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# Investor sophistication and earnings management during economic crisis: evidence from the banking industry

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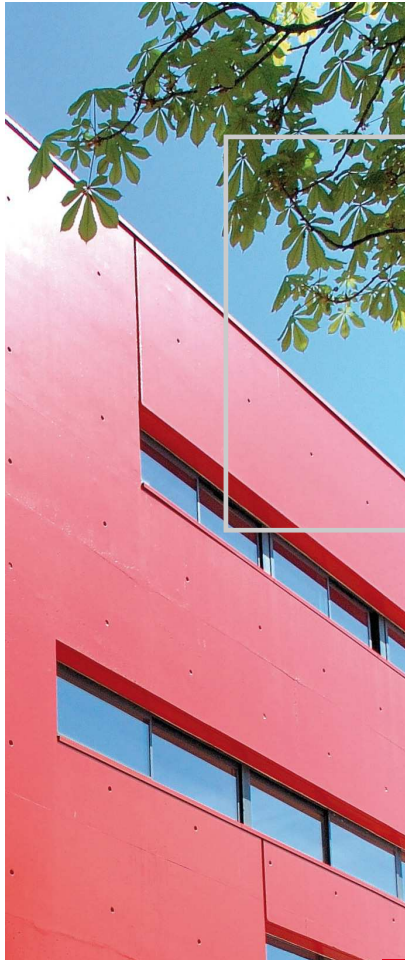
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Mémoire de recherche

# Investor Sophistication And Earnings Management During Economic Crisis: Evidence From The Banking Industry



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**Master Finance**  
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## Abstract

This paper is written to give fundamental understanding on earnings management of the banks during 2008 global financial crisis. It provides various literature reviews on earnings management of firms during a severe economic downturn, and during the period of its financial distress. Although a large number of researchers support evidence on smoothed earnings, there are some researchers suggest that big bath accounting is very beneficial during the crisis. To help firms get out of their financial difficulty, remove future earnings drag, and improve future performance, I strongly expect that big bath accounting is highly preferable for banks during the global financial crisis. Therefore, banks report large negative discretionary accruals (more loan loss provisions). Nevertheless, the ability of sophisticated investors in detecting earnings management is very high compared to unsophisticated ones, so I expect that only sophisticated investors are able to recognize the earnings components just after earnings announcement but prior to release of quarterly earnings reports.

### Keywords:

- Earnings management
- Big-bath accounting
- Investor sophistication

## Introduction

Firms may manage earnings to improve their business position in the industry, to smooth income, to sell stock in higher price during IPOs, to convey private information about future earnings, and/or to get their own benefits for managers, etc. Earnings management can be considered as a powerful tool used by firms to achieve their strategic objectives. It can be either opportunistic or beneficial. Managers may use their discretion beneficially to improve the ability of earnings in reflecting fundamental value of firms<sup>1</sup>. Nevertheless, managers may also use flexibility provided by GAAP to manage incomes opportunistically, which create distortions in earning reports<sup>2</sup>. On the other hand, highly managed earnings have low quality, but the absence of earnings management cannot guarantee the high quality of earnings<sup>3</sup>.

Earnings can be manipulated by either real activities or discretionary methods. Since real activities management is more costly and reduces the firm value<sup>4</sup>, accruals manipulation is the best substitute and compliment to real earnings management because accruals management does not affect the direct cash-flow. Firms could use discretionary accruals to manipulate reported accounting numbers. When firms aim at avoiding reporting annual losses, at meeting or beating financial analyst forecasts, and getting satisfied stock prices, income-increasing should be highly considered. However, in some extreme cases, managers may tend to use income-decreasing to get some benefits, for example, from government or creditors. When firms arrive in a situation where they are in a severe and sudden economic crisis or an exhausting inventory of funds, it exists two contrary positions. A group of researchers<sup>5</sup> suggest that firms will choose income-increasing accounting choice to reduce to probability of losing job, and debt covenant violation. But, another group<sup>6</sup> argue that firms will choose income-decreasing accounting choice in order to get favorable consideration from government bodies, and to obtain concessions from creditors.

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<sup>1</sup> See Subramanyam (1996)

<sup>2</sup> See Healy and Palepu (1993)

<sup>3</sup> Kin Lo (2010) view the detection of earnings management from the perspective of a crime scene investigator sheds new light on prior research on earnings management and earnings quality.

<sup>4</sup> Sugata Roychowdhury, 2006

<sup>5</sup> Defond and Jiambalvo (1994), DeAngelo Petroni (1992), Moyer (1990), and Sweeny (1994)

<sup>6</sup> DeAngelo et al. (1994)

In my paper, I focus on two important dimensions. First of all, is big bath accounting practical and preferable for banks during economic crisis? Secondly, are sophisticated investors able to detect this practice?

The primary purpose of this study is to examine whether banks report large negative discretionary accruals during the crisis to take big bath accounting. The period of crisis is considered as bad year for every firm as well as financial institutions such as banks. Most of them are negatively affected, I expect that banks report “bad news” and prefer “big bath accounting” during crisis period for two purposes. Firstly, it removes earnings drag during the crisis<sup>7</sup>, and it also improves the future performance artificially resulting in positive stock price reaction in the post-crisis period. Secondly, it helps firms get rid of financial distress through concessions from creditors and government supports because government is likely to protect industries during financial crisis<sup>8</sup>. For example, to overcome the 2008 global financial crisis, a number of forces such as government bodies, IMF and World Bank decided on wide range set of monetary, fiscal and other policy measures to help assist to their financial sectors.

The secondary purpose of this study is to examine whether sophisticated investors are able to detect banks’ earnings management. Sophisticated investors are people who have superior skills in collecting and processing information from diverse sources, and in anticipating and interpreting the determinants of earnings quality. They have timely sources of information and capacity to access to more information of the firms. So I expected that sophisticated investors are able to detect the earnings management of the banks.

This paper is divided into two main parts. Chapter one, the literature review provides you the important knowledge on earnings management behavior, earnings management constraining factors, value relevant of discretionary accruals and investor sophistication. Firstly, many prior studies argue on the incentives for earnings management. Firm’s incentives to engage in earnings management depend on the amount of benefit of its consequences. Managers will engage in whichever type of earnings manipulation (income-decreasing or increasing) if it gives positive

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<sup>7</sup> See Lee (2006)

<sup>8</sup> See Peltzman (1976)



consequences and higher advantages. Secondly, manager's incentives to manipulate earnings is limited by many factors, namely external auditors, regulatory bodies, corporate governance mechanism, ownership types, and investor protection. Auditors are expected to restrict manager's ability to manipulate accounting numbers. Many prior researches document that both auditor size and auditor industry specialization are effectively limit earnings management of the firms. Regulators have devised a numbers of measures for the purpose of combatting earnings management, and ensuring the accounting quality. Corporate governance and ownership type somehow restrict the opportunistic earnings management of the firms via efficient monitoring roles. Thirdly, value relevant of discretionary accruals describes how firms manage discretionary accruals and how investors perceive the information value of it. Finally, I distinguish the different characteristics and ability of sophisticated and unsophisticated investors in detecting earnings management.

Chapter two, the research methodology part is the most important in this paper. I will show you briefly the impact of the financial crisis on the banking sector. Along with the hypotheses for my research questions, I also propose research models to test these hypotheses.

Last but not least, this research paper aims to contribute basic knowledge, on earnings managements of banks as well as firms during the crisis period, to important players in the markets and also government. The most important thing is that it could help investors and financial analysts to have accurate earnings forecast by discounting the behavior of the firms in manipulating earnings.

## Chapter 1. Literature Review

Investors, financial analysts, regulators, auditors, and also stakeholders have concerns about the earnings management of the firms since the corporate scandals of Enron and WorldCom make opportunistic earnings management become a crucial problem in financial world. Generally, accounting numbers are an important summary statistics of the financial performance of the firms. Investors use them as indicators to measure the firms' performance or future expected income. Consequently, managers have motivations to manipulate their accounting numbers through discretion methods. [Healy and Wahlen \(1996\)](#) define that "earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter the 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." Plus, we see that managers may use flexibility provided by GAAP to manage incomes opportunistically, which create distortions in earning reports ([Healy and Palepu, 1993](#)).

Prior studies have reviewed on the motivations of managers in managing earnings. They find two extreme reasons known as opportunistic earnings management and beneficial earnings management. Obviously, some managers use earnings management opportunistically to generate their own benefits rather than stakeholders' benefits while other managers use it beneficially to improve the information value of earnings by conveying private information to stockholders, market, and public. Therefore, to achieve their specific objectives, firms' managers may engage in earnings management by choosing either income-decreasing or income-increasing. Particularly, it is very possible that under the pressure of the economic condition during crisis, firms will be also motivated to make accounting choices that give them advantages, reduce costs, mitigate the adverse effects of financial distress, and strengthen the picture of their financial position.

As a result, several interesting questions appear to be studied:

- What motivates managers to engage in earnings management?
- What are accounting choices of the firms during crisis?
- What are their constraints?

- Do sophisticated investors are able to detect this practices?

## 1. Earnings Management Behaviors

The Statement of Financial Accounting Concepts No.1 (SFAC No.1) defines that “financial reporting should provide information about an enterprise’s financial performance during a period.” By this definition, some firms may manage accounting numbers in their financial reporting to highlight more information about firm’s financial positions to people involved in any kinds of financial reporting uses. However, other firms may also engage in earnings management to achieve their strategic goals, such as to meet investor expectations, to meet benchmark target of prior-year earnings, or to avoid losses. [De Angelo \(1988\)](#) reports that during a proxy contest, present-day managers may exercise their accounting discretion to paint a favorable picture of their own performance to voting stockholders. That is to say, the present-day managers use their discretionary accruals power to manipulate earnings only to achieve their private benefits. In this case, we can see that managers manipulate accounting numbers under particular situation such as in setting executive compensation, labor union wage negotiations, valuation of IPOs, takeovers, management buyouts, proxy contests and debt covenants.

Firms’ managers may engage in earnings management by choosing either income-decreasing or income-increasing accounting choices. To engage effectively in their earnings management, managers have to decide on a particular accounting choice that gives maximum benefits to firms or sometimes to themselves. So their behavior in taking a particular accounting choice depends on the terms of contracts and/or other specific situations where reported earnings play an important role ([Chung et al., 2002](#)). On the other hand, under the pressure of the economic crisis, it is very likely that firms will be also motivated to make accounting choices that reduce costs and strengthen the picture of their financial position ([Iatridis and Dimitras, 2013](#)). There are many studies on reported earnings of firms in difficulty facing their obligations. Some of them give two conflicting arguments on accounting choices of the firms, while some find no evidence of earnings management.

A strand of researchers, Defond and Jiambalvo (1994), and Sweeny (1994)<sup>9</sup> find that managers of the firms in difficulty choose income-increasing accounting choice in order to reduce the rate of debt covenant violation and to increase the bargaining power during the debt renegotiation. Likewise, DeAngelo (1988) and Petroni (1992), Moyer (1990), and Sweeny (1991)<sup>10</sup> find that manager's accounting choices are systematically income-increasing in their samples.

In contrary, another strand of researchers find the opposite results suggesting that managers of firms in difficult period, adopt income-decreasing accounting choices to get favorable consideration from government bodies, and to obtain concessions from creditors. Obviously, DeAngelo and DeAngelo (1994), Pourciau (1993) and Jones (1991) find that manager's accounting choices are income-decreasing. For example, DeAngelo et al. (1994) find that managers of distressed firms choose income-decreasing accounting choice although they are under pressure of private debt renegotiation. In this case we can say that distressed firms still choose income-decreasing accounting although they should have painted a better financial position in order to successfully renegotiate their private debt agreement. In this finding, there are two main reasons for firms to reduce reported earnings, (1) auditors force them to take noncash write-offs<sup>11</sup>, (2) big bath accounting can help rationalize dividend cuts to stockholders who suspect managers of over retaining cash<sup>12</sup>.

Here below, I would like to explain precisely the earnings management decision—earnings smoothness or big bath accounting. Particularly, I examine the accounting choices of the firms in usual situation and a situation where firms situate in crisis.

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<sup>9</sup> The study of Sweeney (1994), and Defond and Jiambalvo (1994) focus particular on firms in default.

<sup>10</sup> DeAngelo (1988) studies the troubled firms on proxy contest, Petroni (1992) studies on troubled insurance companies, Moyer (1990) studies on troubled banks, and Sweeny (1991) studies on firms in default.

<sup>11</sup> Read DeAngelo et al. (1994)

<sup>12</sup> Read Jensen (1986)

### 1.1. Income Smoothness

There are many prior studies that examine motivations for earnings smoothness. It could be occurred (1) to convey their private information about the firm's future prospect to public, or (2) to garble earnings for private benefits only. This evidence suggests that firms may smooth income for either beneficial purpose or opportunistic purpose. For instance, [Jiraporn et al. \(2008\)](#) find a positive relationship between earnings management and firm value. This evidence indicates that on average earnings management is beneficial; at least, it is not detrimental to firm value. Thus, managers of most firms use earnings smoothness to convey private information related to firm future incomes to public. Moreover, when earnings smoothness is beneficial—conveying private information, there will be very advantageous for firms in every circumstance. [Habib et al. \(2011\)](#) investigates the stock market price response to earnings smoothness for firms operating in an environment of high uncertainty<sup>13</sup> by using the US listed 5,572 firm-year observations between 1998 and 2006 for their analysis. And they find a positive association between current stock return and smoothed earnings. So it means that smoothed earnings is beneficial by reducing the information asymmetry, and are more informative about future earnings for firms operating in higher environmental uncertainty. Or another explanation is that in high environmental uncertainty, the risk of predicting the accurate future earnings is also high, but smoothed earnings are perceived as being less risky by investors and make future earnings forecast easier. So it gives incentives to managers to smooth earnings that help provide a more predictable earnings stream<sup>14</sup> ([Ghose & Olsen, 2008](#)).

[Biedleman \(1973\)](#) defines earnings smoothness as “a special case of earnings management where managers smooth out inter-temporal volatility in reported earnings to deliver a stable earnings stream.” It is consistent with [Trueman and Titman's \(1988\)](#) argue that firms may avoid irregularities of accounting numbers in reported earnings to influence stakeholders' perception of the stability of the

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<sup>13</sup> Environmental uncertainty defined by [Tung \(1979\)](#) as “a rate of change or variability in the organization's external environment, comprising primarily customers, competitors, government regulations, and labor union.”

<sup>14</sup> See [Ghose & Olsen \(2008\)](#)

underlying business performance. Therefore, earnings smoothness could be used to curtail the financial volatility rate, and to guarantee the stability in reported income numbers. [Goel and Thakor \(2003\)](#) also highlight that increased volatility, associated with unsmoothed earnings, increases the potential loss suffered by the uninformed stockholders when they trade for liquidity reason. In addition, [Fundenberg and Tirol \(1995\)](#) define earnings smoothness as “the process of manipulating the time profile of earnings or earnings reports to make the reported income stream less variable, while not increasing reported earnings over long run.” They argue that managers have incentives to engage in earnings management in two situations. One, it occurs when firms have poor current performance but good future prospects. Another one, it occurs when firms have good current performance and poor future prospects. So smoothed earnings could enable firms to decrease the volatility of reported earnings, and volatility rate perceived by the markets.

On the other hand, smoothed earnings are expected to help raise additional funds on more favorable terms, sell their stockholdings at a higher price, reduce the probability of losing job for managers, reduce intervention from CEO or regulatory agencies, and curtail the probability of debt covenant violation. [Bauwhede et al. \(2003\)](#) conduct a study on firm’s discretionary accruals management of publicly and privately held Belgian firms. They find that to smooth income, managers will engage in income-increasing earnings management when pre-managed earnings are below target, whereas the opposite will occur when pre-managed earnings are above the target. This evidence suggests that Belgian companies—both privately and publicly held—engage in income smoothing and manage earnings opportunistically in order to meet the benchmark target of prior-year earnings. This type of earnings smoothing (to meet benchmark target) is generally taken place by managers who want to get their personal benefits such as maximizing their remuneration, and minimizing the probability of losing job. This is consistent with [Lambert \(1984\)](#), [Moses \(1987\)](#), and [DeFond and Park \(1997\)](#) who were reasoning the smoothed earnings on compensation plan and job security concern.

Moreover, the study of [Akindayomi \(2012\)](#) on 120 banks during the banking crisis 1990s between 1987 and 1993 from Nigeria banking industry also finds evidence on earnings smoothness. Most banks use loan loss provisions to smooth income and

signal their earnings capacity. Particularly, to boost profitability relative to the healthy ones, distressed banks deliberately report lesser loan loss provisions to inflate the revenue, to attract deposits and banking business, and to send a good signal to public, especially to unsophisticated ones. When a bank is distressed and profitable, it makes lesser loan loss provisions. But when it is healthy and profitable, it makes more loan loss provisions compared to distressed ones. Therefore the distressed banks became more aggressive in their earnings management behaviors. However, this aggressive earnings management offers the decrease of quality of earnings that contributes to the collapse of the whole banking industry.

In sum, earning smoothing can be viewed as beneficial or opportunistic behavior. On one hand, it is applied in the financial reporting to receive a favorable outcome for firms by reducing the volatility rate perceived by investors, stabilizing earnings numbers, conveying private information, making earnings forecast easier, and increasing stock liquidity. On the other hand, it can be used by managers to capture their own private benefits such as reducing their probability of losing job during the difficult period, and maximizing their remuneration.

## **1.2. Big Bath Accounting**

While some researchers support the arguments on income-increasing accounting choices of firms as have seen above, other researchers support the opposite findings. In some circumstances, managers may engage in big bath accounting by reporting large negative discretionary accruals in order to get favorable outcomes for the firms, or for their own benefits as well.

Lee (2006) studies the relationship between income-decreasing discretionary accruals and the magnitude of dividends reduction/omission during 1986-89 periods. He finds that dividend-reducing firms engage in big bath accounting by using income-decreasing accounting choices to portray their firms' financial difficulties because it helps underline the firms' actual financial difficulties, remove earnings drag on future earnings as well as improving their operating performance, thereby achieving a quick turnaround in their subsequent operating performance after a significant dividend

reduction/omission periods. So when firms are in a period of severe financial distressed, managers should engage in big bath accounting.

[Saleh and Ahmed \(2005\)](#) conduct a research on 153 distressed firms listed in Kuala Lumpur Stock Exchange (KLSE) in Malaysia during Asian financial crisis. During economic downturn, several firms in Malaysia defaulted on their debt repayments and had to undertake debt restructuring with their lenders. In their study, the authors find that discretionary accruals of distressed firms under debt contract restructuring are negative and significant in one year before the renegotiation and during renegotiation period. It means that financially distressed firms under debt contract renegotiation adopt income-decreasing discretionary accruals because they hope to get support from government bodies, concessions from creditors. First of all, this manipulation could enable them to get creditor's concessions because creditor considers actual economic conditions as serious threat to every firm's viability, yet they believe that firm has a good future prospect of recovery. Secondly, distressed firms could also get benefits from government because during the crisis, Malaysian government has involved in restructuring the economy by providing financial support, protection, and political patronage to business enterprises with a view to improve business performance and to avoid massive unemployment. So during economic downturn, distressed firms are convinced to get benefit from creditors/government rather than to keep reputation for credible communication.

Later on, [Ahmed et al \(2008\)](#) conduct an extent study on financially distressed Malaysian listed firms during Asians economic downturn. In their study, they find large negative discretionary accruals of financially distressed firms. Their finding also exhibits a negative association between discretionary accruals and market value of equity. In overall, market places a positive value on negative discretionary accruals of debt renegotiating firms under an economic crisis condition. This result is consistent with contracting theory indicating that market participants perceive earnings management downward as an instrument to maximize the concession from creditors to pull firm out of its financial distress during a sudden and severe economic downturn. However, by examining separately the market value of discretionary accruals of Malaysian listed firms that undertook debt renegotiations subsequent to debt covenant violation, and the poor performing firms that did not undertake debt



renegotiations, they find (1) a negative association between discretionary accruals and equity value for the debt renegotiating samples, but they find (2) no evidence of an association between equity market value and discretionary accruals for the poor performing firms. This result indicates that investors place a positive value on negative discretionary accruals of only firms undertook debt renegotiating.

However, some studies from [DeAngelo and DeAngelo \(1994\)](#), [Pourciau \(1993\)](#) and [Jones \(1991\)](#) document that manager's accounting choices are systematically income-decreasing. For example, [DeAngelo and DeAngelo \(1994\)](#) conduct a research on 76 New York Stock Exchange (NYSE) financially troubled firms with persistent losses and dividend reductions between 1980 and 1985. The authors find that all troubled firms exhibit large negative accruals extending for at least three years beyond the year of the dividend cut. The possible reasons are that these negative accruals in the dividend reduction year are driven from large abnormal inventory decline, and the abnormal accruals that remain after excluding all changes in working capital, depreciation and deferred taxes. Thus, manager's accounting choices primarily reflect acknowledgement of their firm's financial difficulties, rather than attempts to mitigate covenant violations or to portray the firm as less troubled by inflating income.

In overall, in the period of difficulty or crisis, firms may prefer big bath accounting by disclosing large negative discretionary accruals in order to portray and to get rid of their firms' financial difficulties, to get support from government bodies, to get concession from creditors rather than to keep reputation for credible communication.

## **2. Earnings Management Constraints**

After studying on motivations for earnings managements and earnings management behavior, we now focus on its constraining factors. Prior studies have investigated incentives for, and constraints on earnings management. The factors constraining on the manager's decision to manipulate earnings can be due to the external pressures on the firms, personal aims of managers, corporate structure as well as combination of them under specific circumstance. Here, I emphasize on only

important factors constraining on earnings manipulation namely external auditors, investor protection and legal systems, ownership types, and corporate governance.

## 2.1. External Auditors

Auditing is an important external monitoring mechanism and ensuring the integrity of firms' financial reports. So auditors are expected to play an important role in constraining on both income-decreasing and income-increasing earnings management of the firms.

### 2.1.1. Auditor Size

High quality auditors<sup>15</sup> have more incentives to safeguard their reputation because they have enough knowledge on their client's financial health. Prior studies such as [Becker et al. \(1998\)](#), and [Francis et al. \(1999\)](#) show that firms that appoint Big 6 auditors have experienced a lower level of discretionary accruals indicating that auditor size constrains effectively on the earnings management. The larger auditors<sup>16</sup> are more competent and independent than smaller auditors. Larger auditors provide high quality services and also have more lose<sup>17</sup> when they confront with an audit failure. As a result, larger auditors are less tolerant to the level of discretionary accruals adopted by firms than smaller ones. In addition, higher expertise and higher independence of auditors are associated with size of auditors. For example, Big 5 auditors has higher expertise and higher independence because (1) they have more resources and they also devote more resources to specialized staff training, peer reviews, and investment in information technology than non-Big 5 auditors, (2) they have higher reputation capital at stake relative to non-Big 5 auditors ([Craswell et al., 1995](#); and [Huang and Li, 2009](#)). Although auditor size has an effective effect on earnings management, [Siregar and Utama \(2008\)](#) argue that size of audit firms may not be a good proxy for audit quality because in their study on listed companies of

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<sup>15</sup> A large body of empirical research documents that higher auditor quality is associated with big 6 auditors.

<sup>16</sup> Larger auditors refer to Big Six at that time, now they are big four.

<sup>17</sup> Lose for auditor firms based on [DeAngelo \(1981\)](#) refers quasi rents, based on [Klein and Leffer \(1981\)](#) refers to brand name reputation.

Jakarta Stock Exchange, they find that firms audited by the Big 4 do not use efficient earnings management more than firms audited by non Big 4.

DeAngelo (1981) suggests that higher audit quality provided by larger auditors should limit opportunistic earnings management because high quality auditors have high probability to discover a breach in the client's accounting system, and report the breach. The study of Tendeloo and Vanstraelen (2008) on privately held companies in European countries between 1998 and 2002 suggests that companies having a Big 4 auditor engage less in earnings management compared to those with a non-Big 4 auditor. This evidence also supports that earnings management in firms audited by larger auditors is lesser than in firms audited by smaller auditors.

According to Basu et al. (2001), and Chung et al. (2003), companies with big 4 auditors reported more conservative than those of non Big 4 auditors. Based on the study on the accounting conservatism<sup>18</sup> of listed companies in Thailand, consisting of 2,534 firm-year observations from 1997 to 2003, Herrmann et al. (2008) document that during the crisis, firms audited by a big 4 report more conservatively than firms audited by non-Big 4. The plausible explanation to this finding is that during the Asian financial crisis 1997, firms that are audited by Big 4 have higher leverage and higher litigation risk. So big 4 auditors impose greater conservatism on their clients' financial report to reduce their litigation risk and maintain their audit quality. Thus, firms that are audited by Big 4 engage less in earnings manipulation regardless of the economic situation. However, in the post crisis period, there is no significant difference in conservatism between firms audited by Big 4 and non-Big 4 because the crisis led all Thai companies to improve their accounting practices and better corporate governance in order to obtain financial support from agencies such as the IMF, the World Bank, and the Asian Development Bank.

Later on, the impacts of Big 4 auditors on the firms' accounting choices during crisis have become an interesting topic for many researchers. The study of Chia et al. (2011) on publicly listed companies in Singapore during the Asian financial crisis in 1997 indicates that earnings management activities were reduced for the companies that were audited by a Big 6 auditor. Moreover, Akindayomi (2012) also find

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<sup>18</sup> Basu (1997), accounting conservatism requires a higher degree of verification to recognize good news as gains than to recognize bad news as losses. This concept help protect investors.

evidence that audit quality lessens the earnings management in Nigerian banking industry during the crisis 1990s. Another strand of researches also show that larger auditors always effectively reduce the earnings management for both income-decreasing and income-increasing behavior. For instance, the study of [Bauwhede et al. \(2003\)](#) on both—private and public—listed companies on the Brussels Stock Exchange between 1991 and 1997 finds evidence of audit quality differentiation between Big 6 and non Big 6 auditors when they confronted with income-decreasing earnings management. But, they find no evidence of the differentiation of audit quality between Big 6 and non Big 6 when they are confronted with income-increasing earnings management. It indicates that Big 6 and non-Big 6 auditors provide same auditor quality when they are confronted with income-increasing management. But Big 6 auditors restrict income-decreasing earnings management more than non Big 6 auditors.

Recently, [Iatridis and Dimitras \(2013\)](#) examine the reported accounting numbers of five European countries that were mostly affected by the 2008 financial crisis in order to see whether the economic crisis affects the companies' scope of earnings management, and whether the big 4 auditors restrict those opportunistic behavior and provide more informative accounting information and higher quality of financial disclosure. They find that under a severe economic crisis, companies may resort to earnings management in order to protect their financial position, performance and prospects, and to mitigate the adverse effects of financial distressed, even when audited by a big 4 auditor. This result indicates that big 4 do not effectively restrict the opportunistic earnings management, and firms that are audited by big 4 auditors do not necessarily reported higher value relevance in the reported financial numbers when confronted with a severe difficulties in crisis.

### **2.1.2. Auditor Specialization**

While some researchers focus on auditor size and auditor reputation, another strand of researchers focus on auditor type, and auditor industry specialization. Auditor specialization or expertise represents an important proxy of auditor quality. Auditor specialists provide higher quality audit services by reducing information

asymmetry through their greater ability to detect material misstatements and preventing management's discretionary behavior because they have knowledge developed through extensive audit experiences, specialized staff training and expensive investment in information technology (DeBoskey, 2012).

Many researches display a usefulness of auditor industry specialization in mitigating earnings management and enhancing financial reporting quality. For example, the study of Krishnan (2003) finds that firms audited by auditor industry specialists report lower discretionary accruals. To study the relation between auditor reputation (Big-5 vs. Non Big-5 auditors) and earnings management, and relation between auditor industry expertise and earnings management of the bank, Kanagaretnam et al. (2010) use an international bank sample of 29 countries (except US banks) from the *BankScope* database. In their analysis, the authors use three proxies for earnings management to test the extent of smooth earnings management. These three are managing earnings to avoid losses, managing earnings to beat or meet the prior's year earnings, and an accrual based proxy. They find that, on average, 6% of banks report a small profit (avoid losses), 7% of banks report small increase in earnings over the prior year (meet or beat the prior's year earnings). 74% of the banks are audited by Big 5 auditors, and 26% of banks are audited by audit specialists. Their empirical result shows that in separate test, both auditor reputation and auditor specialists moderate income-increasing earnings management (benchmark-beating) behavior. The reasons is that Big-5 auditors have greater expertise, resources, and market-based incentives to limit the tendency of their audit clients to engage in aggressive reporting, while auditor type may be of higher importance for industries such as banking where information uncertainty is higher relative to industrial firms due to the complexity of banking operations and difficulty to assessing risk on the large portfolio of loans<sup>19</sup>. So both of them Big 5 auditors and specialist auditors are significantly reduce income-increasing earnings management behavior. However, in joint test, only auditor specialists constrain income-increasing earnings management behavior in banking industry because (1) auditor specialist in banks can better access the adequacy of the loan loss provisions than non-specialist auditors, (2) auditor industry expertise has a better ability to detect errors in their specific industry activity

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<sup>19</sup> See Autore et al. (2009)

and material misstatements in financial statements (Bedard and Biggs, 1991; Wright and Wright, 1997), and (3) they also attempt to protect their reputation capital through increase compliance with generally accepted auditing standards relative to non-specialist auditors (O'Keefe et al., 1994).

In addition, to provide the evidence of effectiveness of auditor specialization in reducing earnings management behavior via loan loss provision in banking industry, DeBoskey and Jiang (2012) conduct a study 1,249 bank-year observations obtaining from Compustat Bank Annual data files during the period of 2002 to 2006. Empirically, the F-test results in Ordinary Least Square (OLS) regression provide supporting evidence that auditor expertise is fairly effective in reducing opportunistic use of discretion via loan loss provisions of the banks because specialist auditor has ability to detect and correct biased loan loss provisions estimated by bank, thereby providing fewer incentives for managers to manage earnings via loan loss provisions. Moreover, the authors investigate precisely the ability of auditor specialization in mitigating earnings management for different types of discretionary provisioning behavior. For income-increasing earnings management (negative loan loss provisions), the coefficient of auditor specialization is a positive and significant indicating that specialist auditor constrains the bank's aggressive reporting. However, for income-decreasing earnings management (positive loan loss provisions), this coefficient is insignificant or weakly significant indicating that specialist auditor has only slight effect in reducing income-decreasing earnings management. The reason may be auditors are less likely to be sued for conservative reporting, but they face high litigation risk for failing to detect and correct aggressive and opportunistic reporting. Thus, they pay more attention on income-increasing accruals than income-decreasing accruals, so they lead to more conservative estimation of loan loss provision.

In short, in regardless of economic condition, most of the studies document that external auditors including auditor size and specialist auditors restrict earnings management behavior of firms as well as of financial institutions such as banks. The larger auditors provide higher audit quality since they are more competent and independent than smaller ones. They have high probability to discover a breach in the client's accounting system, and report the breach. On the other hand, Auditor industry

specialization has industry specialist's knowledge in mitigating earnings management, ability to detect and correct biased, and enhancing financial reporting quality. However, Both auditor size and auditor industry specialization constrain more effectively on income-increasing than on income-decreasing behavior.

## 2.2. Regulatory Bodies

Many studies document that regulators concern that financial statements are becoming gradually unreliable as a source of information about firms' core operations and performance. Financial stability by earnings management began to be seen as a serious problem in a rapidly globalizing world. Managers could exploit the discretion permitted under the GAAP to manage financial reporting in ways that hide or exaggerate the economic performance of firms (Kalelkar and Nwaeze, 2011). Public also perceive that earnings management is also taken by firms' managers to get their own private benefits, rather than for the benefits of stockholders (Jiraporn et al., 2008). Hence, the international financial architecture has been needed to prevent any types of financial manipulation (Humphrey et al., 2009). Regulators have lately devised a numbers of measures for the purpose of combatting earnings management. G7 has set up Financial Stability Forum (FSF) in 1997, and they then set up 12 keys standards for achieving financial stability including IFRS/IAS and international auditing standards (ISAs) in 2000 (Eatwell and Taylor, 2000).

On the other hand, the differences in the accounting level of each local GAAP are also the sources of demand for new accounting and auditing conceptual frameworks, accounting systems, accounting rules, and degree of detail in which they are specified (Bauwhede et al., 2003). Thus, the International Accounting Standards Board (IASB) removed accounting alternatives (e.g. local GAAP) and required accounting measurements that better reflect a firm's economic position and performance. For example, Sarbanes-Oxley act 2002 is applied to improve internal corporate controls and financial reporting quality.

Moreover, in the paper of Balsam et al. (2002), "regulators have expressed apprehensions over earnings management. In 1998 speech, Securities and Exchange Commission (SEC) Chairman Arthur Levitt identified a host of accounting practices

that were eroding the quality of earnings reports and launched a sweeping campaign against earnings management. Similar concerns in 1999 led the American Institute of Certified Accountants (AICPA) to adopt new independence requirements for auditors that aimed at toughening their objectivity, and led the New York Stock Exchange (NYSE) to propose a rule change regarding the audit committee requirements of listed company<sup>20</sup>.

Therefore, we can say that the incentives of earnings manipulation depends as well on level of investor protection such as the legal requirements for protecting shareholders, and regulatory mandate.

### 2.2.1. Sarbanes-Oxley

Based on [Ng et al. \(2007\)](#), investor confidence mainly depends on quality of internal control and adequacy of legal enforcement to protect investors from misleading financial reports. That is to say, investors believe a firm will not engage in earnings management if there is strong corporate control mechanism and strong legal enforcement. Consequently, the US congress enacted Sarbanes-Oxley act in 2002 in the aim at restoring investors' confidence by improving internal controls and financial reporting quality. For example, Section 404 of the act requires development of disclosure committees, certifications of financial statements by both CEO and CFO, development of more financially literate and responsible audit committees, increasing independence of external auditors, and implementation of fraud risk management process that would alert the appropriate levels of governance of potential frauds within firms ([Kalelkar and Nwaeze, 2011](#)).

Accordingly, [Singer and You \(2010\)](#) find an improvement in earnings quality of financial reporting in the post-SOX period. Many prior researches also document that adoption of SOX improves the quality of financial reporting, increases the earnings quality and gradual declines in discretionary accruals management ([Chang et al., 2009](#); [Jian and Rezaee, 2006](#)). However, [Cohen et al. \(2008\)](#) argue that although there is a decrease in accrual-based earnings management, there is an increase in real

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<sup>20</sup> Read Balsam et al (2002)



earnings management in post-SOX period. And they also add that there is only little improvement in earnings informativeness post-SOX period.

Those prior studies neglect the impact of SOX on the valuation weights of discretionary accruals, which is the most vulnerable to manipulation. Consequently, to examine the effectiveness of SOX in constraining earnings management, [Kalelkar and Nwaeze \(2011\)](#) examine whether there are variations of the valuation weights of earnings and earnings components after the passage of SOX. They use data on the Compustat and CRSP monthly file from 1997-2006 which allow them to obtain data for cash-flow from and for total accruals, and they get the final sample of 9,527 firm-year observations for their analysis. Their empirical finding shows that the passage of SOX is associated with higher valuation weight for earnings, total accruals, and discretionary accruals as well. This result indicates that there is a positive impact of SOX on the valuation weight of earnings components and discretion. Hence, the adoption of SOX reduces manager's discretion in using accruals opportunistically, thereby effectively restored the investors' confidence in financial statement and earnings components.

However, the study of [DeBoskey and Jiang \(2012\)](#) on earnings management via loan loss provisions in banking industry exhibits a positive relationship between earnings and loan loss provisions in the post-SOX period. They show that the average proportion of loan loss provisions to earnings is fairly large (10.8%) and economically significant. We can say that more banks still smooth income via discretionary accruals (loan loss provisions) in the post-SOX period.

### **2.2.2. International Financial Reporting Standard (IFRS)**

In 2005, Europe makes a transition from local GAAP to IFRS that was supposed to unify the accounting regime in EU, to improve the quality of the accounting information, and to ensure greater comparability and transparency of financial reporting ([Iatridis and Dimitras, 2013](#)). Some researchers find effectiveness of IFRS in reducing earnings management; some of them find weakness of IFRS that make

greater opportunistic earnings management, while others find no difference in earnings management behavior between firms using IFRS and local GAAP<sup>21</sup>.

Many studies document that the adoption of IFRS could effectively reduce the firm's ability to engage in earnings management behavior, and increase the informativeness of earnings; hence, reduce the information asymmetry by making private information into public, and improving the reliability of financial reporting (Ashbaugh & Pincus, 2001; Barth et al., 2008; Ewart & Waagenhofer, 2005)<sup>22</sup>. By using a sample of cross-sectional firms from 21 countries, Barth et al. (2008) find that in the post-adoption of IFRS, firms exhibit less earnings management relative to the pre-adoption period. But, this managerial discretion limitation is not always beneficial to financial statement users because it could also eliminate firm's ability to report accounting measurements that reflect the firms' future economic performance. Furthermore, a particular research on adoption of IFRS in Europe done by Chen et al. (2010) find that in post-adoption period of IFRS, the quality of accounting information has increased within EU in terms of less targeted earnings management, smaller magnitude of absolute discretionary accruals, and higher accruals quality. Recently, Dimitropoulos et al. (2013) examine whether the implementation of IFRS could reduce the earnings management behavior in Greek that resulting in higher accounting quality. This study focuses particularly on Greek listed firms consisting of 101 companies listed in Athens Stock Exchange during the period of 2001-2008. Finally, the authors find that IFRS evidentially contributes to less earnings management, more timely loss recognition, and greater value relevance of earnings and book value of equity compared to relative amounts in pre-adoption period of IFRS. So the adoption of IFRS within Greek accounting setting helps to enhance the quality of accounting information that increases the reliability, transparency and comparability of financial statement.

However, another strand of researches documents that the IFRS-adoption could also provide greater opportunity for firms to engage in earnings management due to the flexibility inherent in IFRS and lax enforcement (Ball et al., 2003; Breeden, 1994;

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<sup>21</sup>Van Tendeloo and Vanstrelen (2005) find no difference in earnings management behavior between firms using IFRS and local GAAP in Germany.

<sup>22</sup>Read Dimitropoulos et al., 2013

Burgsthaler et al., 2006; Cairns, 1999; Street & Gray 2002)<sup>23</sup>. The lack of infrastructure to enforce the application of IFRS and the differences in the effectiveness of controls could allow companies to maintain earnings management activities (Barth et al., 2008). In this case, adoption of IFRS may result in more earnings smoothing, more aggressive reporting of accruals, and a reduction in timeliness of loss recognition relative to loss recognition (Ahmed et al., 2010).

In sum, the adoption of IFRS could result in limiting earnings management behavior of the firms, reducing information asymmetry, and providing higher value relevant on earnings. But it could also make greater opportunity for firms to engage in earnings management if there are lax of enforcement.

### 2.3. Corporate Governance

The good corporate governance practices could also influence the type of earnings management uses by limiting opportunistic earnings management. The higher proportion of an independent board of directors and the existence of an audit committee play an important role in constraining on earnings management of the firms (Krishnan, 2003). Chtourou et al. (2001) find a negative association between income-increasing earnings management and a committee composed only of independent directors. Thus, independent board is constraining on earnings management activity, particularly limiting the smooth earnings behavior of the managers. Klein (2000) finds also that the lower levels of US firms' discretionary accruals are associated with an independent audit committee and active audit committee. However, Siregar and Utama (2008) conduct a study 144 listed firms in Jakarta Stock Exchange (JSE), and find that the existence of independent boards and audit committees do not significantly influence the use of company's earnings management. The reasons for this finding are firstly, the independent boards and audit committees have been operating only for a short period, and secondly, they are not utilized as a monitoring mechanism because publicly listed firms appoint independent boards only to comply with regulations. That is to say, the corporate governance is

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<sup>23</sup> Read Dimitropoulos et al., 2013

unable to restrict earnings management when its presence is just to comply with regulation, or when it do not have enough time for their monitoring roles.

Later on, [Jaggi et al. \(2009\)](#) conduct a study on firms traded on Hong Kong Stock Exchange (HKSE) comprising of 770 firm-year observations during the period of 1998-2000. The authors firstly examine whether the independent corporate boards provide effective monitoring earnings management in firms operating in Hong Kong institutional environments, which differ from those of UK and US firms. And secondly, they examine whether the family-controlled firm affects the monitoring effectiveness of independent boards. First of all, by using the proportion of independent non-executives directors (INEDs) on corporate boards as a proxy for corporate board independence, they find a negative association between earnings management and board independence suggesting that firms with higher proportion of INEDs on corporate boards is associated with lower discretionary accruals management. This evidence supports that the higher proportion of INEDs on corporate boards restricts the earnings management and provides higher earnings quality. This result is consistent with the study of [Peasnell et al. \(2000\)](#) on U.K firms finds that the increase in proportion of outside-directors decreases the probability of income-increasing accruals. The corporations with independent boards tend to have less discretionary accruals management because independent corporate boards provide stricter monitoring behavior with respect to earnings management, provide effective monitoring of managerial activities and initiatives<sup>24</sup>, and prevent the abuse of powers of managers<sup>25</sup>. Secondly, by using fractional equity ownership of the family as a measure of ownership control concentration, and by using the appointment of controlling family members on boards as additional proxy of family control, they find that higher proportion of independent corporate boards in non-family-controlled firms are more effective in controlling earnings management than in family firms. Thus, the monitoring effectiveness of independent corporate boards is moderated in family-controlled firms. The plausible reason are that the monitoring role of corporate boards decreases systematically when insider ownership is high<sup>26</sup>, independent directors in family controlling firms are more expertise in strategic direction rather

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<sup>24</sup> Read Fama and Jensen (1993)

<sup>25</sup> Read Roe (1991)

<sup>26</sup> See Jensen and Meckling (1976)

than monitoring<sup>27</sup>, those independent boards are likely to be cooperated with controlling family members because controlling family members have right to control over the selection and reselection of independent board, and lastly, family controlling members have already played an important role in monitoring by themselves.

In sum, corporate governance mechanism could effectively limits the earnings management behavior unless it has an effective monitoring role.

#### 2.4. Ownership Type

By the way, ownership type also influences the monitoring mechanism of a company, including monitoring role on earnings management activity. [Jiambalvo \(1996\)](#) finds that discretionary accruals have a negative association with institutional ownership. Likewise, [Balsam et al. \(2002\)](#) say that institutional ownership leads to a monitoring role that constrains on opportunistic earnings management because institutional ownership have resource and capacity to detect the practices of accruals. [Fama and Jensen \(1983\)](#) also say that family-owned firms should be more efficient than publicly-owned firms because there are less monitoring costs in family-owned firms. [Mitra \(2002\)](#), [Koh \(2003\)](#), and [Midiastuty and Machfoedz \(2003\)](#) find evidence that, in Indonesia context, firms with high institutional ownership constrain on earnings management in those firms.

According to [Monks and Minow \(1995\)](#), The ability of managers to opportunistically manage reported earnings is limited by the effectiveness of external monitoring by stakeholders such as institutional investors. [Chung et al. \(2002\)](#) examine whether the presence of large institutional shareholding constrains managers from increasing or decreasing reported earnings via discretionary accruals. By studying a sample of 12,478 firm-year observations for the 9-year period from 1988-1996, they find evidence that the presence of large institutional shareholdings prevents managers from using discretionary accruals to achieve their own desire level of profits. Large institutional shareholdings deter managers from using income-increasing discretionary accruals when managers have incentives to increase reported earnings, and deter managers from using income-decreasing discretionary accruals

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<sup>27</sup> See Anderson and Reeb (2004), Johnson et al. (1996)

when managers want to reduce reported earnings. There are two reasons for this finding. Firstly, institutional investors have incentives to collect information, monitor management actions, and urge better performance. Secondly, they have the resources, expertise, and the power to effectively monitor the actions of management and to influence the decisions of the firms. Consequently, with their incentive and capacity, institutional shareholdings can put pressure on managements to limit the use of discretionary accruals.

Although institutional investors work to limit the accruals management, public ownership provides incentives to managers to manipulate earnings upward (or smoothed earnings) (Bauwhede et al., 2003). It occurs due to the fact that most of public ownership is dispersed, and they are speculators. They expect to sell their stockholdings at a higher price. So they give incentives for managers to manipulate earnings upward to beat or to meet analyst forecast.

## 2.5. Investor Protection

Investor protection is very important to efficient earnings management. It can be referred to either mandatory mechanism imposed by government, or voluntary incentives of the firms to protect all investors including majority and minority shareholders. Leuz et al. (2003) find that earnings management is more accessible in code-law countries compared to common-law countries, and they also find evidence of higher earnings management in countries with low investor protection. The restriction of earnings management in countries with stronger mechanisms to protect minority shareholders' rights will give more liquid stock markets, more effective corporate governance, and superior economic performance (La Porta et al., 2000; Bushman and Smith, 2001). The study of Iatridis and Dimitras (2013) on five European countries—Portugal, Ireland, Italy, Greece, and Spain—that were mostly affected by 2008 financial crisis, shows that Portuguese, Italian, and Greek firms engaged more in earnings management, Spanish firms report a contradictory finding, but Irish firms exhibit less in earnings management. This might be due to the fact that Ireland is a common-law country with stronger investor protection mechanism in place.

In the absence of mandatory mechanism, manager's incentives to protect investors play an important role in efficient earnings management by supplying higher quality of voluntary financial reporting. [Healy and Wahlen \(1999\)](#) note that even sophisticated analysts may not fully detect earnings if financial statements do not clearly disclose the balances and activity of the managed earnings. So the probability of detecting earnings management of the firms depends not only on the ability of financial statement users, but also on the incentives of the firms in disclosing fully detailed information. [Barton and Waymire \(2004\)](#) measure financial reporting quality along the dimensions of financial statement transparency and credibility during the market crash 1929. They argue that the use of transparency measures assumes that finer disaggregation of financial statement data allows users to identify better underlying economic factors responsible for changes in key aggregates such as income and net assets. The information credibility by accounting conservatism and external auditing helps enhance the reported information more reliable. Yet, managers opt for financial reporting quality, which respond to investor demand for information. By using a sample of 540 NYSE firms during the stock market crash of October 1929, the authors find that investor losses during market crash October 1929 were statistically and economically smaller for firms with higher financial reporting quality. In absence of regulatory mandate, managers' self-selected higher quality financial reporting provides significant information in earnings numbers consistent with investors' interest to promote investor protection; therefore, lessen investor losses during market crash. This is consistent with [Shen and Chih \(2005\)](#) using earnings benchmark tests document that most banks manage their earnings, but stronger investor protection and greater transparency in accounting disclosure reduce a bank's incentives to manage earnings.

### **3. Value Relevance of Discretionary Accruals**

[Subramanyam \(1996\)](#) find that stock market attaches value to discretionary accruals when managers use their discretion to improve the ability of earnings to reflect fundamental value. When discretionary accruals add information to earnings content, it helps analysts to predict future cash flows by increasing the information

content for current earnings related future performance. However, the information value of discretionary accruals depends critically on managerial incentives for discretionary accounting choice as well as how market interprets this incentive (Choi et al., 2011). The market is likely to attach a positive value of discretionary accruals to the extent that managers use their discretionary accruals in the accounting choices as a vehicle to convey their private information about a firm's future prospects to the market (Louis and Robinson, 2005).

Jiraporn et al. (2008) conducted a study on a sample consisting of 1,621 firm-year observations from Investor Responsibility Research Center (IRRC) between 1993 and 1998 in order to see whether earnings management happens for the opportunistic or beneficial uses. If earnings management occurs for the aim of beneficial uses, market attaches positive value to earnings component, particularly to managerial discretionary accruals. First of all, they use agency theory as a framework in this distinction. In this case, they link the severity of agency cost to the extent of earnings management. If firms use earnings management opportunistically, the extent of earnings management is positively related to the gravity of agency conflicts. In contrast, if firms use earnings management beneficially, there is no relation between the severity of agency costs and earnings management. Empirically, the authors find a negative relationship between earnings management and agency cost indicating that earnings management is not opportunistic, and perhaps even beneficial. On the other hand, they extend their study by investigating the relation between earnings management and firm value. By using Tobin's  $q$  as a measure of firm value, they find a positive relationship between earnings management and firm value. This evidence indicates that on average earnings management is not detrimental to firm value. In overall, in the perspective of agency theory and firms value, earnings management is beneficial, or at least is not opportunistic. In overall, discretionary accruals management improves the information value of earnings by conveying private information to stockholders and public. As a result, investors place a positive value to managerial discretion.

On the other hand, the study Choi et al. (2011) is conducted to examine firstly, whether the information value of discretionary accruals change during the period of crisis. Secondly, whether the country-level institution and firm-level characteristics



affect the decline of information value of discretionary accruals. The authors focus on firms in nine Asian Countries—Hong Kong, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand—during the Asian financial crisis between 1995 and 2000 comprising of 10,406 firm-year observations. The result from their regression shows that Asian financial crisis led to an almost 50% decline in the information value of discretionary earnings component, but no impact on non-discretionary earnings component. The significant decrease of information value of discretionary accruals during the crisis is the consequence of a loss in investor confidence, in credibility of corporate disclosure, caused by exogenous shocks during the crisis. However, the information value of discretionary reverts back to a normal level during the post-crisis period. Moreover, their extent research shows that the crisis caused a more severe loss of the information value of discretionary accruals in the countries with weak-institutions, but not in countries with strong-institution because market attach less (more) value to discretion in countries with weak (strong) institutions. Last but not least, they find that the information value of discretionary accruals decline during the crisis to greater (lesser) extent for firms with high (low) information asymmetries. The explanation is that outside investors becomes less confident in the credibility of discretionary accruals for firms with high information asymmetries than for firms with low asymmetries information. In overall, the Asian financial crisis encouraged managers to engage in opportunistic earnings management via discretionary accruals because the decline in firm performance during the crisis created incentives for managers to camouflage the true earnings performance (Kim and Yi, 2006), therefore, decrease the value of managerial discretion.

#### 4. Investor Sophistication

Although the earnings manipulation deteriorates the earnings quality<sup>28</sup>, we will find weak association between stock return and discretionary accruals if investors are rational because sophisticated investors have superior skills in collecting and processing information from diverse sources, and in anticipating and interpreting the determinants of earnings quality (Hand, 1990; Kim and Verrechia, 1991; Bartov et

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<sup>28</sup> Kin lo (2010) document that earnings quality will decrease by earnings manipulation.

al., 2000). Sophisticated investors are generally expected to use earnings information and non-earnings information to predict future earnings better than non-institutional investors (Jiambalvo et al., 2002). As a result, sophisticated investors do not simply follow price momentum, but rather trade in directions consistent with the cash-flow implications of underlying economic news (Cohen et al., 2002). Many prior studies use institutional holdings as a suitable proxy to sophisticated investors due to the fact that institutional investors have a relatively higher ability in gathering and processing information.

To examine whether sophisticated investor is able to use their capacity to predict stock price after earnings announcement, Bartov et al. (2000) conduct a study on 19,777 firm-quarter observations from the fourth fiscal-year quarter of 1989 to the fourth fiscal-year quarter of 1993 for NYSE/AMEX firms. The authors investigate the relation between post-announcement drift in stock price and institutional shareholdings in order to see whether the observed patterns in stock returns after quarterly earnings announcement are related to investor sophistication. By using institutional stockholdings to proxy for the sophistication of the firm's ownership, they find that magnitude of post-announcement drift is significantly smaller in firms with high institutional ownership. Sophisticated investors reduce drift because they are able to characterize the nature of the underlying earnings component correctly. However, their extent research shows that mispricing after earnings announcements exists even for firms in the highest institutional holdings decile. This evidence implies that the trading activities of unsophisticated investors are also a cause of the predictability of stock returns after earnings announcement. In overall, the stock prices reflect a weighted average of both sophisticated and unsophisticated investors' expectation. So the higher proportion of sophisticated investors in stock, the greater influence on its price drift.

Balsam et al. (2002) conduct a study on the sample of 613 firm-quarters between 1996 and 1998 in order to see whether investors reassess the integrity of recently announced quarterly earnings using information provided in the full set of quarterly financial statement since it becomes available. They focus their analysis around the 10-Q form filing date with Securities and Exchange Commission, which provides the market with the data necessary to compute the discretionary and non-discretionary

components of earnings, thereby allowing investors to better assess the quality of the previously reported earnings number. Primarily, they find a negative association between discretionary accruals and cumulative abnormal return in a short window around the 10-Q filing date. It means that security price of firm decreases (increases) with positive (negative) discretionary accruals. It indicates that investors aware that firms engaged in accruals management in 10-Q information, and they revise their assessment of earnings based on this information. On the other hand, by using institutional investor ownership as a proxy for investor sophistication, they find a significant negative association between discretionary accruals and cumulative abnormal return over a period ending two days prior to the filing date of 10-Q for firms with relatively high institutional ownership, but not for other firms. This result implies that sophisticated investors may be able to recognize earnings management more quickly and more easily than unsophisticated ones. More interestingly, they still find the same evidence although they control for the potential omitted variables including non-discretionary accruals and firm size. In overall, sophisticated investors are more able than unsophisticated investors to decompose earnings figure into discretionary and non-discretionary components because sophisticated investors have more access to timely and relevant information.

Rule 501 of Securities Act of 1993 describe a sophisticated investor as someone that has sufficient knowledge and experience in business matters to evaluate the risks and merits of an investment. So sophisticated and unsophisticated investors differ in their ability to gather and interpret private and public information for investment decisions. [Kalelkar and Nwaeze \(2011\)](#) provide evidence of the differing response between sophisticated and unsophisticated investors to valuation weight of earnings following the passage of SOX. They find that the increases in the valuation weight of earnings and earnings components in the periods following the passage of SOX are largely attributable to the actions of unsophisticated investors. But it appears to have limited effect on institutional investors. The plausible explanations are as below. Firstly, unsophisticated investors rely excessively on public information and ignore the effects of manager's reporting opportunism because they lack the resources or skill to unscramble the implication of managers' reporting or disclosure incentives. Secondly, sophisticated investors may not adjust the earnings or accruals weight in

post-SOX because they always aware of the implications of the SOX requirement through their private information sources, or could correctly anticipate the consequences of SOX-related disclosures.

## Chapter 2: Research Methodology

### 1. Overview of Global Financial Crisis 2007-2009

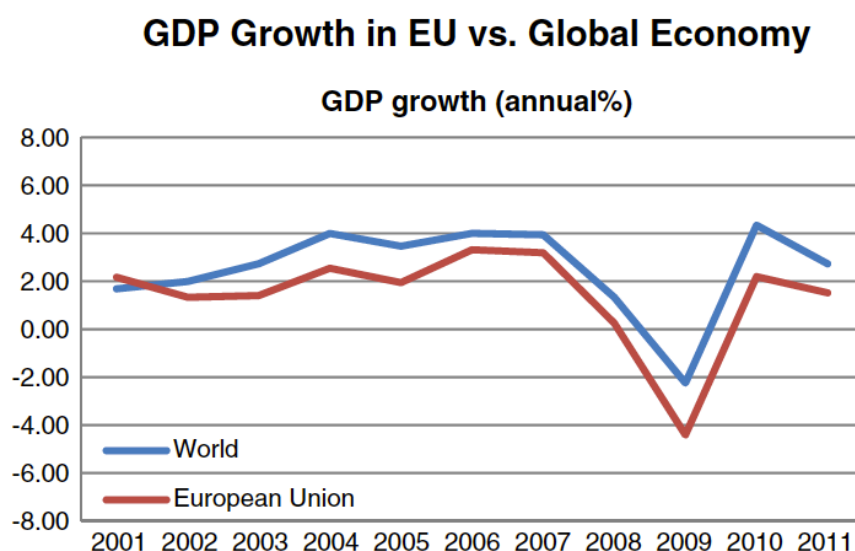
Global financial crisis originated in the credit markets in developed countries such as the United States, the United Kingdom, and Europe. This financial crisis begins in the US and spreads to the rest of world at the beginning of 2007. The root of the crisis is the subprime housing loans in United States market, which represents one fifth of new housing lending and 15% of housing loans outstanding stocks in the US (Edey, 2009). Consequently, to help assure these sub-prime loans, original lenders engage in securitization process by exercising conventional mortgaged-backed securities and collateralized debt obligations (CDOs) because this practice allows them to make their securities gain higher credit ratings even when the average quality of the underlying loans is poor, thereby, attract investors. Simultaneously, financial system neglects these practices and encourages the particular types of financial risk-taking. Hence, the major reason of this crisis is the failure of regulatory framework and financial system confronted with the growth of the originate-and-distribute model in mortgage lending, the increasing use of structured securities such as CDOs, weakness in risk controls on those activities, and unhelpful role played by credit rating agencies in ensuring these products<sup>29</sup>. In addition, the wide spread sale of these products in the US and abroad spread the crisis throughout the world.

This financial crisis has significant negative effects not only on financial institutions but also on whole economic activity. Firstly, the collapse of Lehman Brothers in September 2008, the most intense period of financial crisis, deteriorates the financial conditions and global activity. Households cut their discretionary spending on manufactured goods, particularly the demand for cars, steel and electronics, and other industrial production. Likewise, business investment contracted

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<sup>29</sup> See Edey (2009)

in a numerous countries in late 2008. As a result, this sudden fall in global industrial production and level of global activity lead to a significant decline in GDP in most of the major economies. For instance, in European companies have experienced sharp decline in GDP, reduction of industrial output, less spending from the households, and also lack of liquidity for companies and individuals. Finally, the failure of this bank along with large losses of major European banks invested in US mortgaged securities set up a severe loss of investor confidence. As a result, it makes banks more difficult and more expensive to get funds from financial market, and create the turmoil in global financial markets.



**Diagram 1.** The GDP growth in EU vs global economy.  
Source: The World Bank.

## 2. Hypotheses development

### 2.1. Earnings management during global financial crisis 2008

The first question of this research paper is to examine whether 2008 global financial crisis has motivated banks to manage their earnings, and what are their earnings management behavior?

Firms that suffer the crisis make not only large adjustment in their commercial and production policies, but also make alternative accounting methods to overcome the consequences of the crisis. Under the pressure of economic crisis, it is very

possible that all firms included financial institutions such as banks are also motivated to make accounting choices that reduce costs and give them an opportunity to gain some benefits although the study of [Filip and Rffournier \(2012\)](#) on a sample of firms from 16 European countries for the period of crisis 2006-2009 concludes that earnings management of those firms has significantly reduced in the crisis years in relation with the previous years.

By focusing on firms during the period of crisis and difficulties, [Iatridis and Dimitras \(2013\)](#) argue that under the severe economic crisis condition, firms may engage in earnings management in order to protect their financial position, performance and prospects, and prevent the adverse effects of financial distress to their firms. In their study, among 5 European countries namely Portugal, Ireland, Italy, Greece, and Spain, they find that firms that engaged in earnings management tend to exhibit lower profitability or liquidity, higher debt and growth. Particularly, Portuguese firms exhibit large losses, suggesting that high negative losses may be linked to “big bath” practices in response to economic crisis. Consistent with the study of [Lee \(2006\)](#) find that firms in a situation of serious difficulty<sup>30</sup> engage in big bath accounting to take benefits such as removing future earning drags, and increasing future operating performances.

By using the importance of financial distress<sup>31</sup> as determinants of managers’ accounting choices, [DeAngelo et al. \(1994\)](#) find that firms’ accounting choice has been chosen to reflect their actual situation of financial problem, rather than to inflate income. Their accounting choices must be chosen to make firms get rid of difficulties, thereby, income-decreasing accounting is the best measure to help them to get support and benefit from the government and their creditors. As a result, those financially distressed firms exhibit persistently large negative accruals, for example means and median are -19.9% and -18.3% respectively. The authors conclude that distressed firms have incentives to reduce reported earnings due to the fact that, in this case, 87% of sample firms engaged in contractual renegotiation with lenders, unions, government and management. Moreover, during the crisis, most of the firms as well as financial institutions meet their financial difficulties. Therefore, they could be

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<sup>30</sup>In his study, Lee (2006) focuses on firms who meets serious financial problem leading to dividend reduction/omission during 1989-96 period.

<sup>31</sup>Read DeAngelo and DeAngelo (1994)

considered as troubled firms. So we can deduce that firms during economic crisis also take advantages by making income-decreasing accounting choices.

In addition, many researchers argue that distressed firms may choose income-decreasing accounting choices get rid of financial difficulties by reducing cost (monitoring cost) imposed by external party, getting favorable consideration from government bodies, giving signal to public that they are willing to bear with these problems, and convincing creditors to extract concessions. Plus, government is likely to protect industries during financial crisis (Peltzman, 1976). One example, the research of Saleh and Ahmed (2005) on financially distressed firms during the Asian financial crisis 1997 in Malaysia shows that all firms included poorly performing firms and firms under debt contract renegotiation exhibit a large negative discretionary accruals. We can conclude that most of firms choose income-decreasing during the economic downturn by reporting large negative discretionary accruals.

Later on, Ahmed et al. (2008) conduct the extended research on the market valuation of discretionary accruals for debt renegotiating Malaysian firms during the Asian financial crisis. This extended research examines the association between discretionary accruals and market value of the stock. It helps explain the effectiveness of income-decreasing accounting choice of distressed firms under the debt renegotiation in a severe economic downturn. In their sample of 139 firms, they find a negative association between discretionary accruals and market value of equity suggesting that income-decreasing accounting choice is effective for debt renegotiating firms during the economic recession. The stock markets perceive that managers manage their earnings to pull the firms out of its financial distressed through government aid and extracted concessions.

Based on the evidences above, I expect that banks are motivated to engage in Big Bath accounting because they may get higher benefits from downward earnings management than upward earnings management during the crisis. As a result, banks engage in earnings management during the period of 2008 global financial crisis, precisely, they may disclose negative discretionary accruals because the period of crisis is considered as bad year for every firm. Most of them are negatively affected. In this case, I expect that those banks prefer taking “big bath” in during the crisis period because (1) big bath accounting choices could improve the future performance

artificially resulting in positive stock price reaction in the post-crisis period, and (2) they could also get many benefits from government aid during the crisis period. For 2008 global financial crisis, a number of forces such as government bodies, IMF and World Bank decide on wide range set of monetary, fiscal and other policy measures to help assistance to their financial sectors by improving access to liquidity, clearing some credit in particular financial markets, providing government guarantee and direct injections of capital into financial institutions. For example, British government has injected direct funds to the Northern Rock Bank many times in their rescue plan. The government injected £700m in Feb 2008 and £3bn in August 2008 to the Northern Rock Bank to help its finances<sup>32</sup>. Another example, to improve the functioning of financial market after the Lehman Brothers' collapse, authorities provide government guarantee to put banks in a position where they could be more confident of their long-term funding. So we can say that banks tend to take income-decreasing accounting choice as an opportunity because when they arrive in a severe financial distressed because of the crisis, they could particularly get those supports.

*H1: Banks may take big bath accounting choice by reporting large negative discretionary accruals during the period of crisis.*

## **2.2. Sophisticated investors**

Our second research question relates to the linkage between institutional investors and their capacity in recognizing earnings management during crisis. Many prior studies document that sophisticated investors are people who have superior skills in collecting and processing information from diverse sources, and in anticipating and interpreting the determinants of earnings quality (Hand, 1990; Kim and Verrechia, 1991; Bartov et al., 2000). They could recognize earnings management of the firms prior to the release of the full set financial statements because they have timely sources of information and capacity to access to more information of the firms. Moreover, they are generally expected to use earnings information and non-earnings information to predict future earnings better than non-institutional investors

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<sup>32</sup> See <http://news.bbc.co.uk/2/hi/business/7007076.stm>



(Jambalvo et al., 2002). The research of Balsam et al. (2002) documents that sophisticated investors may be able to recognize earnings management more quickly and more easily than unsophisticated ones. As evidence, they find a significant negative association between discretionary accruals and cumulative abnormal return over a period ending two days prior to the filing date of 10-Q for firms with relatively high institutional ownership, but not for other firms. So there are only sophisticated investors who have capacity in detecting earnings management of firms. Plus, Bartov et al. (2000) also document that sophisticated investors reduce stock price drift because those sophisticated investors are able to characterize the nature of the underlying earnings component correctly.

*H2: only sophisticated investors, represented by institutional investors, have ability to detect earnings management of the banks during the crisis.*

### 3. Research models

Earnings management is mostly based on accruals management of the firms. Some of the prior studies use Jones model as a powerful model in detecting earnings management since it focuses on accruals. Later on, they developed more sophisticated models such as modified Jones models, cross-sectional Jones model, and Time-series Jones model to detect more effectively the earnings management of the firms. However, in this study, since I focus particularly on banking industry, banks prefer using Loan loss Provisions (LLP) as a primary variable to manage earnings because (1) loan loss provisions are the largest accruals for most banks, and banks use it to reflect expected future losses on their loan portfolio (DeBoskey and Jiang, 2012), and (2) auditors seem to have difficulty measuring amounts of loan losses (Moyer, 1990)<sup>33</sup>. In this case, LLP is the most suitable and powerful to measure earnings management of banks.

To test hypothesis H1, I use the empirical design proposed by Akindayomi (2012) as following:

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<sup>33</sup> Read DeBoskey, D. G., and Jiang, W., 2012

$$LLP_{it} = \alpha_0 + \alpha_1 EBTP_{it} + \alpha_2 ROA_{it} + \alpha_3 STATUTORY_{it} + \alpha_4 LOAN_{it} + \alpha_5 SIZE_{it} + \alpha_6 YearDummies + \varepsilon_{it} \quad (1)$$

Where:

LLP: Loan loss provisions scaled by deposit

EBTP: Earnings before taxes and loan loss provisions scaled by deposit

STATUTORY: Statutory reserves balance scaled by deposit

LOAN: Gross loan balance scaled by deposit

SIZE: ln (total asset)

YEARDUMMIES: The fiscal year when LLP is measured

In the model (1), LLP, EBTP, STATUTORY, and LOAN are scaled by deposit to control for the possible heteroskedasticity effect of bank deposits. Plus, in this model, SIZE and LOAN are control variables. We control for LOAN variable to control for the potential impact of loan portfolio characteristics on loan loss provisions because different types of loans involve different default risks and thus lead to variation in expected loan losses, and we expected that  $\alpha_4$  has a positive sign. We also control for SIZE variable to account for possibility that loan losses differ systematically across bank size, as expected  $\alpha_5$  is positive. As objective of this study, banks would like to express their financial distress in order to get advantages from big bath accounting resulting in higher future stock price and support from rescue plan of the government, so they will adopt income-decreasing financial reporting. In this case, they will report more loan loss provisions to decrease their reported earnings. I expect a negative association between LLP and EBTP. I expect a negative coefficient on EBTP, thus  $\alpha_1$  is negative.

To test hypothesis H2, I use the model proposed by [Balsam et al. \(2002\)](#):

$$CAR_i = \alpha_0 + \alpha_1 DACC_i + \alpha_2 DACC * DINST_i + \varepsilon_i \quad (2)$$

Where:

CAR: Industry adjusted cumulative abnormal return

DACC: Discretionary accruals by loan loss provisions scaled by total deposit

DACC\*DINST: Product of discretionary accruals and sophisticated investor, its value equal to one if the institutional holding is above 40% and zero otherwise.

The model (2) examines the correlation between abnormal stock returns and earnings components, especially discretionary accruals (by LLP for banks). It is standard to use the seasonal differences in quarterly earnings as a proxy for they quarterly earnings surprise<sup>34</sup>. In this case, I use methodology of [Balsam et al. \(2002\)](#) by using the date of 10-Q filing for quarterly earnings reports. If investors are aware of earnings management of the banks from 10-Q earnings reports, I expect a decrease in security price of banks with negative discretionary accruals. Thus, there is a significant and a negative association between CAR and DACC around the filing date of 10-Q forms. So around the filing date of 10-Q forms, I expect  $\alpha_1$  is negative and significant.

To distinguish the ability between sophisticated and unsophisticated investors in detecting earnings management prior to the 10-Q filing date (just after the earnings announcement date, but before the release of quarterly earnings report 10-Q form), the product of DACC\*DINST will enable us to investigate the association between abnormal stock returns and proportion of firms' shares held by institutional holdings after the quarterly announcements. I expect that after the earnings announcement, there is a significant and a negative association between CAR and DACC\*DINST, but there is insignificant association between CAR and DACC. So after the earnings announcement and prior to 10-Q filing date,  $\alpha_1$  is insignificant,  $\alpha_2$  is negative and significant.

I recognized that my paper has many limits to answer to research questions. Thus, we need to develop more on theoretical study, and especially statistical test by using data and samples from banking industry between 2007-2009.

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<sup>34</sup> See Balsam et al. (2002)

## **Conclusion**

This research aims in examining the behavior of the banks toward earnings management during the 2008 global financial crisis. I strongly expect that banks make income-decreasing accounting choice associated with big-bath accounting. They will report more loan loss provisions (LLP) to deflate income. One of the crucial explanations of this big-bath is to improve the banks' future performance in the post-crisis period, thereby, resulting in positive stock price reaction in the future. Banks expect that after the crisis period, they will have a better image in the banking industry. Another explanation is to get supports from rescue plan of the government. In a situation where a whole industry meets difficulty, government always devises a number of measurements to help stabilize it. Following the serious problem on global financial crisis, investors lose confidence on the whole financial sector. It makes banks more difficult and more expensive to get funds from financial market. Therefore, only government supports could help them to reassure its banking activity. Furthermore, I expect that sophisticated investors are able to detect such earnings management behavior of banks during the crisis because of their rationality and capacity.

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