Credit Ratings and Earnings Management in the European Market

Master Thesis

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Abstract

This paper analyses to what extent managers of European firms attempt to improve their credit risk rating through earnings management. A higher credit rating has several benefits for both firms and investors. Managers who successfully improve their credit rating through earnings management see a reduction in their cost of debt. Having a higher credit rating also nullifies restrictions imposed on certain investors from investing in the firm. For this research I follow Ali and Zhang (2008) and use both discretionary accruals and conservatism in reported earnings as a proxy for earnings management. For these proxies the modified Jones model (1991), the Basu model (1997) and the Ball and Shivakumar model (2005) are used. The independent variable, credit rating changes, focuses on both "broad ratings", as well as "micro ratings'. The results show an existence of earnings management for firms near a broad rating downgrade, however, there is no evidence for the existence of earnings management for firms near a broad rating upgrade. The results of this research provide no support for an existence of earnings management for firms near a micro rating change. The effect of the New Credit Rating Agency Regulation is also tested. Results indicate that there is no significant relation between earnings management and credit rating changes in the period after the new regulation, where it was existent in the period before.

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1. Introduction

A credit rating can be defined as a quality assessment of the creditworthiness of a debt issuer or a specific debt obligation (U.S. Securities and Exchange Commission, 2013). They guide investment decisions of investors and reduce the information asymmetry between borrowers and lenders. These ratings are an assessment of the firms creditworthiness by a rating agency, and are published as a rating to divide firms into different groups. Broad credit ratings refer to rating levels without a distinction of minus, middle and plus specification (Ali & Zhang, 2008). For example, if a firm has a rating of either AA-, AA or AA+ it has a broad rating of AA. Firms that are able to change their broad credit rating can achieve several benefits. For example, a change in credit risk could influence the cost of future borrowing, but it can also lead to a significant response in the stock and bond markets. Also a low credit rating could restrict certain investors, like banks and pension funds, from investing in a firm (Kisgen, 2006). Kisgen (2006) also discusses several other benefits (costs) that are associated with an upgrade (downgrade). Prior research confirms the importance of credit ratings by showing that firms take a large amount of interest in their credit rating. For example, Graham and Harvey (2001) present survey evidence that shows that chief financial officers pay strong attention to their firms' credit rating when they make capital structure decisions. Kisgen (2006) goes a little further and finds evidence that firms who are near a broad rating boundary issue less debt than firms elsewhere.

Managers have the opportunity to misuse their managerial discretion in order to increase or decrease the earnings performance of the company over a short term. By doing this they can try to change the perception of credit rating agencies about the credibility of their firm. One of the possibilities that managers have is to inflate or deflate current accruals by shifting income from the future period to the present or by delaying the recognition of expenses. Since investors commonly rely on earnings to value stocks it is a crucial indicator of firm performance. Consequently, managers of a firm have strong incentives to manipulate their earnings to influence investor decisions. Prior literature has examined some cases that show earnings management to be existent around initial public offering (Gounopoulos & Pham, 2017), initial credit ratings (Demirtas & Cornaggia, 2013), new debt issues (Liu, Ning, & Davidson III, 2010) and new bond issues (Ge & Kim, 2014).

Prior research shows that firms attempt to avoid downgrades and try to obtain upgrades (Ali & Zhang, 2008). A change in credit risk rating could influence the cost of future borrowing, but it can also lead to a significant response in the stock and bond markets. If managers can change the perception, of credit risk agencies, about their credit risk they can benefit from this reaction. Based on these findings there is an expected relation between earnings management and credit ratings. This leads to the following research question:

Do managers' of European firms attempt to improve their credit risk rating through earnings management?

Investors, analysts, senior executives and boards of directors consider earnings the single most important item in the financial reports issued by publicly held firms (Degeorge, Patel, & Zeckhauser, 1999), which makes it a prime target for management discretion. Earnings management is used in order to over- or understate earnings by using managerial discretion in the process of matching cash flows to a certain period following financial reporting standards. In this thesis two measures of earnings management are used: discretionary accruals and conservatism in reported earnings. Discretionary accruals are estimated using the Modified Jones model (1991). The other measure is conservatism in reported earnings. Conservatism is measured by the Basu model (1997) and the model of Ball and Shivakumar (2005). Firms that want to change their credit rating by inflating their reported earnings are expected to have larger discretionary accruals and are expected to be less conservative.

The population consists out of European firms with credit ratings from 1996 to 2016 from Moody's, Fitch and S&P. The data for credit ratings is subtracted from Bloomberg, The database Compustat delivers the data for the firm characteristics. The stock prices needed for the market value of equity are subtracted from Datastream.

One of the fundamental differences between US and European firms is that European firms rely far more heavily on debt financing, and specifically on bank lending (Brecht, 2015). De Fiore and Uhlig (2005) find that a higher share of bank finance in the euro area relative to the US is due to lower availability of public information about firms' credit worthiness and to higher efficiency of banks in acquiring this information. A number of financial institutions, such as banks and insurance companies, perform their own rating and thus rely less on credit rating

agencies (Schneinert, 2016). From these statements one could conclude that managers of European firms care less about their credit ratings and the effect of earnings management on credit ratings will be lower in Europe.

This research contributes to multiple streams of literature. First, it relates to the earnings management literature. Healy and Wahlen (1999) define earnings management as managerial judgments and decisions in financial reporting that alter financial reports to either mislead some stakeholders about the underlying economic performance or to influence contractual outcomes. In this research earnings management depends on shifting reporting income and expenses to maintain or improve a firms' own credit rating.

Second, this research relates to the signaling role of credit rating agencies (CRA). CRA provide credit ratings, which are a reflection of a CRAs opinion about the creditworthiness of a firm at a specific date. Frost (2007) states that CRA serve as gatekeepers by providing an independent assessment of the creditworthiness of a borrowing firm by conducting due diligence and reviewing both financial and non-financial sources of information. A credit rating is often used as a signal of overall quality. Some firms desire to signal a certain quality and can use earnings management to obtain a better credit rating that is indicative of that signal. When firms manage their earnings and successfully obtain a higher credit rating this could harm the perceived quality of these credit ratings.

Last, this research relates to the incentives of firms to improve their credit ratings. Demirtas and Cornaggia (2013) find that firms have an incentive to report more aggressively to manage earnings around the time of the credit rating. John et al. (2003) argue that firms use discretionary accruals to inflate earnings in order to obtain a more favorable credit rating and thereby lower their cost of debt. Kisgen (2006) shows that firms with a plus or minus notch rating engage in real activities to preserve or improve their ratings. An alternative to these real activities is earnings smoothing. Managers tend to prefer smooth earnings even if it sacrifices long-term firm value, since more volatile earnings can increase the costs of debt and equity (Graham, Harvey, & Rajgopal, 2005). Another alternative for managers is to directly boost earnings. The research of Jiang (2008) finds that firms who beat earnings benchmarks are more likely to increase the probability of a rating upgrade and could thus reduce their cost of debt.

In order to answer the research question, multiple hypotheses are tested. First, firms are expected to report greater discretionary accruals when they are near a credit rating upgrade (downgrade), where discretionary accruals is used as a proxy for earnings management. Second, firms are expected to inflate their earnings by reporting less conservative when they are near a credit rating change. Third, the effect of earnings management to influence credit ratings is expected to be equal for broad ratings and micro ratings. Last, the effect of earnings management to influence credit ratings is expected to be smaller after the new Credit Rating Agency Regulation, which was adopted in December 2010 to induce additional transparency rules.

The remainder of this paper is organized as follows. In section 2 the relevant prior literature is discussed. Section 3 describes the research question and develops the hypotheses. Section 4 describes the manner in which the main variables are constructed and from where the data is obtained. Section 5 describes the results and section 6 concludes.

2. Literature review

In this section the existing literature is reviewed. The starting point is credit ratings. Secondly, the determinants of credit ratings will be highlighted. Third, the incentives of firms to improve their credit ratings will be examined. Then the critique on credit ratings will be discussed. Last, earnings management will be discussed.

2.1 Credit ratings

A credit rating can be defined as a quality assessment of the creditworthiness of a debt issuer or a specific debt obligation (U.S. Securities and Exchange Commission, 2013). These ratings are published by a credit rating agency whose sole purpose is to assess and publish the creditworthiness and solvency of firms in order to reduce the asymmetry of information between borrowers and lenders. The ratings are assessed by reviewing the business risk, the risk of the company and the firm's financial risk. Credit rating agencies try to guarantee a stable signal of credit quality in the long run (Langohr & Langohr, 2010). Once assessed, the creditworthiness of a firm is published in a rating which consists of a set of letters and divides firms into different groups. Firms who receive a relatively high level of creditworthiness are considered as "investment grade", which refers to bonds and other debt securities that bank regulators and market participants view as a suitable investment for financial institutions (Standard & Poor's Ratings Services, 2014). In contrast, the term "non-investment-grade", or "speculative grade", refers to debt securities where the issuer has the ability to repay but has significant uncertainties. Being in a lower credit rating category is indicative of a higher risk that debt issuer cannot honour its current and future obligations (Schneinert, 2016). The financial product who receive the lowest credit rating are usually marked as 'junk'. In addition, credit ratings often have an indicator of future performance in the form of a '+' or '-', which is indicative of a future rate change in the short or medium term.

The credit ratings are based on past performance and are adjusted throughout the years. Rating agencies watch how the markets treat the financial products of a given firm and perform an in-depth research to formulate their ratings. In their research, the rating agencies analyse different sorts of information and interact directly with management by meetings or facility tours, where they are sometimes accompanied by a rating adviser who is often from an

investment bank (Langohr & Langohr, 2010). Especially for an initial rating this process can be quite extensive, time-consuming and laborious (Langohr & Langohr, 2010). Firms can also apply for a credit rating, for example, before a debt issue. The debt issuer then discusses the rating process and the informational requirements with the credit rating agency.

Credit rating agencies serve as a gatekeeper by providing an independent assessment of the creditworthiness by conducting due diligence and by reviewing both financial and non-financial sources of information (Frost, 2007). The agencies function primarily to certify the values of economic entities that approach them (Millon & Thakor, 1985). By certifying the values of these economic entities they create value for firms and investors. Therefore, they publish the ratings twice a year, but they can also publish them at short notice when there, for example, is a sudden decline of market confidence for a given financial product, or if the creditworthiness of the rated agency is suddenly put into question (Schneinert, 2016)

Giving a specific credit rating has consequences for both firms and investors. Credit rating agencies therefore refer to their own rating as an opinion in order to reduce the extent to which they can be held accountable for decisions based on their rating (Schneinert, 2016). One of the consequences for firms is an increase or decrease in their cost of debt. Firms with the same credit rating should have the same cost of debt. When a firms credit rating is downgraded (upgraded) the cost of debt of that firm will increase (decrease), since the firm's riskiness will increase (decrease) and this will be signalled to investors. Thus, in the case of flexible interest rates, a credit rating downgrade is a direct cost for companies when they issue more debt. Other consequences of a firm's rating are, as suggested by Kisgen (2006), that it also affects a firm's operations, access to other financial market, disclosure requirements for bonds and bond covenants. These consequences can contain ratings triggers where a ratings change can have the effect of changes in coupon rates or might result in a forced repurchase of the bond. Kisgen (2006) also suggests that credit ratings have a direct effect on capital structure decisions of managers. These decisions are affected by the potential for both an upgrade as well as a downgrade.

Investors sometimes try to use some other market statistic to judge the quality of prospective purchases. In practice, it is difficult to distinguish good quality from bad quality. This difficulty is inherent in the business world and may be one of the more important aspects of

uncertainty. The lemons model of Akerlof (1970) can be extended to make comments on the incentives of managers to manipulate their earnings, and hence the accounting quality of the firm. In the market issuing debt is in practice seen as a better signal than issuing equity (Myers & Mailuf, 1984). However, recent research has shown that debt financing does not longer dominate equity financing in magnitude (Frank & Goyal, 2003). Over the years those signals of quality vary. Contrary are credit ratings that send a clear, constant signal to the market and is thus a more stable and reliable measure for both investors and firms in order to mitigate the information asymmetry.

2.1.1 Determinants of credit ratings

Ratings can be assigned to issuers, such as corporations, governments and specific debt issues, such as bonds, notes, and other debt securities. Rating agencies typically begin with an assessment of the creditworthiness of the issuer before they assess the quality of a specific debt issue. Standard & Poor's, as one of the big three credit rating agencies, states that it reviews a broad range of financial and business attributes that may influence the issuer's prompt repayment (Standard & Poor's Ratings Services, 2014).

The most important information that credit rating agencies use in their assessment is public information which can be retrieved from the financial statements. This information includes financial ratio's such as the coverage ratio, profitability ratio and leverage (Ashbaugh-Skaife, Collins, & LaFond, 2006). Next to public information, the rating agencies also use non-public information. In order to use this information the rating agencies are excluded from rules that prohibit selectively revealing materially valuable information (Securities and Exchange Commission, 2000). This exemption allows them to interact with the company's management in order to gather private information about the creditworthiness of that company.

The specific factors that are analyzed depend on the type of issuer. For corporate issuers the rating process could be to consider financial and non-financial factors, such as key performance indicators, influences from an economic, regulatory or geopolitical nature and management and corporate governance attributes (Standard & Poor's Ratings Services, 2014). Other factors that are also taken in consideration are the access to liquidity and the loss severity for different sectors (Moody's Investors Service, 2016).

One of the most important, publicly available factors which comes back in several rating agencies variables are cash flow from operations (CFO), since it greatly influences credit ratings. CFO is considered as a key indicator of cash generation and is a great determinant of the ability of the company to pay back its debt. It is positively associated with credit ratings, which means that a higher CFO is indicative of a higher credit rating. Another important factor is the firm's leverage, which is used as a proxy for the firm's default risk. Prior literature shows that firms that have received a downgrade are more likely to reduce debt and less likely to issue debt (Kisgen, 2009). This shows that a firm's financial leverage is negatively associated with their credit rating. Other firm specific characteristics that are mentioned are capital structure, financial policy, liquidity, management/governance and comparable rating analysis (Standard & Poor's Ratings Services, 2014).

On the one hand, rating agencies thus use quantitative data in the rating process and in addition they cover several qualitative variables. On the other hand, they base their expectations on projected economic developments (Afonso, Gomes, & Rother, 2011).While it is clear that credit rating agencies rely on accounting information and that they are important users of a firm's financial statements, it is of great importance to rating agencies that a firms financial report provides a high quality of information about the firm. Recent studies find two measures of transparency, namely the quality of accruals and the timeliness of earnings, which are both positively related to credit ratings (Ashbaugh-Skaife, Collins, & LaFond, 2006).

2.1.2 Incentives of firms to improve their credit rating

Prior research shows that management have a lot to gain based on which credit rating they obtain. Since credit ratings can have a significant implication for firms and a credit rating assessment is based partially upon publicly available financial information, it becomes a target for improvement. Because of the importance of these ratings, managers have an incentive to improve or maintain their credit rating by influencing the rating agencies perception of the firm and could even take potentially costly actions in order to achieve this. For example, a firm's cost of borrowing is based on their credit rating and having a specific rating has an immediate impact on stock and bond valuations (Jung, Soderstrom, & Yang, 2013). Besides the firm-specific effects, one of the key mechanisms of credit ratings is that they bridge the information

asymmetry between firms and investors. It gives investors more information to base their investing decision on and it gives firms better access to debt markets.

The survey evidence of Graham and Harvey (2001) confirm these incentives. They find that chief financial officers pay strong attention to their credit rating when making capital structure decisions. The rating that is assigned also contains important information about a bond issue and its subsequent yield, therefore it is important for a manager to maintain an investment grade, since a downgrade can be very costly. This cost incentive becomes more important when firms have a plus or minus notch rating.

Having a plus or minus notch rating increases the incentives of managers to improve their credit rating, since at that point it becomes easier to obtain an upgrade and there is a greater incentive to avoid a downgrade. Prior research confirms this view by showing that firms near a rating upgrade or downgrade are more likely to engage in earnings management compared to firms who are not near an upgrade or downgrade (Ali & Zhang, 2008) (Jung, Soderstrom, & Yang, 2013). Alissa et al. (2013) also provide evidence that firms use income-increasing (-decreasing) earnings management activities to move toward their expected ratings. Their target is often a specific minimum credit rating level at which regulations do not restrict investments in a firm's bonds and at which access to the commercial paper market is still possible (Kisgen, 2006).

Taking all these studies together shows that firms do focus on their credit ratings and show that these ratings hold meaning for managers.

2.1.3 Critique on credit rating agencies

After the financial crisis a lot of critique emerged on the role of credit rating agencies and their rating process and how this process influenced the financial crisis. While some state that the agencies did not anticipate the financial crisis, Mullard (2012) questions the mathematical models of the rating agencies and states that the weakness of rating agencies became apparent due to the Financial Crisis of 2007.

Grene (2014) argues about the main criticisms of credit rating agencies. She names the issuer-pays model, which was criticised intensively during the crisis, where issuers themselves

must pay the credit rating agencies to rate their securities. This model leads to potential conflicts of interests, since rating agencies under this model are sensitive to the needs of their paying client who wants the highest rating possible to make their securities more appealing to investors. The rating agencies might give a too favourable rating in order to foster a business relationship. The needs of the investor to receive reliable ratings information, however, does not align with the goals of the rating agency and the needs of the issuer. Another critique mentioned in the article is that it creates significant distortions of capital allocation when the ratings are incorrect (Grene, 2014). Credit rating agencies overruled signals from Eurozone countries at the time of the EU debt crisis, which led to huge amounts of capital being withdrawn when the downgrades did come (Grene, 2014).

In a response the EU created an extensive new rating agency regime in 2009. This led to a substantive revision, which subjects credit rating agencies to additional transparency rules, and institutional revisions with respect to the supervisory role of the European Securities and Markets Authority (ESMA) (Moloney, 2011). Through this reform there will be an increase in the supervision on credit rating agencies by giving the ESMA more responsibilities, for example better registration and supervision of credit rating agencies, day-to-day supervision and taking appropriate supervisory measures when they discover a broach of the regulation .

After all the critique on credit rating agencies some investors try to come up with their own risk assessment. However, it is increasingly difficult for investors to engage in their own risk assessments in a world of increasing complexity and opacity (Lynch, 2009). Even if they succeed in assessing a firms risk by themselves it would be inefficient to do so. Credit rating agencies will thus continue to be a prominent source of information about a firms creditworthiness.

2.2 Earnings management

Earnings management includes efforts to achieve a forecasted result or smooth earnings over accounting periods. This can be done in both a legitimate and less than legitimate way. For example by postponing a transaction until a later period, or by accelerating expenses when earnings are high and vice versa. Following Healy and Wahlen (1999), earnings management is defined as follows:

"Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers."

2.2.1 Incentives for earnings management

Managers have several reasons to use judgment when they make decisions regarding the accounting practices and the reporting of financial information of the company they manage. The decisions could be either in the interest of the owners of the company and other users or in their self-interest. Managers are, for example, more inclined to engage in earnings management when their compensation is aligned with the companies' financial performance. In that case it is in their interest to give the appearance of better performance through earnings management in order to receive a higher compensation (Xie, Davidson III, & DaDalt, 2003). The combination of management's discretion over reported earnings and the effect on their compensation leads to a potential agency problem.

Earnings management can also be used in the interest of the owners of the company and other users. For example when it is used as a tool to improve the value relevance of earnings. Shareholders will gain when earnings management is used to signal managers' private information, which leads to a better view of firm performance (Healy & Palepu, 1995). Earnings management also enables firms to do business on better terms with their stakeholders, which results in benefits for other stakeholders (Loy, 2016).

However, using earnings management as a signalling effect could also harm investors when management uses it to signal them false information (Xie, Davidson III, & DaDalt, 2003). Investors use this financial information to decide whether to buy, sell, or hold securities. In the case where this information is incorrect investors are not able to correctly value the firm. Earnings management thus obscures the real performance, reduces the ability of shareholders to make an informed decision and allows the firm to operate on better terms than it deserves (Millstein, 2005). In this setting earnings management can be seen as an agency cost.

Managers also engage in earnings management in an attempt to influence capital market participants, for example, prior to seasoned equity offerings [(Teoh, Welch, & Wong, 1998a)

(Rangan, 1998)] They inflate their earnings to mislead investors in their expectation about the future firm performance. This also occurs prior to an initial public equity offering, however, research has shown that this results in poor stock return performance for the three subsequent years (Teoh, Welch, & Wong, 1998a). For firms that rely on debt financing it may not be beneficial to engage in earnings management since the lower borrowing costs from higher earnings quality is often surpassed by the costs of violating covenants (Ghosh & Moon, 2010).

Graham et al. (2005) provide survey evidence from around 400 financial executives to determine all key factors that drive those executives in their decision related to reported earnings and voluntary disclosure. By examining these factors they try to give more insight on management incentives for earnings management. From the survey they conclude that managers generally want to meet or beat earnings benchmarks to build credibility with the capital market, maintain or increase the stock price, improve the external reputation of the firm and signal future growth prospects. Some managers even admitted that they would give up positive NPV projects or would take economic actions such as delaying maintenance or advertising expenditures to meet earnings benchmarks. Most CFO's in the survey said that they prefer a smooth earnings path instead of a volatile one, since it is perceived as less risky by investors and it improves the predictability of future earnings. Degeorge et al. (1999) examined the effects of benchmarks on earnings management and find a similar result as Graham et al. (2005). They find that efforts to exceed thresholds induce patterns of earnings management, driven by three thresholds: (1) report positive profits, (2) sustain recent performance and (3) meet analysts' expectations. Earnings will be managed upwards when they fall short of these thresholds.

Engaging in earnings management is often perceived as a credit risk increasing activity which is harmful to all parts, except to managers who benefit from it [(Healy & Palepu, 1995) (Teoh, Welch, & Wong, 1998a)]. However, others argue that earnings management does not harm firm value, on average can be beneficial and suggest that it is not done due to opportunistic reasons (Jiraporn, Yoon, & Kim, 2008). Prior research also suggests that managers are not explicitly motivated to manage earnings, but states that there are thresholds that help derive earnings management (Degeorge, Patel, & Zeckhauser, 1999). Others even state that earnings management may actually be the rational response of issuers to anticipated market behaviour at offering announcements (Shivakumar, 2000).

2.2.2 Real- and accrual-based earnings management

Having defined the concept of earnings management and shed some light on the incentives of earnings management, two types of earnings management are discussed in this paragraph. The first is real earnings management where the consequences can be seen in the current and future cash flow of the company. The last is concerned with the manipulation of accruals which have no direct effect on the cash flow.

Roychowdhury (2006) defines real earnings management as "managements actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds". He uses three different measures for real earnings management: (1) sales manipulation where the timing of sales is accelerated and/or additional unsustainable sales are generated through increased price discounts or more lenient credit terms. This will lead to increased earnings in the current period, but will lower the sales margins in the future. (2) reduction of discretionary expenses which results in lower cash outflows and has a positive effect on abnormal cash flows from operations. (3) overproduction, or increasing production to report a lower cost of goods sold. On the one hand overproduction leads to a decrease in the fixed cost per unit. On the other hand it imposes greater inventory holding costs, which results in lower cash flow from operations at the same sales level.

Second, there is management discretion in using accruals. Ge and Kim (2014) refer to accrual-based earnings management as exercising discretion over accrual choices to reach a desired level of earnings. Accruals arise when there is a difference between the timing of cash flows and the timing of the recognition of transaction on the income statement. Managers have a great amount of influence over the timing of actual expense items, which gives them the opportunity to have a great deal of discretion in determining the actual earnings a firm reports in a certain period by using accrual accounting. They can, to a certain extent, alter the timing of recognition of revenues and expenses by, for example, delaying the recognition of losses or by advancing the recognition of revenues (Teoh, Welch, & Wong, 1998b).

The use of accrual accounting does not mean that earnings management necessarily takes place. There are also some benefits from engaging in accrual accounting. For example, it can provide a smoother picture of the financial performance and it enables investors to better

estimate future earnings potential. Besides the benefits there are some drawbacks as well. Accruals are meant to reduce timing and mismatching problems (Dechow, 1994). However, accruals also give rise to managerial opportunism through earnings management, since it requires managerial judgment, which can influence the reported earnings.

Dechow et al. (1995) test multiple models that detect earnings management. The models they test are the Healy model, the DeAngelo model, the Jones model, the modified Jones model and the Industry model. In all models discretionary accruals are used as a proxy for earnings management. In order to measure discretionary accruals, the estimated non-discretionary accruals are subtracted from total accruals. Dechow et al. (1995) find that the modified Jones model provides the most powerful test of earnings management. It not only controls for changes in receivables in the event period, but also assumes that all changes in credit sales result from earnings management, since it is easier to exercise discretion over credit sales than over cash sales (Dechow, Sloan, & Sweeney, 1995). In addition to the modified Jones model, Kothari et al. (2005) added Return on Assets (ROA) to the equation, since it controls for the effects of performance.

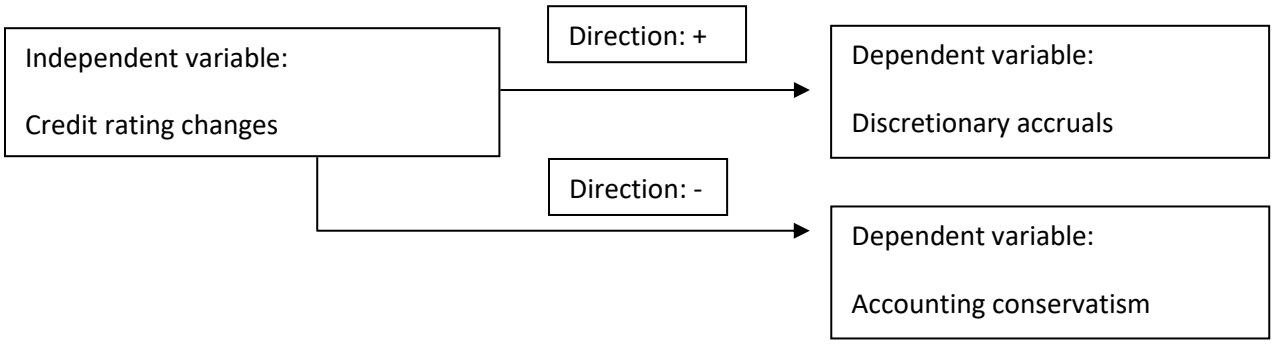
3. Research question and hypothesis development

In this chapter the research question is stated and the conceptual framework is drawn. Secondly the hypothesis are formulated.

3.1 Conceptual framework

In this study the research question is: Do managers' of European firms attempt to improve their credit risk rating through earnings management?

This is graphically illustrated in the following figure:



The graphical illustration is also presented in Libby Boxes in appendix 1. Based on the research question and the literature review, the testable research hypotheses are formed in the following section.

3.2 Hypothesis

Prior research shows that firms have significant interest in their credit ratings, for example by showing that managers take it into account when making capital allocation decisions (Graham & Harvey, 2001). Prior literature also shows that firms take action to avoid downgrades or take actions to regain their credit rating once they have been downgraded (Kisgen, 2009). Ali and Zhang (2008) find that US firms who are near a rating upgrade (downgrade) are more likely to inflate their earnings as compared to firms that are not near a rating upgrade (downgrade). This research focuses on whether managers from European firms manage their earnings to achieve a different credit rating. The effect of earnings management should be more visible when firms are

more likely to manage their earnings and are thus near a rating upgrade (downgrade), which leads to the following hypothesis:

H1: Firms being near a credit rating upgrade (downgrade) are more likely to engage in earnings management by reporting greater discretionary accruals

Another way in which a firm can inflate their reported earnings is by reporting less conservative. Conservatism is defined as "anticipate no profit, but anticipate all losses" (Bliss, 1924) and "the accountant's tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses" (Basu, 1997). It is considered as recognizing losses as soon as they are anticipated and recognize gains only when they are realized. Firms can utilize this and inflate their reported earnings, by not recognizing economic losses in a timely manner. This leads to the following hypothesis:

H2: Firms being near a credit rating upgrade (downgrade) inflate earnings by reporting less conservative

In this research I make a distinction between "Broad ratings" and "Micro ratings". Where a broad rating change means an upgrade from, for example, BBB+ to an A rating or higher, and a downgrade is from BBB- to BB+ or lower. However, a strong BBB- firm might not be near an downgrade and a weak BBB+ firm might not be near an upgrade. Looking only at broad ratings also implicitly assumes that managers care only about a change from one broad rating to another and care less about a change within a broad rating. As in Kisgen (2006), I assume that firms might be concerned with a change in rating of any kind.

H3: The effect of earnings management to influence credit ratings is equal for broad ratings and micro ratings

After the financial crisis of 2007 a lot of critique emerged about the role of credit rating agencies. Some argued that they did not anticipate the financial crisis, while others questioned the mathematical models of the agencies. During the Eurozone crisis those credit agencies also overruled signals from the Eurozone countries, which contributed to the depth of the recession (Grene, 2014). This led to a loss in the credibility of credit ratings in general. The EU as a response to the failure of credit rating agencies adopted a new Credit Rating Agency Regulation,

which induced additional transparency rules, in December 2010. Based on the critique of credit rating agencies, I expect that managers put less emphasis on their credit rating after the financial crisis. This, in combination with the new credit rating agency regulation, leads to the following hypothesis:

H4: The effect of earnings management to influence credit ratings is smaller after the new Credit Rating Agency Regulation

4. Methodology

In this section the data and the data sources are discussed. Secondly the variables are defined. Subsequently, the statistical tests are described and the econometric model is presented.

4.1 Data

The primary source of data collection are credit rating changes provided by Bloomberg. The firm-specific information, which completes the financial data with balance-, income- and cash flow statement items, is collected from Compustat, since the Bloomberg database does not provide that information. Firm data needed to measure the market value of equity is obtained from Datastream. The sample consists of 599 firms over the period 1996-2016 in eighteen different countries, namely Belgium, Switzerland, Germany, Denmark, Spain, Finland, France, Great-Britain, Greece, Italy, Luxemburg, Netherlands, Norway, Portugal, Romania, Russia, Slovenia and Sweden.

4.2 Measuring Credit Ratings

The credit ratings that are used are long-term issue ratings obtained from Bloomberg. Moody's, Standard & Poor's and Fitch credit ratings are utilized in this study because, according to Darbellay and Partnoy (2012), these rating agencies are the three leading rating agencies which are responsible for 98 percent of all outstanding ratings and earn 90 percent of the total rating revenue. Using all three rating agencies increases the probability that the largest part of the market will be captured.

This research will look at credit rating upgrades and downgrades. In order to facilitate empirical analysis a dummy variable is created which equals one if the rating has a plus or minus notch rating and a dummy where the credit rating has either a plus or minus notch rating. These dummies focus both on "broad ratings", as well as "micro ratings". Broad ratings are ratings levels that include the minus, middle, and plus specification for a rating. For example, when a firm has a broad rating of AA, it refers to the rating levels of AA-, AA, and AA+. When a firm has either a "+" or "-" signal it can be considered as being near a broad rating change. However, it is possible that firms with an AA- rating are strong enough to not be near a broad rating downgrade. Likewise, it is possible that an AA+ rating is too weak to be near an upgrade. For

these instances micro ratings come into place. These ratings are specific ratings that include a plus or minus modification. So a micro rating of AA refers only to firms with an AA rating and shows whether those firms are able to obtain an AA+ or an AA- rating.

Table 1 reports the distribution of the credit ratings in the sample. Each rating is assigned to a value to increase the comparability between the three credit rating agencies, where 1 is the score for a 'AAA' rating and a lower number means a lower credit rating. A value of zero is assigned when a rating is not available, not rated or has been withdrawn. The distribution of the values can be found in appendix 2. The distribution is similar as in Ali and Zhang (2008). There are few extreme high and extreme low rating categories (values of one till 4 or 17 and below). The sample differs between models because of the different data requirements.

Table 1: Sample Distribution by Credit Rating Categories as in Appendice 1

	All Firms	0	1	2	3	4
Number of Credit Ratings Excluding Large Debt Offerings	8512	1248	62	131	253	517
Number of Credit Ratings Excluding Large Debt and Equity Offerings	8430	1221	62	131	249	515
		5	6	7	8	9
Number of Credit Ratings Excluding Large Debt Offerings		598	779	963	957	729
Number of Credit Ratings Excluding Large Debt and Equity Offerings		598	776	956	948	727
		10	11	12	13	14
Number of Credit Ratings Excluding Large Debt Offerings		605	324	294	277	263
Number of Credit Ratings Excluding Large Debt and Equity Offerings		601	323	293	273	255
		15	16	17 or Higher		
Number of Credit Ratings Excluding Large Debt Offerings		183	139	190		
Number of Credit Ratings Excluding Large Debt and Equity Offerings		177	135	190		

4.3 Measuring Earnings Management

This section displays the methodology that is used to measure earnings management. The first measurement that is considered as a measure of earnings inflation is discretionary accruals. For this, the modified-Jones model (Jones, 1991) will be used, which is also implemented by Alissa et al. (Alissa, Bonsall, Koharki, & Penn, 2013). It relies on estimating non-discretionary accruals (NDA) of a company which they gain from running the business and are thus independent of managerial control (Teoh, Welch, & Wong, 1998b).This model describes the expected level of accruals given firm fundamentals. First total accruals (TA) are measured as following:

$$TA_{it} = \alpha_0 + \alpha_1\left(\frac{1}{Assets_{it-1}}\right) + \alpha_2(\Delta REV - \Delta REC)_{it} + \alpha_3 PPE_{it} + \epsilon_{it} \qquad \textbf{Eq. 1a}$$

Discretionary accruals (DA) are used as a proxy to determine the extent of earnings management. These accruals are obtained by subtracting the non-discretionary accruals form total accruals. Non-discretionary accruals are estimated during the event period as:

$$NDA_{it} = \alpha_1(\frac{1}{Assets_{it-1}}) + \alpha_2(\Delta REV - \Delta REC)_{it} + \alpha_3 PPE_{it} \quad \textbf{Eq. 1b}$$

Where $Assets_{it-1}$ are the total assets of firm i at t-1. ΔREV_{it} is the change in revenues of firm i in year t, measured as revenues in year t minus revenues in year t-1 scaled by total assets at t-1. ΔREC_{it} is the change in receivables, measured as net receivables of firm i in year t minus net receivables in year t-1 scaled by total assets at t-1. PPE_{it} is property, plant and equipment of firm i in year t scaled by total assets at t-1. $\alpha_1, \alpha_2, \alpha_3$ are firm-specific parameters estimated in the modified-Jones model. Discretionary accruals can then be measured as follows:

$$DA_{it} = TA_{it} - NDA_{it} \quad \textbf{Eq. 1c}$$

4.4 Measuring accounting conservatism

Accounting conservatism, as explained by Basu (1997), is the tendency to require a higher degree of verification to recognize good news as a gain than to recognize bad news as a loss. This measure of conservatism captures the differential timeliness in the recognition of economic gains and losses in reported earnings (Ali & Zhang, 2008). When firms have more incentive to inflate their earnings it is expected that they are less willing to recognizing economic losses in a timely manner. Because of this the reported earnings likely exhibit less differential timeliness in the recognition of economic gains and losses. The model of Basu (1997) is as follows:

$$X_i = \beta_1 + \beta_2 D_i + \beta_3 R_i + \beta_4 D_i R_i + \epsilon_i \quad \textbf{Eq. 2}$$

Where X are a firm's earnings, R is returns and D is a dummy variable that is 1 if the returns are negative, and 0 otherwise. ϵ is the residual error. β_4 is the coefficient that shows whether a company is conservative. When a company is more conservative this coefficient is higher. This also shows that earnings are more sensitive for bad news than for good news.

The model of Ball and Shivakumar (2005) will also be used to estimate conservatism. This model argues that the differential timeliness of recognition of economic gains and losses

imply that there is a negative correlation between current and future changes in net income. This effect is expected to be greater for firms with a negative change in earnings compared to firms with a positive change.

4.5 Statistical tests

To examine if the discretionary accruals are greater when firms are near a credit rating upgrade or downgrade, the method of Ali and Zhang (2008) is used and the following models are estimated:

$$DA_{it} = \alpha_0 + \beta_1 CR\_POM_{it} + \alpha_1 LNSIZE_{it} + \alpha_2 MTB_{it} + \alpha_3 LIT_{it} + \alpha_4 LEV_{it} + \alpha_5 ROA_{it} + \alpha_6 LOSS_{it} + \alpha_7 MA_{it} + \alpha_8 LTACC_{it} + \alpha_9 CFO_{it} + \alpha_{10} FIN_{it} + year\ indicators \quad \textbf{Eq. 3a}$$

$$DA_{it} = \alpha_0 + \gamma_1 CR\_PLUS_{it} + \gamma_2 CR\_MINUS_{it} + \alpha_1 LNSIZE_{it} + \alpha_2 MTB_{it} + \alpha_3 LIT_{it} + \alpha_4 LEV_{it} + \alpha_5 ROA_{it} + \alpha_6 LOSS_{it} + \alpha_7 MA_{it} + \alpha_8 LTACC_{it} + \alpha_9 CFO_{it} + \alpha_{10} FIN_{it} + year\ indicators \quad \textbf{Eq. 3b}$$

CR_POM is an indicator variable that equals one if a firm has either a plus or minus specification in its rating and zero otherwise. CR_PLUS and CR_MINUS are also indicator variables that equal one if a firm has a plus or minus rating, respectively, and zero otherwise. $LNSIZE_{it}$ is the log of the market value of equity of firm i in year t. MTB_{it} is calculated as the market value of equity divided by its book value at the end of year t. LIT_{it} is a dummy variable that equals one if a firm operates in a high-litigation industry (SIC-codes of 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370). LEV_{it} is measured as total debt divided by total assets at the end of year t. ROA_{it} is earnings before extraordinary items divided by total assets. $LOSS_{it}$ is another indicator variable that equals one if the firm reports a net loss, and zero otherwise. MA_{it} is an indicator variable that equals one if the firm engaged in a merger and acquisition, and zero otherwise. $LTACC_{it}$ is measured as last year's total accruals scaled by the beginning of year's total assets. CFO_{it} is a variable that shows the cash flow from operations scaled by the beginning of year total assets. FIN_{it} is an indicator variable that equals one if MA_{it} equals zero and number of outstanding shares increased by at least 10%, or long-term debt increased by at least 20%. Contrary to Ali and Zhang (2008) $INST_{it}$ is not used, due to a lack of data from the databases used in this research.

In order to measure conservatism in reported earnings the method of Ali and Zhang (2008), which implements the Basu model (1997), will be used. This method allows conservatism in reported earnings to vary by whether firms are near a rating change and also allows earnings to vary with firm characteristics. Like Ali and Zhang (2008), I focus on the market-to-book ratio, leverage, firm size and litigation risk, since prior research has shown that conservatism in reported earnings varies most with these variables. This leads to the following regressions:

$$NI_{it} = \alpha_0 + \alpha_1 D_{it} + \alpha_2 RET_{it} + \alpha_3 RET_{it} D_{it} + \beta_1 CR\_POM_{it} + \beta_2 CR\_POM_{it} D_{it} + \beta_3 CR\_POM_{it} RET_{it} + \beta_4 CR\_POM_{it} RET_{it} D_{it} + \alpha_4 MTB_{it} + \alpha_5 MTB_{it} D_{it} + \alpha_6 MTB_{it} RET_{it} + \alpha_7 MTB_{it} RET_{it} D_{it} + \alpha_8 LEV_{it} + \alpha_9 LEV_{it} D_{it} + \alpha_{10} LEV_{it} RET_{it} + \alpha_{11} LEV_{it} RET_{it} D_{it} + \alpha_{12} LNSIZE_{it} + \alpha_{13} LNSIZE_{it} D_{it} + \alpha_{14} LNSIZE_{it} RET_{it} + \alpha_{15} LNSIZE_{it} RET_{it} D_{it} + \alpha_{16} LIT_{it} + \alpha_{17} LIT_{it} D_{it} + \alpha_{18} LIT_{it} RET_{it} + \alpha_{19} LIT_{it} RET_{it} D_{it}$$ **Eq. 4a**

$$NI_{it} = \alpha_0 + \alpha_1 D_{it} + \alpha_2 RET_{it} + \alpha_3 RET_{it} D_{it} + \gamma_1 CR\_PLUS_{it} + \gamma_2 CR\_PLUS_{it} D_{it} + \gamma_3 CR\_PLUS_{it} RET_{it} + \gamma_4 CR\_PLUS_{it} RET_{it} D_{it} + \gamma_5 CR\_MINUS_{it} + \gamma_6 CR\_MINUS_{it} D_{it} + \gamma_7 CR\_MINUS_{it} RET_{it} + \gamma_8 CR\_MINUS_{it} RET_{it} D_{it} + \alpha_4 MTB_{it} + \alpha_5 MTB_{it} D_{it} + \alpha_6 MTB_{it} RET_{it} + \alpha_7 MTB_{it} RET_{it} D_{it} + \alpha_8 LEV_{it} + \alpha_9 LEV_{it} D_{it} + \alpha_{10} LEV_{it} RET_{it} + \alpha_{11} LEV_{it} RET_{it} D_{it} + \alpha_{12} LNSIZE_{it} + \alpha_{13} LNSIZE_{it} D_{it} + \alpha_{14} LNSIZE_{it} RET_{it} + \alpha_{15} LNSIZE_{it} RET_{it} D_{it} + \alpha_{16} LIT_{it} + \alpha_{17} LIT_{it} D_{it} + \alpha_{18} LIT_{it} RET_{it} + \alpha_{19} LIT_{it} RET_{it} D_{it}$$ **Eq. 4b**

Where NI_{it} is year t net income before extraordinary items scaled by the beginning of fiscal year t market value of equity. RET_{it} is a firm's annual return in year t and D_{it} is a indicator variable that equals 1 if a firm's annual return is negative and 0 otherwise. All other variables are as defined earlier.

Next to the basu model, the model of Ball and Shivakumar (2005) is also estimated. They suggest the following model, which is modified like in Ali and Zhang (2008) to allow conservatism in reported earnings to differ across firms that are near a rating change compared to firms that are not near a rating change.

$$\Delta NI_{it+1} =$$
$$\alpha_0 + \alpha_1 D\Delta NI_{it} + \alpha_2 \Delta NI_{it} + \alpha_3 D\Delta NI_{it}\Delta NI_{it} + \beta_1 CR\_POM_{it} + \beta_2 CR\_POM_{it} D\Delta NI_{it} +$$
$$\beta_3 CR\_POM_{it}\Delta NI_{it} + \beta_4 CR\_POM_{it} D\Delta NI_{it}\Delta NI_{it} + \alpha_4 SIZE_{it} + \alpha_5 SIZE_{it} D\Delta NI_{it} +$$
$$\alpha_6 SIZE_{it}\Delta NI_{it} + \alpha_7 SIZE_{it} D\Delta NI_{it}\Delta NI_{it} + \epsilon_{it} \quad \textbf{Eq. 5a}$$

$$\Delta NI_{it+1} =$$
$$\alpha_0 + \alpha_1 D\Delta NI_{it} + \alpha_2 \Delta NI_{it} + \alpha_3 D\Delta NI_{it}\Delta NI_{it} + \gamma_1 CR\_PLUS_{it} + \gamma_2 CR\_PLUS_{it} D\Delta NI_{it} +$$
$$\gamma_3 CR\_PLUS_{it}\Delta NI_{it} + \gamma_4 CR\_PLUS_{it} D\Delta NI_{it}\Delta NI_{it} + \gamma_5 CR\_MINUS_{it} + \gamma_6 CR\_MINUS_{it} D\Delta NI_{it} +$$
$$\gamma_7 CR\_MINUS_{it}\Delta NI_{it} + \gamma_8 CR\_MINUS_{it} D\Delta NI_{it}\Delta NI_{it} + \alpha_4 SIZE_{it} + \alpha_5 SIZE_{it} D\Delta NI_{it} +$$
$$\alpha_6 SIZE_{it}\Delta NI_{it} + \alpha_7 SIZE_{it} D\Delta NI_{it}\Delta NI_{it} + \epsilon_{it} \quad \textbf{Eq. 5b}$$

Where, ΔNI_{it} is the change in net income before extraordinary items from year t-1 to year t scaled by total assets at the beginning of the year. $D\Delta NI_{it}$ is an indicator variable that equals one if ΔNI_{it} is negative and zero otherwise. $SIZE_{it}$ is the rank of total assets at the end of year t standardized to vary between zero and one.

As in Kisgen (2006) and Ali and Zhang (2008), firms with large debt offerings or large equity offerings are excluded from the sample firm, because these can affect credit ratings, where large debt (equity) offerings may result in a rating downgrade (upgrade) for firms that are near, as well as firms that are not near, a rating downgrade (upgrade). I follow prior research and define debt offering as long-term debt issuance scaled by the beginning of year total assets, and equity offering is defined as sale of common and preferred stock scaled by the beginning of total year assets. A debt or equity offering is considered large if it is greater than 10%.

5. Results

In this section the results will be presented. First the effect of credit rating change on discretionary accruals will be examined. Thereafter the effect of credit rating change on conservatism in reported earnings will be examined, where the Basu model will be discussed first and subsequently the Ball and Shivakumar model is discussed.

5.1 Discretionary accruals

For the calculation of the discretionary accruals the Modified-Jones model is used. This model describes the expected level of accruals given firm fundamentals and is estimated for every industry group with at least 20 firms in a given year. The industry groups are defined by 2-digit SIC codes. A large number of regressions is estimated for industry-year groups to calculate discretionary accruals. The residuals of equation 1a are used as a measure of discretionary accruals. When firms are near a broad rating change they can inflate their earnings by reporting more discretionary accruals. Therefore it is expected that coefficient β_1 in equation 3a and coefficients γ_1 and γ_2 from equation 3b are positive.

Table 2 reports the regression results of equations 3a and 3b. In order to control for the effect of time-series correlation in the regression residuals, the regression is estimated using the Huber-White procedure with clustering by firm, as in accordance to Ali and Zhang (2008). For the sample that excludes large debt offerings, the coefficient CR_POM is not statistically significant. However the coefficient on CR_MINUS, in the same sample, is 0.00376 (t=2.03), indicating that firms near a broad rating downgrade report greater discretionary accruals than firms not near a broad rating downgrade. In accordence with Kisgen (2006) the results for the sample that excludes both large debt and equity offerings are also estimated. When both large debt and equity offerings are excluded the effect for broad rating downgrades remains equal, but the coefficient on CR_POM also becomes significant (0.00345 | t=2.02), which indicates that firms near a broad rating change in general report greater discretionary accruals than firms not near a broad rating change. Concluding, I can not confirm hypothesis 1 for firms near a credit rating upgrade, but the hypothesis can be confirmed for firms near a credit rating downgrade. Indicating that firms being near a credit rating downgrade are more likely to engage in earnings management by reporting greater discretionary accruals.

Table 2: Proximity to Broad Rating Change and Discretionary Accruals: Discretionary Accruals Estimated by Using the Ball and Shivakumar Model (Equation 3)

		Excluding Large Debt Offerings				Excluding Large Debt and Equity Offerings			
	Expected	Eq. 3a		Eq. 3b		Eq. 3a		Eq. 3b	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		-0.0599***	-2.91	-0.0599***	-2.92	-0.0582***	-2.80	-0.0582***	-2.80
CR_POM	+	0.00328*	1.95			0.00345**	2.02		
CR_PLUS	+			0.00278	1.16			0.00300	1.22
CR_MINUS	+			0.00376**	2.03			0.00389**	2.11
LNSIZE		0.00104	1.05	0.00104	1.05	0.00103	1.05	0.00103	1.04
MTB		-5.61e-08	-0.13	-5.41e-08	-0.12	-1.01e-07	-0.23	-9.93e-08	-0.22
LIT		0.00282	0.88	0.00283	0.88	0.00259	0.84	0.00260	0.84
LEV		-0.0259**	-2.52	-0.0260**	-2.52	-0.0239**	-2.32	-0.0240**	-2.33
ROA		0.0772	1.32	0.0776	1.32	0.0750	1.28	0.0753	1.28
LOSS		-0.000607	-0.19	-0.000641	-0.20	-0.000433	-0.13	-0.000460	-0.14
MA		0.000567	0.21	0.000572	0.21	0.000371	0.14	0.000368	0.14
LTACC		0.000280***	5.73	0.000283***	5.80	0.000293***	5.81	0.000295***	5.86
CFO		-0.384***	-13.54	-0.384***	-13.56	-0.380***	-12.66	-0.380***	-12.68
FIN		-0.000147	-0.06	-0.000121	-0.05	-6.70e-05	-0.03	-4.67e-05	-0.02
Observations		1,312		1,312		1,277		1,277	
R-squared		0.423		0.423		0.420		0.420	
Year Indicators		Included		Included		Included		Included	

The model is estimated using the Huber-White procedure and clustering by firms. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows:

The dependent variable **DA** is discretionary accruals. **CR_POM** is an indicator variable that equals one if a firm has a plus or minus credit rating and zero otherwise. **CR_PLUS** is an indicator variable that equals one if a firm has a plus credit rating and zero otherwise. **CR_MINUS** is an indicator variable that equals one if a firm has a minus credit rating and zero otherwise. **LNSIZE** is the log of the market value of equity. **MTB** is the market-to-book-ratio of a firm. **LIT** is an indicator variable that equals one if a firm is in a high litigation industry (SIC code of 2833-2836, 3570-3577, 3600-3674, 5200-5961 and 7370). **LEV** is total debt divided by total assets. **ROA** is measured as earnings before extraordinary items divided by total assets at the end of the fiscal year. **LOSS** is an indicator variable that equals one if a firm reports a net loss. **MA** is an indicator variable that equals one if a firm has engaged in a merger and acquisition, and zero otherwise. **LTACC** is last year's total accruals scaled by beginning of the year's total assets. **CFO** is measured as cash flow from operations scaled by beginning of year total assets. **FIN** is an indicator variable that equals one if MA is not equal to one, and the number of outstanding shares increase by at least 10%, or long-term debt increased by at least 20%.

Unlike Ali and Zhang (2008), I also estimate the regression results for equations 3a and 3b when looking at micro rating indicators instead of broad rating indicators. The regressions in table 3 are also estimated using the Huber-White procedure with clustering by firm. There are no significant results for both the sample that excludes large debt offerings and the sample that excludes large debt and equity offerings. Therefore hypothesis 3 can not be accepted. There is

thus no support that discretionary accruals are greater for firms near a micro rating change than for firms not near a micro rating change. This could be because firms put less emphasis on micro rating changes, since there is a smaller effect on the borrowing costs compared to a change in broad rating change. In these cases the lower borrowing costs are surpassed by the costs of earnings management.

Table 3: Proximity to Micro Rating Change and Discretionary Accruals: Discretionary Accruals Estimated by Using the Ball and Shivakumar Model (Equation 3)

		Excluding Large Debt Offerings				Excluding Large Debt and Equity Offerings			
	Expected	Eq. 3a		Eq. 3b				Expected	
VARIABLES	sign	Coefficient	t-stat	VARIABLES	t-stat	Coefficient	t-stat	VARIABLES	t-stat
Constant		-0.0619***	-2.98	-0.0619***	-2.98	-0.0604***	-2.86	-0.0604***	-2.86
CR_POM (micro)		-0.000214	-0.16			-0.000372	-0.28		
CR_PLUS (micro)				0.000873	0.31			0.000529	0.18
CR_MINUS (micro)				-0.000414	-0.27			-0.000533	-0.34
LNSIZE		0.00115	1.15	0.00115	1.15	0.00115	1.15	0.00115	1.15
MTB		-6.11e-08	-0.14	-6.54e-08	-0.15	-1.06e-07	-0.24	-1.09e-07	-0.25
LIT		0.00302	0.94	0.00300	0.93	0.00282	0.91	0.00281	0.91
LEV		-0.0249**	-2.42	-0.0249**	-2.42	-0.0227**	-2.21	-0.0227**	-2.21
ROA		0.0779	1.31	0.0769	1.29	0.0762	1.27	0.0754	1.26
LOSS		-0.000361	-0.11	-0.000385	-0.12	-0.000143	-0.04	-0.000159	-0.05
MA		0.000732	0.27	0.000764	0.28	0.000556	0.20	0.000579	0.21
LTACC		0.000266***	5.50	0.000266***	5.51	0.000278***	5.56	0.000278***	5.57
CFO		-0.384***	-13.49	-0.384***	-13.47	-0.380***	-12.61	-0.380***	-12.58
FIN		-3.24e-05	-0.01	1.31e-05	0.01	4.60e-05	0.02	7.93e-05	0.03
Observations		1,312		1,312		1,277		1,277	
R-squared		0.421		0.421		0.417		0.417	
Year Indicators		Included		Included		Included		Included	

The model is estimated using the Huber-White procedure and clustering by firms. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows:

The dependent variable DA is discretionary accruals. CR_POM is an indicator variable that equals one if a firm has a plus or minus credit rating at micro level and zero otherwise. CR_PLUS is an indicator variable that equals one if a firm has a plus credit rating at micro level and zero otherwise. CR_MINUS is an indicator variable that equals one if a firm has a minus credit rating at micro level and zero otherwise. LNSIZE is the log of the market value of equity. MTB is the market-to-book-ratio of a firm. LIT is an indicator variable that equals one if a firm is in a high litigation industry (SIC code of 2833-2836, 3570-3577, 3600-3674, 5200-5961 and 7370). LEV is total debt divided by total assets. ROA is measured as earnings before extraordinary items divided by total assets at the end of the fiscal year. LOSS is an indicator variable that equals one if a firm reports a net loss. MA is an indicator variable that equals one if a firm has engaged in a merger and acquisition, and zero otherwise. LTACC is last year's total accruals scaled by beginning of the year's total assets. CFO is measured as cash flow from operations scaled by beginning of year total assets. FIN is an indicator variable that equals one if MA is not equal to one, and the number of outstanding shares increase by at least 10%, or long-term debt increased by at least 20%.

Concluding, discretionary accruals are greater for firms that are near a broad credit rating change than for firms that are not near a broad credit rating change. This effect also occurs when firms are near a broad credit rating downgrade, but there is no support for greater discretionary accruals for firms that are near a broad credit rating upgrade. Concluding on these results, managers seem to engage more in earnings management when they are near a rating downgrade and face a potential extra cost, but they do not seem to persue a cost reduction by obtaining a higher rating. Based on these conclusions there is not enough evidence to completely confirm hypothesis 1, allthough there is an effect of accrual-based earnings management for firms near a broad rating change. For hypothesis 3 I expected the same results as for hypothesis 1, however, there seems to be no significant relation between discretionary accruals and micro rating changes.

5.2 Conservatism in reported earnings

Another way in which a firm can inflate its earnings is through reporting less conservative. The conservatism that is considered is the differential timeliness in the recognition of economic gains and losses, which can be seen as recording losses as soon as they are anticipated but only recognizing gains when they are realized. Managers have the opportunity to inflate reported earnings by not recognizing economic losses in a timely manner.

The first measure of conservatism that will be discussed is the Basu model (1997), which allows conservatism in reported earnings to vary by whether firms are near a rating change, but also allows earnings to vary with firm characteristics. In accordance with the hypotheses I expect that firms near a rating change report less conservative earnings, which can be found if coefficient β_4 in equation 4a and coefficient γ_4 and γ_8 in equation 4b are negative.

Table 4 presents the Fama-MacBeth regression estimates of equations 4a and 4b. The coefficient RET x D indicates whether there is conservatism in reported earnings for firms that are not near a broad rating change. This coefficient is insignificant in all four regressions so no conclusion can be drawn whether firms not near a broad rating change are conservative in reported earnings. The variables of interest in this sample are CR_POM x RET x D, CR_PLUS x RET x D and CR_MINUS x RET x D. The results in this sample give no significant evidence to conclude that there is a relation between conservatism in reported earnings and broad credit

rating changes. Hypothesis 2 could thus not be accepted based on the results of the Basu model.

In table 5 the Fama-MacBeth regressions of equitions 4a and 4b are re-estimated at a micro rating level. The coefficient RET x D is insignificant in all four regressions so again no conclusion can be drawn whether firms not near a broad rating change are conservative in reported earnings. All variables of interest are insignificant aswell, so overall there is no support to conclude that firms near a micro rating change report less conservative than firms not near a micro rating change.

Besides the Basu model, I also estimate conservatism in reported earnings using the Ball and Shivakumar model (2005), which is modified by Ali and Zhang (2008). They argue that the differential timeliness of recognizing economic gains and losses implies that there is a negative correlation between current and future changes in net income and that this correlation will be greater for firms with a negative change in earnings than for firms with a positive change in earnings. The hypothesis that firms near a rating change report less conservative earnings remains. This effect occurs when coefficient β_4 in equation 5a and coefficient γ_4 and γ_8 in equation 5b are positive.

Table 6 shows the Fama-MacBeth regression results of equations 5a and 5b.When large debt offerings are excluded the coeffcient DΔNI x ΔNI is not statistically significant when being near a broad rating change is tested with one dumy variable and only large debt offerings are excluded. However, when being near a broad rating change is split in having either a plus or minus signal or when both large debt and large equity offerings are excluded, this variable becomes significant at the 5% level. When excluding only large debt offerings and having a dummy for both a plus or minus signal, the variable DΔNI x ΔNI is is -1.737 (t=-2.30) suggesting that economic losses are recognized faster than economic gains for firms not near a broad rating change. The variables of interest don't show any significant relation between conservatism in reported earnings and broad credit rating changes. Therefore hypothesis 2 can not be accepted.

When the focus is shifted from broad rating changes to micro rating changes the variables change. Table 7 shows that DΔNI x ΔNI loses its significance in all regressions, so in this case no conclusion can be drawn that firms not near a micro rating change recognize economic losses

faster than economic gains. The variables of interest are mainly insignificant so no conclusion can be drawn on the relation between micro rating changes and conservatism in reported earnings. The variable CR_MINUS x DΔNI x ΔNI is -1.177 (t=-2.02) when large debt and equity offerings are excluded. This variable is significant at the 5% level but is not in line with the expected sign, indicating that firms near a micro rating downgrade also recognize economic losses faster than economic gains.

Concluding, from both the Basu model and the Ball and Shivakumar model there is no evidence that supports hypothesis 2. Firms that are near a broad rating change don't seem to report significantly less conservative than firms that are not near a broad rating change. There is also no effect of less conservatism for firms that are near a micro credit rating change, which in the case of conservatism also gives no support for hypothesis 3. This effect could be due to the mandatory adoption of IFRS in 2005 (ICAEW, 2015), since prior research shows that IFRS firms have more persistent, less predictable and more conditionally conservative earnings (Gassen & Sellhorn, 2006).

Table 4: Proximity to Broad Rating Changes and Conservatism in Reported Earnings: Conservatism is Estimated by Using Net Income Model with Market Return as Proxy for Economic Gains and Losses

		Excluding Large Debt Offerings				Excluding Large Debt and Equity Offerings			
	Expected	Eq. 4a		Eq. 4b		Eq. 4a		Eq. 4b	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		0.0158	0.36	0.0148	0.33	0.0202	0.43	0.0192	0.40
D		-0.479	-1.40	-0.118	-1.05	-0.498	-1.4	-0.123	-1.05
RET		0.000132	1.21	0.000114	1.20	0.000135	1.2	0.000117	1.19
RET x D		-0.00183	-0.36	-0.00216	-0.35	-0.00189	-0.36	-0.00224	-0.35
CR_POM		0.000353	0.23			-9.33e-05	-0.05		
CR_POM x D		-0.0449	-1.15			-0.0466	-1.15		
CR_POM x RET		6.42e-06	1.10			7.34e-06	1.18		
CR_POM x RET x D	-	2.41e-06	0.06			-2.77e-06	-0.07		
CR_PLUS				0.00169	0.70			0.000913	0.31
CR_PLUS x D				-0.313	-1.43			-0.325	-1.43
CR_PLUS x RET				9.77e-06	1.11			1.41e-05	1.11
CR_PLUS x RET x D	-			-0.000983*	-1.71			-0.00102*	-1.71
CR_MINUS				-0.000599	-0.24			-0.00118	-0.44
CR_MINUS x D				-0.00611	-0.35			-0.00638	-0.35
CR_MINUS x RET				7.99e-06	1.33			9.00e-06	1.40
CR_MINUS x RET x D	-			0.000881	1.54			0.000901	1.53
MTB		-1.94e-07	-0.58	-2.51e-07	-0.70	-1.84e-07	-0.53	-2.39e-07	-0.64
MTB x D		0.000147	1.22	-1.90e-05	-0.40	0.000152	1.22	-2.01e-05	-0.41
MTB x RET		9.01e-09	1.65	9.33e-09	1.63	9.49e-09	1.66	9.75e-09	1.64
MTB x RET x D		1.35e-07	0.13	-1.23e-06*	-1.85	7.55e-08	0.07	-1.33e-06*	-1.87
LEV		-0.0132	-0.88	-0.00946	-0.81	-0.0130	-0.83	-0.00903	-0.73
LEV x D		0.136	0.29	-0.100	-0.42	0.141	0.29	-0.104	-0.42
LEV x RET		2.55e-05	0.89	1.80e-05	0.82	2.55e-05	0.85	1.75e-05	0.76
LEV x RET x D		0.00132	0.49	0.00196	1.27	0.00137	0.48	0.00204	1.28
LNSIZE		-0.000969	-0.33	-0.000979	-0.33	-0.00124	-0.40	-0.00126	-0.40
LNSIZE x D		0.0264	1.58	0.00977	0.86	0.0274	1.58	0.0101	0.86
LNSIZE x RET		-8.36e-06	-1.18	-7.18e-06	-1.17	-8.57e-06	-1.16	-7.38e-06	-1.16
LNSIZE x RET x D		8.07e-06	0.02	6.76e-05	0.17	1.07e-05	0.03	7.23e-05	0.17
LIT		-0.0226	-0.98	-0.0232	-0.94	-0.0233	-0.97	-0.0239	-0.93
LIT x D		-0.00474	-0.77	-0.00707	-0.83	-0.00346	-0.53	-0.00728	-0.83
LIT x RET		0.000199	1.03	0.000212	1.03	0.000196	0.97	0.000205	0.96
LIT x RET x D		-0.000190	-0.23	-0.000645	-1.05	-0.000211	-0.25	-0.000680	-1.07
Observations		3,199		3,199		3,140		3,140	
R-squared		0.824		0.847		0.828		0.847	
Number of groups		55		55		53		53	

The model is estimated using the Fama-MacBeth approach. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows:

The dependent variable **NI** is net income before extraordinary items divided by beginning of the year market value of equity. **RET** is annual return, calculated as quarterly return of the first quarter after fiscal year end date in year t-1 to three months after fiscal year end date in year t. **D** is an indicator variable that equals one if RET is negative and zero otherwise. **CR_POM** is an indicator variable that equals one if a firm has a plus or minus credit rating and zero otherwise. **CR_PLUS** is an indicator variable that equals one if a firm has a plus credit rating and zero otherwise. **CR_MINUS** is an indicator variable that equals one if a firm has a minus credit rating and zero otherwise.

Table 5: Proximity to Micro Rating Changes and Conservatism in Reported Earnings
Conservatism is Estimated by Using Net Income Model with Market Return as Proxy for Economic Gains and Losses

		Excluding Large Debt Offerings				Excluding Large Debt and Equity Offerings			
	Expected	Eq. 4a		Eq. 4b		Eq. 4a		Eq. 4b	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		0.00533	0.10	0.00545	0.10	0.00867	0.15	0.00879	0.15
D		-0.343*	-1.78	-0.185	-1.61	-0.357*	-1.78	-0.192	-1.62
RET		0.000138	1.19	0.000140	1.21	0.000142	1.18	0.000144	1.20
RET x D		-0.00371	-0.61	-0.00399	-0.66	-0.00384	-0.61	-0.00414	-0.66
CR_POM (micro)		-0.00401	-0.72			-0.00476	-0.83		
CR_POM x D		-0.0213	-0.84			-0.0220	-0.84		
CR_POM x RET		1.17e-05	0.90			1.31e-05	0.97		
CR_POM x RET x D	-	-0.000834	-1.41			-0.000874	-1.43		
CR_PLUS (micro)				-0.00496	-1.02			-0.00565	-1.02
CR_PLUS x D				2.03e-06	1.00			5.85e-07	1.00
CR_PLUS x RET				0.00227	0.99			0.00236	0.99
CR_PLUS x RET x D	-			2.77e-05	0.99			2.88e-05	0.99
CR_MINUS (micro)				-0.00444	-0.75			-0.00519	-0.86
CR_MINUS x D				0.00138	0.13			0.00149	0.14
CR_MINUS x RET				1.20e-05	0.91			1.34e-05	0.98
CR_MINUS x RET x D	-			-0.000498	-1.01			-0.000525	-1.03
MTB		2.66e-07	1.43	2.65e-07	1.40	3.03e-07	1.59	3.01e-07	1.55
MTB x D		1.60e-05	0.43	2.40e-05	0.72	1.67e-05	0.43	2.50e-05	0.73
MTB x RET		1.23e-09	0.38	1.25e-09	0.38	1.19e-09	0.35	1.21e-09	0.36
MTB x RET x D		-1.25e-06	-0.99	-1.28e-06	-1.01	-1.25e-06	-0.95	-1.28e-06	-0.98
LEV		-0.00155	-0.52	-0.00147	-0.51	-0.000614	-0.17	-0.000521	-0.15
LEV x D		-0.0940	-0.35	-0.194	-0.76	-0.0975	-0.35	-0.202	-0.76
LEV x RET		-1.29e-05	-1.29	-1.23e-05	-1.26	-1.42e-05	-1.34	-1.36e-05	-1.31
LEV x RET x D		0.00261	1.25	0.000612	1.00	0.00274	1.26	0.000657	1.03
LNSIZE		-0.000424	-0.12	-0.000432	-0.12	-0.000641	-0.17	-0.000649	-0.18
LNSIZE x D		0.0273	1.63	0.0152	1.28	0.0284	1.63	0.0158	1.28
LNSIZE x RET		-7.98e-06	-1.15	-8.09e-06	-1.17	-8.19e-06	-1.14	-8.32e-06	-1.16
LNSIZE x RET x D		0.000200	0.45	0.000233	0.53	0.000205	0.45	0.000239	0.52
LIT		-0.0205	-0.91	-0.0211	-0.94	-0.0212	-0.91	-0.0219	-0.94
LIT x D		0.000809	0.24	0.000745	0.22	0.00243	0.65	0.00237	0.63
LIT x RET		0.000216	1.15	0.000217	1.16	0.000212	1.09	0.000214	1.10
LIT x RET x D		-0.000306	-0.37	-0.000330	-0.39	-0.000331	-0.38	-0.000353	-0.4
Observations		3,199		3,199		3140		3140	
R-squared		0.815		0.818		0.821		0.824	
Number of groups		55		55		53		53	

The model is estimated using the Fama-MacBeth approach. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows:

The dependent variable **NI** is net income before extraordinary items divided by beginning of the year market value of equity. **RET** is annual return, calculated as quarterly return of the first quarter after fiscal year end date in year t-1 to three months after fiscal year end date in year t. **D** is an indicator variable that equals one if RET is negative and zero otherwise. **CR_POM** is an indicator variable that equals one if a firm has a plus or minus credit rating at micro level and zero otherwise. **CR_PLUS** is an indicator variable that equals one if a firm has a plus credit rating at micro level and zero otherwise. **CR_MINUS** is an indicator variable that equals one if a firm has a minus credit rating at micro level and zero otherwise.

Table 6: Proximity to Broad Rating Changes and Conservatism in Reported Earnings: Conservatism Estimated by Using Net Income Change Model with Net Income Change as Proxy for

		Excluding Large Debt Offerings				cluding Large Debt and Equity Offerir			
	Expected	Eq. 5a		Eq. 5b		Eq. 5a		Eq. 5b	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		-0.00037	-0.17	-0.00028	-0.14	-0.00098	-0.43	-0.00095	-0.44
DΔNI		-0.00682	-1.62	-0.0113**	-2.36	-0.00903*	-1.88	-0.0135**	-2.44
ΔNI		0.044	0.16	0.323	1.05	0.121	0.42	0.418	1.33
DΔNI x ΔNI		-1.159*	-1.82	-1.737**	-2.30	-1.733**	-2.18	-2.328**	-2.41
CR_POM		0.000311	0.13			0.000193	0.08		
CR_POM x DΔNI		-0.00017	-0.06			0.000224	0.08		
CR_POM x ΔNI		-0.141	-0.31			-0.164	-0.35		
CR_POM x DΔNI x ΔNI	+	0.285	0.56			0.465	0.80		
CR_PLUS				0.00536	1.11			0.00566	1.13
CR_PLUS x DΔNI				-0.00959	-1.57			-0.00562	-1.08
CR_PLUS x ΔNI				0.235	0.60			0.224	0.55
CR_PLUS x DΔNI x ΔNI	+			-0.593	-0.96			-0.406	-0.73
CR_MINUS				0.00207	0.71			0.00206	0.69
CR_MINUS x DΔNI				0.000332	0.09			0.000621	0.16
CR_MINUS x ΔNI				-0.533	-0.89			-0.605	-0.96
CR_MINUS x DΔNI x ΔNI	+			0.351	0.37			0.583	0.56
SIZE		-0.00181	-1.01	-0.00232	-1.14	-0.00133	-0.70	-0.00174	-0.82
SIZE x DΔNI		0.00805	1.54	0.0150**	2.36	0.0111*	1.88	0.0179**	2.49
SIZE x ΔNI		-0.822	-1.35	-1.117*	-1.72	-0.931	-1.47	-1.253*	-1.87
SIZE x DΔNI x ΔNI		1.95	1.61	2.730*	1.95	2.686**	2.02	3.390**	2.21
Observations		3,283		3,283		3,224		3,244	
R-squared		0.605		0.646		0.605		0.644	
Number of groups		51		51		49		49	

The model is estimated using the Fama-MacBeth approach. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows:

The dependent variable **ΔNI** is the change in net income before extraordinary items from the year t+1 to t, scaled by total assets at the beginning of the year. **DΔNI** is an indicator variable that equals one if ΔNI is negative and zero otherwise. **ΔNI** is also an independent variable measured as the change in net income before extraordinary items from year t-1 to t, scaled by beginning of year total assets **SIZE** is the percentile rank of total assets at the end of the year, standardized between 0 and 1. **CR_POM** is an indicator variable that equals one if a firm has a plus or minus credit rating and zero otherwise. **CR_PLUS** is an indicator variable that equals one if a firm has a plus credit rating and zero otherwise. **CR_MINUS** is an indicator variable that equals one if a firm has a minus credit rating and zero otherwise.

Table 7: Proximity to Micro Rating Changes and Conservatism in Reported Earnings: Conservatism is Estimated by Using Net Income Change Model with Net Income Change as Proxy for

		Excluding Large Debt Offerings				xcluding Large Debt and Equity Offerin			
	Expected	Eq. 5a		Eq. 5b		Eq. 5a		Eq. 5b	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		0.00286	1.34	0.00276	1.30	0.00228	1.03	0.00216	0.99
DΔNI		-0.0101***	-2.73	-0.0102***	-2.82	-0.0114***	-2.95	-0.0117***	-3.1
ΔNI		-0.0824	-0.33	-0.118	-0.46	-0.114	-0.44	-0.0914	-0.35
DΔNI x ΔNI		-1.000*	-1.89	-0.960*	-1.79	-1.096*	-1.94	-1.120*	-2
CR_POM (micro)		0.00714	0.77			0.00655	0.67		
CR_POM x DΔNI		-0.00886	-0.95			-0.00828	-0.85		
CR_POM x ΔNI		-2.401	-0.96			-2.388	-0.91		
CR_POM x DΔNI x ΔNI	+	1.966	0.77			1.669	0.62		
CR_PLUS (micro)				0.0153	1.62			0.0134	1.4
CR_PLUS x DΔNI				-0.00105	-0.24			0.000924	0.25
CR_PLUS x ΔNI				-3.358	-1.32			-3.289	-1.2
CR_PLUS x DΔNI x ΔNI	+			0.267	0.76			0.0811	0.23
CR_MINUS (micro)				-0.00438	-1.63			-0.00449*	-1.69
CR_MINUS x DΔNI				0.0046	1.62			0.00291	0.96
CR_MINUS x ΔNI				0.716	1.48			0.686	1.48
CR_MINUS x DΔNI x ΔNI	+			-0.804	-1.57			-1.177**	-2.02
SIZE		-0.00476*	-1.76	-0.00465*	-1.76	-0.0042	-1.50	-0.00396	-1.45
SIZE x DΔNI		0.0121**	2.29	0.0125**	2.42	0.0141**	2.51	0.0146**	2.64
SIZE x ΔNI		-0.216	-0.44	-0.169	-0.33	-0.155	-0.30	-0.211	-0.41
SIZE x DΔNI x ΔNI		1.583	1.26	1.534	1.20	1.767	1.31	1.812	1.33
Observations		3,283		3,283		3,224		3,224	
R-squared		0.586		0.602		0.588		0.601	
Number of groups		51		51		49		49	

The model is estimated using the Fama-MacBeth approach. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows:

The dependent variable **ΔNI** is the change in net income before extraordinary items from the year t+1 to t, scaled by total assets at the beginning of the year. **DΔNI** is an indicator variable that equals one if ΔNI is negative and zero otherwise. **ΔNI** is also an independent variable measured as the change in net income before extraordinary items from year t-1 to t, scaled by beginning of year total assets **SIZE** is the percentile rank of total assets at the end of the year, standardized between 0 and 1. **CR_POM** is an indicator variable that equals one if a firm has a plus or minus credit rating at micro level and zero otherwise. **CR_PLUS** is an indicator variable that equals one if a firm has a plus credit rating at micro level and zero otherwise. **CR_MINUS** is an indicator variable that equals one if a firm has a minus credit rating at micro level and zero otherwise.

5.3 Earnings management after the new credit rating agency regulation

The effect of the new credit rating agency regulation can be shown when all regressions are re-estimated, once for the years 2010 and before and once for the years after 2010. These results are only estimated when discretionary accruals is used as a proxy for earnings management. Similar to table 2 for the sample that excludes large debt offerings, table 8 shows that when firms are near a broad rating downgrade there is a greater amount of discretionary accruals for the years before the new Credit Rating Agency Regulation (CR_MINUS = 0.00580 | t=1.81). This effect is only significant at a 10% level, which is probably due to the split of an already small sample into two parts. This coefficient on CR_MINUS becomes lower and insignificant (0.00186 | t=0.84) when the same regression is estimated for the years after the new Credit Rating Agency Regulation. This effect is more visible when both large debt and large equity offerings are excluded. The coefficient on CR_MINUS then goes from 0.00657 (t=2.03) and becomes insignificant after the Credit Rating Agency Regulation. Contrary to table 2, there are no significant results when plus and minus rating changes are tested collectively. This change is probably due to the split in the sample which reduces the amount of observations per regression. For the sample that excludes large debt offerings the coefficient on CR_PLUS is insignificant, similar to table 2.

The effect is also estimated for micro rating changes in table 9, however, similar to table 3 there seems to be no significant effect of earnings management for firms that are near a micro credit rating change than for firms who are not near a micro rating change.

Table 8: The effect of earnings management to influence broad credit ratings before and after the new Credit Rating Agency Regulation
Discretionary Accruals Estimated by Using the Ball and Shivakumar Model (Equation 3)

		Excluding Large Debt Offerings								Excluding Large Debt and Equity Offerings							
	Expected	Eq. 3a (≤2010)		Eq. 3a (>2010)		Eq. 3b (≤2010)		Eq. 3b (>2010)		Eq. 3a (≤2010)		Eq. 3a (>2010)		Eq. 3b (≤2010)		Eq. 3b (>2010)	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		-0.0492	-1.65	-0.0481***	-2.69	-0.0493	-1.65	-0.0482***	-2.70	-0.0360	-1.20	-0.0531***	-3.02	-0.0360	-1.20	-0.0533***	-3.03
CR_POM	+	0.00423	1.49	0.00280	1.46					0.00463	1.57	0.00292	1.55				
CR_PLUS	+					0.00262	0.62	0.00379	1.55					0.00261	0.60	0.00419*	1.72
CR_MINUS	+					0.00580*	1.81	0.00186	0.84					0.00657**	2.03	0.00171	0.78
LNSIZE		0.000308	0.22	0.00114	1.12	0.000309	0.22	0.00116	1.13	-0.000246	-0.18	0.00134	1.33	-0.000243	-0.17	0.00136	1.35
MTB		-3.02e-07	-0.55	1.68e-07	0.31	-3.02e-07	-0.54	1.60e-07	0.30	-3.80e-07	-0.70	1.02e-07	0.19	-3.80e-07	-0.70	9.09e-08	0.17
LIT		0.00707	1.45	4.91e-05	0.01	0.00720	1.47	8.53e-05	0.03	0.00778	1.65	-0.000431	-0.13	0.00789*	1.67	-0.000387	-0.12
LEV		-0.0164	-1.16	-0.0350***	-2.85	-0.0170	-1.18	-0.0348***	-2.86	-0.0174	-1.24	-0.0314**	-2.58	-0.0183	-1.27	-0.0311**	-2.58
ROA		0.0172	0.20	0.0838	1.12	0.0198	0.23	0.0843	1.12	0.0107	0.12	0.0761	1.01	0.0137	0.16	0.0767	1.01
LOSS		0.000911	0.18	-0.00399	-0.96	0.000886	0.18	-0.00389	-0.94	0.00164	0.33	-0.00419	-1.02	0.00162	0.32	-0.00408	-0.99
MA		-0.00511	-1.12	0.00231	0.85	-0.00516	-1.12	0.00224	0.82	-0.00679	-1.46	0.00294	1.09	-0.00687	-1.47	0.00288	1.06
LTACC		0.000276***	4.68	-0.00268	-0.20	0.000282***	4.96	-0.00329	-0.25	0.000289***	4.81	0.000180	0.01	0.000296***	5.11	-0.000601	-0.05
CFO		-0.363***	-8.00	-0.408***	-13.80	-0.364***	-8.00	-0.408***	-13.73	-0.354***	-7.17	-0.407***	-13.82	-0.354***	-7.20	-0.408***	-13.74
FIN		0.000123	0.03	0.00131	0.48	0.000154	0.04	0.00124	0.45	-0.000990	-0.24	0.00238	0.86	-0.000961	-0.24	0.00231	0.83
Observations		574		840		574		840		556		822		556		822	
R-squared		0.391		0.459		0.392		0.460		0.386		0.465		0.387		0.466	
Year Indicators		Included		Included		Included		Included		Included		Included		Included		Included	

The model is estimated using the Huber-White procedure and clustering by firms. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows: The dependent variable **DA** is discretionary accruals. **CR_POM** is an indicator variable that equals one if a firm has a plus or minus credit rating and zero otherwise. **CR_PLUS** is an indicator variable that equals one if a firm has a plus credit rating and zero otherwise. **CR_MINUS** is an indicator variable that equals one if a firm has a minus credit rating and zero otherwise. **LNSIZE** is the log of the market value of equity. **MTB** is the market-to-book-ratio of a firm. **LIT** is an indicator variable that equals one if a firm is in a high litigation industry (SIC code of 2833-2836, 3570-3577, 3600-3674, 5200-5961 and 7370). **LEV** is total debt divided by total assets. **ROA** is measured as earnings before extraordinary items divided by total assets at the end of the fiscal year. **LOSS** is an indicator variable that equals one if a firm reports a net loss. **MA** is an indicator variable that equals one if a firm has engaged in a merger and acquisition, and zero otherwise. **LTACC** is last year's total accruals scaled by beginning of the year's total assets. **CFO** is measured as cash flow from operations scaled by beginning of year total assets. **FIN** is an indicator variable that equals one if MA is not equal to one, and the number of outstanding shares increase by at least 10%, or long-term debt increased by at least 20%.

Table 9: The effect of earnings management to influence micro credit ratings before and after the new Credit Rating Agency Regulation

Discretionary Accruals Estimated by Using the Ball and Shivakumar Model (Equation 3)

		Excluding Large Debt Offerings								Excluding Large Debt and Equity Offerings							
	Expected	Eq. 3a (≤2010)		Eq. 3a (>2010)		Eq. 3b (≤2010)		Eq. 3b (>2010)		Eq. 3a (≤2010)		Eq. 3a (>2010)		Eq. 3b (≤2010)		Eq. 3b (>2010)	
VARIABLES	sign	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant		-0.0509*	-1.69	-0.0494***	-2.75	-0.0508*	-1.68	-0.0495***	-2.74	-0.0380	-1.25	-0.0546***	-3.07	-0.0379	-1.24	-0.0546***	-3.05
CR_POM (micro)	+	0.00190	1.04	-0.00207	-1.29					0.00187	1.04	-0.00220	-1.40				
CR_PLUS (micro)	+					0.00283	0.61	-0.00114	-0.36					0.00304	0.62	-0.00199	-0.61
CR_MINUS (micro)	+					0.00171	0.79	-0.00224	-1.18					0.00164	0.76	-0.00223	-1.20
LNSIZE		0.000355	0.25	0.00131	1.28	0.000344	0.24	0.00132	1.28	-0.000182	-0.13	0.00152	1.49	-0.000196	-0.14	0.00152	1.48
MTB		-2.38e-07	-0.43	9.53e-08	0.18	-2.40e-07	-0.43	9.14e-08	0.17	-3.11e-07	-0.57	3.15e-08	0.06	-3.13e-07	-0.58	3.07e-08	0.06
LIT		0.00733	1.48	0.000142	0.04	0.00730	1.47	0.000125	0.04	0.00805*	1.68	-0.000344	-0.11	0.00801*	1.67	-0.000347	-0.11
LEV		-0.0155	-1.10	-0.0335***	-2.78	-0.0155	-1.10	-0.0335***	-2.78	-0.0164	-1.17	-0.0296**	-2.49	-0.0164	-1.17	-0.0296**	-2.48
ROA		0.0226	0.26	0.0833	1.09	0.0213	0.24	0.0827	1.08	0.0156	0.17	0.0766	1.00	0.0140	0.15	0.0765	0.99
LOSS		0.00128	0.26	-0.00376	-0.90	0.00124	0.25	-0.00376	-0.90	0.00201	0.40	-0.00388	-0.93	0.00196	0.39	-0.00388	-0.93
MA		-0.00502	-1.10	0.00240	0.87	-0.00496	-1.10	0.00241	0.87	-0.00662	-1.42	0.00303	1.10	-0.00656	-1.42	0.00303	1.10
LTACC		0.000253***	4.46	-0.00461	-0.36	0.000254***	4.45	-0.00466	-0.37	0.000265***	4.52	-0.00183	-0.15	0.000265***	4.53	-0.00184	-0.15
CFO		-0.362***	-7.89	-0.409***	-13.96	-0.362***	-7.87	-0.409***	-13.97	-0.353***	-7.07	-0.409***	-13.99	-0.353***	-7.05	-0.409***	-14.00
FIN		9.15e-05	0.02	0.00150	0.54	0.000158	0.04	0.00152	0.54	-0.000936	-0.23	0.00254	0.91	-0.000854	-0.21	0.00254	0.91
Observations		574		840		574		840		556		822		556		822	
R-squared		0.388		0.458		0.388		0.458		0.382		0.464		0.382		0.464	
Year Indicators		Included		Included		Included		Included		Included		Included		Included		Included	

The model is estimated using the Huber-White procedure and clustering by firms. ***, ** and * indicate the significance levels of 0.01, 0.05 and 0.10, respectively. The variables are defined as follows: The dependent variable DA is discretionary accruals. CR_POM is an indicator variable that equals one if a firm has a plus or minus credit rating at micro level and zero otherwise. CR_PLUS is an indicator variable that equals one if a firm has a plus credit rating at micro level and zero otherwise. CR_MINUS is an indicator variable that equals one if a firm has a minus credit rating at micro level and zero otherwise. LNSIZE is the log of the market value of equity. MTB is the market-to-book-ratio of a firm. LIT is an indicator variable that equals one if a firm is in a high litigation industry (SIC code of 2833-2836, 3570-3577, 3600-3674, 5200-5961 and 7370). LEV is total debt divided by total assets. ROA is measured as earnings before extraordinary items divided by total assets at the end of the fiscal year. LOSS is an indicator variable that equals one if a firm reports a net loss. MA is an indicator variable that equals one if a firm has engaged in a merger and acquisition, and zero otherwise. LTACC is last year's total accruals scaled by beginning of the year's total assets. CFO is measured as cash flow from operations scaled by beginning of year total assets. FIN is an indicator variable that equals one if MA is not equal to one, and the number of outstanding shares increase by at least 10%, or long-term debt increased by at least 20%.

6. Summary and conclusion

Ali and Zhang (2008) indicate that US firms that are near a broad rating upgrade or downgrade are more likely to inflate earnings as compared to firms that are not near a broad rating upgrade or downgrade. Their measures of earnings inflation are discretionary accruals and conservatism in reported earnings. Other research to date has also examined if earnings management activities are associated with credit ratings [(Alissa, Bonsall, Koharki, & Penn, 2013) (Jung, Soderstrom, & Yang, 2013)]. This research follows up by examining if earnings management is present for firms near rating changes in the European market. In this chapter the thesis is finalized by answering the research question 'Do managers' of European firms attempt to improve their credit risk rating through earnings management?'.

6.1 Conclusions

Multiple hypotheses were tested to answer the main research question. First, it was tested whether firms near a credit rating upgrade (downgrade) are more likely to engage in earnings management by reporting greater discretionary accruals. As expected discretionary accruals are greater when firms have either a plus or minus credit rating and when firms are near a broad rating downgrade. There is no evidence which supports greater discretionary accruals for firms that are near a broad rating upgrade. Overall, the results indicate that managers attempt to avoid downgrades but don't pursue upgrades.

Second, the effect of conservatism in reported earnings is tested for firms that are near a broad rating change. Contrary to the results of discretionary accruals, there was no statistical significance to conclude that firms report less conservative when near a broad rating change.

Assuming that managers not only care about a change from one broad rating to another, but are concerned with a change in rating of any kind, both hypotheses are re-estimated using micro rating changes. However, the results from these tests don't report any evidence in favor of this hypothesis, which does not support the assumption that managers are concerned with a rating of any kind, but only when there is a significant benefit to gain or lose.

Last, there was an expected difference in results for the period before the new Credit Rating Agency Regulation and the period after. This test was only done with discretionary accruals, since it provided the most significant answers in previous tests which is necessary to show an effect. When the regressions are re-estimated and the sample is split in a sample before 2010 and one after 2010, I find only significant results for firms with a minus rating, which disappears in the sample after 2010. The effect of earnings management for firms near a broad rating change grows insignificant after 2010, except for firms near a broad rating upgrade when both large debt and equity offerings are excluded. This effect could be due to changes in behavior of credit rating agencies, differences in the capital structure of firms due to the financial crisis or due to unknown reasons. Overall, the conclusion can be drawn that the effect of earnings management to influence credit ratings is smaller after the new Credit Rating Agency Regulation.

Concluding, the results don't confirm the first three hypothesis. The results don't show any statistical significance for conservatism in reported earnings for firms that are near a broad rating upgrade or downgrade. There is evidence that firms near a broad rating downgrade report greater discretionary accruals than firms not near a broad rating downgrade, but this result is not significant for broad rating upgrades. Therefore I conclude that managers of European firms do not attempt to improve their credit risk rating through earnings management.

6.2 Limitations

Even though this study was carefully prepared, I am aware that there are limitations and shortcomings. First of all a limitation of this study is the relatively small sample size. For this reason it is difficult to conclude this research for the entirety of Europe. At the start of this research ISIN codes for firms in 20 different countries were used, which gave 8512 credit rating events. However, after merging different datasets and dropping variables with missing or duplicate data only 1312 observations remained to measure discretionary accruals and about 3200 for measuring conservatism.

Second, the sample period used in this study includes the economic crisis, where credit rating agencies came under a lot of criticism which resulted in a loss of credibility of the ratings published by these agencies. For future research it could be interesting to test the same effect in

an equally large sample period before the crisis as after the crisis to really capture the effect the economic crisis had on the credibility of credit rating agencies.

Third, the sample consists mainly of credit ratings of firms from Western European countries. To increase the comparability and to be conclusive for Europe as a whole, other countries have to be added as well. In this thesis the observations for these countries are dropped because of a lack of available data.

6.3 Summary

Regarding the main research question 'Do managers' of European firms attempt to improve their credit risk rating through earnings management?', this thesis provides results that indicate that managers in Europe do not try to improve their credit risk rating through earnings management. There is an expected effect, since having a specific credit rating has consequences for both firms and investors. For example, a higher credit rating could reduce the cost of debt of a firm and a higher credit ratings does not restrict certain investors from investing in the firm. In order to answer the research question two proxies for earnings management are used. One measure of earnings management is discretionary accruals, which is estimated using the modified Jones model (1991). The other way in which earnings management is measured is by looking at accounting conservatism in reported earnings. For this measure both the Basu model (1997) and the Ball and Shivakumar model (2005) are used. The independent variable, credit rating changes, focuses on both "broad ratings", as well as "micro ratings'. Broad ratings refer to ratings that include the minus, middle, and plus specification for a rating, while micro ratings refer to a specific rating that includes a plus or minus modification. The results indicate that managers use accrual-based earnings management when they are near a broad rating downgrade. There is no statistical evidence which shows that managers of firms that are near a broad rating upgrade engage in accrual-based earnings management. The models which measure conservatism in reported earnings also don't show any statistical evidence to support the presence of earnings management for firms near a broad rating upgrade or downgrade. Firms that are near a micro rating change do not seem to show any form of earnings management, indicating that managers are more concerned with broad rating changes. This result holds, since a change in broad rating has a greater effect on a firm than a change in micro rating.

6.4 Conclusion literature matrix

Ali and Zhang (2008) tested whether earnings inflation was greater for U.S. firms that are near a broad rating upgrade or near a broad rating downgrade as compared to U.S. firms that are not near a broad rating change. In this thesis similar research was done for European firms. The hypothesis of Ali and Zhang was split in order to have two hypothesis for two different proxies of earnings management. Contrary to Ali and Zhang the results for European firms don't show significant results for earnings management when conservatism is used as a proxy. When discretionary accruals are used as proxy for earnings management there is only a significant result which shows that discretionary accruals are greater when firms are near a broad rating downgrade. Kisgen (2006) argues that rating results are consistent with managers viewing ratings as a signal of firm quality. They will thus try to avoid a downgrade and should pursue an upgrade. However, the results from this thesis show that managers do try to avoid a downgrade in credit ratings, but they don't pursue any upgrade. Contrary Jung et al. (2013) show that earnings smoothing is more concentrated in firms with a plus rating. These results could differ due to a higher reliance on the signaling quality of credit ratings for US firms which makes it more interesting to pursue an upgrade than it could be for European firms.

Kisgen (2006) shows questions that managers are not only interested in broad rating changes, but are concerned with a ratings change of any kind. Therefore, I test for both broad rating changes as well as micro rating changes. He shows results that are in line with this view. Degeorge et al. (1999) shows that managers engage in earnings management to exceed certain thresholds. Concluding from this literature there should thus be no difference in the results of the relation between earnings management and credit rating changes, both broad and micro. However, the results of this thesis provide little support for earnings management to be existent for firms near a broad rating change, but it provides no support for earnings management for firms near a micro rating change.

Overall, the results differ from prior literature. One of the reasons could be due to the difference between Europe and the U.S., which eventually places this thesis in the credit rating and earnings management literature by showing that there are less significant results that

indicate that earnings management is existent for firms that are near a broad or micro rating change.

7. References

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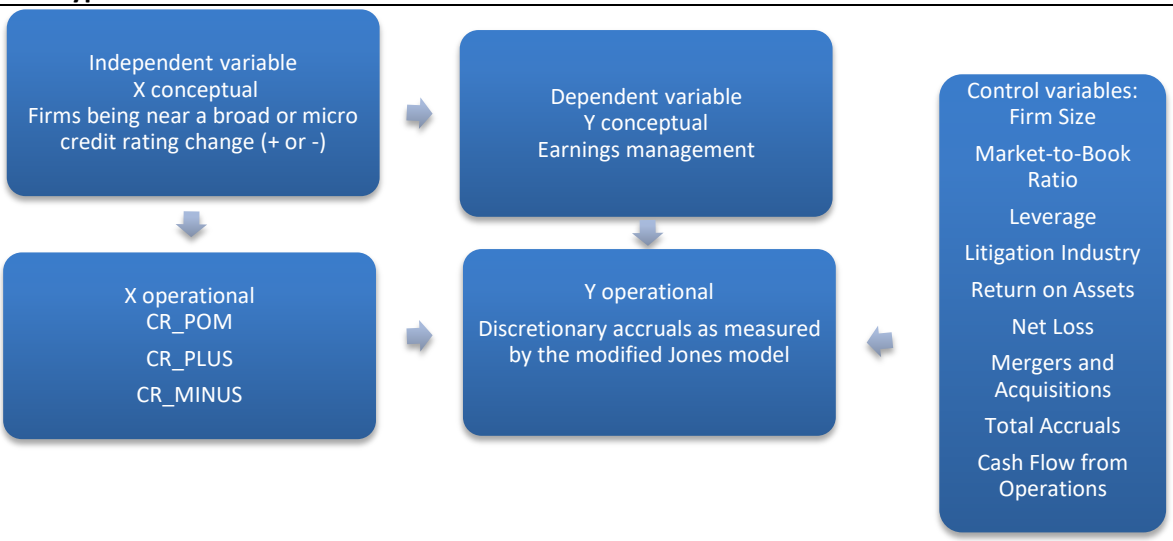
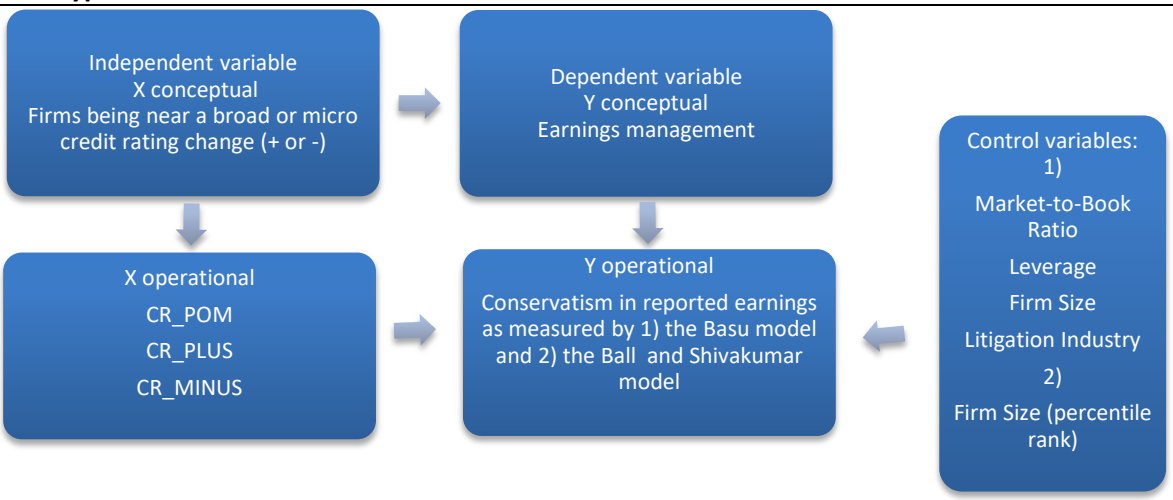
8. Appendices

8.1 Appendix 1 Libby Boxes

Libby box hypothesis 1:



Libby box hypothesis 2:



8.2 Appendix 2 Credit ratings as assigned by different rating agencies

Including values that indicate similar quality rating

Moody's		S&P		Fitch		Rating description	
Long-term		**Long-term**		**Long-term**			
Aaa	1	AAA	1	AAA	1	Prime	
Aa1	2	AA+	2	AA+	2	High grade	
Aa2	3	AA	3	AA	3		
Aa3	4	AA−	4	AA−	4		
A1	5	A+	5	A+	5	Upper medium grade	
A2	6	A	6	A	6		
A3	7	A−	7	A−	7		
Baa1	8	BBB+	8	BBB+	8	Lower medium grade	
Baa2	9	BBB	9	BBB	9		
Baa3	10	BBB−	10	BBB−	10		
Ba1	11	BB+	11	BB+	11	Non-investment grade	
Ba2	12	BB	12	BB	12	speculative	
Ba3	13	BB−	13	BB−	13		
B1	14	B+	14	B+	14	Highly speculative	
B2	15	B	15	B	15		
B3	16	B−	16	B−	16		
Caa1	17	CCC+	17	CCC+	17	Substantial risks	
Caa2	18	CCC	18	CCC	18		
Caa3	19	CCC−	19	CCC−	19		
Ca	20	CC	20	CC	20	Extremely speculative	
		C	21	C	21	Default imminent	
C	21	RD	22	DDD	22	In default	
/		SD	23	DD	23		
/		D	24	D	24		

8.2 Appendix 3 Literature Matrix

Literature matrix

Zoektermen	Auteur	Titel	Source	Database	Tijdshorizon	Jaar	Onderzoeksvraag	Hypotheses	Conclusie	Thesis conclusies
Credit ratings, sovereign debt, rating agencies, panel data, random effects ordered probit	Afonso, Gomes and Rother	Short- and long-run determinants of sovereign debt credit ratings	International Journal of Finance & Economics	World bank, S&P, Moody's and Fitch	1970-2005	2011		There is a random effect for each country on the quantitative variable	- A limited dependent variable models with a random effects ordered probit estimation is the best estimation procedure to find the determinant of sovereign debt rating - A set of core variables have a short-run impact on a country's credit rating - per capita GDP, GDP real growth, government debt and government deficit, government effectiveness, external debt, foreign reserves and sovereign default have a long-run impact on a country's rating	
	Akerlof	The market for "Lemons": Quality uncertainty and the market mechanism	The Quarterly Journal of Economics			1970				
Broad credit rating change, earnings management, credit rating agencies	Ali and Zhang	Proximity to broad credit rating change and earnings management		COMPUSTAT (credit rating and accounting data) CRSP (returns data)	1987-2005	2008		H1: Earnings inflation is greater for firms that are near a broad rating upgrade or near a broad rating downgrade as compared to firms that are not near a broad rating change	- Firms near a broad rating upgrade (downgrade) are more likely to inflate earnings as compared to firms that are not near a broad rating upgrade (downgrade) - Firms believe that credit rating agencies cannot properly assess the extent to which current period's earnings has been managed	- Firms near a broad rating downgrade are more likely to inflate earnings as compared to firms that are not near a broad rating downgrade - There is no statistical evidence that firms near a broad ratingupgrade are more likely to inflate earnings as compared to firms that are not near a broad rating upgrade
Credit rating agencies, expected ratings, earnings management, accruals, real activities	Alissa, Bonsall, Koharki and Penn	Firms' use of accounting discretion to influence their credit ratings	Journal of Accounting and Economics	S&P 500 COMPUSTAT	1985-2010	2013	Do firms that deviate from an empirically modeled credit rating engage in earnings management activities	H1: Firms' income-increasing (-decreasing) earnings management activities are negatively (positively) associated with deviations from their expected credit rating H2: Income-increasing (-decreasing) earnings management below-(above-) expected-rating firms is positively (negatively) associated with future credit rating changes	- the empirically estimated credit rating deviations are associated with earnings management activities. - This effect is more pronounced for firms whose actual and expected ratings straddle the investment-grade threshold. - Firms below or above their expected credit ratings may be able to succesfully achieve a desired upgrade or downgrade through the use of earnings management	
Corporate governance, credit rating, executive compensation	Ashbaugh-Skaife, Collins and Lafond	The effects of corporate governance on firms' credit ratings	Journal of Accounting and Economics	Board Analyst data base and firm proxy statements (Governance measures, audit/non-audit fees and share ownership data) Compustat (Credit ratings and accounting data) CRSP (stock return data)	2002	2006		Management discipling hypothesis (the role that governance plays in mitigating the agency conflicts between management and all stakeholders) Wealth redistribution hypothesis (Governance features have the potential for affecting wealth transfers between bondholders and shareholders)	Firm credit ratings are: 1. negatively associated with the number of blockholders that own at least a 5% ownership in the firm 2. positively related to weaker shareholder rights in terms of takeover defenses 3. positively related to the degree of financial transparency 4. positively related to overall board independence, board stock ownership and board expertise and negatively related to CEO power on the board Two measures of transparancy,namely the quality of accruals and the timeliness of earnings, are positively related to credit ratings	- Accruals are positively related to credit ratings
Earnings quality, conservatism, loss recognition, private firms, economics of accounting standards, earnings time series, accruals	Ball & Shivakumar	Earnings quality in U.K. private firms: Comparative loss recognition timeliness	Journal of Accounting and Economics	Bureau Van Dijk	1989-1999	2005		- There is less reversal of income decreases in private companies than in public companies, reflecting a lower frequency of timely loss recognition due to lower demand for financial reporting quality - Economic losses are recognized in a more timely fashion than gains - There is a positive but asymmetric correlation between accruals and contemporaneous cash flows - There is a difference in demand for financial reporting in private and public companies - Private firms are less likely to recognize economic losses in a timely fashion than public firms	- Private-company earnings are indeed of lower quality on average - the difference between public and private company timeliness occurs consistently in both earnings-changes-based and accruals-based tests of quality. - Financial statements are economic goods and their properties are determined primarily by the economic uses to which they are put.	
Capital markets, earnings return relation, persistence, auditor legal liability, negative returns	Basu	The conservatism principle and the asymmetric timeliness of earnings	Journal of Accounting and Economics	CRESP NYSE/AMEX Monthly files (returns data) COMPUSTAT (accounting data)	1963-1990	1997		H1: The slope coefficient and R^2 from a regression of annual eranings on annuals unexpected returns are higher for negative unexpected returns than for positive unexpected returns H2: The increase in the timeliness of earnings over cash flow is greater for negative unexpected returns than positive unexpected returns H3: Negative earnings changes have a greater tendency to reverse in the following period than positive earnings changes H4: In a regression of announcement period abnormal returns on earnings changes, the slope on positive earnings changes is higher than on negative earnings changes	- earnings is contemporaneously more sensitive to negative unexpected returns than positive unexpected returns - earnings is more timely in reporting publicly available bad news about future cash flows than good news - greater timeliness of earnings relative to cash flow is due primarily to more timely recognition of bad news through accruals. - positive earnings changes tend to persist whereas negative earnings changes show a marked tendency to reverse	
	Bliss	Management through accounts	New York: The Ronald Press Co	Boek		1924				
	Brecht	How U.S. and EU capital markets are different	CME Group (article)			2015			- The fundamental difference in corporate funding between the U.S. and Europe is that European companies rely far more heavily on bank lending	
net income, conservatism, accounting standards, financial accounting, creative accounting, investors, estimation bias, financial statements, financial management, accounting methods	Chen, Hemmer and Zhang	On the relation between conservatism in accounting standards and incentives for earnings management	Journal of Accounting Research			2007			- Current firm owners have the incentives to engage in earnings management when accounting numbers serve both the valuation role and the stewardship role. - Risk sharing can be improved under a conservative accounting standard	
Credit ratings, credit rating agencies, regulatin, reform, Dodd-Frank Act, securities laws, oversight, accountability derivatives, structured finance, credit derivative	Darbellay and Partnoy	Credit rating agencies and regulatory reform		Markit		2012	How much do investors stop relying on ratings, and how will a healthy and competitative market for ratings emerge?		- It remains unclear how the removal of credit rating references from regulation will affect the markets -More vigorous oversight and accountability measures can improve the performance of NRSROs	
	De Fiore & Uhlig	Bank Finance versus Bond Finance: What explains the differences between US and Europe?	European Central Bank (Working paper series)			2005	What explains the differences between US and Europe?		- The large share of bank finance in the Euro area relative to the US is due to lower availability of public information about firms' credit worthiness and to higher efficiency of banks in acquiring this type of information	
Capital markets, accruals, operating cycle, timing and mismatching problems, summary measures of performance	Dechow	Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals	Journal of Accounting and Economics	COMPUSTAT	1980-1989	1994	The role of accounting accruals is to provide a measure of short-term performance that more closely reflects expected cash flows than do realized cash flows	H1: There is a stronger contemporaneous association between stock returns and earnings than between stock returns and realized cash flows over short measurement intervals H2: The contemporaneous association of stock returns with realized cash flows improves relative to the contemporaneous association of stock returns with earnings as the measurement interval is increased H3: The larger the absolute magnitude of aggregate accruals made by a firm, the lower the contemporaneous association between stock returns and realized cash flows relative to the association between stock returns and earnings H4: The longer a firm's operating cycle, the more variable the firm's working capital requirements and the lower the contemporaneous association between stock returns and realized cash flows	- Over short measurement intervals earnings are more strongly associated with stock returns than are realized cahs flows - The ability of realized cash flows to measure firm performance improves relative to earnings as the measurement interval is lengthened - Earnings have a higher association with stock returns than do realized cash flows in firms experiencing large changes in their working capital requirements and their investment and financing activities. - Allthough accruals improve earnings' association with stock returns certain accruals are less likely to mitigate timing and matching problems in realized cash flows	

Earnings management, discretionary accruals, models selection	Dechow, Sloan & Sweeney	Detecting Earnings Management	The Accounting Review	Compustat	1950-1991	1995		Do the models reject the null hypothesis of no earnings management at rates exceeding the specified test-levels when applied to samples of firms with extreme financial performance	- All earnings management models produce reasonably well specified tests for a random sample of event-years - The modified version of the model developed by Jones provides the most powerful tests of earnings management	
Earnings management	Degeorge, Patel and Zeckhauser	Earnings Management to Exceed Thresholds	Journal of Business	I/B/E/S	1974-1996	2000			- Efforts to exceed thresholds induce particular patterns of EM - Earnings falling just short of thresholds will be managed upward - Earnings far from thresholds, whether below or above will be reined in, making thresholds more attainable in the future - EM driven by three thresholds: report positive profits, sustain recent performance and meet analysts' expectations (hierarchically ordered) - Executives manage earnings in predictable ways to exceed thresholds	- There is no evidence of earnings management near micro ratings, so there is no evidence that earnings are managed to exceed every threshold - Firms seem to prevent extra cost by falling below a certain threshold (broad rating downgrades) but don't seem to manage earnings to exceed a certain threshold (broad rating upgrades)
Credit ratings, earnings management, accruals, market efficiency	Demirtas and Cornaggia	Initial Credit Ratings and Earnings Management	Review of Financial Economics	Moody's Investors Service (credit ratings)	1980-2003	2013		H1: Corporate debt issuers report abnormally high accruals for the period leading up to the initial credit ratings with a subsequent decline in accruels H2: Corporate debt issuers with abnormal high accruals have enhanced credit ratings	- Issuers engage in earnings management prior to initial credit ratings - issuers, around the time of initial credit ratings, make accounting choices and reporting decisions that lead to unusually high working capital accruals - the increase in accounting accruals leading up to the initial credit rating is followed by a reversal in subsequent years - holding all other explanatory variables constant, firms moving from the conservative group to the aggresive group improve their ratings from B1 to Ba2	
Lenders, bank loans, loans, credit ratings, monitoring costs, moral hazard, expected returns, political economy, loan defaults, credit	Diamond	Monitoring and reputation: the choice between bank loans and directly placed debt	Journal of Political Economy			1991			- If moral hazard is suffieciently widespread, then new borrowers will begin their reputation acquisition by being monitored and later switch to issuing directly placed debt. - Reputation can deal with moral hazard, because better reputation implies that adverse selection is less severe. - Monitoring that is very effective and cheap may fail to provide incentives to eliminate moral hazard - In periods of high present or anticipated future real interest rates or low present or future anticipated economy wide profitabilty, a higher credit rating is required to borrow without monitoring	
Pecking order theory; Capital structure, Financing deficit	Frank & Goyal	Testing the pecking order theory of capital structure	Journal of Financial Economics	Compustat	1971-1998	2002	Does the pecking order theory of capital structure provide a satisfactory account of the financing behavior of publicly traded American firms?	- After an Initial Public Offering, equity issues are only used in extreme circumstances - Pecking order hypothesis	- Internal financing is not sufficient to cover investment spending on average - Debt financing does not dominate equity financing in magnitude - Over time, support for the pecking order declines	
Credit rating agencies, capital markets, U.S. Securities and Exchange Commission, disclosure, government regulation	Frost	Credit Rating Agencies in Capital Markets: A Review of Research Evidence on Selected Criticisms of the Agencies	Journal of Accounting, Auditing and Finance	Review		2007		The study assesses the validity of widespread criticisms of the large, nationally recognized credit rating agencies	- A growing number of studies provide useful evidence on the role of credit ratings in capital markets	
IFRS, earnings quality, earnings attributes, information asymmetry, standard setting, IAS regulation, Europe, Propensity-score matching, voluntary adoption	Gassen & Sellhorn	Applying IFRS in Germany - Determinants and Consequences		Data provided by Bonse (2004), data about 'Neuer Markt' presented by Küting (2001) & Worldscope	1993-2004	2006	- Does adoption of IFRS rules ensure a high level of transparency and comparability? - How does financial reporting quality influence information asymmetry? -How does information asymmetry relate to stock prices e.g. to the firms' cost of equity capital?		- The voluntary adoption of IFRS for German firms is influenced by size, international exposure, and dispersion of ownership - IFRS adoption was espacially attractive for young firms which initially went public subsequent to the mid-1990s - IFRS firms have more persistent, less predictable and more conditionally conservative earnings - IFRS firms have earnings of higher quality - IFRS adopters experience lower levels of information asymmetry on the German equity market relative to their German counterparts	- There was no statistical evidence that there is less conservatism in reported earnings by firms near a credit rating change. This could be due to the mandatory adoption of IFRS in 2005 which influences a large part of the sample
Real earnings management, bond yield spread, credit rating, new bond issue	Ge and Kim	Real earnings management and the cost of new corporate bonds	Journal of Business Research	COMPUSTAT	1993-2009	2014		H1a: There is a positive relation between the cost of new corporate bond issues and the level of REM (managerial opportunism hypothesis) H1b: There is a negative relation between the cost of new corporate bond issues and the level of REM (desirable action hypothesis)	- Overproduction impairs credit ratings - Sales manipulation and overproduction are associated with higher bond yield spreads - Credit rating agencies and bondholders view REM as a credit risk-increasing factor - Credit rating agencies perceive REM to be associated with managerial opportunism, which leads them to downgrade credit ratings - Bondholders require a higher risk premium for firms engaging in REM - Accounting information plays an important role in the capital allocation process	
Debt financing, earnings quality, accruals quality	Ghosh and Moon	Corporate Debt Financing and Earnings Quality	Journal of Business Finance and Accounting	COMPUSTAT	1992-2004	2010		H1: Earnings quality first increases and then declines with increasing debt levels H: The relationship between private debt and earnings quality is positive when debt is low H: The relationship between private debt and earnings quality is negative when debt is sufficiently high	- Increased monitoring from capital market particpants is expected to lead to accounting accruals that are more informative about future cash flows - For high debt there is a trade-off between benefits from reporting high quality earnings and benefits from avoiding covenant breaches - Earnings quality first increases and then declines across increasing levels of debt - While creditors are generally effective monitors of financial reporting they are not as effective when debt is high	
IPOs, credit ratings, earnings management	Gounopoulos	Credit Ratings and Earnings Management around IPOs	Journal of Business Finance and Accounting	Securities Data Corporation, Compustat, CRSP, S&P	1991-2011	2016		H1: Rated IPO firms are less likely to engage in income-increasing EM than unrated IPO firms in the offering year H2: At-issue income-increasing EM is positively related to post-issue accounting performance for rated IPO firms H3: At-issue income-increasing EM is not related to post-issue long-run stock performance for rated IPO firms	- There is a negative association between rating existence and income-increasing accrual-based and real EM in the offering year - Rating levels are not significantly related to at-issue earnings management - For unrated issuers, the at-issue income-increasing earnings management is not related to future earnings. For rated issuers the income-increasing earnings management in the offering year is positively linked to subsequent accounting performance - Unrated issuers tend to opportunistically manage earnings around IPOs and investors are unable to see through this behaviour - Rated issuers are more likely to employ discretion in accounting and operating decisions to convey the firm's future prospects to the market	
Capital structure, cost of capital, cost of equity, capital budgeting, discount rates, project valuation, survey	Graham and Harvey	The theory and practice of corporate finance: evidence from the field	Journal of Financial Economics	Survey		2001		Focus on three areas: Capital budgeting Cost of capital Capital structure	- Small firms are significantly less likely to use the NPV criterion or the capital asset pricing model and its variants. - The practice of corporate finance differs based on firm size - Informational criteria such as financial flexibility and credit ratings are the most important debt policy factors - EPS dilution and recent stock price appreciation are the most important factors influencing equity issuance	
Financial statement, earnings management, earnings benchmark, voluntary disclosure, information risk	Graham, Harvey and Rajgopal	The economic implications of corporate financial reporting	Journal of Accounting and Economics	Survey		2005		Debt hypothesis political cost hypothesis bonus plan hypothesis	- Financial officers view earnings, not cash flows, as the most important metric reported to outsiders - A majority of the CFOs view institutional investors as the primary party that sets the price of their stock - Managers want to meet or beat earnings benchmarks to (1) build credibility with the capital market, (2) maintain or increase stock price, (3) improve the external reputation of the management team, and (4) convey future growth prospects - Managers admit that they would take real economic actions such as delaying maintenance or advertising expenditure and would even give up positive NPV projects to meet earnings benchmarks - Executives are more reluctant to employ accounting discretion, such as accrual management, to meet earnings targets, although accrual management is likely cheaper than giving up economic value - CFOs prefer a smoother earnings path to a more volatile path (less risky by investors and improve predictability of future earnings.	- Cash flow from operations is significantly and negatively associated with discretionary accruals

	Grene	Big three credit rating agencies under fire	Financial Times			2014				
Investor communication, accounting, financial policy	Healy and Palepu	The challenges of investor communication: The case of CUC International, Inc.	Journal of Financial Economics			1995				
	Healy and Wahlen	A Review of the Earnings Management Literature and its Implications for Standard Setting	Accounting Horizons	Review		1999			- Earnings management occurs for a variety of reasons, including to influence stock market perceptions, to increase management's compensation, to reduce the likelihood of violating lending agreements, and to avoid regulatory intervention	
	ICAEW	The effects of mandatory IFRS adoption in the EU: A review of empirical research	ICAEW			2015				
Earnings benchmarks, cost of debt, credit ratings, yield spread	Jiang	Beating Earnings Benchmarks and the Cost of Debt	The Accounting Review	I/B/E/S, S&P	1985-2003	2008		H1: Ceteris paribus, beating earnings benchmarks lowers a firm's cost of debt H2: Beating earnings benchmarks has more pronounced effects on the cost of debt for firms with high default risk than those with low default risk H3: Reporting a profit has a more pronounced effect on a firm's cost of debt than reporting an earnings increase or beating analysts' earnings forecasts	- Firms that beat earnings benchmarks increase (decrease) the probability of a ratings upgrade (downgrade) and receive a smaller initial bond yield spread, both indicating lower cost of debt - The effect of beating earnings benchmarks generally is much stronger for firms with high default risk than for firms with low default risk - Beating the profit benchmark generally has the largest impact on a firm's cost of debt - The reduction of cost of debt is reduced but does not disappear for firms that likely beat earnings benchmarks through earnings management	
Earnings management, agency theory, governance governance provisions, agency costs, corporate governance	Jiraporn, Yoon and Kim	Is Earnings Management Opportunistic or Beneficial? An Agency Perspective	International Review of Financial Analysis	IRRC (corporate governance) I/B/E/S (earnings estimates) CRSP (market value data) COMPUSTAT (control variables)	1993, 1995 and 1998	2008		The purpose of this study is to distinguish between the opportunistic and beneficial uses of earnings management. They offer agency theory as a framework in which a distinction can be made between the two hypotheses.	- Earnings management does not appear to occur to a larger extent in firms with high agency costs - Earnings management on average is not opportunistic and, perhaps, even beneficial - There is a positive relationship between earnings management and firm value	
Creative accounting, financial management, net income, footwear industry, industrial management, imports, international trade, escape clauses, industry, statistical estimation	Jones	Earnings management during import relief investigations	Journal of Accounting Research	Compustat		1991		Managers of domestic producers that would benefit from import protection make accounting choices that reduce reported earnings during ITC inveestigation periods as compared to noninvestigation periods.	- Managers make income-decreasing accruals during import relief investigations. - Discretionary accruals are more income-decreasing during the year the ITC completed its investigation than would otherwise be expected	
Credit ratings, risk assessment, rating agencies, financial disclosure	Jung, Soderstrom and Yang	Earnings Smoothing Activities of Firms to Manage Credit Ratings	Contemporary Accounting Research	COMPUSTAT	1990-2008	2013		H1a: Firms with a plus or minus notch credit rating smooth earnings to a greater extent than other firms within the same broad rating category H1b: The extent of earnings smoothing becomes larger (smaller) after firms' credit ratings change to (from) plus or minus notch credit rating from (to) middle notch ratings H2a: for firms with a plus or minus notch rating, changes in earnings smoothness are positively (negatively) related to the likelihood of subsequent rating upgrades (downgrades) H2b: For firms with a plus or minus notch rating, smoothness change associated with change in discretionary smoothing activities is positively (negatively) related to the likelihood of subsequent rating upgrades (downgrades)	- Earnings smoothing via earnings management is more concentrated in firms with a plus notch rating, particularly in investment grade firms - earnings smoothing activity increases the likelihood of a subsequent rating upgrade for firms with a plus notch rating - Earnings smoothing activities appears to be an effective tool in managing credit ratings	- Earnings management activiteits are only visible in firms with a minus notch rating. This shows that firms try to avoid higher costs associated with a downgrade in their credit rating. Firms don't seem to persue an upgrade. European firms thus seem to avoid additional costs but don't seem to engage in earnings management in order to signal a better quality and potentially reduce their cost.
Capital structure, credit ratings, leverage, tradeoff theory, pecking order	Kisgen	Credit ratings and capital structure	The journal of Finance	COMPUSTAT	1986-2001	2006	What is the impact of credit ratings on capital structure decisions of the firm	H1: Credit ratings are a material consideration in managers' capital structure decisions due to the discrete costs (benefits) associated with different rating levels H2: Firms close to a credit rating upgrade or downgrade will issue less debt relative to equity to either avoid a downgrade or increase the chance of an upgrade	- Credit ratings directly affect capital structure decisions by managers - Managers are concerned with ratings-triggered costs to the firm and the effects of regulations on bond investors - Rating results are consistent with managers viewing ratings as signals of firm quality - Capital structure decisions are affected by the potential for both an upgrade as well as a downgrade	- Managers seem to try to avoid a downgrade but not persue an upgrade in credit rating. They thus seem concerned with avoiding to signal a lower quality but don't persue to signal a higher firm quality
Capital structure, credit ratings, leverage, financing policy	Kisgen	Do firms target credit ratings or leverage levels?	Journal of Financial and Quantitative Analysis	COMPUSTAT	1987-2003	2009		H0: The effects are equal at all ratings	- A firm's capital structure decision is affected more by whether the firm's credit rating was downgraded the previous year than by whether the firm's leverage changed the previous year or previous two years. - Firms are more likely to reduce debt and less likely to issue debt following a downgrade - This behavior is independent of distress concerns, timing activity and yearly business cycle effects and is consistent with a long-term capital structure policy of targeting a minimum credit rating - Firms target the investment grade rating level - The effect of discrete credit rating level benefits on capital structure behavior is complementary to the tradeoff theory of capital structure. A downgrade is predictive for issuance behavior after controlling for other tradeoff theory factors - Firms whose leverage has increased (decreased) the previous year or the year before are more likely to undertake leverage reducing (increasing capital market activity the following year, and several other tradeoff theory factors also remain predictive for issuance behavior	
Credit ratings, secured debt, unsecured debt, asset management, financial management, secured loans, mortgage loans, debt refinancing, bunkruptcy	Kose, Lynch & Puri	Credit ratings, collateral and loan characteristics: Implications for yield	The Journal of Business	Securities Data Corporation	1993-1995	2003		Do agency problems between managers and claim holders increase yields on secured debt to a greater extent than on unsecured debt	- There is a positive yield differential between secured and unsecured debt. - Rating agencies fail to fully incorporate the effects of the agency problems when determining credit ratings - The agency problems have a larger incremental impact on the yields of collateralized than general debt issues	
Discretionary accruals, earnings management, performance matching, discretionary-accruals models	Kothari, Leone & Wasley	Performance matched discretionary accrual measures	Journal of Accounting and Economics	Compustat	1962-1999	2005		H0: There are zero discretionary accruals	- A performance-matched discretionary accrual measure is useful in mitigating type 1 errors in cases where the researchers' partitioning variable of interest is correlated with performance - Researchers should include a constant term when estimating the Jones and modified-Jones models because doing so serves to further mitigate model misspecification	
	Langohr and Langohr	The Rating Agencies and their Credit Ratings: What They Are, How They Work and Why They Are Relevant	John Wiley & Sons ltd.	Boek		2010				
Stakeholder theory, earnings management, ethical implications	Loy	Stakeholder influence on earnings management: Ethical considerations and potential avenues	Corporate Ownership and Control	Compustat	2000-2003	2016		H1: There is a significant relationship between corporate governance and risk management in the GCC banking sector H2: There is a significant relationship between governmental ownership and risk management in the GCC banking sector	- There is a negative significant association between role duality and risk committee. - there is no significant relation between risk management and the percentage of nonexecutives on the board or CEO turnover. - There is a positive significant relationship between governmental ownership and risk management.	
Information sharing, finance, moral hazard, bank loans, information intermediaries, portfolio diversification, information economics, moral hazard models	Millon & Thakor	Moral hazard and information sharing: A model of financial information gathering agencies	The journal of Finance			1985			- Credit rating agencies function primarily to certify the values of economic entities that approach them	

	Millstein	When earnings management becomes cooking the books	Financial Times			2005				
	Moloney	I. Reform or Revolution? The financial crisis, EU financial markets law and the European Securities and Markets Authority	International & Comparative Law Quarterly			2011			- An extensive new rating agency regime was adopted in 2009 with the credit rating agency regulation. - The credit rating agency proposal of 2010 contains substantive revisions, which will subject rating agencies to additional transparency rules, and institutional revisions with respect to the supervisory role of the new European Securities and Markets Authority.	- After the new rating agency regime there were no more significant variables that show the relation between credit rating changes and earnings management.
	Moody's	Rating symbols and definitions				2016				
	Mullard	The credit rating agencies and their contribution to the financial crsis	The Political Quarterly			2012			- Even when analysts expressed their concern about the soundness of a rating, their analysis was often ignored or marginalised. - The CRAs showed little concern for the investors; the primary concern was always to maintain market share and rate bonds that were presented to the CRA by issuers	
	Myers and Mailuf	Corporate financing and investment decisions when firms have information that investors do not have	Journal of Financial Economics			1984			- It is generally better to issue safe securities than risky ones. - Firms whose investment opportunities outstrip operating cash flows, and which have used up their ability to issue low-risk det, may forego good investments rather than issue risky securities to finance them. - Firms can build up financial slack by restricting dividends when investment requirements are modest. - The firm should not pay a dividend if it has to recoup the cash by selling stock or some other risky security. - When managers have superior information, and stock is issued to finance investment, stock price will fall, other things equal. - A merger of a slack-rich and slack-poor firm increases the firm's combined value.	
Seasoned equity offerings, earnings mangement, market efficiency	Rangan	Earnings management and the performance of seasoned equity offerings	Journal of Financial Economics	Directory of Corporate Financing, Registerd Offerings Statistics tape of the Securities Exchange Commission	1987-1990	1998		H1: the earliest quarter in which earnings management is likely to occur is the quarter immediately preceeding the offering announcement. H2: Earnings management is most likely in the quarter immediately preceeding, the quarter of, and the two quarters subsequent to the offering announcement. H3: There is a negative relation between earnings management in yaer 0 and subsequent earnings changes. H4: There is a negative relation between year 0 earnings management and subseuent stock returns.	- Discretionary accounting accruals in the period surrounding the offering predict a portion of the subsequent poor earnings and stock price performance. - Discretionary accruals during the year around the offering are negatively correlated with earnings changes in the following year. - Discretionary accruals around the offering predict market-adjusted stock returns in the following year. - The stock market does not correctly value the implications of discretionary accruals	
Capital markets, accounting choice, earnings manipulation	Roychowdhury	Earnings management through real activities manipulation	Journal of Accounting and Economics	COMPUSTAT	1987-2001	2006		H1a: After controlling for sales levels, suspect firm-years exhibit at least one of the following: unusually low cash flow from operations (CFO) or unusually low discretionary expenses H2a: After controlling for sales levels, suspect firm-years exhibit unusually high production costs H3a: Ceteris paribus, suspect firm-years in manufacturing industries exhibit higher abnormal production costs than other suspect firm-years H4a: Ceteris paribus, suspect firm-years with debt outstanding exhibit abnormal production costs that are higher, and abnormal discretionary expenses that are lower than other suspect firm-years H5a: Ceteris paribus, suspect firm-years with high market-to-book exhibit abnormal production costs that are higher than, and abnormal discretionary expenses that are lower than other suspect firm-years H6a: Ceteris paribus, suspect firm-years with high current liabilities as a percentage of total assets exhibit abnormal production costs that are higher than, and abnormal discretionary expenses that are lower than, other suspect firm-years H7a: Ceteris paribus, suspect firm-years with a high level of inventories and receivables as a percentage of total assets exhibit abnormal production costs that are higher than other suspect firm years H8a: Ceteris paribus, suspect firm-years with high institutional ownership exhibit abnormal production costs that are lower, and abnormal discretionary expenses that are higher than other suspect firm-years	- There is a negative association between institutional ownership and real activities manipulation - The presence of debt, the stock of inventories and receivables and growth opportunities are positively related with real activities manipulation - There is real activities manipulation among firms trying to avoid negative annual forecast errors - Firms reporting small positive profits and small positive forecast errors manage earnings through real activities	- Leverage is negatively associated with accrual-based earnings management
	S&P	Guide to credit rating essentials	McGraw Hill Financial			2014				
	Schneinert	The case for a European public credit rating agency				2016				
	SEC	Selective disclosure and insider trading				2000				
Corporate finance, accruals, earnings management, seasoned equity offerings, offering announcement	Shivakumar	Do Firms Mislead Investors by Overstating Earnings Before Seasoned Equity Offerings?	Journal of Accounting and Economics	Securities Data Corporation	1983-1992	2000	Do firms overstate earnings before seasoned equity offerings and, at offerings announcements, do investors recognize and undo the effects of such earnings management	Managerial response hypothesis Alternative hypothesis: Managers overstate earnings before seasoned equity offerings because of opportunism or hubris	- Net income and accruals are abnormally high around equity offerings and pre-offering abnormal accruals predict subsequent declines in net income - Investors appear to rationally infer this earnings management at equity offerings announcements and, as a result, reduce their price response to unexpected earnings released after offering announcements - At the offering announcement, investors seem to correct the price impact of earlier earnings management - Investors unravel earnings management well before an equity offering - Earnings management by issuers, rather than being intended to mislead investors, may actually be the rational response of issuers to anticipated market behavior at offering announcements	
Financing, capital structure, static tradeoff theory, pecking order theory	Shyam-Sunder and Myers	Testing static tradeoff against pecking order models of capital structure	Journal of Financial Economics	Compustat	1971-1989	1999		H1: the amount of debt issued is negatively associated with the fund flow deficit H2: There is a positive association between the target debt level of a firm and the target-adjustment coefficient	- The pecking order is an excellent first-order descriptor of corporate financing behavior. - The simple target adjustment model, when tested independently, also seems to perform well. - When the two models are tested jointly, the coefficients and significance of the pecking order models change hardly at all. - The strong performance of the pecking order does noet occur just because firms fund unanticipated cash needs with debt in the short run. - The simulation experiment show that the target-adjustment models are not rejected even when false. The pecking order, when false, can easily be rejected.	
	Teoh, Welch and Wong	Earnings management and the long-run market performance of initial public offerings	Journal of Finance	Securities Data Corporation (IPO data) Compustat (financial data) CRSP (stock return data)	1985-1992	1998	This paper examines the relation between the long-run post-IPO return underperformance and IPO firms' earnings management		- Discretionary current accruals are high around the IPO relative to those of nonissuers - Issuers with high discretionary accruals have poorer stock return performance in the subsequent three years - Firms classified to be in the most agressive quartile of IPO earnings managers eperiences on average a 15 to 30 percent worse three year performance after its earnings report than a firm classified to be in the most conservative quartile - The IPO issuers in the conservative quartile also return to the capital market for a seasoned equity offering about 20 percent more frequently over a five-year period than those in the aggressive quartile, indicating a potential post-issue benefit to less-aggressive IPO earnings management	
Corporate finance, seasoned equity offerings, earnings management, accounting accruals, anomalies, market efficiency	Teoh, Welch and Wong	Earnings management and the underperformance of seasoned equity offerings	Journal of Financial Economics	COMPUSTAT, CRSP	1970-1989	1998	This paper examines whether pre-issue earnings managements, as reflected in discretionary accruals, explains the long-term underperformance of seasoned equity issuers		- Discretionary current accruals grow before the offering, peak in the offering year, and decline thereafter. This causes net income to grow before, peak in, and decline after the offering year - There is a negative relation between pre-issue discretionary current accruals and post-issue earnings and stock returns - The discretionary component of current accruals explains future returns as well as the book-to-market ratio does and considerably better than firm size	
Board of directors, earnings management, audit committee	Xie, Davidson and DaDalt	Earnings Management and Corporate Governance: The Roles of the Board and the Audit Committee	Journal of Corporate Finance	S&P 500 COMPUSTAT	1992, 1994, 1996	2002		Companies with a greater proportion of independent directors will be less likely to engage in earnings management than those whose boards are staffed primarily with inside directors	- Earnings management is less likely to occur or occurs less often in companies whose boards include both more independent outside directors and directors with corporate experience - The composition of the audit committee is associated with the level of earnings management and thereby may allow a committee to better perform oversight functions - The proportion of audit committee members with corporate or investment banking backgrounds is negatively related to the level of earnings management - There is an association between lower levels of earnings management and the meeting frequency of boards and audit committees	
Earnings management, cost of debt, securities offerings	Yixin, Ning & Davidson III	Earnings management surrounding new debt issues	Financial Review	Securities Data Corporation New Issues Database, Compustat, CRSP	1970-2004	2010		H1: Firms engage in income-increasing earnings management prior to bond issuuance H2: If the market does not fully understand the extent of earnings management, income-increasing earnings management at bond issuing at bond issuing firms may lead to a lower cost of debt	- Observed abnormal accruals are negatively related to the cost of bond financing when controlling for firm- and issue-specific characteristics - Income increasing earnings management leads to lower costs of debt financing	
Conservatism, debt contracting, covenant violation, spread	Zhang	The contracting benefits of accounting conservatism to lenders and borrowers	Journal of Accounting and Economics	CRSP, COMPUSTAT	1999-2000	2008	What are the contracting benefits of accounting conservatism in the debt contracting process	H1a: Ceteris paribus, the likelihood of a covenant violation following a negative shock increases in borrower conservatism H1b: Ceteris paribus, more conservative borrowers violate their covenants sooner than less conservative borrowers H2: Ceteris paribus, the cost of debt is lower for more conservative borrowers	- The likelihood of covenant violations after negative shocks increases in borrower conservatism, and more conservative borrowers violate covenants sooner - Lenders reduce the cost of debt to conservative borrowers - Performance pricing interacts with the sensitivity of the cost of debt to the level of conservatism - Conservatism, in addition to persistence and smoothness, incrementally reduces the cost of debt - Conservatism does not reduce the cost of equity	