

# Accounting Conservatism and Earnings Management in the Banking Industry

The effect of discretionary loan loss provisions on conditional accounting conservatism in the United States banking industry for the period of 2002 to 2007

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## Executive summary

Previous studies have examined the relation between accounting conservatism and earnings management. Those studies conclude that accounting conservatism reflected in earnings is explained mostly by the accrual component of earnings instead of the cash flow component (Roychowdhury and Watts, 2006 and Pae, 2007). To measure earnings management, the accrual component of earnings is often used. Because of the different nature of accruals at financial firms, in prior research, financial firms were not included into the samples (Pae, 2007, p. 688). This research introduces an approach to examine this relation for banks. The findings indicate that US bank managers use their discretion over loan loss provisions (large accruals for banks) to manage earnings and influence conditional accounting conservatism into the managements' desired direction.

For a full text copy of this master thesis refer to the following webpage:  
<http://hdl.handle.net/2105/5447>.

## 1. Introduction

This research will introduce an approach to examine the relation between accounting conservatism and earnings management for banks. It provides empirical evidence about the contribution of bank managers' discretionary accounting practices to conditional accounting conservatism. This research should answer to the question whether earnings management in the banking industry is counterbalanced by accounting conservatism. Therefore, the research question is:

*What is the association between conditional accounting conservatism and earnings management for the banking industry?*

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Moreover, this is an attempt to shed additional light on the accounting choices of bank managers related to accounting conservatism and earnings management. This could be an issue of empirical interest for this particular moment. The research could provide new insights into the period towards the economic crisis and the role of banks in this particular situation.

This article starts in section 2.1 with the content of the term accounting conservatism in general and in the banking industry. Section 2.2 explains the theory behind earnings management. Section 2.3 presents an explanation of the relation between accounting conservatism and earnings management. Finally section 2 ends with prior research designs to measure conservatism and earnings management (section 2.4). The hypotheses are presented in section 3. The research design and methodology is presented in section 4. In order to answer the main research question, section 5 will provide empirical result and the research analysis. Finally, in section 6, the conclusions will be presented and the limitations and suggestions for further research will be commented.

## 2. Prior literature

### 2.1 Accounting conservatism

Accounting conservatism is defined by Watts (2003, p. 208) as; "the differential verifiability required for recognition of profits versus losses. Its extreme form is the traditional conservatism adage: 'anticipate no profit, but anticipate losses'". This means that earnings are recognized when they are realized while losses are recognized immediately.

Accounting conservatism could be divided into unconditional accounting conservatism and conditional accounting conservatism (Beaver and Ryan, 2005, p. 269-270). Unconditional accounting conservatism is referred to as ex-ante or news-independent. In this case, the book value of net assets is understated due to predetermined aspects (adopted accounting methods and policies) of the accounting process; this is why unconditional conservatism is also called balance-sheets conservatism. Conditional accounting conservatism is ex-post or news-dependent or also referred to as earnings conservatism. Conditional accounting conservatism refers to the application of accounting methods and policies that recognize bad news in earnings on a timelier basis than good news. Pae (2007, p. 684) explains the difference with two examples:

*"Unconditional accounting conservatism include the immediate expensing of advertising and research and development expenditures, and the historical cost accounting for positive net present value projects (...) conditional accounting conservatism include the application of the lower of cost or market rule for inventory, the impairment test of long-lived assets, and the asymmetric treatment of contingent losses versus contingent gains".*

To investigate the use of conservatism empirically, the theoretical three-links framework (Ohlson, 1995; Feltham and Ohlson, 1995 and Nichols and Wahlen, 2004) of linking accounting earnings to share prices could be used. The theory assumes that current accounting earnings provide information to develop expectations about future accounting

earnings. These current and expected future accounting earnings determine expected future dividends. Finally, the share price consists of the present value of all expected future dividends. This framework links theoretically, accounting earnings to firm value.

Basu (1997, p. 3) uses this framework to link accounting earnings with share prices in order to measure conditional accounting conservatism. He interprets conservatism as accounting earnings reflecting 'bad news' (measured by negative stock returns) more quickly than 'good news' (measured by positive stock returns). Consequently, he documents that bad news in earnings are recognized on a timelier basis than good news. Pope and Walker (1999, p. 54) extend Basu's observations by developing new measures of conservatism by examining both earnings before extraordinary items and after extraordinary items.

Nichols et al (2008) investigate the subject of implications of conditional conservatism in bank accounting. Consistent with Liu and Ryan (1995, p. 78), Nichols et al. (2008, p. 90-91) use loan loss provisions relative to changes in non-performing loans as a measure for conservatism at banks. Several dimensions of loan loss accounting at banks reflect banks' credit risk management, which is an important element for the profitability. Moreover, loan loss accounting has a material effect on income statement items and on the balance sheet and captures a substantial degree of management estimations. Consequently, looking at loan loss accounting should be the way to investigate preferences for conservatism, according to Nichols (2008, p. 91).

## 2.2 Earnings management

Ronen and Yaari (2008, p. 26) present a formal definition<sup>2</sup> of earnings management: *“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”*.

In previous literature, earnings management is also referred to as accounts manipulation. Accounts manipulation is mainly due to the desire of management to influence the wealth transfers between the various stakeholders (Stolowy and Breton, 2004, p. 6). Stolowy and Breton describe a model (2004, p. 7-8) in which possibilities of wealth transfers between several stakeholders are outlined. The stakeholders involved in this model are the company itself, society, fund providers and managers. Depending on the actions of the manager, the firm or the manager benefits from the wealth transfer.

Previous studies regarding earnings management at banks measure earnings management, consistent with conservatism, via loan loss provisions (single accounting item approach) because these are relatively large accruals for commercial banks<sup>3</sup> (Ahmed et al., 1999, p. 2). Beaver and Engel (1996, p. 178) divide loan loss accounting in a discretionary and

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<sup>2</sup> Derived from Healy and Wahlen (1999, p. 368).

<sup>3</sup> Accruals are a measure for earnings management.

nondiscretionary part. They find that the discretionary part of loan loss provisions is positively related to earnings, which means that banks do use loan loss provisions to manage earnings. Cornett et al. (2006, p. 10-11) conclude that, as the level of bad loans increases (= non-discretionary), managers do not record discretionary loan losses because it would decrease the bank's income even more, which implies bank managers to use discretionary loan loss provisions to manage earnings. Another implication for earnings management is that the use of discretionary loan loss provisions to increase earnings is significantly related to the fraction of shares owned by the banks managers.

### **2.3 General relation between accounting conservatism and earnings management**

According to Watts (2003), opportunistic financial reporting is counterbalanced by accounting conservatism. Regarding information asymmetry, there is a need for verifiable accounting reports. Given the asymmetric information and payoffs between several parties involved, conservatism should, in theory, aid in efficient contracting between the firm and its stakeholders. Pae (2007, p. 685) explains that due to higher litigation costs, managers have incentives to understate earnings by expediting the recognition of bad news rather than good news. Management's discretion over accruals in that case leads to an increase in the level of accounting conservatism. On the other hand, the bonus incentive for managers leads to postponing or hiding bad news to achieve their bonus-plan goals. This will decrease the level of earnings conservatism. Consequently, in theory, the relation between earnings management and accounting conservatism is that opportunistic financial reporting is counterbalanced by accounting conservatism.

García Lara et al. (2005) investigate empirically the effects of earnings management on accounting conservatism directly. This relation is measured using the Basu (1997) model to measure conservatism and the Jones (1991) model to measure earnings management by partitioning total accruals in discretionary and non-discretionary accruals. Ball and Shivakumar (2006) study the relation between conditional accounting conservatism and earnings management also by investigating the role of accruals on the asymmetric timeliness of the recognition of gains and losses. They conclude that there is a major role for accounting accruals in recognizing gains and losses more timely, so before actual cash flow is realized and that, consistent with Basu (1997), accrued loss recognition is more prevalent than accrued gain recognition.

Pae (2007, p. 685) explains that, on one hand, managers have incentives to understate earnings by expediting the recognition of bad news and on the other hand, the bonus incentive is to postpone or hide bad news that will decrease the level of conditional conservatism. He tests empirically the impact of earnings management on conservatism. Pae (2007, p. 685) decomposes total accruals into non-discretionary (expected) and discretionary (unexpected) components and examines the relative contribution of expected and unexpected accruals to conditional accounting conservatism. Pae's results suggest that conditional accounting conservatism is primarily linked to the discretionary (managed) part of accruals rather than non-discretionary (unmanaged) accruals.

## 2.4 Prior research designs

### 2.4.1 Measuring accounting conservatism

Basu (1997, p. 290) measures conditional accounting conservatism by using the asymmetric standards for the verification of losses and gains which causes bad news (negative stock returns) to be more reflected in current earnings than good news (positive stock returns).

Nichols et al. (2008, p. 110-111) examines conservatism in the banking industry using loan loss provisions. Loan loss provisions are accrued expenses that are estimates of changes in expected future losses in the loan portfolio due to credit risk. Loan loss provisions reduce the net loans on the balance sheet and these loan loss provisions consequently increases loan loss allowances (which reflect the total amount of expected future loan losses).

Nichols et al. (2008, p. 111) state that the asymmetric timeliness of news reflected in earnings changes is traced to conservatism in several earnings components. Change in net income is decomposed in two parts: (1) change in earnings before loan loss provisions and (2) change in loan loss provisions. The focus of the regression analysis is on the persistence of change in loan loss provisions. An indication for conditional conservatism is that bad news about credit losses is assumed to have lower persistence and good news should have higher persistence.

### 2.4.2 Measuring earnings management

Because accruals are relatively large items that are subject to management's discretion, according to Healy (1985), and McNichols (2000), accruals are often used as a measure of earnings management. To measure earnings management, the development of accruals over a particular period is investigated. If management uses its discretion over accruals, for example, by overstating its accruals in the first period, the second period should, due to the nature of accruals, present a correction on this by a significant decrease in accruals.

A generally used approach in earnings management literature is the Jones model. Conceptually, total accruals (*TACC*) are decomposed into non-discretionary (*NDACC*) and discretionary accruals (*DACC*). The difference between total accruals and non-discretionary accruals is the discretionary component. In other words, discretionary accruals are the prediction error in the Jones (1991) accruals model.

Jones uses a two-step approach. First, a cross-sectional regression is performed for total accruals (*TACC*). Total accruals (*TACC*) are measured as the change in non-cash working capital plus depreciation and amortization<sup>4</sup>. Jones then regresses total accruals on the change in sales and property, plant and equipment.

$$(1) TACC_t/TA_{t-1} = \beta_0 (1/TA_{t-1}) + \beta_1 (\Delta REV_t/TA_{t-1}) + \beta_2 (PPE_t/TA_{t-1}) + \varepsilon_t$$

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<sup>4</sup>  $TACC = \Delta(CA-CASH) - \Delta(CL-CBORR) - (DEP+INT)$ . CA is total current assets, CASH is total cash and equivalents, CL is current liabilities, CBORR is borrowings repayable within 1 year, DEP is depreciation, and INT is amounts written off intangibles.

Where  $TA$  is total assets,  $\Delta REV$  is the change in revenue and  $PPE$  is property, plant and equipment.  $\Delta REV$  and  $PPE$  control for the non-discretionary part of total accruals since those items are associated with changes in operating activity and level of depreciation.

The second step is to use these industry-year parameter estimates from the previous equation (1) to divide the total accruals into a discretionary part ( $DACC$ ) and a non-discretionary part ( $NDACC$ ). Non-discretionary accruals ( $NDACC$ ) are the predicted part of total accruals and discretionary accruals ( $DACC$ ) are the residual resulting from this regression.

$$(2) DACC_t = TACC_t / TA_{t-1} - NDACC_t$$

$$(3) DACC_t = TACC_t / TA_{t-1} - [B_0 (1 / TA_{t-1}) + B_1 (\Delta REV_t / TA_{t-1}) + B_2 (PPE_t / TA_{t-1})]$$

$B_0$ ,  $B_1$  and  $B_2$  are the industry-year parameter estimated in regression (1).

According to prior literature, bank's earnings changes could be decomposed into changes in earnings before loan loss provisions and changes in loan loss provisions. Since loan loss provisions have a relatively large discretionary impact on earnings, loan loss provisions is used to measure earnings management (Nichols et al., 2008, p. 111).

Ahmed et al. (1999, p. 11-12) regress loan loss provisions, amongst others, on changes in non-performing loans divided by average loans outstanding and earnings before taxes and loan provisions divided by average total asset, because these are relatively nondiscretionary components, following the approach of Nichols et al. (2006, p. 113). By doing this, the discretionary components of loan loss provisions can be distilled. Because loan loss provisions have a discretionary part, which is subject to management's estimations and judgments (Liu and Ryan, 1995, p. 80), earnings management can be measured by examining the relation between earnings and loan loss provisions.

#### 2.4.3 Measuring the relation between accounting conservatism and earnings management

Pae (2007, p. 686), Garia Lara et al. (2005, p. 704) and Roychowdhury and Watts (2007, p. 10) expect, according to Basu (1997), the asymmetric standards for the verification of losses and gains to cause bad news (negative stock returns) to be more reflected in current earnings than good news (positive stock returns). This principle is expressed in the following regression (Basu, 1997):

$$(4) E_t / P_{t-1} = a + \beta R_t + \gamma R_t D + \varepsilon_t$$

$E_t$  is annual earnings per share,  $P_{t-1}$  is the beginning-of-fiscal-year market value of equity,  $R_t$  is concurrent stock returns, and  $R_t D$  is an indicator variable that equals one if  $R_t$  is negative and zero if  $R_t$  is positive. According to the Basu (1997) model,  $\beta$  measures the response of earnings to positive returns, while  $(\beta + \gamma)$  measures the response when returns are negative. As stated before, conservatism means that earnings reflect 'bad news' more

quickly than 'good news' implying that  $(\beta + \gamma) > \beta$ , which means that  $\gamma > 0$ . Basu (1997) calls  $\gamma$  the asymmetric timeliness coefficient.

Pae (2007, p. 686-687) and García Lara et al. (2005, p. 706-708) state that the relative contribution of earnings components or the relative contribution of expected (non-discretionary) and unexpected (discretionary) accruals to conditional accounting conservatism, reflected in earnings, could be inferred by substituting earnings components for  $E_t$  in regression (4). In this case, respectively  $CF_t$  for cash flows,  $ACC_t$  for accruals, or non-discretionary and discretionary accruals. By doing this, the effect of earnings management can be determined since accruals is the measure for earnings management, in particular discretionary accruals. These non-discretionary and discretionary accruals are estimated from the Jones (1991) model.

The differential timeliness of earnings and earnings components is estimated by a regression of earnings and its components, cash flows and its accruals (expected and unexpected), on concurrent stock returns (Pea, 2007, p. 691). The level of conditional accounting is measured by the coefficient estimate  $\gamma$ , which indicates the timeliness of earnings and its components, between bad news and good news. Earnings management is measured by the ratio of  $\gamma$  for accruals and discretionary accruals to earnings.

### 3. Hypotheses

After the previously enumerated and explained theory and empirical literature, hypothesis regarding the relation between conditional accounting conservatism and earnings management can be developed.

As commented in the previous section, Basu (1997) uses the rate of stock returns to find evidence of the existence of accounting conservatism reflected in earnings at non-financial US firms. He documents that bad news in earnings are recognized on a timelier basis than good news. Extending this conclusion to the banking industry results in the expectation of existence of earnings conservatism in the banking industry as well. Moreover, Nichols et al. (2008) concludes that banks use conditional conservatism as well. This hypothesis is strengthened by the conclusion of Nichols et al. (2008) that publicly traded banks exhibit a greater degree of conditional accounting conservatism. This implies a greater chance of concluding existence of conservatism at publicly traded banks.

$H_1$ :

*Conditional accounting conservatism does exist in the banking industry.*

Beatty et al. (1995, p. 249) finds that the discretionary part of loan loss provisions is positively related to earnings, which means that banks do use loan loss provisions to manage earnings. On the other hand, Watts (2003) states that, to achieve efficient contracting a demand exists for verifiable accounting reports. Based on the asymmetric information and payoffs between several contracting parties, the use of accounting conservatism should aid in efficient contracting between the firm and its stakeholders. Consequently, there is a need to limit opportunistic (biased) reporting by firms.

Pae (2007, p. 685) explains that due to higher litigation costs, managers have incentives to understate earnings by expediting the recognition of bad news than good news which leads to an increase of the level of accounting conservatism. The bonus incentive for managers leads on the other hand to postponing or hiding bad news to achieve their bonus-plan targets that decrease the level of earnings conservatism.

Since earnings management is measured via discretionary loan loss provisions, the hypothesis regarding the relation between earnings management and earnings conservatism is that opportunistic financial reporting using loan loss provisions is counterbalanced by accounting conservatism.

*H<sub>2</sub>:*

*Discretionary loan loss provisions do not contribute to conditional accounting conservatism reflected in earnings.*

#### **4. Research design**

In this section, the methodology used for the empirical part of this research is presented and explained. The first part will introduce the type of research. Then the research model is explained. Finally, the data sample used for this research is presented.

##### **4.1 Type of research**

According to Baarda and de Goede (2001, p. 90) an examination-based, or also as referred to evaluative research, should be performed to research with the previously described objective. Because, to investigate expectations and relations between different concepts, the expectations should be tested by comparing related theory and empirical data. This means that, to begin with, expectations should be expressed in one or more hypotheses. These hypotheses are based on related theory and previous (empirical) literature (Baarda and de Goede. 2001, p. 91). During the research, the hypotheses are tested with empirical data. The aim is to investigate whether the hypothesis are true or false. Based on the comparison of the hypothesis with empirical data conclusions can be drawn. Verschuren en Doorewaard (2007, p. 292) state that examination-based research is often used for empirical investigation. According to them, this kind research is quantitative because particular numerical relations are being investigated, also referred to as statistical research. Therefore, statistical methods should be used in order to conclude whether the hypotheses are empirically significant<sup>5</sup>.

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<sup>5</sup> Statistical significant means that the probability that your conclusions are based on coincidence is lower than 1%, 5% or 10% (Baarda and de Goede, 2001, p. 371).



## 4.2 Research model

### 4.2.1 Conditional accounting conservatism

To determine the existence of the conditional conservatism reflected in earnings, the Basu (1997) model is used, consistent with García Lara et al. (2005) and Pae (2007). Conditional accounting conservatism (according to Basu 1997) is the timeliness of earnings with respect to stock returns and is inferred based on the regression in the previous sections:

$$(1) E_t / P_{t-1} = a + \beta R_t + \eta D + \gamma R_t D + \varepsilon_t$$

As explained before, the  $\beta$  parameter measures the response of earnings to positive returns, while  $(\beta + \gamma)$  measures the response when returns are negative. Conditional conservatism, consistent with García Lara et al. (2005) and Pae (2007), is interpreted as earnings reflecting 'bad news' on a timelier basis than 'good news'. This means that the coefficient estimates for bad news  $(\beta + \gamma)$  should be higher than the coefficient for good news  $\beta$ . This implies that if earnings conservatism exists,  $\gamma$  should be greater than zero<sup>6</sup>. Consequently,  $\gamma$  is the asymmetric timeliness coefficient.

To measure the association between conditional conservatism and earnings management the Basu (1997) model will be used again (García Lara et al., 2005 and Pae, 2007) but loan loss provisions (*LLP*) is distilled as a separate earnings component (Nichols et al., 2008, p. 111). In order to measure the association between that earnings component which is expected to be managed, the disentangling loan loss provisions are necessary. This component is, according to previously described literature, the loan loss provisions. The regression to measure the contribution of the loan loss provisions component to level of conditional accounting conservatism is the following.

$$(2) LLP_t / P_{t-1} = a + \beta R_t + \eta D + \gamma R_t D + \varepsilon_t$$

Consistent with Pae (2007, p. 691-692) and the content of the previous paragraph, the degree of conditional earnings conservatism is measured by  $\gamma$ , the difference in timeliness of earnings, or its components, between bad news and good news.

### 4.2.2. Earnings management

According to the Jones model (1991), to disentangle the effect of earnings management a cross-sectional regression on the total loan loss provisions (*LLP*) will be executed. In the first step, total loan loss provisions (*LLP*) are estimated, consistent with Nichols et al. (2008, p. 113-114), by the following regression model:

$$(3) LLP_t = \beta_0 + \beta_1 NPL_t + \beta_2 NCO_t + \beta_3 LLA_t + \beta_4 HOMP_t + \beta_5 CAPRAT_t + \varepsilon_t$$

*NPL* are the non-performing loans and *NCO* is the net charge-offs. *LLA* is loan loss allowances, *HOMP* is the homogeneous loans (family loans plus consumer loans), and

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<sup>6</sup> If  $(\beta + \gamma) > \beta$ , then  $\gamma > 0$ .

*CAPRAT* is the tier one risk based capital ratio<sup>7</sup>. According to Nichols et al., (2008, p. 114) managers' expectations of loan losses (which are reflected in loan loss provisions) are based on delinquent loans (*NPL*). Loan loss provisions are also related to loan charge-offs (*NCO*), which are realized loan losses.

According to Ryan (2007), it is expected that high  $LLA_t$  imply lower loan loss provisions because of over-reservation. Liu and Ryan (2006) state that banks with higher  $HOMP_t$  have lower loan loss provisions because; “banks recognize provisions for these types of loans in the first year using statistical methods to estimate future loan losses, resulting in lower provisions later in the lives of these loans”. In order to absorb potential loan losses, banks with greater credit risk in the loan portfolio maintain higher capitalization levels, implying a positive relation between  $CAPRAT_t$  and  $LLP_t$ . These last three variables ( $LLA_t$ ,  $HOMP_t$ , and  $CAPRAT_t$ ) are included to control for differences in expected loan loss provisions across banks (Nichols, 2008, p. 114).

Because it is assumed that, on average, there is no earnings management in the industry as a whole, for the second step following the Jones (1991) model, these industry-year parameter estimates from equation (3) are used to divide the  $LLP$  into a discretionary part ( $DLLP$ ) and a non-discretionary part ( $NDLLP$ ).  $NDLLP$  is the predicted<sup>8</sup> part of  $LLP$  and  $DLLP$  is the residual resulting in this regression:

$$(4) NDLLP_t = B_0 + B_1NPL_t + B_2NCO_t + B_3LLA_t + B_4HOMP_t + B_5CAPRAT_t$$

$$(5) DLLP_t = LLP_t - NDLLP_t$$

$$DLLP_t = LLP_t - [B_0 + B_1NPL_t + B_2NCO_t + B_3LLA_t + B_4HOMP_t + B_5CAPRAT_t]$$

$B_0$ ,  $B_1$ ,  $B_2$ ,  $B_3$ ,  $B_4$  and  $B_5$  are the estimated parameters in the regression (3).

#### 4.2.3 Conditional accounting conservatism and earnings management

To determine the ratio of the part of the conditional accounting conservatism that is explained by the discretionary component of the loan loss provisions ( $DLLP$ ) and the part explained by the non-discretionary part of the loan loss provisions ( $NDLLP$ ), an analysis will be performed on the differential timeliness parameter  $NDLLP$  and on  $DLLP$  (regression 6 and 7).

$$(6) NDLLP_t = a + BR_t + \eta D + \gamma R_t D + \varepsilon_t$$

$$(7) DLLP_t = a + BR_t + \eta D + \gamma R_t D + \varepsilon_t$$

This last step is to measure the contribution of earnings management to conditional accounting conservatism. On the next page, in the figure an overview is presented of the structure of this research.

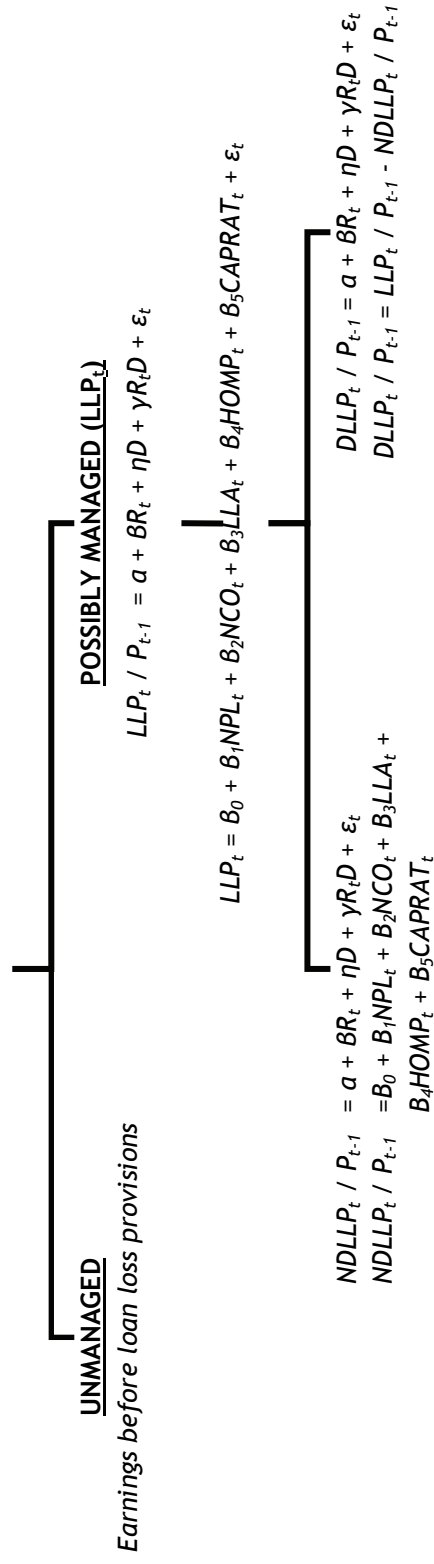
<sup>7</sup> The capital ratio is the percentage of a bank's capital to its risk-weighted assets.

<sup>8</sup> Predicted by regression (3).

Figure 4.1

Overview of research model

$$E_t / P_{t-1} = a + \beta R_t + \eta D + \gamma R_t D + \varepsilon_t$$



### 4.3 Data sample

The data used in this research will come from data of annual stock returns, accounting earnings, and loan loss provisions of 218 listed<sup>1</sup> banks in the United States for the period of 2000 to 2007. Datastream provides the data of annual stock prices. For the other data, the Bankscope database is used. Bankscope contains financial information of over 28,000 banks worldwide and captures balance sheet data and income and expenses as well as ratios and other annual financial data.

Table 4.1

#### Descriptive statistics

Panel A: Full Sample - 1.962 Observations					
<i>Variable</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>First Quartile</i>	<i>Median</i>	<i>Third Quartile</i>
MV	3.486,51	20.487,14	88,35	196,34	608,41
R	0,094	0,307	-0,086	0,062	0,241
E	0,076	0,041	0,059	0,072	0,091
LLP	0,019	0,030	0,006	0,011	0,022

*Notes:*

MV = Market value of common equity.

R = Annual stock returns for the fiscal year.

E = Net income deflated by beginning-of-the-year market value of common equity MV.

LLP = Loan loss provisions deflated by beginning-of-the-year market value of common equity

**Panel B: Full Sample - 1.962 Observations**

<i>Variable</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>First Quartile</i>	<i>Median</i>	<i>Third Quartile</i>
LLP	87,42	707,94	0,80	2,28	6,88
NCO	81,82	632,06	0,43	1,48	5,80
HOMP	10.458,30	58.232,12	419,37	833,04	2.287,32
NPL	89,88	628,86	1,41	4,20	13,79
LLA	168,10	1.014,57	5,00	10,40	30,49
TL	10.292,14	57.243,53	536,72	1.033,90	2.725,93
TA	21.470,26	138.273,65	650,57	1.244,90	3.260,55
CAPRAT	12,20	3,81	10,20	11,60	13,00

*Notes:* All in mln. \$

LLP = Loan loss provisions.

NCO = Net charge-offs.

HOMP = The amount of consumer loans.

NPL = Non-performing loans.

LLA = Loan loss allowances.

TL = Total liabilities.

TA = Total assets.

CAPRAT = The Tier 1 Capital ratio.

<sup>1</sup> According to Nichols et al. (2008, p. 113) public banks use greater conditional accounting conservatism.

## 5. Results

### 5.1 Conditional accounting conservatism

Conditional accounting conservatism is measured by the difference in timeliness of earnings between bad news (negative stock returns) and good news (positive stock returns). This is expressed by the coefficient estimate on  $R_tD$ , which is  $\gamma$ . Table 1 presents the regression results of this measure.

Table 5.1

#### Asymmetric timeliness of earnings

<i>Basu measure</i>		
<i>Dependent variable</i>	<i><math>\gamma</math></i>	<i>Sig.</i>
E	-0,124	0,000

Notes:

E = Net income.

As presented in the table,  $\gamma$  the mean differential timeliness estimate of earnings ( $E$ ) from the regression is -0.124, which is significant at the 0.01 level. This indicates that the timeliness of bad news, represented as negative stock returns, is less than the timeliness of good news, represented in positive stock returns. Because  $\gamma$  is smaller than zero, accounting earnings reflect bad news less quickly than good news, which means that bad news is recognized in earnings on a less timely basis than good news. Consequently, the conclusion would be that US banks were not conservative in the period of 2000 to 2007 and the first hypothesis should be declined. There is no conditional accounting conservatism in the banking industry in the period 2000 to 2007.

Because loan loss provisions is the earnings component that is expected to be managed, measuring the association between the conditional conservatism and earnings management, loan loss provisions are disentangled. The Basu (1997) model is re-run but accounting earnings ( $E$ ) is substituted by its component loan loss provisions ( $LLP$ ).

Table 5.2

#### Asymmetric timeliness of loan loss provisions

<i>Basu measure</i>		
<i>Dependent variable</i>	<i><math>\gamma</math></i>	<i>Sig.</i>
LLP	-0,020	0,068

Notes:

LLP = Loan loss provisions.

Again,  $\gamma$  is smaller than zero that means that loan loss provisions reflect bad news less quickly than good news. Consequently, the conclusion would be that in the researched period, US banks were not conservative regarding their loan loss provisions.

The non-conservative accounting policies can also be pointed out in the development of loan loss provisions in the period 2000 to 2007.

**Table 5.3**

**Development of loan loss provisions**

<i>Year</i>	<i>Average LLP</i>	<i>Average NPL</i>	<i>LLP / NPL</i>
2000	55	76	0,724
2001	95	98	0,969
2002	107	119	0,899
2003	78	97	0,804
2004	66	81	0,815
2005	84	67	1,254
2006	83	71	1,169
2007	180	148	1,216

*Notes:*

LLP = Loan loss provisions.

NPL = Non-performing loans.

**Figure 5.1**

**Development of loan loss provisions**

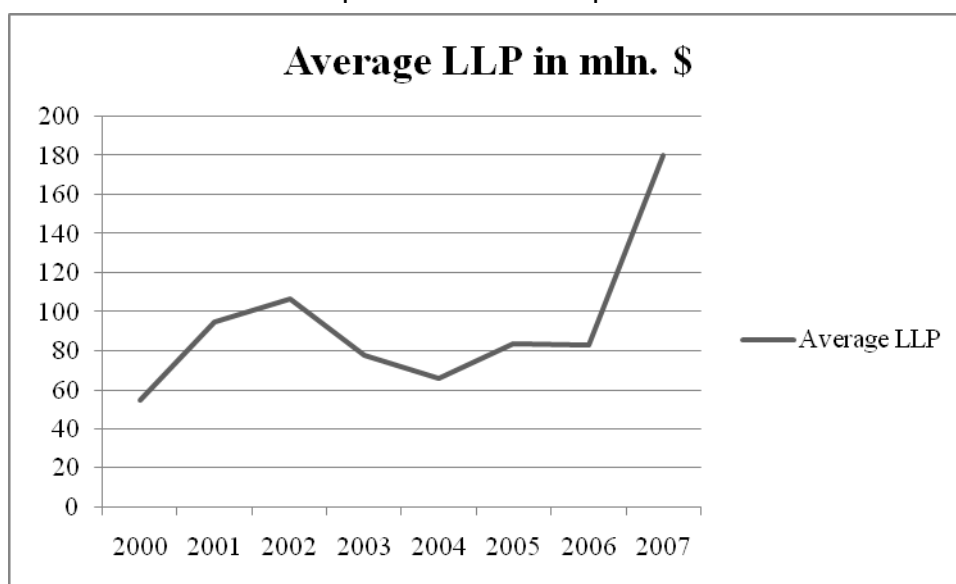
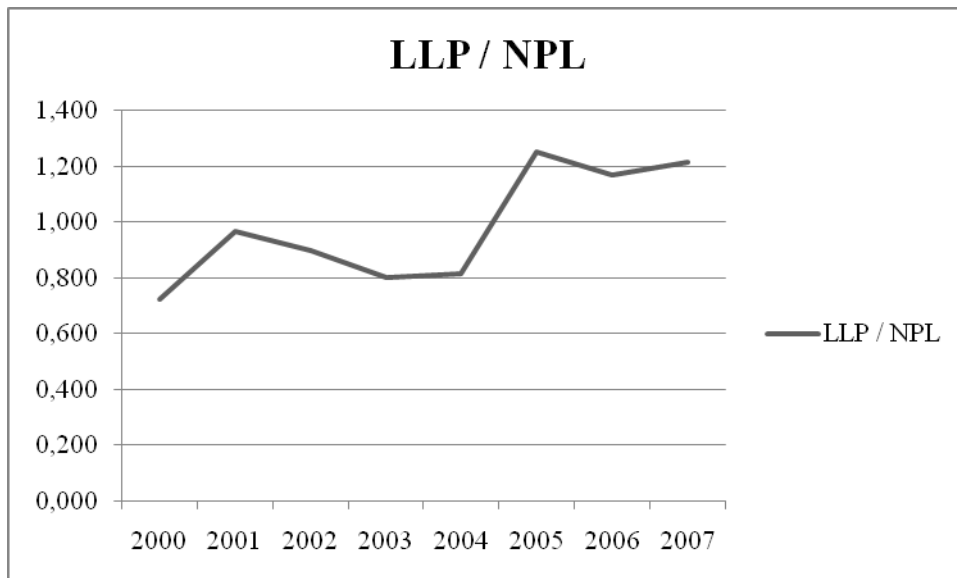


Figure 5.2

Development of loan loss provisions related to non performing loans



As presented in table 3 and in figure 1, in 2007 the average loan loss provisions significantly increased. This is an indication that the reported loan loss provisions in previous years were too low and that there was a need to correct for that in 2007. Another indication for earnings management, as shown in figure 2, is that in the period of 2000 to 2004, the average reported provisions were less than 100% of the average non-performing loans. This trend reversed in the period of 2005 to 2007 where the average reported loan loss provisions were more than 100% of the non-performing loans, which is again an indication for a correction on the previous period. These corrections are an indication for earnings management as referred to by McNichols (2000) and explained in section 2.

Because of using earnings management this non-conservative behaviour is expected. In the next sections, the influence of earnings management will be further investigated.

### 5.2 Discretionary loan loss provisions and conditional accounting conservatism

To disentangle the effect of earnings management the Jones model (1991) is used in order to determine which part of loan loss provisions is non-discretionary and which part is discretionary (managed). To recall the regression formula to estimate loan loss provisions:

$$LLP_t = B_0 + B_1NPL_t + B_2NCO_t + B_3LLA_t + B_4HOMP_t + B_5CAPRAT_t + \varepsilon_t$$

Table 5.4

Parameter estimates of LLP			
<i>Variable</i>		<i>Coefficient</i>	<i>Sig.</i>
Constant	B0	-28,715	0,036
NPL	B3	0,38	0,000
NCO	B1	0,673	0,000
LLA	B4	-0,135	0,000
HOMP	B2	0,003	0,000
CAPRAT	B5	1,516	0,152

*Notes:*  
 NCO = Net charge-offs.  
 HOMP = Consumer loans.  
 NPL = Non-performing loans.  
 LLA = Loan loss allowances.  
 CAPRAT = The Tier 1 Capital ratio.

Table 4 shows the parameter estimations of *LLP* resulting from the regression. According to the Jones (1991) model, these estimations determine what *LLP* should be, non-discretionary, not managed. This means that the discretionary, managed, part of *LLP* is the difference between the reported *LLP* and the estimated *LLP* from the regression. According to this regression and its estimated parameters, the amount of non-discretionary loan loss provisions can be expressed in the following formula:

$$NDLLP_t = -28,715 + 0,38*NPL_t + 0,673*NCO_t - 0,135*LLA_t + 0,003*HOMP_t + 1,156*CAPRAT_t$$

Next, an analysis will be performed on the non-discretionary loan loss provisions and the differences between the reported loan loss provisions.

In table 5, the average reported loan loss provisions (*LLP*) and the non-discretionary loan loss provisions (*NLLP*), resulting from the Jones regression, are presented.

Table 5.5

Reported and non-discretionary loan loss provisions	
	<i>Average</i>
NDLLP	93,46
LLP	87,42
DLLP	6,04

*Notes:*  
 NDLLP = Non-discretionary loan loss provisions.  
 LLP = Loan loss provisions.  
 DLLP = Discretionary Loan loss provisions.

Table 5 shows that the average reported loan loss provisions are lower than the expectation of loan loss provisions based on the regression (*NDLLP*). Consequently, because the reported loan loss provisions are lower than they should be this is an indication for not being conservative as well. Consequently, the conclusion, in accordance with the previous section, is that banks manage loan loss provisions downwards. This downward manipulation is not conservative.



### 5.3 Timeliness of discretionary and non-discretionary loan loss provisions

By decomposing loan loss provisions into discretionary and non-discretionary components, earnings management would be reflected in discretionary loan loss provisions. Earnings management could be understatement of expenses and overstatement of gains but unnecessary overstatement of expenses and understatement of gains as well.

An analysis is done on the differential timeliness parameter *NDLLP* and *DLLP* to determine the which part of conditional accounting conservatism is explained by the discretionary (managed) component of loan loss provisions (*DLLP*) and the part explained by the non-discretionary (unmanaged) part of loan loss provisions (*NDLLP*).

**Table 5.6**

Asymmetric timeliness of earnings, loan loss provisions and non-discretionary and discretionary loan loss provisions

<i>Basu measure</i>		
<i>Dependent variable</i>	<i>γ</i>	<i>Sig.</i>
E	-0,124	0,000
LLP	-0,020	0,068
NDLLP	0,120	0,002
DLLP	-0,140	0,001

*Notes:*

E = Net income.

LLP = Loan loss provisions.

NDLLP = Non-discretionary loan loss provisions.

DLLP = Discretionary loan loss provisions.

Table 6 shows that 16% (-0,020/-0,124) of the differential timeliness of earnings with respect to earnings is explained by the loan loss provisions component of earnings. The rest of the table shows averages of the differential timeliness estimates of the non-discretionary (*NDLLP*) and discretionary parts of loan loss provisions (*DLLP*). Consistent with Pae (2007, p. 692), the sum of the differential timeliness of non-discretionary and discretionary loan loss provisions is the differential timeliness of loan loss provisions.

The average differential timeliness of discretionary loan loss provisions is -0,140. This indicates that discretionary loan loss provisions reflect bad news less quickly than good news, which means that bad news is recognized in discretionary loan loss provisions on a timelier basis than good news. The average differential timeliness of non-discretionary loan loss provisions is 0,120, which means that bad news is recognized in non-discretionary loan loss provisions on a timelier basis than good news. This all indicates that the part of loan loss provisions managers have discretion over, is managed into a non-conservative direction. The part of loan loss provisions managers cannot use their discretion is conservative. Consequently, the second hypothesis should be accepted; earnings management does not contribute to conservatism but is decreases conservatism.

Summarizing, when loan loss provisions are decomposed in a discretional and in a non-discretional part, the discretional part is managed non-conservative and in the non-discretional part, conservatism is practiced. According to section 6.1.2 in 2007, the

average amount of loan loss provisions significantly increases. In the next section will be investigated what the influence of this increase is to the level of conservatism in the year 2007.

**5.4 The year 2007**

As presented in table 7,  $\gamma$  the mean differential timeliness estimate of earnings ( $E$ ) from the regression is 0.142, indicating that the timeliness of bad news for 2007 is higher than the timeliness of good news. This means that for 2007, in contrary to the average of period 2000 to 2007, bad news is recognized in earnings on a timelier basis than good news. The conclusion for 2007 would be that US banks were conservative in that particular year. This is consistent with the expectations of section 7.1.2 which presented that the amount of loan loss provisions significantly increased in 2007 in order to correct for non-conservative accounting practice in the period before.

**Table 5.7**

Asymmetric timeliness of earnings, loan loss provisions and non-discretionary and discretionary loan loss provisions

<i>Basu measure</i>		
<i>Dependent variable</i>	$\gamma$	<i>Sig.</i>
E	0,142	0,502
LLP	0,073	0,505
NPLLP	0,033	0,828
DLLP	0,040	0,742

*Notes:*  
 E = Net income.  
 LLP = Loan loss provisions.  
 NDLLP = Non-discretionary loan loss provisions.  
 DLLP = Discretionary loan loss provisions.

The rest of table 7 shows the earnings component loan loss provision decomposed into discretionary and non-discretionary part. 51,4% (0.073/0.142) of the differential timeliness of earnings is explained by the differential timeliness of loan loss provisions. For  $LLP$ ,  $\gamma$  is now greater than zero that means that also loan loss provisions reflect bad news more quickly than good news in 2007. Consequently, for  $LLP$  the conclusion for 2007 would also be that US banks were conservative regarding their loan loss provisions.

The average differential timeliness of discretionary loan loss provisions for 2007 is 0,040. This means that bad news is recognized in discretionary loan loss provisions on a timelier basis than good news. The average differential timeliness of non-discretionary loan loss provisions is now 0,033, consequently in 2007 bad news is recognized in non-discretionary loan loss provisions on a timelier basis than good news.

The above results of 2007 indicates that the part of loan loss provisions managers have discretion over, is in 2007, in contrary with the period 2000 to 2007, managed into a conservative direction. The part of loan loss provisions managers cannot use their

discretion is conservative as well. Consequently, the conclusion would be that due to non-conservative behaviour, which is practiced by using earnings management regarding loan loss provisions, US bank managers had to correct for that in 2007 where the average amount of loan loss provisions increased significantly. This resulted in a conservative year 2007. These results and conclusions are consistent with the conclusions of McNichols (2000) and as explained in section 2.

## **6. Conclusions, limitations and recommendation for further research**

### **6.1 Conclusions**

Conditional accounting conservatism is measured by the difference in timeliness of earnings between bad news and good news. The results of previously performed research indicates that the timeliness of bad news, represented as negative stock returns, is less than the timeliness of good news, represented in positive stock returns. The conclusion was that US banks were not conservative in the period of 2000 to 2007. In other words, there was no conditional accounting conservatism in the banking industry in the period 2000 to 2007.

Loan loss provisions are the earnings component that is expected to be managed. Therefore, in order to measure the association between the conditional conservatism and earnings management, loan loss provisions are disentangled and measured in relation with conditional accounting conservatism. The results show that loan loss provisions reflect bad news less quickly than good news. This means that US banks were not conservative in the period of 2000 to 2007 regarding their loan loss provisions.

By decomposing loan loss provisions into discretionary and non-discretionary components (*NDLLP*), earnings management would be reflected in discretionary loan loss provisions (*DLLP*). The analysis on the differential timeliness parameters *NDLLP* and *DLLP* determined which part of conditional accounting conservatism is explained by the discretionary (managed) component of loan loss provisions and the part explained by the non-discretionary (unmanaged) part of loan loss provisions.

The average differential timeliness of discretionary loan loss provisions indicated that discretionary loan loss provisions reflect bad news less quickly than good news, which means that bad news is recognized in discretionary loan loss provisions on a timelier basis than good news. The average differential timeliness of non-discretionary loan loss provisions is indicated that bad news is recognized in non-discretionary loan loss provisions on a timelier basis than good news. Consequently, the conclusion is that the part of loan loss provisions managers have discretion over, is managed non-conservative direction and the part of loan loss provisions managers cannot use their discretion is conservative.

This conclusion is strengthened by the findings in the development of loan loss provisions in the period 2000 to 2007. In 2007, the average loan loss provisions significantly increased which indicated that the reported loan loss provisions in previous years were too low and

that there was a need to correct for that in 2007. Another indication for earnings management is that in the period of 2000 to 2004, the average reported provisions were less than 100% of the average non-performing loans. This trend reversed in the period of 2005 to 2007 where the average reported loan loss provisions were more than 100% of the non-performing loans, which is again an indication for a correction on the previous period. This reversion is an indication for earnings management as referred to in theory and empirical literature.

Investigating the year 2007 separately, indicates that the part of loan loss provisions managers have discretion over, is in contrary with the period 2000 to 2007, managed into a conservative direction. The part of loan loss provisions managers cannot use their discretion is conservative as well. This means that due to non-conservative behaviour, which is practiced by using earnings management regarding loan loss provisions, US bank managers had to correct for that behaviour in 2007. This resulted in a conservative year 2007.

According to the previous findings, the main research question could be answered. The main research question was, according to the introduction:

*What is the association between conditional accounting conservatism and earnings management for the banking industry?*

When loan loss provisions are decomposed in a discretionary and in a non-discretionary part, the part of loan loss provisions managers have discretion over, is managed into a non-conservative direction. The part of loan loss provisions managers cannot use their discretion is conservative. Consequently, the conclusion is that US bank managers use their discretion over loan loss provisions to manage earnings and influence conditional accounting conservatism into the managements' desired direction.

## **6.2 Limitations and recommendation for further research**

This research examines the relation between accounting conservatism and earnings management. Consistent with prior research, loan loss provisions are used to measure earnings management because of the relatively large discretionary approach that is due to estimations of bank managers. During the recent credit crisis, banks played an important role by valuating their assets at fair value. Afterwards, it can be concluded that this fair value approach might not have been sufficient to present a true and fair view of the financial situation of the particular banks. Consequently, a limitation of this research could be the use of loan loss provisions to measure earnings management regarding banks. As seen in the results of this research, earnings components other than loan loss provisions could influence conservatism as well. The development of the credit crunch can put its light on other methods of earnings management used by bank managers. An example could be the use and valuation of special purpose vehicles. Moreover, financial instruments, in particular the qualification of these instruments, could be a method of earnings management used by bank managers as well. Nevertheless, identifying earning

management regarding the credit crunch is still very difficult. Many institutions do not have a proper explanation for what have happened and how it could have happened.

Therefore, further research can build on the possible limitation of using loan loss provisions as a measure of earnings management. New measures can be developed, maybe determined after the credit crunch is finished and it is clear what other methods bank managers used to manage earnings, causing the credit crisis.

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