings	42,436	-0.001	-0.006	0.007	0.014	0.029
Return	42,436	0.015	-0.103	0.008	0.119	0.185
Market-adjusted return	42,436	-0.006	-0.117	-0.013	0.095	0.174
M/B ratio	42,436	3.140	1.570	2.375	3.778	3.062
Size	42,436	2339.982	134.735	468.757	1595.250	6200.238
Leverage	41,288	0.265	0.001	0.093	0.321	0.486
Age	24,289	9.597	6.142	9.247	12.69	5.323

Earnings is the quarterly EP ratio of a firm, measured as quarterly net income before ordinary items divided by common shares outstanding, scaled by price at the beginning of the quarter. *Market-adjusted earnings* represents the quarterly EP ratio adjusted for the average EP ratio of all firms within that quarter. *Return* is the quarterly return, measured by compounding monthly returns from CRSP. *Market-adjusted return* is the quarterly return adjusted for the quarterly equal-weighted market return from CRSP. *Size* is market value of equity. *M/B ratio* the market value of equity to the book value of equity. *Leverage* is total debt to market value of equity. *Age* is the age of the firm, measured in years.

Table 7

Pearson correlation Tellabs case

	Earnings	Market-adjusted earnings	Return	Market-adjusted return	Size	Market-to-book ratio	Leverage	Age
Earnings	1.000							
Market-adjusted earnings	0.9996***	1.000						
Return	0.150***	0.153***	1.000					
Market-adjusted return	0.160***	0.161***	0.945***	1.000				
Size	0.312***	0.313***	0.136***	0.147***	1.000			
Market-to-book ratio	-0.037***	-0.037***	0.120***	0.120***	0.131***	1.000		
Leverage	-0.050***	-0.050***	-0.058***	-0.058***	-0.004	-0.191***	1.000	
Age	0.103***	0.103***	0.004	0.011*	0.110***	-0.085***	0.036***	1.000

This table provides information on the Pearson Correlation between the variables of interest. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively.

ratio and leverage. Return is positively related with size, market-to-book ratio and age, and negatively related with leverage. This is again in line with prior literature (LaFond and Roychowdhury, 2008; Khan and Watts, 2009).

6.2. SGI Case results

Table 8 describes the results of the extended Basu (1997) timeliness of earnings regression (equation 2) which is run to test for the effect of the decrease in shareholder litigation risk on conservative reporting after the Ninth Circuit Court of Appeals decision in the 1999 SGI Case. Prior literature reports a positive relation between litigation risk and conservative reporting. This predicts that this decrease in litigation risk would lead to a decrease in conservative reporting in the Ninth Circuit. To test for this effect, a difference-in-difference analysis is employed. With this analysis, the difference between the pre- and post-period of an event can be tested for a treatment group and a control group. The judicial cases examined in this thesis have a clear pre- and post-event period and a clear treatment and control group. Therefore, this analysis is very suitable to test for the effect of the Court of Appeals decision. Furthermore, a difference-in-difference analysis is helpful in mitigating endogeneity concerns. The treatment group in this analysis is formed by firms located in the Ninth Circuit, the control group is formed by all other firms. The SGI Case decision is made on July 2, 1999, so the quarters before this date (January 1, 1998 through June 30, 1999) form the pre-event period. The post-event period is formed by the quarters after this decision (January 1, 2000 through March 31, 2002). The first column of Table 8 shows the result of comparing firms in the Ninth Circuit against firms in all other circuits. The coefficient on *RET*DR* is positive (0.07189) and significant at the 1%-level (p-value < 0.01). This indicates that the sample in general is conservative. The coefficient on *RET*DR*POST* is significantly positive (0.05011, p-value < 0.01), indicating that the sample as a whole is still conservative after the 1999 SGI case. The coefficient of interest in this table is the coefficient on *RET*DR*NINTH_CIRCUIT*POST*. This coefficient shows the level of conservative reporting in the Ninth Circuit after the Court of Appeals decision in this SGI case. This coefficient is -0.05389 and significant at the 1%-level (p-value < 0.01), which indicates that there is a decrease in conservative reporting among Ninth Circuit firms after July 2, 1999. This significantly negative coefficient shows evidence that firms in the Ninth Circuit decreased their level of conservative reporting after the decision in the SGI Case. This evidence suggest the existence of a positive relation between shareholder litigation and conservative reporting. The significant negative coefficient supports hypothesis 1.

Table 8

The change in conservatism after the 1999 SGI Case for Firms within the Ninth Circuit and Control Firms

Variables	**Coefficient Estimate** *Standard error*	
	Ninth vs. All other Circuits	*Ninth vs. Second Circuit*
INTERCEPT	**0.00286***** (0.00080)	**0.00159** (0.00238)
DR	**0.00112** (0.00113)	**0.00366** (0.00324)
NINTH_CIRCUIT	**-0.00940***** (0.00200)	**-0.00813***** (0.00300)
POST	**0.00188*** (0.00113)	**0.00253** (0.00336)
NINTH_CIRCUIT × POST	**-0.00406** (0.00281)	**-0.00471** (0.00423)
DR × NINTH_CIRCUIT	**0.00376** (0.00277)	**0.00122** (0.00411)
DR × POST	**-0.00146** (0.00167)	**-0.00632** (0.00504)
DR × NINTH_CIRCUIT × POST	**-0.00819**** (0.00402)	**-0.00332** (0.00622)
RET	**-0.01484***** (0.00295)	**-0.00805** (0.00779)
RET × NINTH_CIRCUIT	**0.00224** (0.00609)	**-0.00454** (0.00944)
RET × POST	**-0.01401***** (0.00420)	**-0.02847**** (0.01232)
RET × NINTH_CIRCUIT × POST	**-0.00320** (0.00852)	**0.01126** (0.01438)
RET × DR	**0.07189***** (0.00483)	**0.05177***** (0.01342)
RET × DR × NINTH_CIRCUIT	**0.01263** (0.01062)	**0.03275**** (0.01642)
RET × DR × POST	**0.05011***** (0.00703)	**0.08716***** (0.02119)
RET × DR × NINTH_CIRCUIT × POST	**-0.05389***** (0.01426)	**-0.09095***** (0.02455)
Observations	59,523	19,031
Adjusted R-squared	0.038	0.033

This table provides results from the Basu (1997) regression of earnings on returns for Ninth Circuit firms versus firms in all Other Circuits and for Ninth Circuit firms versus firms in the Second Circuit after the Court of Appeals decision in the Silicon Graphics Inc. Case on July 2, 1999. This regression is used to measure conservatism, which is captured in coefficient β15. NINTH_CIRCUIT is a dummy variable which is 1 for firms located in the Ninth Circuit, 0 otherwise. POST is a dummy variable which equals 1 for firm-quarter observations from January 1, 2000 through March 31, 2002, and 0 for firm-quarter observations from January 1, 1998 through June 30, 1999. RET is quarterly return, measured by compounding monthly returns from CRSP. DR is a dummy variable which equals 1 if RET<0, 0 otherwise. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.

Following Cazier et al. (2016), firms in the Ninth Circuit are also compared to firms located in the Second Circuit. According to Cazier et al. (2016), some circuits other than the Ninth Circuit also experienced some changes in pleading standards during the period of interest. These changes were smaller than the change in litigation risk in the Ninth Circuit, but there is still a possibility that these changes influence the results in the first column of Table 8. To mitigate this possibility, firms in the Second Circuit are used as additional control group. The Second Circuit forms a good control group because this Circuit did not experience a change in pleading standard during the sample period and therefore had a stable litigation environment. The results of this regression are shown in the second column of Table 8. The coefficients on *RET*DR* and *RET*DR*POST* show the same trend as in the regression which uses all other Circuits as control group. The coefficient on *RET*DR*NINTH_CIRCUIT* is significantly positive (0.03275, p-value < 0.01), which indicates that firms in the Ninth Circuit report conservative in general. The coefficient on *RET*DR*NINTH_CIRCUIT*POST* is also in line with the results in column one, and is significantly negative (-0.09095, p-value < 0.01). Therefore, the results in column 2 corroborate on the results of the regression in column 1. This shows that the change in pleading standards in the other circuits does not influence the results of the regression comparing firms in the Ninth Circuit against firm in all other Circuits. The results of both regressions provide evidence of a decrease in conservative reporting after the decrease in shareholder litigation risk caused by the Court of Appeals decision in the Ninth Circuit. This suggest the existence of a positive relation between conservative reporting and shareholder litigation risk. The results of both regressions support hypothesis 1.

6.3. Tellabs Case results

Table 9 describes the results of the regression which tests for the effect of the increase in shareholder litigation risk on conservative reporting by firms in the Seventh Circuit, as a response to the Court of Appeals decision in the Tellabs case in the first quarter of 2006 (equation 3). Given the relation found by prior literature, it is expected that this increase in shareholder litigation risk led to an increase in conservative reporting by firms located in the Seventh Circuit. At first, firms in the Seventh Circuit are compared to firms in all other Circuits. The pre-event period in this analysis ranges from January 1, 2004 through December 31, 2005, the quarters before the Court of Appeals decision in the Tellabs case. The post-event period is formed by the quarters after the Court decision, April 1, 2006 through December 31, 2007. The first column of Table 9 shows the results of the regression which compares firms in the Seventh Circuit to firms in all other Circuits. The coefficient on *RET*DR* is significantly

Table 9

The change in conservatism after the 2006 Tellabs Case for Firms within the Seventh Circuit and Control Firms

Variables	**Coefficient Estimate** *Standard Error*	
	Seventh vs. All other Circuits	Seventh vs. Second, Third and DC Circuit
INTERCEPT	**0.00711*** **	**0.00770*** **
	(0.00038)	(0.00085)
DR	**-0.00113***	**-0.00157**
	(0.00058)	(0.00129)
SEVENTH_CIRCUIT	**0.00370*** **	**0.00311** **
	(0.00111)	(0.00135)
POST	**-0.00081**	**-0.00086**
	(0.00055)	(0.00121)
SEVENTH_CIRCUIT × POST	**0.00087**	**0.00092**
	(0.00162)	(0.00195)
DR × SEVENTH_CIRCUIT	**-0.00022**	**0.00022**
	(0.00187)	(0.00220)
DR × POST	**0.00078**	**0.00060**
	(0.00085)	(0.00189)
DR × SEVENTH_CIRCUIT × POST	**-0.00065**	**-0.00048**
	(0.00263)	(0.00312)
RET	**-0.01137*** **	**-0.01937*** **
	(0.00221)	(0.00566)
RET × SEVENTH_CIRCUIT	**0.00997**	**0.01797***
	(0.00781)	(0.00939)
RET × POST	**0.00266**	**0.00431**
	(0.00339)	(0.00810)
RET × SEVENTH_CIRCUIT × POST	**-0.01199**	**-0.01363**
	(0.01228)	(0.01432)
RET × DR	**0.07777*** **	**0.08788*** **
	(0.00380)	(0.00908)
RET × DR × SEVENTH_CIRCUIT	**-0.01758**	**-0.02769***
	(0.01384)	(0.01612)
RET × DR × POST	**-0.00580**	**-0.00646**
	(0.00568)	(0.01307)
RET × DR × SEVENTH_CIRCUIT × POST	**-0.00011**	**0.00056**
	(0.01990)	(0.02313)
Observations	45,631	11,307
Adjusted R-squared	0.048	0.056

This table provides results from the Basu (1997) regression of earnings on returns for Seventh Circuit firms versus firms in all Other Circuits and for Seventh Circuit firms versus firms in the Second, Third and DC Circuit after the Court of Appeals decision in the Tellabs Case in the first quarter of 2006. This regression is used to measure conservatism, which is captured in coefficient β15. SEVENTH_CIRCUIT is a dummy variable which is 1 for firms located in the Seventh Circuit, 0 otherwise. POST is a dummy variable which equals 1 for firm-quarter observations from April 1, 2006 through December 31, 2006, and 0 for firm-quarter observations from January 1, 2004 through December 31, 2005. RET is quarterly return, measured by compounding monthly returns from CRSP. DR is a dummy variable which equals 1 if RET<0, 0 otherwise. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.

positive (0.07777, p-value < 0.01). This indicates that firms report conservative in general. The coefficient of interest is the coefficient on *RET*DR*SEVENTH_CIRCUIT*POST*. This coefficient is negative (-0.00011) and insignificant. This result contrasts with the expectation of this coefficient to be positive. Therefore, this coefficient does not provide evidence for an increase in conservative reporting. Seventh Circuit firms seem not to react to the lower pleading standards implemented by the Seventh Circuit Courts decision. These results do not support hypothesis 2. To mitigate the possibility that these results are influenced by changes in pleading standards in the other circuits during the period of interest, firms in the Seventh Circuit are also compared to firms in the Second, Third and DC Circuit, following Cazier et al. (2016). These circuits are used as control group because they had the most stable litigation environment during the period of interest, they did not experience any change in pleading standards between January 1, 2004 and December 31, 2007. The results of this test are shown in column 2 of Table 9. The coefficient on *RET*DR* shows the same trend as in the regression comparing Seventh Circuit firms against firms in all other circuits, indicating an overall level of conservative reporting during the sample period. The coefficient on *RET*DR*SEVENTH_CIRCUIT* is significantly negative, (-0.02769, p-value < 0.10), which indicates firms in the Seventh Circuit, compared to firms in the Second, Third and DC Circuit, do not report conservative in general. The coefficient on *RET*DR*SEVENTH_CIRCUIT*POST* is positive in this regression (0.00056), although not significant (p-value > 0.10). This positive coefficient could be an indication of a higher level of conservative reporting in the Seventh Circuit after the Tellabs case, in line with the prediction. However, this coefficient is not significant and therefore does not provide evidence of an increase in conservative reporting after the Court of Appeals decision in the 2006 Tellabs Case. These results do not support hypothesis 2.

The above discussed results indicate that firms react to the change in litigation risk after the Ninth Circuit Court decision in the 1999 SGI case, but not to a change in litigation risk after the Seventh Circuit Court decision in the 2006 Tellabs case. A possible explanation for these different reactions could be the fact that the Courts decision in the SGI case was the final decision in this lawsuit, while this was not the case for the Tellabs decision. The initial decision in the Tellabs case was made by the District Court for the Northern District of Illinois, where after it appealed to the Seventh Circuit Court of Appeals. The Seventh Circuit Court of Appeals applied the 'reasonable person' requirement in this case, thereby lowering the pleading standards in the Seventh Circuit. The defendant in this case did not accept this decision and sent the Tellabs Case to the Supreme Court. Furthermore, the decision of the Seventh Circuit

contrasted with a decision of the Sixth Circuit in the same time period. This led to confusion for plaintiffs and companies (Gilbert, 2008). The Supreme Court over-ruled the decision of the Seventh Circuit in 2007 by determining that the 'reasonable person' requirement of the Seventh Circuit did not represent the 'strong inference' requirement which was set forth by the PSLRA. The lack of significant evidence in the Tellabs case could therefore possibly be explained by the fact that this case proceed further after the decision by the Seventh Circuit Court of Appeals. Therefore, the decision made was possibly not seen as the final decision in this case by firms, causing them to not fully adapt their reporting to the new shareholder litigation risk. Furthermore, the conflicting decisions made by the Sixth and the Seventh Circuit led to confusion. This confusion could also be a reason that firms did not adapt their reporting, because it was not clear to them how the Seventh Circuit decision would affect them.

Besides these possible explanations, the decision in the 2006 Tellabs Case had less impact on the degree of shareholder litigation risk than the decision in the 1999 SGI case, like shown in Figure 1. This could also be a possible explanation for the different reactions to the SGI Case and the Tellabs Case. This will be discussed further in the additional analysis section.

6.4. Regression with market-adjusted variables

Following Basu (1997), the timeliness of earnings regressions to test for an effect of the change in shareholder litigation risk on conservative reporting are also estimated using market-adjusted earnings and market-adjusted return. These market-adjusted variables control for non-stationarity in time-series data over time. In these regressions, return is adjusted by the CRSP equal-weighted index of market return and earnings is adjusted by the average EP-ratio for the specific quarter. This study uses these market-adjusted returns to control for this non-stationarity and to check if the results change when market-adjusted variables instead of non-adjusted variables are used. The results of this market-adjusted regression for the SGI case are shown in Table 10 (appendix). The first column shows the comparison of firms in the Ninth Circuit against firms in all other circuits. The coefficients on *RET*DR, RET*DR*NINTH_CIRCUIT* and *RET*DR*POST* are in line with the regression with non-adjusted variables. The coefficient on *RET*DR*NINTH_CIRCUIT*POST* is negative (-0.03035) and significant (p-value < 0.10). The second column of Table 10 (appendix) shows the results of the regression using firms in the Second Circuit as control group. The coefficients in this column are also in line with prior findings. The coefficient on *RET*DR*NINTH_CIRCUIT*POST* is again negative (-0.08477) and significant (p-value < 0.01). The results in Table 10 (appendix) corroborate on the results in Table 8 and show

significant evidence for a decrease in conservative reporting after the 1999 SGI Case. These results support hypothesis 1.

Table 11 (appendix) shows the results of the of the market-adjusted regression for the Tellabs case. The first column of this table shows the comparison of the Seventh Circuit against all other circuits. The coefficients on *RET*DR*, *RET*DR*SEVENTH_CIRCUIT* and *RET*DR*POST* are in line with the results shows in Table 9. The coefficient on *RET*DR*SEVENTH_CIRCUIT*POST* is positive (0.00709) but insignificant (p-value > 0.10). This result is in line with the coefficient on this variable in the second column of Table 9, which is also insignificant. The second column of Table 11 (appendix) shows the results of the regression which compares firms in the Seventh Circuit against firms in the Second, Third and DC Circuit. The coefficient on *RET*DR*SEVENTH_CIRCUIT*POST* is again positive (0.01031) but insignificant (p-value > 0.10). These results in the first and second column of Table 11 are in line with the results in Table 9 and do not provide significant evidence of an increase in conservatism after the Seventh Circuit Court decision in the Tellabs case. Therefore, this results corroborate on the results in Table 9 and do not provide support for hypothesis 2.

It is remarkable that the coefficient on standalone returns is negative in all these regressions. No possible explanation for this negative relation can be found in prior literature and information regarding these periods. However, although this negative coefficient is remarkable, it is not unusual in regressions with an interaction term, and seen in a number of other studies.[1]

6.5. Additional analysis

To test for the robustness of the results, two additional tests are performed. The first test examines the effect of a decrease in litigation risk on conservative reporting as a result of a number of Court of Appeal decisions in different circuits. The second test uses another measure of conservatism, the Basu (1997) persistence of earnings regression, to test for the robustness of the results.

[1] Chung and Wynn, 2006; Nikolaev, 2009; Alam and Petruska, 2012; Leventis et al. 2013; Ho et al., 2015

6.5.1. Smaller judicial decisions among a number of U.S. Circuits

Following Cazier et al. (2016), this thesis also examines the effect of a number of judicial decisions among different U.S. Circuits on the level of conservative reporting in these specific circuits. Just like the Court of Appeals decision in the SGI Case, these decisions decrease the risk of shareholder litigation by heightening the pleading standards in these circuits. However, all these decisions have a smaller effect on litigation risk than the SGI decision in the Ninth Circuit. According to Hopkins (2012), the decision in the Ninth Circuit was an enormous surprise and therefore caused a big shock among this Circuit. The decisions examined in this additional test have a smaller effect. The decisions have taken place between 1999 and 2003 and occurred in the Eleventh, Sixth, First, Tenth, Fifth, Eight and Fourth Circuit. A graphical representation of these shocks in litigation risk is made by Cazier et al. (2016). This graphical representation is shown in Figure 1 (appendix) and shows the effect of the changes in pleading standards among the different circuits on shareholder litigation risk in these circuits. Cazier et al. (2016) use a pooled event study to examine these cases, in which they aggregated the periods of the different decisions. However, due to the fact that this kind of research method could be exposed to time trends, this thesis estimates a separate regression for each case. The Court of Appeals decisions in the Sixth and Eleventh Circuit are combined, just as the Court of Appeals decisions in the Fifth and Tenth Circuit. This is because these decisions have taken place in the same quarter and therefore, the same sample period can be used to analyze these cases. In every analysis, the 6 quarters before the decision form the pre-event period, the 6 quarters after the decision form the post-event period. As shown in Figure 1, the Second Circuit has a stable litigation environment over the whole period, and therefore, the Second Circuit is used as control group in each of these analyses. In all these cases, shareholder litigation risk decreases after the Court of Appeals decision. Therefore, it is expected that the affected circuits show a decrease in conservative reporting in the post period in all these cases. The results of all these regressions are shown in Table 12. The coefficient on *RET*DR* is positive and significant in all these regressions, conform expectations. The coefficient of interest in all these regressions is *RET*DR*CIRCUIT*POST*. This coefficient is significantly negative in the regression of the First Circuit Court of Appeals decision (-0.07749, p-value < 0.05). However, this coefficient is not significant in all other examined Court of Appeals Decision and furthermore, some of these coefficients are positive, others are negative. These results therefore indicate that, overall, firms seem not to react to the different decreases in shareholder litigation risk in the different circuits. Overall, firms do not adjust their reporting policies after the decrease in shareholder litigation risk.

Table 12

The level of conservative reporting before and after smaller litigation risk decreasing Court Decisions

Variables	**Coefficient Estimate** *Standard Error*				
	6th and 11th Circuit	1st Circuit	5th and 10th Circuit	8th Circuit	4th Circuit
INTERCEPT	**0.00272**	**0.00271**	**0.00615***	**0.00709****	**0.00327**
	(0.00239)	(0.00256)	(0.00319)	(0.00329)	(0.00262)
DR	**0.00222**	**0.00517**	**-0.00569**	**-0.00820**	**0.00032**
	(0.00332)	(0.00340)	(0.00507)	(0.00544)	(0.00388)
CIRCUIT	**0.00461**	**-0.00942****	**-0.00068**	**-0.00103**	**0.00302**
	(0.00289)	(0.00404)	(0.00417)	(0.00478)	(0.00395)
POST	**0.00037**	**0.00219**	**-0.00789**	**-0.00516**	**0.00286**
	(0.00330)	(0.00364)	(0.00534)	(0.00502)	(0.00313)
CIRCUIT × POST	**-0.00185**	**0.00348**	**0.00329**	**0.00325**	**0.00288**
	(0.00416)	(0.00563)	(0.00684)	(0.00730)	(0.00471)
DR × CIRCUIT	**-0.00129**	**0.00372**	**0.00821**	**0.01065**	**-0.00127**
	(0.00412)	(0.00526)	(0.00650)	(0.00758)	(0.00620)
DR × POST	**0.00452**	**-0.00355**	**0.00540**	**0.00321**	**0.00081**
	(0.00474)	(0.00536)	(0.00823)	(0.00816)	(0.00485)
DR × CIRCUIT × POST	**0.00193**	**-0.01560***	**-0.00913**	**-0.00673**	**-0.00283**
	(0.00607)	(0.00816)	(0.01045)	(0.01174)	(0.00773)
RET	**-0.01766****	**-0.01656***	**-0.04340*****	**-0.05272*****	**-0.03584*****
	(0.00853)	(0.00936)	(0.01373)	(0.01690)	(0.01199)
RET × CIRCUIT	**0.00039**	**0.00264**	**0.02661**	**0.04486****	**0.00142**
	(0.01039)	(0.01317)	(0.01652)	(0.01955)	(0.01804)
RET × POST	**0.00465**	**-0.01052**	**-0.02329**	**-0.00367**	**0.01384**
	(0.01056)	(0.01345)	(0.02258)	(0.02394)	(0.01579)
RET × CIRCUIT × POST	**-0.01000**	**-0.00786**	**-0.02156**	**-0.03207**	**-0.01281**
	(0.01386)	(0.01800)	(0.02922)	(0.03038)	(0.02470)
RET × DR	**0.07004*****	**0.07763*****	**0.15752*****	**0.17443*****	**0.11910*****
	(0.01395)	(0.01458)	(0.02080)	(0.02394)	(0.01871)
RET × DR × CIRCUIT	**0.01943**	**0.00006**	**-0.02828**	**-0.05885***	**0.00062**
	(0.01749)	(0.02105)	(0.02657)	(0.03284)	(0.03151)
RET × DR × POST	**0.05372*****	**0.06902*****	**0.03321**	**-0.01493**	**-0.00430**
	(0.01950)	(0.02288)	(0.03592)	(0.03661)	(0.02827)
RET × DR × CIRCUIT × POST	**-0.00243**	**-0.07749****	**0.03765**	**0.06272**	**0.03074**
	(0.02563)	(0.03032)	(0.04661)	(0.05343)	(0.04557)
Observations	12,899	8,396	11,165	7,063	6,125
Adjusted R-squared	0.050	0.044	0.043	0.047	0.044

This table provides results from regressions of earnings on returns around Court of Appeal decisions in the Sixth, Eleventh, First, Tenth, Fifth, Eight and Fourth Circuits. POST is a dummy variable which equals 1 for the six firm-quarters after the quarter of the Court of Appeal decision in the specific circuit(s) and, and 0 for the six firm-quarters before the quarter of the Court of Appeal decision in the specific Circuit(s). RET is quarterly return, measured by compounding monthly returns from CRSP. DR is a dummy variable which equals 1 if RET<0, 0 otherwise. CIRCUIT is a dummy variable which equals 1 for firms located in the specific circuit, 0 otherwise. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.

Figure 1 shows that the changes in litigation risk among the Eleventh, Sixth, First, Tenth, Fifth, Eight and Fourth Circuit are relatively small, just as the change in litigation risk in the Seventh Circuit. Except for the Court of Appeals decision in the First Circuit, no significant result is found of a change in conservatism after the Court of Appeals decision in all these cases. On the other hand, the SGI case, which is a much bigger shock in litigation risk, shows a significant reaction to the Court of Appeals decision. A possible explanation could be that firms only adjust their reporting policy after a big shock in litigation risk, but do not respond to smaller shocks in litigation risk. This prediction is corroborated on by the (untabulated) results of a regression run to test for the effect of the small increase in litigation risk in the Ninth Circuit in 2003, which is shown in Figure 1. The coefficient on *RET*DR*NINTH_CIRCUIT*POST* is still negative in this regression (-0.00588) but not significant (p-value > 0.10). This evidence suggest that firms in the Ninth Circuit did not increase their level of conservative reporting after the relatively small increase in shareholder litigation risk in the first quarter of 2003. This shows that although firms in the Ninth Circuit did react to the big change in litigation risk after the 1999 SGI case decision, they do not respond to another, smaller, Ninth Circuit decision which took place in 2003. Taken together, these results provide evidence that firms in general only adjust their conservative reporting after a big shock in litigation risk in their Circuit, but do not respond to smaller litigation shocks.

6.5.2. Persistence of earnings measure

In the prior analyses, conservatism is measured by using the timeliness of earnings measure of Basu (1997). To test for the robustness of the results, the persistence of earnings measure of Basu (1997) is used as an alternate way to test for the effect of a change in shareholder litigation on conservative reporting. According to Basu (1997), bad news is more early incorporated in earnings than good news, and therefore, bad news is more timely recognized in earnings. Next to that, bad news is taken as a loss immediately, while the gains of good news are spread out over the coming periods. Therefore, according to Basu (1997) good news is less timely but more persistent, while bad news is more timely but will reserve in the next periods. Basu (1997) tests for this prediction of persistence by regressing earnings change on prior period earnings change by estimating the following regression:

$$\Delta NI_{it} = \alpha_0 + \beta_1 D_{it} + \beta_2 \Delta NI_{it-1} + \beta_3 \Delta NI_{it-1} * D_{it} + \varepsilon_i \qquad (4)$$

Basu (1997) finds that bad news is indeed less persistent than good news.

To use this measure to test for the effect of the 1999 SGI Case, equation 4 is extended as follows:

$$\Delta NI_{it} = \alpha_0 + \beta_1 D_{it} + \beta_2 NINTH\_CIRCUIT_{it} + \beta_3 POST_{it} + \beta_4 NINTH\_CIRCUIT_{it} * POSt_{it} + \beta_5 D_{it} * NINTH\_CIRCUIT_{it} + \beta_6 D_{it} * POST_{it} + \beta_7 D_{it} * NINTH\_CIRCUIT_{it} * POSt_{it} + \beta_8 \Delta NI_{it-1} + \beta_9 \Delta NI_{t-1} * NINTH\_CIRCUIT_{it} + \beta_{10} \Delta NI_{it-1} * POST_{it} + \beta_{11} \Delta NI_{it-1} * NINTH\_CIRCUIT_{it} x POST_{it} + \beta_{12} \Delta NI_{it-1} * D_{it} + \beta_{13} \Delta NI_{it-1} * D_{it} * NINTH\_CIRCUIT_{it} + \beta_{14} \Delta NI_{it-1} * D_{it} * POST_{it} + \beta_{15} \Delta NI_{it-1} * D_{it} * NINTH\_CIRCUIT_{it} * POSt_{it} + \varepsilon_{it} \quad (5)$$

In this regression, ΔNI_{t-1} is the change in earnings for firm *i* for quarter *t* over quarter *t-1*, scaled by share price at the end of quarter *t-1*. ΔNI_{t-1} is the change in earnings for firm *i* for quarter *t-1* over quarter *t-2*, scaled by share price at the end of quarter *t-2*. *D* is a dummy variable which equals 1 if $\Delta NI_{t-1} < 0$, 0 otherwise. *NINTH_CIRCUIT* and *POST* are previously defined.
The same regression is estimated for the 2006 Tellabs Case, with the NINTH_CIRCUIT coefficient replaced with the SEVENTH_CIRCUIT coefficient.

Of this regression, the coefficients on ΔNI_{t-1} and ΔNI_{it-1}*D* are expected to be negative, to represent the tendency of negative earnings to reverse in the next period. For the SGI case, the coefficient on ΔNI_{it-1}*D*NINTH_CIRCUIT*POST* is expected to be positive, to represent a decrease in conservative reporting after the SGI Case decision. In the Tellabs Case, the effect on shareholder litigation was the other way around, and therefore this coefficient is expected to be negative.

The results of this regression for the 1999 SGI case are shown in Table 13. The first column shows the results from the regression comparing firms in the Ninth Circuit against firms in all other circuits. Conform the expectation, the coefficient on ΔNI_{t-1} is significantly negative (-0.12086, p-value < 0.01), just like the coefficient on ΔNI_{t-1}*D* (-0.51858, p-value < 0.01). This confirms the findings of the timeliness of earnings regression that the sample in general is conservative. The coefficient of interest, ΔNI_{it-1}*D*NINTH_CIRCUIT*POST,* is positive but insignificant (0.04545, p-value > 0.10). The second column of Table 13 compares conservative reporting of firms in the Ninth Circuit against conservative reporting of firms in the Second Circuit. As explained before, this Second Circuit serves as a good control group because the pleading standards in this Circuit were stable during the sample period. The coefficients on ΔNI_{t-1} and ΔNI_{t-1}*D* are again significantly negative. The coefficient on ΔNI_{t-1}*D* *NINTH_CIRCUIT*POST* is positive (0.16150) and significant (p-value < 0.10).

Table 13

The change in conservatism after the 1999 SGI Case for Firms within the Ninth Circuit and Control firms measured with the Basu (1997) persistence of earnings regression

Variables	**Coefficient Estimate** *Standard error*	
	Ninth vs. All other Circuits	Ninth vs. Second Circuit
INTERCEPT	**-0.00329***** (0.00057)	**-0.00164** (0.00162)
D	**-0.00249***** (0.00083)	**-0.00221** (0.00240)
NINTH_CIRCUIT	**-0.00079** (0.00121)	**-0.00244** (0.00195)
POST	**-0.00003** (0.00077)	**-0.00130** (0.00222)
NINTH_CIRCUIT*POST	**0.00036** (0.00162)	**0.00163** (0.00264)
D* NINTH_CIRCUIT	**-0.00233** (0.00178)	**-0.00261** (0.00288)
D*POST	**0.00081** (0.00113)	**0.00049** (0.00325)
D* NINTH_CIRCUIT*POST	**0.00073** (0.00236)	**0.00106** (0.00387)
ΔNI_{t-1}	**-0.12086***** (0.01282)	**-0.24471***** (0.03730)
ΔNI_{t-1}* NINTH_CIRCUIT	**0.08137***** (0.02607)	**0.20522***** (0.04376)
ΔNI_{t-1}*POST	**0.01604** (0.01677)	**0.08103*** (0.04880)
ΔNI_{t-1}* NINTH_CIRCUIT*POST	**-0.08713**** (0.03438)	**-0.15213***** (0.05742)
ΔNI_{t-1}*D	**-0.51858***** (0.02090)	**-0.27003***** (0.05973)
ΔNI_{t-1}*D* NINTH_CIRCUIT	**-0.16790***** (0.04197)	**-0.41645***** (0.07009)
ΔNI_{t-1}*D*POST	**0.13737***** (0.02701)	**0.02133** (0.07739)
ΔNI_{t-1}*D* NINTH_CIRCUIT*POST	**0.04545** (0.05461)	**0.16150*** (0.09097)
Observations	58,741	19,218
Adjusted R-squared	0.083	0.093

This table provides results from the Basu (1997) regression of earnings change on lagged earnings change for Ninth Circuit firms versus firms in all Other Circuits and for Ninth Circuit firms versus firms in the Second Circuit after the Court of Appeals decision in the Silicon Graphics Inc. Case on July 2, 1999. This regression is used to measure conservatism, which is captured in coefficient β15. NINTH_CIRCUIT is a dummy variable which is 1 for firms located in the Ninth Circuit, 0 otherwise. POST is a dummy variable which equals 1 for firm-quarter observations from January 1, 2000 through March 31, 2002, and 0 for firm-quarter observations from January 1, 1998 through June 30, 1999. ΔNI_{t-1} is lagged earnings change, measured as the change in EPS for quarter t-1 over quarter t-2, scaled by price at the beginning of the quarter. D is dummy variable which equals 1 if $\Delta NI_{t-1}<0$, 0 otherwise. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.

This suggest that firms in the Ninth Circuit are less inclined to reverse negative earnings in the next period, and therefore, this indicates that the level of conservative reporting decreased in the Ninth Circuit after the SGI Case. Therefore, this regression corroborates on the results of the main analysis (Table 8 and Table 10) and suggests that conservative reporting decreased in the Ninth Circuit after the Court of Appeals decision in the 1999 SGI Case. These results support hypothesis 1.

The results of the persistence of earnings regression for the 2006 Tellabs Case are shown in Table 14. The first column shows the result of the comparison of firms in the Seventh Circuit against firms in all other circuits. The coefficients on ΔNI_{t-1} and $\Delta NI_{it-1}*D$ are again both significantly negative, providing evidence of a level of conservative reporting in general. The coefficient of interest is $\Delta NI_{t-1}*D*NINTH\_CIRCUIT*POST$. Conform expectation, this coefficient is negative (-0.12606). However, this coefficient is insignificant (p-value >0.10). The second column of Table 14 compares firms in the Seventh Circuit against firms in the Second, Third and DC Circuit. The coefficient of interest contrasts with the expectation of a negative coefficient (0.12723) and is insignificant (p-value >0.10). Although these results do not support hypothesis 2, they are in line with the results found on the timeliness of earnings regression reported in Table 9 and Table 11. The results in these tables also do not support the prediction that conservative reporting increased after the Court of Appeals decision in the Seventh Circuit. Both Table 14, Table 9 and Table 11 do not show significant evidence to support hypothesis 2.

Furthermore, these results also support the prediction made in section 6.5.1 that firms seem to react to the big shock in litigation risk after the decision in the 1999 SGI case, but do not react to smaller shocks in litigation risk, as the shock in litigation risk after the 2006 Tellabs Case.

Table 14

The change in conservatism after the 2006 Tellabs Case for Firms within the Seventh Circuit and Control firms measured with the Basu (1997) persistence of earnings regression

Variables	**Coefficient Estimate** *Standard error*	
	Seventh vs. All other Circuits	Seventh vs. Second, Third and DC Circuit
INTERCEPT	**0.00020**	**0.00040**
	(0.00025)	(0.00058)
D	**-0.00010**	**0.00082**
	(0.00037)	(0.00084)
SEVENTH_CIRCUIT	**0.00009**	**-0.00012**
	(0.00083)	(0.00098)
POST	**-0.00002**	**-0.00040**
	(0.00035)	(0.00079)
SEVENTH_CIRCUIT*POST	**-0.00076**	**-0.00038**
	(0.00124)	(0.00143)
D* SEVENTH_CIRCUIT	**-0.00038**	**-0.00130**
	(0.00115)	(0.00138)
D*POST	**-0.00050**	**-0.00078**
	(0.00053)	(0.00120)
D* SEVENTH_CIRCUIT*POST	**-0.00078**	**-0.00050**
	(0.00183)	(0.00212)
ΔNI_{t-1}	**-0.26075*****	**-0.35163*****
	(0.02274)	(0.05366)
ΔNI_{t-1}*SEVENTH_CIRCUIT	**-0.05263**	**0.03825**
	(0.08270)	(0.09597)
ΔNI_{t-1}*POST	**-0.01770**	**0.11625**
	(0.03306)	(0.07590)
ΔNI_{t-1}*SEVENTH_CIRCUIT*POST	**0.11488**	**-0.01907**
	(0.14294)	(0.15850)
ΔNI_{t-1}*D	**-0.09061*****	**0.07894**
	(0.03382)	(0.07519)
ΔNI_{t-1}*D*SEVENTH_CIRCUIT	**-0.05078**	**-0.22034**
	(0.11677)	(0.13475)
ΔNI_{t-1}*D*POST	**-0.01275**	**-0.26604****
	(0.05078)	(0.11225)
ΔNI_{t-1}*D*SEVENTH_CIRCUIT*POST	**-0.12606**	**0.12723**
	(0.20535)	(0.22854)
Observations	46,585	11,593
Adjusted R-squared	0.081	0.091

This table provides results from the Basu (1997) regression of earnings change on lagged earnings change for Ninth Circuit firms versus firms in all Other Circuits and for Ninth Circuit firms versus firms in the Second Circuit after the Court of Appeals decision in the Silicon Graphics Inc. Case on July 2, 1999. This regression is used to measure conservatism, which is captured in coefficient β15. NINTH_CIRCUIT is a dummy variable which is 1 for firms located in the Ninth Circuit, 0 otherwise. POST is a dummy variable which equals 1 for firm-quarter observations from January 1, 2000 through March 31, 2002, and 0 for firm-quarter observations from January 1, 1998 through June 30, 1999. ΔNI_{t-1} is lagged earnings change, measured as the change in EPS for quarter t-1 over quarter t-2, scaled by price at the beginning of the quarter. D is dummy variable which equals 1 if $\Delta NI_{t-1}<0$, 0 otherwise. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.

7. Conclusion

This thesis aims to answer the question whether changes in shareholder litigation risk among U.S. Circuits influence the level of conservative reporting at firms located in the affected circuits. To answer this question, a unique setting is used in which Court of Appeals decisions in the Ninth Circuit, the 1999 SGI Case, and in the Seventh Circuit, the 2006 Tellabs Case, affect shareholder litigation risk in these circuits, but not in all the other circuits. Two difference-in-difference analyses are executed, in which the affected circuit forms the treatment group, and all other circuits form the control group. The Basu (1997) timeliness of earnings measure is used to measure the level of conservatism. It is expected that there is a positive relation between shareholder litigation and conservative reporting.

The Court of Appeals decision in the SGI Case led to a decrease in shareholder litigation risk for firms located in the Ninth Circuit. The results of the analysis of this case provide evidence of a decrease in conservative reporting among firms in the Ninth Circuit after the SGI Case decision, in line with the expectation of this thesis. The Court of Appeals decision in the Tellabs Case led to an increase in shareholder litigation risk. However, the results of the analysis of this case do not provide significant evidence of an increase in conservative reporting in the Seventh Circuit after this case. Results of an additional analysis, in which a number of smaller, shareholder litigation risk decreasing judicial cases are examined, also do not show significant evidence of a decrease in conservative reporting in the specific circuits after these decisions. So, both the analysis of the Seventh Circuit decision as the analysis of smaller judicial decisions do not show evidence of a positive relation between shareholder litigation risk and conservative reporting. Both the Court of Appeals decision in the Seventh Circuit, as the smaller judicial decisions, are relatively small compared to the decision in the Ninth Circuit. This Ninth Circuit decision led to a large change and was really unexpected, and therefore, led to a large shock in litigation risk (Hopkins, 2012). This thesis therefore concludes that firms adjust their level of conservative reporting after a large change in litigation risk, like the decision in the 1999 SGI Case, but do not adapt their reporting policies after relatively smaller changes in litigation risk. The results are corroborated on by the additional analysis, using the persistence of earnings measure as an alternate measure of conservatism.

The use of two different events, the two legal cases which cause a change in litigation risk, allows this thesis to test for the effect of shareholder litigation risk directly. Prior literature examines the effect of shareholder litigation risk indirectly by making use company features

which affect this litigation risk. Therefore, by making use of this unique research design which allows for testing the effect of a change in litigation risk directly, this thesis contributes to this prior literature. This unique design mitigates the risk that the results are influenced by other factors affecting conservative reporting. Furthermore, the findings of this thesis contribute to prior literature because they show that the level of shareholder litigation risk also matters. Firms seem not to react to small litigation risk shocks, but react to larger shocks by adjusting their level of conservative reporting. The results have implications for both shareholders and for regulators and standard setters. For regulators and standard setters, the results implicate that firms make use of conservative reporting as protection against shareholder litigation. This implicates that firms do not take into account the fact that the FASB prefers neutrality in reporting, but use conservative reporting when they perceive it as beneficial to them. Furthermore, the results are important for shareholders. They implicate that shareholder litigation can serve as an effective mechanism to align the goals of shareholders with the goals of management, but also show that shareholder litigation is most effective when the risk is large, and a change in this litigation risk is only effective when this is a big change.

This thesis also has some limitations. First, although the Basu (1997) timeliness of earnings measure is widely used and the validity of this measure is proven by a number of papers (Ettredge et al., 2012; Hsu et al., 2012; Ball et al., 2013), this measure is also criticized. Givoly et al. (2007) argue that this measure is affected by certain characteristics of the information environment. Furthermore, they also find that the degree of uniformity of news affects the outcomes of this measure, just like the disclosure policies of a firm and types of events occurring during the sample period (Givoly et al., 2007). Next to that, Givoly et al. (2007) argue that using one measure of conservatism is insufficient to make the right inferences. Furthermore, Khan and Watts (2009) argue that the Basu (1997) timeliness of earnings measure is insufficient to be a sufficient firm-year measure of conservatism. Another limitation is the fact that this thesis considers conservatism as something positive and favorable for shareholders. However, there is also literature which finds that firms use conservative reporting to manage earnings (Levitt, 1998; Jackson and Liu, 2010). This thesis does not take this negative part of conservative reporting into account.

Given the above limitations, one suggestion for further research is to examine the change in the level of conservatism after the SGI Case and the Tellabs Case again, with a number of measures of conservatism. This thesis only uses two different measures of Basu (1997), but

there exist a lot more measures of conservatism which can be used. Furthermore, this thesis concludes that companies adjust their level of conservative reporting to a large shock in litigation risk, but not to a smaller shock in litigation risk. Therefore, a second suggestion for further research is to examine this further by examining different shocks in litigation risk with different magnitudes. This could give useful insights about the response of firms to different levels of shareholder litigation risk.

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Appendix

Table 1

Variable description

Variable	Description
X_i	Earnings per share, measured as net income before extraordinary items (Compustat item IBQ) divided by the number of common shares outstanding (CSHOQ)
P_{it-1}	Price per share at the beginning of the quarter, measured as the closing price at the end of the prior quarter (PRCCQ).
RET_{it}	Quarterly returns compunded from montly returns, derived from CRSP
DR_{it}	Dummy variable which equals 1 if RET<1 and 0 otherwise
$NINTH\_CIRCUIT_{it}$	Dummy variable which equals 1 if a firm is located in the Ninth Circuit, 0 otherwise
$POST_{it}$	Dummy variable which equals 1 after the implementation of court ruling, 0 otherwise
$SEVENTH\_CIRCUIT_{it}$	Dummy variable which equals 1 if a firm is located in the Seventh Circuit, 0 otherwise
ΔNI_{it}	Change in earnings for quarter t over quarter t-1, scaled by price at the end of quarter t-1
ΔNI_{it-1}	Change in earnings for quarter t-1 over quarter t-2, scaled by price at the end of quarter t-2
D_{it}	Dummy variable which equals 1 if $\Delta NI_{it-1}<0$, 0 otherwise

Table 2

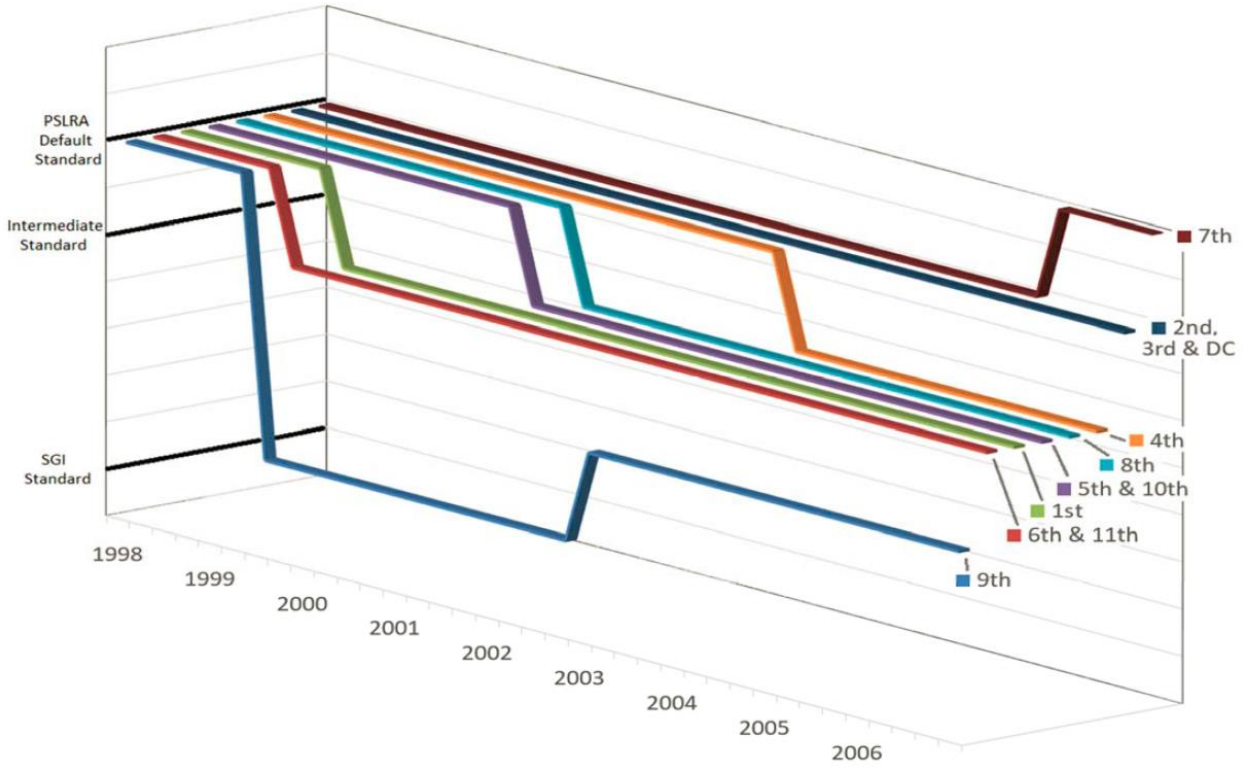
Distribution by Circuit

Circuit	States located in this Circuit
First circuit	Maine, Massachusetts, New Hampshire, Rhode Island and Puerto Rico
Second circuit	New York, Connecticut and Vermont
Third circuit	New Jersey, Pennsylvania and Delaware
Fourth circuit	West Virginia, Maryland, Virginia, North Carolina and South Carolina
Fifth circuit	Texas, Louisiana and Mississippi
Sixth circuit	Michigan, Ohio, Kentucky and Tennessee
Seventh circuit	Wisconsin, Illinois and Indiana
Eight circuit	North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Missouri and Arkansas
Ninth circuit	Montana, Idaho, Washington, Oregon, California, Nevada, Arizona, Alaska and Hawaii
Tenth circuit	Wyoming, Utah, Colorado, Kansas, New Mexico, Oklahoma
Eleventh circuit	Alabama, Georgia and Florida
Twelfth circuit	District of Colombia
Thirteenth circuit	Federal Circuit

Source: http://www.uscourts.gov/sites/default/files/u.s._federal_courts_circuit_map_1.pdf

Figure 1

The effect of Court of Appeal decisions on shareholder litigation risk by Circuit



Source: Cazier, R., Christensen, T., Merkley, K., & Treu, J. (2016). Common Litigation Risk and Non-GAAP Reporting. Working paper

Table 10

The change in conservatism after the 1999 SGI Case for firms within the Ninth Circuit and Control Firms with market-adjusted earnings and market-adjusted returns

Variables	**Coefficient Estimate** *Standard error*	
	Ninth vs. All other Circuits	Ninth vs. Second Circuit
INTERCEPT	**0.01010*** **	**0.00846*** **
	(0.00081)	(0.00236)
DR	**0.00364*** **	**0.00543***
	(0.00114)	(0.00329)
NINTH_CIRCUIT	**-0.00721*** **	**-0.00557***
	(0.00194)	(0.00294)
POST	**0.00526*** **	**0.00505**
	(0.00119)	(0.00351)
NINTH_CIRCUIT × POST	**-0.00653** **	**-0.00633**
	(0.00288)	(0.00439)
DR × NINTH_CIRCUIT	**-0.00309**	**-0.00487**
	(0.00277)	(0.00414)
DR × POST	**-0.00097**	**-0.00115**
	(0.00171)	(0.00525)
DR × NINTH_CIRCUIT × POST	**0.00029**	**0.00048**
	(0.00407)	(0.00642)
RET	**-0.02006*** **	**-0.01166**
	(0.00351)	(0.00934)
RET × NINTH_CIRCUIT	**0.00025**	**-0.00815**
	(0.00732)	(0.01133)
RET × POST	**-0.00093**	**-0.01346**
	(0.00484)	(0.01436)
RET × NINTH_CIRCUIT × POST	**-0.00068**	**0.01185**
	(0.01009)	(0.01687)
RET × DR	**0.09809*** **	**0.07051*** **
	(0.00563)	(0.01508)
RET × DR × NINTH_CIRCUIT	**-0.00201**	**0.02557**
	(0.01211)	(0.01850)
RET × DR × POST	**0.02085*** **	**0.07527*** **
	(0.00785)	(0.02400)
RET × DR × NINTH_CIRCUIT × POST	**-0.03035***	**-0.08477*** **
	(0.01601)	(0.02776)
Observations	59,523	19,031
Adjusted R-squared	0.037	0.031

This table provides results from the Basu (1997) regression of earnings on returns for Ninth Circuit firms versus firms in all Other Circuits and for Ninth Circuit firms versus firms in the Second Circuit after the Court of Appeals decision in the Silicon Graphics Inc. Case on July 2, 1999. This regression is used to measure conservatism, which is captured in coefficient β15. This regression uses market-adjusted earnings and market-adjusted returns. NINTH_CIRCUIT is a dummy variable which is 1 for firms located in the Ninth Circuit, 0 otherwise. POST is a dummy variable which equals 1 for firm-quarter observations from January 1, 2000 through March 31, 2002, and 0 for firm-quarter observations from January 1, 1998 through June 30, 1999. RET is market-adjusted quarterly return, measured by compounding monthly returns from CRSP. DR is a dummy variable which equals 1 if RET<0, 0 otherwise. ***, ** and * reflect the statistical significante of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.

Table 11

The change in conservatism after the 2006 Tellabs Case for firms within the Seventh Circuit and Control firms with market-adjusted earnings and market-adjusted returns

Variables	**Coefficient Estimate** *Standard Error*	
	Seventh vs. All other Circuits	Seventh vs. Second, Third and DC Circuit
INTERCEPT	**0.00463*** **	**0.00505*** **
	(0.00041)	(0.00090)
DR	**0.00076**	**0.00029**
	(0.00058)	(0.00128)
SEVENTH_CIRCUIT	**0.00299** **	**0.00257**
	(0.00146)	(0.00167)
POST	**0.00034**	**0.00019**
	(0.00057)	(0.00126)
SEVENTH_CIRCUIT × POST	**0.00049**	**0.00064**
	(0.00185)	(0.00217)
DR × SEVENTH_CIRCUIT	**0.00054**	**0.00101**
	(0.00201)	(0.00231)
DR × POST	**-0.00100**	**-0.00126**
	(0.00085)	(0.00189)
DR × SEVENTH_CIRCUIT × POST	**0.00031**	**0.00056**
	(0.00266)	(0.00315)
RET	**-0.00878*** **	**-0.01801*** **
	(0.00259)	(0.00661)
RET × SEVENTH_CIRCUIT	**0.01582**	**0.02505** **
	(0.01026)	(0.01193)
RET × POST	**-0.00004**	**0.00430**
	(0.00370)	(0.00898)
RET × SEVENTH_CIRCUIT × POST	**-0.01209**	**-0.01642**
	(0.01332)	(0.01564)
RET × DR	**0.07636*** **	**0.08459*** **
	(0.00391)	(0.00932)
RET × DR × SEVENTH_CIRCUIT	**-0.02667** *	**-0.03526** **
	(0.01482)	(0.01707)
RET × DR × POST	**0.00161**	**-0.00160**
	(0.00587)	(0.01353)
RET × DR × SEVENTH_CIRCUIT × POST	**0.00709**	**0.01031**
	(0.02048)	(0.02384)
Observations	45,631	11,307
Adjusted R-squared	0.049	0.054

This table provides results from the Basu (1997) regression of earnings on returns for Seventh Circuit firms versus firms in all Other Circuits and for Seventh Circuit firms versus firms in the Second, Third and DC Circuit after the Court of Appeals decision in the Tellabs Case in the first quarter of 2006. This regression is used to measure conservatism, which is captured in coefficient β15. This regression uses market-adjusted earnings and market-adjusted returns. SEVENTH_CIRCUIT is a dummy variable which is 1 for firms located in the Seventh Circuit, 0 otherwise. POST is a dummy variable which equals 1 for firm-quarter observations from April 1, 2006 through December 31, 2006, and 0 for firm-quarter observations from January 1, 2004 through December 31, 2005. RET is quarterly return, measured by compounding monthly returns from CRSP. DR is a dummy variable which equals 1 if RET<0, 0 otherwise. ***, ** and * reflect the statistical significance of the coefficients at the 1%, 5% and 10% level, respectively. The variables between brackets represent robust standard errors.