

Earnings Management in the Banking Industry

The consequences of IFRS implementation on discretionary use of loan loss provisions

Renick van Oosterbosch¹

Executive summary

Prior research suggests that banks have an incentive to smooth income through loan loss provisions (LLPs), but there has been no research on the effects of IFRS implementation on this. Using a sample of European banks and a single-stage regression that models the non-discretionary part of LLPs and tests for income smoothing I examine first whether the level of earnings management by banks through loan loss provisioning has decreased since the IFRS-adoption. And second, whether loan loss disclosure requirements are negatively related to banks' income smoothing. Results show that the level of earnings management has indeed decreased since IFRS adoption. However, evidence suggests that detailed disclosure requirements regarding loan loss accounting do not deter bank managers from using LLPs to their discretion for income smoothing.

For the full text of this master thesis refer to the following webpage:
<http://hdl.handle.net/2105/5611>.

1. Introduction

Banks and other financial institutions are often excluded from earnings management research because their characteristics differ fundamentally from other firms (Peasnell, Pope and Young, 2000). There have been previous empirical studies investigating earnings management by banks though. These studies have focused on loan loss provisions (LLPs) as a tool for earnings management. LLPs are a relatively large accrual for banks and therefore have a significant impact on earnings. The purpose of these provisions is to adjust banks' loan loss reserves to reflect expected future losses on their loan portfolios. Yet bank

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managers also have incentives to use these loan loss provisions to manage earnings (Ahmed et al., 1999, p. 2). To date though there have not been any studies investigating the effects of IFRS adoption on the level of earnings management by banks using loan loss provisions. IFRS was introduced in the European Union in 2005 to improve transparency and comparability of financial statements, and for banks specifically, detailed disclosures on loan losses are required under IFRS. The main research questions of this paper are derived from this:

‘What is the effect of the adoption of IFRS on the level of earnings management by banks?’

And:

‘What is the effect of loan loss accounting disclosure requirements on the level of earnings management by banks?’

This research contributes to accounting literature in a number of ways. First of all, to my knowledge this study is the first of its kind that investigates the effects of the adoption of IFRS on earnings management by banks in specific. Secondly, I distinguish between publicly listed and unlisted privately owned banks. Incentives to engage in earnings management through loan loss provisioning can differ between listed and unlisted banks, and unlisted banks also face less regulatory pressure (Anandarajan et al., 2007). My research controls for these differences among banks, while most other researches include only listed banks. And finally, I have constructed a measure of disclosure requirements regarding loan loss accounting. This measure ranks the required disclosures regarding loan losses of the generally accepted accounting principles (GAAP) in the various countries contained in the sample, as well as IFRS and US GAAP. Such a measure did not exist before.

This paper is structured as follows: incentives for banks to manage earnings, prior literature and consequences of IFRS for banks will be discussed in section 2. In section 3 I will present my research hypotheses and research design. The results of this study and an analysis of these results will be discussed in section 4, and finally a summary is included in section 5.

2. Earnings management incentives, IFRS for banks and prior literature

2.1 Earnings management incentives for banks

To measure earnings management a number of approaches can be taken:

- ❖ The first approach attempts to identify discretionary accruals based on the relation between total accruals and hypothesized explanatory factors. Models using this approach are referred to as total accrual models (for example the Healy model [1985] and Jones model [1991]).
- ❖ The second approach to test for earnings management is to model a specific accrual. In empirical research using specific accrual models, the focus is often on a specific industry, where a single accrual or a set of accruals is sizeable and requires substantial judgment.

❖ The third approach is to observe the behaviour of accruals around a specific benchmark. This approach examines statistical properties of earnings to identify behaviour that influences earnings.

Considering the nature of the research, the specific accrual approach is most suitable for my research. This is because I am focusing on a single industry characterized by industry-specific accruals. Banks and other financial institutions are often excluded from samples in earnings management research, since their financial reporting environments differ from those of industrial firms. They have fundamentally different accrual processes that are not likely to be captured well by total accrual models (Peasnell, Pope and Young, 2000, p. 318).

In accounting literature, the focus of empirical studies on earnings management by banks is on loan loss provisions (LLPs). Loan loss provisions (LLPs) are a relatively large accrual for commercial banks and therefore have a significant impact on earnings and regulatory capital of banks. The purpose of these provisions is to adjust banks' loan loss reserves to reflect expected future losses on their loan portfolios.

However, bank managers also have incentives to use these loan loss provisions to manage earnings and regulatory capital as well as to communicate or 'signal' private information about future prospects (Ahmed, Takeda and Thomas, 1999, p. 2). In this paper I focus on loan loss provisions as a tool for managing earnings, and not as a tool for capital management or signaling future-oriented information.

In general, reduced volatility is assumed to represent lower risk. Because less volatile earnings are a fundamental predicate for stable stock prices, managers are given an incentive to use LLPs for earnings management (Anandarajan, Hasan and McCarthy, 2007, p. 362). This gives rise to the assumption that the discretionary part of LLPs is used by bank management as the main instrument for earnings management in the form of income smoothing. Low levels of non-discretionary current earnings are expected to be an incentive for managers to decrease the (discretionary part of the) loan loss provision, in order to artificially increase earnings, while high levels of non-discretionary current earnings are expected to encourage managers to increase the loan loss provision, in order to smooth these higher earnings (Collins, Shackelford and Wahlen, 1995, p. 268).

Also, since the Basel Accord (Basel I), implemented in Europe in 1992, which harmonized minimum capital adequacy regulations and changed the structure of the capital adequacy ratio, loan loss reserves are no longer part of the numerator of the capital adequacy ratio which banks have to maintain (Anandarajan, Hasan and Lozano-Vivas, 2005, p. 56). This eliminated the costs for banks associated with managing earnings through loan loss provisions². This leads to the assumption that under the Basel Accord, banks are more aggressive in managing earnings through the loan loss provision.

² Before, decreasing the loan loss provision to inflate earnings resulted in lower loan loss reserves, which in turn had a negative effect on the required capital adequacy ratio, resulting in costs.

From the above it can be concluded that bank management has the incentive to manage earnings through discretionary use of loan loss provisioning. Lobo and Zhou (2001, pp. 18-19) conclude in their research that firms with higher quality of disclosure³ tend to engage less in earnings management than firms with lower disclosure quality. This leads to the assumption that disclosure quality related to LLPs (more published information on LLPs) is negatively related to earnings management by banks. In other words, the higher the disclosure quality of LLPs, the less bank management will manipulate earnings.

2.2 Prior literature

There has been quite some research on earnings management by banks using the loan loss provision. In early studies by Greenawalt and Sinkey (1988) and Ma (1988) it was concluded that banks used LLPs as long-term mechanisms to smooth earnings. In these studies total LLPs were used as the dependent variable. Greenawalt and Sinkey (1988) focused on the behaviour of LLPs as a function of banks' income and other measures of business conditions that are likely to affect the quality of loan portfolios. Ma (1988) showed that LLPs are actually not strongly related to the actual quality of loan portfolios, but that management tends to raise LLPs in periods of high operating income and vice versa.

Studies that followed divided LLPs into non-discretionary and discretionary components, and focus on the discretionary components as an instrument for earnings management. These studies do, however, not agree on the question to what extent the loan loss provision is used for earnings management.

Collins, Shackelford and Wahlen (1995) find that banks do use LLPs as a tool for earnings management. They follow a bank-by-bank approach and found that approximately two-thirds of the banks in their sample of U.S. banks used LLPs for income smoothing purposes. Hasan and Hunter (1999) examine the efficiency of LLP decisions of bank managers and explore the relationship between efficient LLP decision-making and any relevant factors that could explain any inefficiency. For their sample of Spanish banks, they find that there is considerable inefficiency in loan loss decision-making. Bhat (1996) also concludes that, for his sample of US banks, there is a strong relationship between LLPs and earnings. He finds that banks characterized by low growth, low book-to-asset ratios, high loans-to-deposit ratios, high debt-to-asset ratios, low return on assets, high loan loss provisions-to-gross loans ratios and low assets are likely to smooth earnings. Also, his analysis indicates that the stock market perceives the income smoothing behaviour of banks.

There are also studies that find evidence that banks do not use LLPs as an earnings management/income smoothing tool. These studies are Wetmore and Brick (1994), Beatty, Chamberlain and Magliolo (1995) and Ahmed, Takeda and Thomas (1999). Wetmore and Brick (1994) find that bank managers, when determining LLPs, consider past loan risk, loan

³ In this study a firm's disclosure score is based on a weighted average of analysts' assessments of 1) annual published information, 2) quarterly and other published information and 3) investor relations and related aspects.

quality deterioration, foreign risk and economic circumstances, and they do not consider off-balance sheet exposure or changes in loan composition. Yet they note that the absence of income smoothing may be due to the circumstances in their sample period, namely the LDC (less-developed-country) debt crisis (as loan loss provisions were high for this period due to this crisis). Beatty et al. (1995) find only a small statistic relation between earnings and LLPs, providing virtually no evidence that loan loss provisions are used to manage earnings (Beatty et al., 2009, p. 254). Ahmed et al. (1999) find that earnings management is not an important driver of loan loss provisions, but that loan loss provisions reflect meaningful changes in the expected quality of banks' loan portfolios.

Wall and Koch (2000) state that these differences in findings between studies are due to different sample selections and the use of different time periods being examined. They conclude though that the available evidence clearly suggests that banks have an incentive to use loan loss accounting to help manage reported earnings (Wall and Koch, 2000, p. 12). Anandarajan et al. (2005, p. 58) note that some of the studies mentioned here, besides checking for earnings management using just LLPs, also examined whether banks used other components of financial statements together with LLPs. Examples of these are Beatty et al. (1995) and Collins et al. (1995), which also studied whether strategic timing of realized gains and losses were used as tools for earnings management. Overall, Anandarajan et al. (2005) conclude that the results of the different studies on earnings management through manipulation of LLPs are conflicting.

More recent research by Cornett, McNutt and Tehranian (2006) concludes though that discretionary loan loss provisions are related to earnings management. They find that, for their sample of U.S. bank holding companies, first, discretionary LLPs are positively related to a bank's unmanaged cash flow returns, capital ratios, and asset size. Second, they are negatively related to a bank's non-discretionary LLPs and market-to-book ratios. And third, the use of discretionary LLPs to manage earnings is significantly related to the fraction of shares owned by the bank's CEO, the fraction of shares owned by all directors, the existence of CEO/chair duality and the CEO's pay-for-performance sensitivity (Cornett et al., 2006, pp. 20-22). This is consistent with management using discretionary LLPs to manage earnings.

Based on these studies I conclude that there is strong evidence that LLPs do function as a tool for earnings management by banks, because more (and more recent) studies seem to find evidence consistent with this. Also, the incentives for bank managers to smooth income through LLPs are clearly present.

2.3 IFRS for banks

For banks, the adoption of IFRS has introduced some new standards which are especially important to banks: IAS 30, IAS 32 and IAS 39 (and currently IFRS 7). This gives rise to the question how the introduction of IFRS in banks' financial statements affects earnings management through loan loss provisioning.

According to IAS 30.43, banks are required to provide detailed information about loan losses.⁴ This information includes the manner of which the provisions and losses on uncollectible loans are determined, mutations in the course of a provision during the period covered by the financial statement (additions, write-offs of uncollectible loans and the collections on write-offs) and the aggregate amount of the provision at balance date (Moison, 2007, pp. 1333-1334). In other words, very specific information on loan losses is required under IFRS, also with regard to individual classes of loans instead of aggregate amounts.

Based on this, loan loss provisions would be a less effective tool for earnings management by a bank's management, according to Pérez, Salas and Saurina (2006), for the Spanish situation. They tested for earnings management at banks in Spain, which has a very detailed set of rules governing LLPs, and found that despite this, management has used LLPs for earnings management. They conclude that the adoption of IFRS is a step forward in the direction of a more principle-based approach, which might be the only option left for accounting standard setters to counter management using LLPs to their discretion. Detailed disclosure might be useful to achieve this (Pérez, Salas and Saurina, 2006, p. 25).

To date there has not been any empirical research on this, so this remains to be seen. In general it can nonetheless be expected that increased disclosure requirements under IFRS will lead to a decrease in earnings management. There have been empirical studies investigating the association between disclosures and earnings management. Lobo and Zhou (2001) have examined the relationship between disclosure quality for a sample of U.S. companies and found a significant negative relationship between corporate disclosure and earnings management, indicating that firms that disclose more tend to engage less in earnings management and vice versa. They find that flexibility offered by minimum disclosure requirements is used by management to exercise discretion over earnings. Lapointe, Cormier, Magnan and Gay-Angers (2005) test this relationship for a sample of Swiss firms (using a self-constructed measure of quality), and show that firms applying Swiss GAAP FER use provisions and depreciation to smooth earnings, but that this relation is reduced for firms with high disclosure quality. Moreover, they show that Swiss firms applying IFRS or US GAAP (with more extensive disclosure requirements) exhibit less smoothing than firms applying Swiss GAAP FER.

Based on these researches, I expect to find that increased disclosures regarding LLPs under IFRS have lead to less earnings management by banks, because of an inverse relationship between disclosure quality and earnings management.

⁴ Under IFRS 7, similar disclosures are required.

3. Hypotheses and research design

3.1 Hypotheses development

The purpose of loan loss provisions is to adjust banks' loan loss reserves to reflect expected future losses on their loan portfolios. These provisions can have significant effects on the reported earnings, as they are a large accrual for banks. Additionally, reduced volatility in earnings is in general assumed to represent lower risk. Therefore, bank managers have an incentive to smooth earnings through the discretionary part of LLPs, because less volatility in earnings is a fundamental foundation for stable stock prices (Anandarajan et al., 2007). Low levels of current earnings provide an incentive for managers to decrease loan loss provisions, in order to artificially increase earnings, while high levels of current earnings are expected to encourage managers to increase loan loss provisions (Collins et al., 1995). The goal of this practice is to smooth earnings, as reducing earnings variability means reducing perceived risk, because variability in earnings is a key indicator of risk. Bank management will want to show earnings that are in line with expectations (smooth) because of this (Kanagaretnam, Lobo and Mathieu, 2004), as shareholders will require a higher risk premium for increased perceived risk due to earnings variability.

First, I will test for earnings management using LLPs for the pre-IFRS period for my sample. Based on the above arguments, I expect to find existence of earnings management through income smoothing, illustrated by a positive relationship between LLPs and earnings before taxes and LLPs (higher earnings would equal higher LLPs and vice versa). My first hypothesis is as follows:

H1: Pre-IFRS, banks use loan loss provisions to manage earnings.

IFRS requires detailed disclosures on loan losses, leading to the expectation that, contrary to the general evidence on the effect of IFRS on earnings management, for the case of the banking industry, IFRS will reduce earnings management. As explained, higher earnings variability means higher perceived risk and required risk premiums, which provides an incentive for bank managers to smooth income through LLPs. When more information on loan loss accounting is available, it is expected that the incentives for discretionary use of LLPs for income smoothing will be reduced or eliminated. Share- and stakeholders would be able to detect earnings management more easily, so management is less likely to engage in earnings management (Lobo and Zhou, 2001). On this expectation I base my second hypothesis:

H2a: IFRS adoption in 2005 leads to a decrease in earnings management by banks using loan loss provisions.

Consistent with hypothesis 2a, I expect that banks that either did not adopt IFRS per 2005, or have adopted IFRS before this transition date (early adopters), will not show a change in earnings management using LLPs during this period. Hypothesis 2b is based on this:

H2b: Banks that did not adopt IFRS in 2005 do not exhibit a significant change in earnings management using loan loss provisions since then.

As stated above, the expectation of a decrease in earnings management using LLPs by banks is based on increased disclosures under IFRS. Founded on the expectation that share- and stakeholders of a bank would be able to detect earnings management more easily when more information on loan losses is disclosed, it can be anticipated that when disclosure requirements increase (which was the case resulting from IFRS adoption for banks in various countries) earnings management through income smoothing will decrease.

Based on this, I expect to find a negative relationship between disclosure requirements regarding loan loss accounting and earnings management by banks. My third hypothesis is derived from this expectation:

H3: LLP disclosure requirements are negatively related to earnings management by banks using loan loss provisions.

3.2 Sample selection

In my sample I include banks from European countries where IFRS was adopted starting 2005, in accordance with EU IAS regulation, so a difference in accounting standards can be observed for these banks during the transition period (a shift from local GAAP to IFRS). As a second condition, I select banks from countries that adhere to the Basel Accord (refer to section 2.1: I expect a higher level of earnings management for banks in Basel countries).

These selection criteria result in a selection of banks from the following countries: Belgium, France, Germany, Italy, Luxembourg, The Netherlands, Spain, Sweden and the United Kingdom. Switzerland also adheres to the Basel capital accord, therefore Swiss banks are included in the control sample, except when they show a change in accounting standards (from either Swiss GAAP FER or US GAAP to IFRS) between 2004 and 2005.

Data is acquired from the Bankscope (Bureau van Dijk) database. The original sample for these ten countries consisted of 10.237 banks, but after selecting the relevant data for the research model, the final selection includes 914 banks. Of these 914 banks, 850 are unlisted banks and 64 are listed. Together, the total sample of 914 banks accounts for a total of 1382 firm-year observations.

The total number of firm-year observations is distributed among two samples. The first is a sample of banks that have switched from their respective local GAAPs to IFRS so a change in accounting standards can be observed in 2005. Consistent with hypothesis 2a, I expect to observe a decrease in earnings management from 2005 and on for this sample. The second sample consists of banks where no change in accounting standards in 2005 can be observed. These banks are either early adopters of IFRS, or have not switched to IFRS in 2005 because they were not required to do so under EU Resolution no. 1606/2002. This is either because they do not prepare consolidated financial statements, or are not publicly

listed. If they are privately owned, they did not switch to IFRS voluntarily in 2005. This sample of banks will be used as a control sample, as I expect no significant change in earnings management from 2005 and on for these banks, consistent with hypothesis 2b.

3.3 Research design

To test for earnings management, usually accruals are disentangled into accruals over which management has discretion (which can be used to manage earnings) and accruals over which management does not have discretion. Therefore often a two-stage analysis is chosen when researching earnings management through the use of LLPs, which separates the discretionary part of the accrual from the non-discretionary part in the first stage. In the first stage the non-discretionary part of LLPs is modelled and the residual from this stage, which represents the discretionary part, is used in the second stage as the dependent variable. However, this approach has a big disadvantage, namely that it systematically underestimates the absolute value of the regression coefficients in the second stage (Kanagaretnam, Lobo and Yang, 2005, pp. 13-14). To counter this, I will conduct my research using a single-stage regression analysis, following Kanagaretnam et al. (2005). In this model, there are three proxies for the non-discretionary component of LLPs: first, loan charge offs during the year. Second, the loan loss allowance or reserve at the beginning of the year. And third, the change in non-performing loans during the year.

The empirical model is shown in the following equation:

$$LLP_t = \beta_0 + \overset{(+)}{\beta_1} LCO_t + \overset{(-)}{\beta_2} LLA_{t-1} + \overset{(+)}{\beta_3} \Delta NPL_t + \overset{(+)}{\beta_4} EBTP_t + \overset{(+)}{\beta_5} LISTED_t + \overset{(+)}{\beta_6} EBTP_t * LISTED_t + \varepsilon_t$$

(++)

Where:

LLP_t	=	Loan loss provision for year t;
LCO_t	=	Net loan charge-offs for year t;
LLA_{t-1}	=	Loan loss allowance or reserve at the end of year t-1;
ΔNPL_t	=	Change in non-performing loans during year t, measured by the non-performing loans for year t minus the non-performing loans for year t-1;
$EBTP_t$	=	Earnings before tax and loan loss provisions for year t;
$LISTED_t$	=	Dummy which denotes 1 for listed banks and 0 otherwise;
$EBTP_t * LISTED_t$	=	Interaction of $EBTP_t$ with type of bank.

All variables (except $LISTED_t$) are deflated by year t beginning total assets. The expected signs of the coefficients are indicated above the equation.

If banks use loan loss provisions for earnings management (to smooth income), as I expect, the coefficient β_4 for the variable $EBTP_t$ will be positive and significant, illustrating a positive relation between earnings and loan loss provisions.

The model also controls for differences between publicly and privately owned banks. The dummy variable $LISTED_t$ is introduced for this purpose. This control variable reads 1 for publicly listed banks and 0 for unlisted banks. Owners provide incentives to management to generate these returns (based on average performance over a short amount of time) through bonuses. This type of performance measure is more common for listed banks than for unlisted banks (Anandarajan et al., 2007, pp. 363-364). Managers of privately owned banks have can have different goals than managers of publicly owned banks, due to the fact that they face less regulatory supervision and pressure to produce smooth earnings. The above implies that listed banks on the other hand have greater incentives to engage in income smoothing. To reflect this prospect, the coefficients β_5 and β_6 are expected to be positive.

To test hypothesis 1 I will run this model for the main sample of banks for the pre-IFRS period (years 1995 to 2004). As mentioned, I anticipate that banks will have used LLPs to manage earnings before IFRS so β_4 is expected to be positive.

After this, the model is amended to include interaction terms between the earnings management proxy $EBTP_t$ and a dummy variable measuring IFRS-compliance ($IFRS_t$; which denotes 1 for observations post IFRS-adoption and 0 for observations pre IFRS-adoption): $EBTP_t * IFRS_t$.

I will test hypothesis 2a by running the model for the main sample for the years 1995-2008, so including both pre- and post-IFRS time periods. When earnings management has in fact declined after IFRS adoption, according to expectations, the coefficient on the interaction term between earnings before taxes and LLPs and IFRS should be negative, while the coefficient on $EBTP_t$ should be positive. This would indicate less earnings management using LLPs by banks post-IFRS compared to pre-IFRS.

Also, to test hypothesis 2b, the model will be ran for the years 1995-2008 (pre- and post-IFRS periods) for the control sample. Comparison of the coefficients on earnings before taxes and LLPs and the interaction term of $EBTP_t$ with IFRS should, according to expectations, not result in a significant difference in earnings management levels between the two periods.

Finally, the model from equation (1) is amended to include interaction terms between the earnings management proxy $EBTP_t$ and a self constructed disclosure score, measuring GAAP disclosure scores regarding loan loss provision accounting, $DScore_t$: A dummy variable which denotes 1 for observations from high LLP-disclosure GAAPs for year t, 2 for observations from mid LLP-disclosure GAAPs, and 3 for observations from low LLP-disclosure GAAPs.

To test hypothesis 3, the model from equation (3) will be ran for the total sample (so including banks from both the control as the main sample) for all years (1995 to 2008). According to hypothesis 3, higher LLP disclosure requirements are expected to be related with lower earnings management through LLPs. Therefore the interaction term between the variable $EBTP_t$ and $DSCORE_t$ is included. For lower disclosure GAAP-bank observations a higher level of earnings management is expected than for mid- and high-level disclosure GAAPs. Therefore, the coefficient on this interaction term is expected to be higher/more positive than β_4 (the earnings management coefficient for the total sample), as a stronger relationship between LLPs and earnings before taxes and LLPs is predicted for banks reporting under lower disclosure GAAP (which have a higher disclosure score). The used classification of different GAAPs is given in table 1 included on the next page.

Table 1
GAAP Classification

Panel A: *DSCORE* = 1

GAAP / Country code	Elaboration
IFRS	According to IAS 30 (IFRS 7), detailed information about loan losses is required, including the manner of which the provisions and losses on uncollectible loans are determined, mutations in the course of a provision during the period covered by the financial statement (additions, write-offs of uncollectible loans and the collections on write-offs, also on an individual loan class level) and the aggregate amount of the provision at balance date.
US GAAP	Similar to IFRS according to SFAS 5 and 114, but under SEC Industry Guide also detailed formats for analyses required to be disclosed in the annual statements are provided.
France (FR)	Similar to IFRS under 'Règlement n° 02-03' of the CRC.
Italy (IT)	Similar to IFRS. Under Circular 263, detailed requirements are issued for loan loss provisioning and detailed disclosures are required in the annual statements.
Sweden (SE)	Similar to IFRS. Under old impairment rules (before 2002), no detailed information was required. Due to lack of data for this period the focus is only on 2002 and on, as the Swedish FSA introduced new requirements based on IAS.
United Kingdom (GB)	Similar to IFRS, requiring separate disclosure of specific and general provisions and movements during the period (including write-offs and recoveries) under the BBA SORP and Companies Act 1985.

Panel B: *DSCORE* = 2

GAAP / Country code	Elaboration
Netherlands (NL)	Under RJ 600, details on LLPs and additions or write-offs during the year have to be disclosed, but this only curtails aggregate amounts rather than individual loan class amounts.
Spain (SP)	Under Circulars 4/1991 and 4/2004, similar to the Italian situation, requirements for setting aside LLPs are complex and detailed. Disclosure requirements are less detailed than IFRS.
Switzerland (CH)	Aggregate LLP amounts and movements during the year have to be disclosed under Circular 08/02. Individual amounts only have to be disclosed if material.

Panel C: *DSCORE* = 3

GAAP / Country code	Elaboration
Belgium (BE)	Under the 'Koninklijk besluit op de jaarrekening van kredietinstellingen' no specific disclosures on LLPs are required (other than aggregate amounts).
Germany (DE)	No specific LLP disclosure requirements. Just credit risk disclosures are required under GAS 5-10.
Luxembourg (LU)	Similar to Belgian GAAP, under the law of June 17, 1992 and Circulaire 01/32 CSSF.

4. Results and analysis

4.1 Evidence on pre-IFRS earnings management using LLPs

First, I test whether pre-IFRS, banks used LLPs to manage earnings (hypothesis 1). The results are presented in table 2 below.

Table 2
Coefficients – Main sample pre-IFRS

	B		Std. Error	t-statistic	Sig.
(Constant)	0,000		0,001	-0,096	0,924
LCO _t	0,743 ***		0,044	17,059	0,000
LLAt-1	0,010		0,012	0,874	0,383
CHNPL _t	0,192 ***		0,037	5,165	0,000
EBTP _t	0,079 ***		0,023	3,518	0,001
LISTED _t	-0,001		0,007	-0,081	0,935
EBTP _t *LISTED _t	-0,104		1,513	-0,069	0,945

Adjusted R-squared = 0,781

*** = Coefficient is significant at a 1% level

** = Coefficient is significant at a 5% level

* = Coefficient is significant at a 10% level

The coefficient on $EBTP_t$ is positive and significant, which indicates income smoothing by banks using LLPs during the pre-IFRS period. Hypothesis 1 is therefore supported. The coefficient on $EBTP_t * LISTED_t$ is not in line with expectations (this was thought to be more positive than $EBTP_t$), as it was anticipated that listed banks exhibit more earnings management. However, this coefficient is not at all significant. This is due to the very limited number of observations for listed banks in the sample.

4.2 Evidence on pre- and post-IFRS differences in earnings management using LLPs

Second, I test for differences between earnings management using LLPs pre and post IFRS-adoption. The results regarding hypothesis 2a (main sample) are presented in table 3 below. This sample contains banks which have switched from local GAAP to IFRS in 2005, so for which a decrease in earnings management is expected after IFRS adoption.

Table 3
Coefficients – Main sample pre/post-IFRS

	B		Std. Error	t-statistic	Sig.
(Constant)	-0,002 ***		0,001	-3,893	0,000
LCO _t	0,131 ***		0,020	6,427	0,000
LLAt-1	0,088 ***		0,009	10,352	0,000
CHNPL _t	0,092 ***		0,012	7,481	0,000
EBTP _t	0,286 ***		0,019	15,322	0,000
LISTED _t	0,002		0,007	0,299	0,765
IFRSt	0,003 ***		0,001	4,805	0,000
EBTP _t *LISTED _t	-0,360		1,572	-0,229	0,819
EBTP _t *IFRSt	-0,169 ***		0,023	-7,505	0,000
IFRSt*LISTED _t	-0,008		0,007	-1,101	0,271
EBTP _t *IFRSt*LISTED _t	0,792		1,572	0,504	0,615

Adjusted R-squared = 0,519

*** = Coefficient is significant at a 1% level

** = Coefficient is significant at a 5% level

* = Coefficient is significant at a 10% level

The coefficient on $EBTP_t$ is positive and significant, indicating the presence of income smoothing for the total main sample, but the coefficient on $EBTP_t * IFRS_t$ is negative and also significant. This indicates a decrease in earnings management after IFRS adoption, in line with expectations. Hypothesis 2a is therefore supported.

The coefficient on $EBTP_t * LISTED_t$ is not in line with expectations as it is negative, which would mean a lower level of earnings management for listed banks, but this result is not significant. The coefficient on $EBTP_t * IFRS_t * LISTED_t$ is in accordance with expectations, as it is higher than the coefficient on $EBTP_t * IFRS_t$, but again not significant.

The results regarding hypothesis 2b (control sample) are presented in table 4 on the next page. This sample contains banks which have not switched from local GAAP to IFRS in 2005 (either early or non-adopters of IFRS), so for which a no change in earnings management is expected.

Table 4
Coefficients – Control sample pre/post-IFRS

	B	Std. Error	t-statistic	Sig.
(Constant)	-0,002	0,005	-0,404	0,688
LCO _t	0,244 *	0,137	1,785	0,082
LLAt-1	0,061	0,042	1,445	0,156
CHNPL _t	0,332 ***	0,075	4,408	0,000
EBTP _t	0,602	1,138	0,529	0,599
LISTED	0,003	0,005	0,612	0,544
IFRS	0,002	0,005	0,447	0,657
EBTP _t *LISTED _t	-0,691	1,203	-0,574	0,569
EBTP _t *IFRS _t	-0,556	1,139	-0,489	0,628

Adjusted R-squared = 0,325

*** = Coefficient is significant at a 1% level

** = Coefficient is significant at a 5% level

* = Coefficient is significant at a 10% level

The coefficient on $EBTP_t$ is positive and significant, indicating the presence of income smoothing for the total control sample, but the coefficient on $EBTP_t * IFRS_t$ is negative. This indicates a decrease in earnings management after IFRS adoption, decrease in earnings management between the pre- and post-IFRS period (these results are not significant though). Hypothesis 2b would be rejected, but it has to be noted that the control sample for the pre-IFRS period only contains early adopters and for the post-IFRS period only non-adopters. A decrease in earnings management would then not be in line with expectations, as an increase would be expected.

The coefficient on $EBTP_t * LISTED_t$ is not in line with expectations as it is negative, which would mean a lower level of earnings management for listed banks, but this result is also not significant.

Overall, the results on the tests of hypothesis 2b are almost all insignificant and no real conclusion can be drawn, also because of the different nature of the sample pre- and post-IFRS adoption. No data for the post-IFRS period was available for the early adopters which are in the control sample, and vice versa, no data for the pre-IFRS period was available for the non-adopters in the control sample. This means that for the control sample, it is not really possible to draw a conclusion regarding the difference in earnings management pre- and post-IFRS.

4.3 Evidence on the relation between loan loss disclosure requirements and earnings management using LLPs

Finally, I test the relation between earnings management using LLPs and loan loss disclosure requirements, for both the main sample and control sample and both pre- and post-IFRS periods (hypothesis 3). The results are presented in table 5 on the next page.

Table 5
Coefficients – Total sample pre/post-IFRS

	B		Std. Error	t-statistic	Sig.
(Constant)	0,000		0,002	0,105	0,917
LCO _t	0,175 ***		0,018	9,546	0,000
LLAt-1	0,085 ***		0,009	9,954	0,000
CHNPL _t	0,101 ***		0,012	8,233	0,000
EBTP _t	0,324 ***		0,123	2,625	0,009
DSCORE _t	0,000		0,002	-0,087	0,931
EBTP _t *DSCORE _t	-0,156		0,122	-1,277	0,202
DSCORE _t *LISTED _t	-0,005 ***		0,001	-9,052	0,000
EBTP _t *DSCORE _t *LISTED _t	0,375 ***		0,023	16,617	0,000

Adjusted R-squared = 0,496

*** = Coefficient is significant at a 1% level

** = Coefficient is significant at a 5% level

* = Coefficient is significant at a 10% level

The coefficient on $EBTP_t$ is positive and significant, indicating the presence of income smoothing for the total sample. The coefficient on $EBTP_t * DSCORE_t$ is negative. The disclosure score is measured as 1 for banks in high disclosure GAAPs, 2 for mid and 3 for low disclosure GAAPs. Since more earnings management is expected for banks in higher ranked disclosure GAAPs, the coefficient on $EBTP_t * DSCORE_t$ was anticipated to be higher than the coefficient on $EBTP_t$, which is not the case. This would mean that higher disclosure requirements do not deter banks for managing earnings through LLPs. Hypothesis 3 would then be rejected, as there is no support for a negative relationship between disclosure requirements and earnings management using LLPs. This result is not significant. The coefficient on $EBTP_t * DSCORE_t * LISTED_t$ is in line with expectations though, as it is higher than the coefficient on $EBTP_t * DSCORE_t$, and also significant, indicating higher levels of earnings management for listed banks.

4.4 Analysis and conclusions

First of all, I found evidence that, as hypothesized, before the adoption of IFRS in 2005, banks from the Basel-countries within the European Union used loan loss provisions to smooth their earnings. Bank managers have an incentive to smooth income through loan loss provisions because less volatility in earnings is assumed to represent lower risk and therefore is a fundamental foundation for stable stock prices. I also distinguished between publicly listed and unlisted privately owned banks, as the incentive for earnings management is stronger for listed banks than for unlisted banks. Results show that prior to IFRS, listed banks did not exhibit higher levels of earnings management, contrary to expectations. However, this result was not significant.

The introduction of IFRS in 2005 meant that banks have to provide detailed disclosures on loan losses in their annual statements. I hypothesized that when more information on loan losses is available, it can be expected that the incentives for discretionary use of loan

loss provisions for income smoothing by bank managers will be reduced. Evidence shows that, according to expectations, the adoption of IFRS indeed lead to a decrease in the level of earnings management for my sample of banks. Moreover, the results also showed that listed banks exhibited higher levels of earnings management after the IFRS-adoption. This result was not significant.

It was hypothesized that the control sample containing voluntary adopters and non-adopters of IFRS would not show a significant change in the level of earnings management before and after the introduction of IFRS in 2005. However, the results also showed a decrease in earnings management between these two periods, contrary to expectations, but this result was insignificant.

The first main research question of this paper is:

‘What is the effect of the adoption of IFRS on the level of earnings management by banks?’

Based on the evidence I have discussed, it can be concluded that the effect of the adoption of IFRS in 2005 was a decrease in the level of earnings management by banks using loan loss provisions.

To explore the relation between disclosure requirements and earnings management using loan loss provisions further, I constructed a measure of disclosure requirements regarding loan loss accounting. This measure ranks the required disclosures regarding loan losses of the generally accepted accounting principles in the various countries contained in the sample, along with IFRS and US GAAP. As discussed earlier, it was hypothesized that higher disclosure requirements would lead to lower levels of earnings management. The evidence on this did not indicate that there was such a negative relationship between loan loss disclosure requirements and earnings management through loan loss provisioning. This result was insignificant. Subsequently, results significantly showed that that listed banks exhibit higher levels of earnings management using loan loss provisions than unlisted banks, in line with expectations.

The second main research question of this paper is:

‘What is the effect of loan loss accounting disclosure requirements on the level of earnings management by banks?’

Based on the results I have discussed, it cannot be concluded that higher disclosure requirements regarding loan loss accounting lead to lower levels of earnings management by banks using loan loss provisions. Evidence suggested that higher disclosure requirements on loan losses do not deter bank managers from using loan loss provisions to their discretion for income smoothing purposes. This result is not significant.

Finally, there are some limitations to this study that have to be mentioned. This study focuses only on loan loss provisions as an income smoothing instrument. Other forms of earnings management and other instruments besides loan loss provisions that might be used by banks to manage earnings are not taken into account. Also, the pre- and post-IFRS time periods included are not equal, and the post-IFRS period covers much more

observations as a lot of data was missing in the Bankscope database especially for the pre-IFRS period. Additionally, most of the observations were ranked with a high disclosure score when testing the third hypothesis. A more reliable and significant conclusion might have been obtained if the sample had contained more banks ranked with a mid or low disclosure score. And finally, this study considers only required loan loss disclosures under various accounting standards. Therefore, possible voluntary loan loss disclosures by banks and consequently the actual disclosures (as opposed to the required disclosures) are not taken into consideration.

Further research could focus on these limitations and besides this, Basel II and the credit crunch also provide interesting subjects for further studies. The new Basel capital framework requires additional disclosure requirements, also on loan loss accounting, and is currently in the implementation process. Future research focusing on the credit crunch might conclude that due to bad loan problems and losses on investments the incentive for bank managers to smooth income may fade away. Furthermore, during any crisis, the perceived risk by share- and stakeholders will be higher by definition, and stock prices will be less stable, again reducing incentives to practice earnings management.

5. Summary

In literature, earnings management by banks is studied using specific large accruals for banks, namely loan loss provisions (LLPs). The purpose of these provisions is to adjust banks' loan loss reserves to reflect expected future losses on their loan portfolios. Bank managers have an incentive to smooth earnings through the discretionary part of LLPs, because less volatility in earnings is a fundamental foundation for stable stock prices (Anandarajan et al., 2007). Most and more recent studies have found evidence for this.

The goal of the adoption of the International Financial Reporting Standards (IFRS) in the European Union since 2005 was to improve transparency and comparability of financial statements. The adoption of IFRS has introduced some new standards which are especially important to banks: IAS 30, IAS 32 and IAS 39 (and currently IFRS 7). The effect of these standards on loan loss accounting by banks is that banks are required to provide detailed information regarding loan losses in their annual reports. This leads to the expectation that, contrary to the general evidence on the effect of IFRS on earnings management, for the case of the banking industry IFRS will reduce earnings management. However, there has not been any empirical research supporting this. This study is the first of its kind in that sense.

To investigate the effects of the IFRS adoption on income smoothing practices through loan loss provisioning, I select a sample of banks from the Basel countries in the European Union (Belgium, Germany, France, Italy, Luxembourg, The Netherlands, Spain, Sweden, Switzerland and the United Kingdom). Data is used from years 1995 to 2004 for the pre-IFRS period and 2005 to 2008 for the post-IFRS period. The sample contains both listed and unlisted banks.

It is first of all hypothesized that prior to IFRS-adoption, banks in the sample used loan loss provisions for earnings management. Second, it is predicted that due to detailed loan loss accounting disclosure requirements under IFRS, earnings management using loan loss provisions will decrease for the main sample, as previous studies have shown that disclosures and earnings management are negatively related. Subsequently, for the control sample of non- and early-adopters of IFRS it is anticipated that there will be no significant change in the level of earnings management. And finally, it is hypothesized that loan loss disclosure requirements in the various countries included in the sample are negatively related to the level of earnings management exhibited by banks. To test this I construct a measure of disclosure requirements regarding loan loss accounting. This measure ranks the required disclosures regarding loan losses of the Generally Accepted Accounting Principles (GAAP) in the various countries contained in the sample, as well as IFRS and US GAAP.

The evidence shows that prior to the adoption of IFRS, banks used loan loss provisions to manage earnings, in accordance with expectations. The effect of the adoption of IFRS in 2005 was a decrease in the level of earnings management by banks using loan loss provisions, also consistent with expectations. The control sample shows a similar decrease in the level of earnings management, contrary to expectations, but this result is not significant.

Further, based on the evidence, it cannot be concluded that higher loan loss accounting disclosure requirements lead to lower levels of earnings management by banks using loan loss provisions. The results suggest that higher disclosure requirement do not deter bank managers from using loan loss provisions for income smoothing purposes (this result is insignificant).

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