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Two essays on global differences of bank finanical reporting conservatism: The influence of securities laws and bank supervision practices

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博士論文

The Effects of Legal Institutions, Bank Supervision Practices, and Securities Market Governance on the Quality of Bank Financial Reporting

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Preface

This dissertation encompasses three essays to examine how institutions and regulatory bodies affect the quality of financial reporting by banks. We propose that the financial reporting of banks should be of high quality under a well-functioning governance mechanism. We show that bank financial reporting is of high quality in countries where the bank regulatory bodies apply supervisory policies not only to strengthen direct supervisory powers but also to encourage monitoring by banks' fund providers. Our results should be good references to the monetary authorities for their supervision/regulation on banks.

Two essays of this dissertation have been transformed into working papers for conference presentations. The first working paper, based on Chapter II, is entitled "The Effects of Legal Institutions and Bank Supervision Frameworks on the Earnings Management by Banks around the World". It has been accepted by the 2007 Financial Management Association International (FMA) Annual Meeting and is scheduled to be presented on October 18, 2007 at Orlando, Florida, U.S.A. The second working paper, based on Chapter III, is entitled "The Influence of Supervision and Regulation on the Conservatism of Financial Reporting by Banks: International Evidence". It has been presented at the 2006 National Taiwan University International Conference on Finance at Taipei, Taiwan (December 14, 2006) and the 14th Conference on the Theories and Practices of Securities and Financial Markets at Kaohsiung, Taiwan (December 16, 2006).

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Hsiangping Tsai
April 26, 2007

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Abstract

Three essays are comprised in this dissertation to examine how institution and regulation frameworks affect the quality of financial reporting by banks. The empirical investigation on whether some governance mechanisms provide incentives for banks to report high quality financial information can have policy implications regarding bank regulation. Financial reporting quality is measured either by the level of earnings management or the extent of reporting conservatism. Using these two types of proxies for financial reporting quality, we examine whether reporting quality is affected by the legal protection on investors, bank supervision/regulation practices, or securities market governance mechanisms.

In the first essay, we examine international differences in bank earnings management around the world. Following Leuz et al. (2003), we argue that bank earnings management is closely linked to private benefits of insiders. As a result, bank earnings management should be negatively related to institutional factors such as legal protection on investors and bank supervision policies that encourage market discipline on banks. Consistent with this prediction, we provide evidence that earnings management is less pervasive for banks in countries where investors are better protected and where supervision policies strongly encourage private-sector monitoring on banks. We also show that the legal protection mechanisms have stronger effects on curbing activities of earnings discretion, but bank supervision policies that encourage private-sector monitoring are better at limiting income smoothing activities. Our results also suggest that stringent capital requirement or strong government supervisions are less effective in reducing earnings activities of banks.

In the second essay, we document that banks, especially those that are publicly traded, are conservative in their financial reporting. In particular, banks are conservative in reporting

earnings changes and they incorporate more loan loss provisions when their operating cash flows decrease or when the amount of their problem loans increases. Banks also charge off more problem loans when their loan loss provisions increase. Our cross-country comparison shows that conservative financial reporting is more pronounced in countries where supervisors are empowered to take adequate actions against banks or where bank supervisory policies to encourage private-sector monitoring are more prevalent than in countries where there is less supervision or where there is less private-sector monitoring.

In the third essay, we further investigate whether securities market governance explain the international differences of reporting conservatism across listing status of banks. Our results indicate that, after controlling for banking industry regulations, securities market governance has incremental effects on the reporting conservatism by public banks. The conservative reporting by public banks is stronger in countries where securities regulators are more empowered to intervene in banks for violations to securities laws. Furthermore, the stronger conservatism for public banks relative to private banks is widespread in countries with more developed bond market. The evidence suggests that public banks practice more conservative reporting than their private counterparts when debt contracting mechanisms function well.

Chapter I

Introduction

Since the disclosure of fraud at Enron, several scandals on corporate misbehavior happened and some were at the financial institutions. To name a few, in 2004, the regulator of Fannie Mae reported its misapplication of accounting rules, doubted the validity of its financial reporting and concluded that its capital is probably overstated.[1] Fortress Re, a re-insurance firm in the U.S., was suspected to inflate its profits improperly.[2] In February 2006, we had the scandal of Livedoor, an internet and finance company in Japan, which was accused of involving in market manipulation and accounting fraud. These scandals attract public attentions on improving corporate governance for financial institutions. They also indicate that financial reporting is a primary source of information for outsiders to assess the conditions of financial institutions.

Before the study by La Porta et al. (1998), research that examines effects of institutions on corporate behaviors around the world was sparse. Based on the database of the legal protection around 49 countries in La Porta et al. (1998), many studies have investigated the impact of investor protection on the various aspects of financial markets.[3] The results generally support that stronger investor protection is associated with larger and deeper capital markets, higher firm valuation, a larger number of listed firms and a greater amount in the use

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[1] For further information, please refer to "About time: Now it's Fannie's turn to be scrubbed" in Economist, September 30, 2004.

[2] It specialized in reinsurance for aviation risk and collapsed after the September 11, 2001. A number of Japanese companies charge the director of Fortress with misrepresented losses and other inappropriate actions.

[3] For example, La Porta et al. (1997, 1998) show that stock markets in better investor protection economies have larger and deeper capital markets, while La Porta et al. (2002) and Claessens et al. (2002) find that stock markets in investor protection economies have higher firm valuation. In addition, stronger investor protection is also shown to be associated with a higher number of listed firms (La Porta et al., 1997) and greater use of external financing (La Porta et al., 1998). Demirgüç-Kunt and Maksimovic (1998) find that, in countries with higher scores on a legal efficiency index, a greater proportion of firms use long-term external financing.

of external financing.

One strand of literature examines the role of legal protection on the financial reporting quality. These studies use earnings management measures or measures for the financial reporting conservatism as proxies for the financial reporting quality.[4] They show that stronger legal protection of investors limits insiders' incentives to manage earnings and enhances firms' incentives to be conservative in their financial reporting.[5] Among these studies, only Shen and Chih (2005) examine the banking industry. Their results suggest that banks are more likely to manage earnings to exceed thresholds when there is less legal protection on investors. However, to explore the governance effects on bank reporting incentives, it is insufficient that we only consider the effects of these legal protection mechanisms. As the banking industry is highly regulated by the monetary authority, the supervision/regulation practices on banks in a country should be crucial mechanisms to investigate.

The existing corporate governance models can be classified into two groups by how they resolve information asymmetry (Ball et al., 2000). We call them private communication and public disclosure models. Under private communication model, normally a firm is controlled by large stakeholders and the information asymmetry is mainly resolved through private

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[4] Some researchers consider financial reporting quality from the investment perspective. In their studies, accruals and earnings are examined to see whether they reflect the intrinsic value, represent current operating performance, and forecast future operating performance well for a firm (Dechow and Schrand, 2004; Kim et al., 2005). Since this line of research usually examines financial reporting quality of listed firms and links it to stock performance related issues (Aboody et al., 2005; Beneish et al., 2002; Francis et al, 2004, 2005), we do not apply these measures to our study, which contains a large amount of privately-held bank samples.

[5] For earnings management studies, the governance mechanisms examined include law origin and protection of small investors, efficient judicial system, effectiveness of competition laws, diffusion of the press, effective tax enforcement (Leuz et al., 2003; Dyck and Zingales, 2004; Haw et al., 2004). Furthermore, Burgstahler et al. (2006) document that listing status, accounting rules, and securities regulations for better investor protection also provide incentives for firms to report more informative earnings. For studies on financial reporting conservatism, evidence also show that listing firms, firms in countries with common law origin, with less reliance on inside networks in communication, and with less political intervention are more likely to report financial statements conservatively (Ball and Shivakumar, 2005; Ball et al., 2000; Ball et al., 2003; Bushman and Piotroski, 2006).

communication.[6]   On the other hand, under public disclosure model, usually the ownership structure is diverse and fund providers of firms rely on the firms' information disclosure to make investment decisions.   To ensure the public disclosure model functions well, it is crucial to establish an environment to encourage monitoring by these fund providers, for example, law protection on their rights, lower level of government corruption, and mandating information disclosure (La Porta et al., 1998; Leuz et al., 2003; Ball et al., 2000; Ball et al., 2003).

In the banking industry, the structure of banks' fund providers is relatively diverse, as it is mainly composed of a large number of small depositors and shareholders.   Under such structure, it is less likely to apply private communication though large stakeholders as banks' governance model.   A public disclosure model may work better to protect rights of those fund providers for banks.   However, for public disclosure model to function well, it is essential that bank regulatory bodies to develop environment for outside monitoring by applying appropriate supervisory policies.   These policies are expected not only to strengthen direct supervisory powers to deal with banks' inappropriate behaviors but also to encourage monitoring by their fund providers.   Further, under the public disclosure model, financial reporting information is an essential communication tool for bank mangers and outside investors.   We argue that a well-functioning bank governance structure is associated with high quality financial reporting. To test this argument, this dissertation examines the effects of existing governance mechanisms on the quality of bank financial reporting.   Our results should be good references to the monetary authorities for their supervision/regulation policies on banks.

This dissertation aims at examining how the institutions and regulatory bodies affect banks' financial reporting quality.   As financial reporting quality is a general concept with

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[6] Large stakeholders may include large shareholders, major lending banks, government representatives, and labor unions. (Ball et al., 2000)

several different dimensions, we concentrate on examining two well-noticed dimensions of financial reporting quality, earnings management and financial reporting conservatism, which are also greatly concerned by the academics and the public. In the first essay, the focus is on the relations between earnings management and institutions across countries. We compare effects of legal protection and bank supervisory policies on earnings management activities. In the second and the third essays, we turn to investigate financial reporting conservatism. The second essay compares conservative financial reporting of public banks with private banks and examines institutional factors that may encourage banks to be conservative in their financial reporting. The results show that public banks generally report financial statements more conservatively than private banks, but the magnitude of difference in reporting conservatism varies across country. We are curious about the underlying factors for this country difference. In the third essay, we further study whether country difference of securities market governance mechanisms is the factor that drives the difference of conservative reporting between public and private banks.

The remainder of this dissertation is organized as follows. Chapter II explores the effects of legal protection and bank supervision frameworks on the earnings management by banks. Chapter III examines the influence of bank regulation/supervision on the conservatism of financial reporting by publicly-traded and privately-held banks. With controls for the effects of bank regulation/supervision, Chapter IV investigates the incremental effects of security market governance on the conservatism of bank financial reporting across listing status. Chapter V concludes the dissertation.

Chapter II

**The Effects of Legal Institutions and Bank Supervision Frameworks on
the Earnings Management by Banks**

1. Introduction

The purpose of this chapter is to examine differences in bank earnings management -- an important attribute of financial reporting quality -- around the world. We argue that differences in bank earnings management are driven by differences in the magnitude of information asymmetry in the international banking systems across countries. In an economy with greater information asymmetry between fund providers and firms, it is easier for insiders to gain private control benefits from earnings management activities (Leuz et al., 2003). We hypothesize that the information asymmetry is lower in countries where fund providers are better protected or banks are heavily monitored. This lower information asymmetry may limit incentives for banks to manage their earnings. To test this argument, we investigate whether or not some attributes of institutional settings lead banks to report earnings that are more informative to their shareholders.

To guarantee a mechanism that is capable of maximizing the production of wealth, it is important that reported earnings are informative about a firm's true economic performance so that fund providers can monitor their wealth and exercise their rights. Recently, researchers have focused on examining international differences in firms' financial reporting quality and have uncovered the causes and consequences of differences in financial reporting quality around the world. They generally provide evidence that private control benefits are positively associated with earnings management activities and that some governance mechanisms are important in curbing insiders' control benefits and thus limit firms' earnings management activities. The governance mechanisms examined include law origin and protection of small

investors, efficient judicial system, effectiveness of competition laws, diffusion of the press, and effective tax enforcement (Leuz et al., 2003; Dyck and Zingales, 2004; Haw et al., 2004).[7] Furthermore, Burgstahler et al. (2006) document that listing status, accounting rules, and securities regulations for better investor protection also provide incentives for firms to report more informative earnings.

Despite the fact that these well-documented governance mechanisms explain the international differences of firms' earnings management, most of the studies exclude the banking industry. We argue that international differences of earnings management activities by banks deserve researchers' attention for the following reasons. First, compared with the industrial firms, banks exhibit more diffusive ownership structures and higher information asymmetry, which may limit the ability of investors to monitor them due to the small benefit from monitoring (Black, 1992). This may give bank managers a good opportunity to manage earnings to conceal or acquire more private control benefits. Second, the banking industry plays an essential role on a country's capital allocation and economic development, and thus its stability is a crucial concern by academics, government supervisors and the public. Third, banks' financial reporting is the most essential information for their stakeholders' decision making, since most banks are privately-held.

On the other hand, some researchers have documented evidence on earnings management activities by banks. They focus either on income smoothing (Liu and Ryan, 2006)

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[7] Leuz et al. (2003) compare differences in earnings management by industrial firms across 31 countries and show that stronger legal protection of investors limits insiders' ability to acquire private control benefits and reduces their incentives to manage earnings. Dyck and Zingales (2004) estimate and compare private benefits of control in 39 countries and suggest that institutional factors such as legal and extra-legal mechanisms (effectiveness of competition laws, diffusion of the press, and tax compliance) are the most important in curbing insiders' private control benefits. Analyzing the international differences of firm-level data among nine East Asian and thirteen Western European countries, Haw et al. (2004) also provide evidence that a common-law tradition, an efficient judicial system, and a high rate of tax compliance help curb earnings management induced by the ultimate owners' divergence between control rights and cash-flow rights.

or on earnings discretion to exceed thresholds, which comprise zero earnings (Shen and Chih, 2005) and zero earnings changes (Beatty et al., 2002; Shen and Chih, 2005). The evidence indicates that loan loss provisions are crucial bank accruals used to manage earnings (Beatty et al., 2002; Liu and Ryan, 1995, 2006; Liu et al., 1997). However, most of the studies examine banks for a specific country; the only exception is Shen and Chih (2005), who investigate international differences of earnings discretion to exceed thresholds by banks around 48 countries. Although they provide evidence that stronger mechanisms of legal investor protection reduce bank incentives to manage earnings, they do not analyze the effects of bank regulation/supervision practices on the international difference of bank earnings management activities, and their investigation excludes banks' activities of income smoothing as well. We believe that the regulation/supervision by the monetary authority plays an important role in the country-level governance structure for the banking industry. Besides, it is also interesting to investigate and compare the causes and consequences of these two categories of banks' earnings management activities: earnings discretion and income smoothing.

Our study aims at documenting the international differences of earnings management activities by banks and examining how they are affected by existing governance mechanisms. Our measures for earnings management comprise activities of earnings discretion and income smoothing, modified from those proposed by Leuz et al. (2003). Since banks are highly regulated by the monetary authority, when we investigate effects of governance mechanisms on banks' earnings management, in addition to those well-established mechanisms about legal protection on investors, we consider bank regulation/supervision frameworks to be important factors as well. Our results may help bank supervisors to adjust their supervision policies and help banks' customers and investors around the world to make decisions when they use banks' financial reporting information.

Our cross-country analysis results show that bank earnings management is less pervasive in countries with stronger investor protection. We also document the importance of supervisory policies that encourage private-monitoring to limit banks' earnings management activities. Our main results are as follows. First, we show that banks from countries with common law origin and lower level of government corruption engage in less earnings management. Second, banks also engage in less earnings management in countries where international rating agencies and depositors are motivated to monitor banks. Third, the legal protection mechanism have stronger effects on curbing activities of earnings discretion, but bank supervision policies that encourage private-sector monitoring are better at limiting income smoothing activities. Furthermore, monetary authorities have stronger direct supervision powers or set stringent capital regulation on banks seems to play a less important role to limit banks' earnings management activities.

The remainder of this chapter is organized as follows. Section 2 explores the incentives and institutional effects on banks' earnings management. Section 3 explains the design of earnings management measures. Section 4 describes the sample and provides summary descriptive statistics. Section 5 reports the earnings management scores by country and their correlations with the country-level institutions. Section 6 presents our main results on the effect of institutional factors on limiting earnings management, including the roles of legal protection mechanisms and bank regulatory supervision frameworks. Finally, Section 7 concludes the chapter.

2   Conceptual framework: incentives and institutional effects on earnings management

2.1   Earnings management and manager incentives to manage earnings

Healy and Wahlen (1999) maintain that earnings management exists when mangers use

discretion to report financial statements with an intention to misinform stakeholders about the true economic performance of the firm. Managers are more likely to manage earnings when there exist greater information asymmetry and larger expected private control benefits. It is well-documented that firms may manage earnings for three motivations: capital market motivations, contracting motivations, and regulatory motivations. For capital market motivations, studies show that managers manage earnings during periods before specific capital market transactions or to meet earnings targets. For example, firms understate or overstate earnings through unexpected accruals in a period before management buyout, initial public offers or seasoned equity offers (DeAngelo, 1988; Perry and Williams, 1994; Teoh et al., 1998a, 1998b). Firms may also manage earnings to avoid reporting small losses (Burgstahler and Dichev, 1997), to avoid earnings decline (Beatty et al., 2002) or to meet analysts' forecast (Barua et al., 2006). For contracting motivations, some studies indicate that firm managers do manage earnings to minimize violations of debt covenants, to increase their compensation, or to protect their own position (Sweeney, 1994; Dechow and Sloan, 1991; Bergstresser and Philippon, 2006). For regulatory motivations, there is substantial evidence that banks may manage their accruals to meet minimum capital requirements (Beatty et al., 1995; Collins et al., 1995).

The above discussion on evidence for earnings management activities are primarily based on studies for the industrial firms in a specific country and they focus on identifying factors that may increase managers' incentives to manipulate earnings. Recently, some international studies have turned their focus on whether some country-level institutions help alleviate the information asymmetry and firm incentives to manage earnings. Their evidence shows that information asymmetry is lower and earnings management is less pronounced in countries with common law origin, better protection of small investors, more efficient judicial system, more effective competition laws, more diffusion of the press, and more effective tax

enforcement (Leuz et al., 2003; Dyck and Zingales, 2004; Haw et al., 2004).

However, the governance structures examined in these international studies are still mainly for industrial firms. Although researchers have explored the effects of capital requirement for banks on earnings management, we do not find any comprehensive studies for the effects of regulatory governance structure on bank incentives to earnings management.[8] Since capital requirements affect the bank incentive to manage earnings, we hypothesize that bank regulatory frameworks may be crucial factors that shape bank incentives on their financial reporting. We thus adopt a cross-country comparison to further investigate whether some regulatory frameworks decrease or increase the bank incentives to manage earnings.

Although our study follows the above literature to consider that mangers may gain private control benefits by manipulating earnings to misinform stakeholders about a firm's underlying economic performance, we can not rule out some researchers' view that unmanaged earnings are not always better for shareholders. Researchers have suggested three situations that earnings management may be encouraged by shareholders (Arya et al., 1998; Arya et al., 2003, Demski, 1998). First, with assess to more information, managers possesses better estimates of a firm's permanent income than shareholders. Since transitory income is expected to have no real effect on firm value, shareholders may expect managers to report only the permanent income, which is smoother than the raw income. Second, managers may use earnings smoothing as a way to show their ability to run the firm and to predict future earnings. Thus, stockholders may prefer earnings smoothing since it is a tool to perceive mangers' ability and diligence and it also can reduce costs on motivating managers. Third, stockholders may benefit from managed earnings, which keep them from excessively intervening in the daily

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[8] Shen and Chih (2005) also use some legal institutions to examine bank incentives to manage earnings to exceed thresholds. However, they do not examine the effects of specific banking regulatory frameworks and only examine one specific earnings management activities, i.e., threshold management.

management of the firm.   In this situation, however, managers manipulate earnings only to conceal information.   Further, a recent study by Tuker and Zarowin (2006) examines whether income smoothing distorts earnings or improves earnings informativeness.   In support of the hypothesis of improving earnings informativeness, their results show that the stock price of higher smoothing firms contains more information than that of lower smoothing firms about their future earnings.

2.2   *Institutional factors that may limit bank incentives to manage earnings*

In this chapter, we examine two governance mechanisms on limiting bank incentives to manage their earnings: (1) legal institutions, and (2) bank regulation/supervision frameworks. This section discusses how these mechanisms may influence banks' earnings management activities.   In Appendix A, we describe the definitions of the variables used to representing these governance mechanisms in detail.

2.2.1 *Legal institutions for investor protection*

Prior studies have shown that some institutional factors are effective in reducing insiders' private benefits of control and are negatively correlated with corporate earnings management (Leuz et al., 2003; Dyck and Zingales, 2004; Haw et al., 2004).   Most of these findings support that legal protection mechanisms are able to curb earnings management by corporate insiders.   We expect that the effect of legal protection mechanisms also applies to the banking industry.   In this study, variables that represent a country's legal protection mechanisms are whether it is a common law origin (*LAW*), whether it has a higher level of anti-director rights (*ANTI*), whether it has a higher rating of accounting standards (*ACCT*), and whether it has a lower level of corruption (*CPIX*).

2.2.2 Bank regulation and supervision frameworks

The recent experience of financial crises has led monetary authorities around the world to focus their attention on the crucial role of banking supervision. However, it is difficult to empirically examine whether the existing supervision practices function well without data on bank supervision and regulation practices around the world. The study by Barth et al. (2001) solves the lack of data problem. They introduce a new database funded by the World Bank on the regulation and supervision of banks in 107 countries. In 2003, they provided a new edition of the database which is more comprehensive and covers more than 150 countries. The two editions of the database were complied from surveys they conducted on national bank regulatory and supervisory authorities in these countries and the responses were mainly based on information in the years of 1999 and 2001, respectively. The main contribution of their works is to improve our understanding of the stylized facts for banking regulation and supervision on a global basis. It facilitates researchers' further study on the role of banking supervision as well. In a recent study, Barth et al. (2004) use this database to examine the relationship between regulatory and supervisory practices and the development, efficiency, and fragility of the banking sectors. Their findings suggest that supervisory practices designed to promote private-sector monitoring work the best to assist bank development, performance, and stability. We extend their studies and use the 2003 edition of the database to examine whether these supervisory frameworks are useful to curb earnings management activities by banks.

We follow Barth et al. (2004) to classify the supervisory frameworks into direct government supervision and supervision policies that encourage private-sector monitoring. We use an overall capital stringency index (*CAR*) and an official supervisory power index (*SUPPWR*) to capture the effects of direct government supervision. The *CAR*, ranging from 0 to 5, measures whether the requirements on the minimum capital adequacy are stringent, such

as whether the capital asset ratios are weighted, whether losses are deducted from capital, and so forth. The *SUPPWR*, ranging from 0 to 14, measures the power of supervisors to take specific actions to avoid and to remedy the problems of banks. The story about regulatory motivation of earnings management suggests that stringent direct government supervisions may encourage bank mangers to manipulate earnings. However, it is possible that regulators are able to detect the manipulation through onsite inspection and force banks to file accounting restatements to correct it (Gunther and Moore, 2003). Thus, it is unclear whether stringent regulation limits or encourages earnings management by banks.

More importantly, we argue that supervision practices that aim at enhancing private-sector monitoring may have an effect on limiting bank insiders' ability to acquire private benefits of control and thus curbing earnings management. The central premise of our argument is that, in countries where private-sector monitoring is strongly encouraged, bank managers have difficulty hiding information from outside monitors and thus may conduct less earnings management activities.

The main measure that captures the effects of supervision policies designed to encourage private-sector monitoring is the private monitoring index (*PRIIDX*). It ranges from 0 to 9 and is the aggregated value of the following four indexes and measures of other disclosure requirements: external auditing (*AUDIT*), international rating on large banks (*LBKRATE*), bank accounting disclosure (*BKDISCL*), and official deposit insurance (*DEPOINSUR*). [9] External auditing (*AUDIT*) takes the value of one if the law or the supervisory authority require an external and certified auditor and zero otherwise. The international rating on large banks (*LBKRATE*) shows the percentage of a country's top ten

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[9] The other disclosure requirements are: whether the disclosure of off-balance sheet items or risk management procedures is required, and whether subordinated debt is allowed or required as part of a bank's capital.

banks that are rated by international rating agencies. Higher values of *AUDIT* and *LBKRATE* not only indicate stronger monitoring by external independent agencies but also reveal that depositors and investors have better information to monitor and make adequate discipline actions against banks. Bank accounting disclosure (*BKDISCL*), ranging from 0 to 3, measures the extent of required information disclosure and measures whether a bank's managers are required to be legally responsible for the quality of its accounting information. *BKDISCL* is comprised of measures on how banks deal with the accrued interest and principal of nonperforming loans, if banks are required to provide consolidated financial statements, and if bank managers are legally responsible for disclosing misleading information. Finally, official deposit insurance (*DEPOINSUR*) takes the value of one when there is no official depositor protection and zero otherwise. The two types of the lack of official depositor protection are: (1) when there is no deposit insurance scheme and no case of bank failure, and (2) when there is no deposit insurance scheme and depositors were not fully compensated the last time a bank failed. A higher value of *BKDISCL* indicates a higher level of required disclosure and a higher possibility that managers are legally liable for misleading information, which may force managers to provide better quality of financial statements. In countries that are lack of official depositor protection, depositors may have stronger incentives to monitor banks in order to protect their own wealth. Hence, a country with higher values of *BKDISCL* and *DEPOINSUR* may indicate an environment that outsider monitoring is easier and thus provide stronger motivations for depositors and investors to monitor banks. We expect a higher value in any of the above five indexes regarding private-monitoring mechanisms to be negatively associated with earnings management measures, since they indicate that depositors and investors are more encouraged to monitor banks.

3   Earnings management measures

Using loan loss provisions as bank accruals, we modify the four country-level measures of earnings management of industrial firms developed by Leuz et al. (2003) to measure the pervasiveness of banks' earnings management. These measures aim at examining behaviors of managers to perform earnings discretion and income smoothing activities. Unlike Leuz et al. (2003), who apply raw data of accruals to compute their measures, we follow the studies by Beatty et al. (1995) and Beatty et al. (2002) to estimate an discretionary loan loss provisions and apply it to compute our earnings management measures. The use of discretionary accruals alleviates the problem that raw data of accruals may not be a good proxy to capture mangers' behavior of earnings manipulation, because banks may have different appropriate level of loan loss provisions (the non-discretionary part) due to factors such as different risks of loan portfolios, country differences on accounting policies or time effects, and so forth.

The estimation of discretionary loan loss provisions and the modified four country-level measures of banks' earnings management are briefly discussed in the following subsections. All accounting information used to compute the earnings management measures are scaled by lagged total assets. We also summarize the measures and the indexes of earnings management used in this study in Appendix A.

3.1   *The estimation of discretionary loan loss provisions (discretionary LLP)*

The appropriate level of loan loss provisions for banks varies and may depend on the risks of bank loan portfolios, international differences of accounting rules for loan loss recognition or different policies on loan collaterals, and the variations of economic conditions across different countries and years. Also, the risks of bank loan portfolios may be influenced by loan maturity, industry characteristics of the borrowers, and the amount of collaterals.

Hence, the raw data of loan loss provisions may not be a good proxy to measure whether bank managers engage in earnings manipulation. Studies on bank earnings management usually apply a model to separate the discretionary (abnormal) and non-discretionary (normal) part of loan loss provisions (Beatty et al., 1995; Beatty et al., 2002). Then, the discretionary loan loss provisions are used to compute earnings management measures. Therefore, we follow the literature to apply a model that controls for variables that may affect the appropriate level of (non-discretionary) loan loss provisions.

In Beatty et al. (1995) and Beatty et al. (2002), they use a model controlling for the nature log of total assets, changes in problem loans, loan loss reserves at the beginning of the year, and percentages of different type of loans to total loans.[10] However, it is difficult for us to control some of these variables in our study due to that these items are not available for a large number of our sample banks. We thus apply several other variables to substitute for the variables used in Beatty et al. (1995) and Beatty et al. (2002). First, we assume banks that are classified as the same bank specialization have similar loan portfolios and risk levels. Therefore, we use total customer loans (TCL) and dummy variables of bank specializations (D_{BK}) as proxies for the risks of bank loan portfolios to replace the variables of changes in problem loans and the percentages of different type of loans to total loans. Second, we further apply country (D_{COUNT}) and yearly (D_{YEAR}) dummy variables to control for other factors representing country differences or time effects, such as differences of policies in reporting loan loss provisions or variations of economic conditions.

The following regression is the model that we use to estimate the non-discretionary loan loss provisions (LLP).

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[10] The model: $LLP_{it} = \alpha_0 + \alpha_1 LnTA_{it} + \alpha_2 \Delta PL_{it} + \alpha_3 LLR_{i,t-1} + \sum \alpha_{it,j} \% \ LoanType_{it,j} + \varepsilon_{it}$

where % $LoanType_{it,j}$ represents percentages of j types of loans to total loans for bank i at time t, such as real estate loans, commercial and industrial loans, loans to depository institutions, loans to individuals, and so on.

$$LLP_{it} = \alpha_0 + \alpha_1 LnTA_{it} + \alpha_2 TCL_{it} + \sum \alpha_{D_{BK}} D_{BK} + \sum \alpha_{D_{COUNT}} D_{COUNT} + \sum \alpha_{D_{YEAR}} D_{YEAR} + \varepsilon_{it} \qquad (2.1)$$

where *LLP* is loan loss provisions scaled by lagged total assets; *LnTA* is the natural log of

total assets; *TCL* is total customers loans scaled by lagged total assets; D_{BK}, D_{COUNT}, and D_{YEAR}

are bank specialization, country and yearly dummy variables.

We pool across all bank-years with available data from our sample countries to estimate

the model. The residuals from the regression are used as the estimates of discretionary loan

loss provisions (discretionary *LLP*). Then, the discretionary *LLP* is used to compute the

earnings management measures in our study.

3.2   *Measures of earnings discretion*

The evidence that insiders of banks or firms tend to manage earnings to avoid small

losses is well documented by researchers (Beatty et al., 2002; Burgstahler and Dichev, 1997;

Degeorge et al., 1999). Hence, our first proxy for earnings management is to measure the

magnitude of banks' small loss avoidance (*EM*1) in each country. We follow Degeorge et al.

(1999) to determine the small gains (losses) using $2(IQR)n^{-1/3}$ for the variable, net income scaled

by lagged total assets, where IQR is the sample interquartile range and n is the number of

available observations.[11]   A bank-year observation is classified as a small gain when its net

income scaled by lagged total assets is in the range of [0, 0.0006], and it is assigned to be a small

loss when its net income scaled by lagged total assets is in the range of [-0.0006, 0). Denote

#*SG* as the number of small gains and #*SL* as the number of small losses in a country. We

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[11] We apply lagged total assets instead of market capitalization, which is applied by many researchers, to be the deflator for two reasons. First, many banks in the world are privately-held and thus do not have information on market capitalization. Second, Durtschi and Easton (2005) shows that market capitalization deflator may create a spurious discontinuity of earnings at zero. Therefore, lagged total assets may be better than the market capitalization to be the deflator. Nevertheless, our measure has its restriction that earnings distribution may be affected by tax expenses. For example, if the tax rate is 40%, a profit of $1 becomes $0.6, but a loss of $1 is still -$1. Hence, tax expenses may lead to the existence of more small profits than small losses.

calculate *EM*1 as *#SG* minus *#SL* scaled by number of bank-year observations in that country. A higher score of *EM*1 indicates a higher percentage in reporting small gains than small losses, which suggests that banks in that country are more likely to avoid reporting small losses. Although unreported, we also use a criterion for the range of small gains (losses) as 0.0007 and get similar results. In some multivariate regression models, we even find stronger effects of regulation influence on limiting earnings management by banks when we use this criterion as a measure for earnings management to avoid small losses.

Our second measure (*EM2*) is to estimate the extent that managers exercise their discretion on bank accruals, loan loss provisions, to report the financial performance. *EM*2 is calculated as a country's median ratio of absolute value of bank discretionary loan loss provisions (discretionary *LLP*) scaled by the absolute value of unmanaged operating income (unmanaged *OPI*), which is computed as operating income (*OPI*) plus discretionary loan loss provisions (discretionary *LLP*). Since it measures the magnitude of discretionary loan loss provisions (discretionary *LLP*) relative to unmanaged operating income (unmanaged *OPI*), a higher score of *EM*2 implies more earnings discretion by banks.

3.3   Measures of income smoothing

Managers can also conceal banks' true economic performance by income smoothing. *EM*3 measures the extent that bank insiders reduce the variability of reported earnings through discretionary accruals and is a country's median ratio of the bank-level income smoothing indicator. The bank-level income smoothing indicator is computed as the standard deviation of operating income (*OPI*) divided by the standard deviation of unmanaged operating income (unmanaged *OPI*) multiplied by -1. A higher value of *EM*3 indicates a relatively smaller volatility of operating income (*OPI*) and stands for stronger evidence of income smoothing.

It is also possible that a bank's insiders use bank accruals to hide economic shocks to its cash flow from operations. The role of accruals in smoothing a firm's reported earnings has been examined by Dechow (1994), Guay et al. (1996), and Dechow et al. (1998). According to these studies, the role of bank accruals, loan loss provisions, to mitigate noise in cash flow from operations can be detected from the existence of a contemporaneously positive correlation between discretionary loan loss provisions (discretionary *LLP*) and the unmanaged operating income (unmanaged *OPI*). Consequently, we construct our *EM*4 to be the contemporaneous correlation between the changes in discretionary loan loss provisions (*Δ* discretionary *LLP*) and the changes in unmanaged operating income (*Δ* unmanaged *OPI*). A country with a higher *EM*4 score implies that its banking system involves in a larger degree of income smoothing activities.

4   Sample and descriptive statistics on bank characteristics and country-level institutions

4.1   Sample selection and data sources

Bank accounting data comes from the September 2005 CD-ROM edition of the BANKSCOPE database, which is supplied by Bureau Van Dijk and contains up to eight years of historical data from annual reports of banks around the world. We exclude investment banks/securities houses, Islamic banks, specialized governmental credit institutions, central banks, and multi-lateral governmental banks from the sample, because their primary activities are different from traditional banking and are more specialized. We further remove the bank-year observations with missing accounting data for net income, total assets, loan loss provisions, total customer loans, and operating income over the sample period 1997 to 2004. We also require that there be information on the commercial law origins and bank supervision and regulation institutions of the countries. The commercial law origins of the countries are

obtained from La Porta et al. (2002).   Bank supervision and regulation variables mainly comes from the bank regulation and supervision database (the 2003 edition) supplied by the World Bank.   If a country is not included in the 2003 edition of the database but is included in the 2001 edition, the information in 2001 edition is used.[12]

We start from the 92 countries listed by La Porta et al. (2002).   We exclude Afghanistan, Libya, Iraq, Guatemala, and Syria, due to insufficient accounting data to compute our earnings management measures.   All accounting data used to compute the earnings management measures are scaled by lagged total assets, which require that the first year, 1997, be dropped from the sample.   The final sample contains 39,723 bank-year observations across 87 countries from 1998 to 2004.   Among the final 87 sample countries, the bank regulation and supervision information on Bangladesh, China, Indonesia, and Vietnam are retrieved from the 2001 edition of the database.

4.2   Country-level descriptive statistics

Table 2.1 reports the number of bank-year observations and descriptive statistics for bank characteristics by county.   We observe substantial variations in the number of bank-year observations among sample countries due to differences in the country size and the availability of bank financial data.   The mean and median observation numbers per country are 457 and 123, respectively.   The countries with more than 1,000 bank-year observations comprise 66% of our sample banks.   They are Germany (8,951, 22.5%), United States (6,201, 15.6%), Italy (3,546, 8.9%), Japan (3,305, 8.3%), France (1,972, 5.0%), Switzerland (1,387, 3.49%) and United Kingdom (1,002, 2.5%).

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[12] Both the 2003 edition and the original 2001 database can be obtained from the website of the World Bank (http://econ.worldbank.org).

The country-level median total assets (*TA*) and return on assets (*ROA*) also show considerable variations across countries. Because of the large variation on bank size, we scale all accounting variables by lagged total assets. The variable *OWN,* which is retrieved from BANKSCOPE, represents the country-level ownership concentration of banks. *OWN* ranges from 1 to 8 and a larger number indicates higher level of ownership concentration. There is a modest variation of the country-level median ownership concentration among the sample countries. This may indicate that ownership structure of banks is similar across countries and thus has less effect on differences of earnings management incentives by banks. We also control these three country-level bank characteristics in the subsequent multiple regressions to examine the effects of bank characteristics on bank incentives to manage their earnings.

Table 2.1 Summary statistics of banks by country

COUNTRY	# of BK-Yr OBS	Median TA (US$M)	Median ROA (%)	Median OWN (1~8)	COUNTRY	# of BK-Yr OBS	Median TA (US$M)	Median ROA (%)	Median OWN (1~8)
Algeria	23	5,002	0.17	7.00	Mexico	204	627	0.72	7.00
Argentina	421	183	0.00	8.00	Morocco	62	2,490	0.92	5.00
Australia	179	3,547	0.66	7.00	Netherlands	195	4,938	0.55	7.00
Austria	986	437	0.42	7.00	New Zealand	53	12,121	1.14	7.00
Bahrain	50	2,898	1.46	4.00	Nicaragua	58	179	1.95	8.00
Bangladesh	154	320	1.04	1.00	Nigeria	269	149	3.28	7.00
Belgium	303	1,578	0.41	7.00	Norway	236	1,198	0.84	7.00
Bolivia	84	330	0.54	5.50	Oman	40	656	2.05	4.00
Brazil	636	610	2.05	7.00	Pakistan	115	478	0.87	6.00
Bulgaria	134	156	1.34	7.00	Panama	241	339	1.19	8.00
Canada	270	1,940	0.63	7.00	Paraguay	110	91	1.70	8.00
Chile	130	1,473	0.97	7.00	Peru	88	372	0.52	7.00
China	146	8,739	0.40	4.00	Philippines	186	848	0.76	7.00
Colombia	134	710	1.10	7.00	Poland	195	758	0.93	7.00
Costa Rica	120	89	1.95	8.00	Portugal	133	3,919	0.81	7.00
Cote D'ivoire	44	151	0.96	7.00	Qatar	32	953	2.12	6.00
Croatia	154	177	1.08	7.00	Romania	113	159	1.48	7.00
Cyprus	79	637	0.64	7.00	Russian Federation	441	206	1.33	7.00
Czech Republic	82	717	0.54	7.00	Saudi Arabia	30	11,884	1.90	4.00
Denmark	602	315	1.12	7.00	Senegal	30	249	1.84	7.00
Dominican Republic	151	87	1.98	8.00	Singapore	80	1,351	1.05	7.00
Ecuador	109	93	1.02	8.00	Slovakia	76	549	0.86	7.00
Egypt	157	1,029	0.92	4.00	Slovenia	67	375	0.70	7.00
El Salvador	43	263	0.97	8.00	South Africa	166	1,755	1.38	7.00
Finland	52	10,656	0.84	1.00	Spain	827	2,563	0.83	8.00
France	1,972	2,362	0.61	7.00	Sri Lanka	66	625	0.75	1.00
Germany	8,951	565	0.24	8.00	Sweden	379	318	0.86	8.00
Greece	75	10,407	0.77	4.00	Switzerland	1,387	246	0.45	7.00
Honduras	79	106	1.22	8.00	Taiwan	196	6,527	0.26	2.00
Hong Kong	356	618	1.17	7.00	Tanzania	78	37	1.37	7.00
Hungary	67	1,500	1.30	7.00	Thailand	89	7,785	0.44	7.00
Iceland	63	448	1.22	4.00	Trinidad And Tobago	46	1,044	2.44	7.00
India	318	1,848	1.02	7.00	Tunisia	114	142	1.23	4.00
Indonesia	288	274	1.26	7.00	Turkey	109	3,606	1.72	7.00
Iran	24	793	4.00	7.00	United Arab Emirates	113	1,427	2.50	7.00
Ireland	130	4,981	0.59	7.00	United Kingdom	1,002	1,769	0.60	7.00
Israel	77	5,973	0.39	7.00	Uruguay	123	232	-0.04	8.00
Italy	3,546	237	0.75	8.00	USA	6,201	1,701	1.14	7.00
Japan	3,305	1,552	0.12	8.00	Venezuela	219	209	3.64	8.00
Jordan	77	1,040	0.98	3.00	Vietnam	85	152	1.22	7.00
Kazakhstan	102	195	2.51	7.00	Zimbabwe	78	316	6.91	7.00
Kenya	193	54	1.19	7.00					
Korea	54	40,044	0.52	2.00	Mean	457	2,311	1.19	6.43
Kuwait	43	5,512	1.63	3.00	Median	123	637	0.98	7.00
Lebanon	237	394	0.79	7.00	Min	23	37	-0.04	1.00
Malaysia	191	4,631	1.04	7.00	Max	8,951	40,044	6.91	8.00

Notes: Accounting variables are obtained form BANKSCOPE.   The detailed definitions of variables are provided in Appendix A.

Table 2.2 presents the legal institutions that protect investors and bank regulation and supervision characteristics of the 87 countries in our sample. The countries are classified into five groups based on commercial law origins: English, French, German, Scandinavian, and Socialist legal origins. The averages of GDP per capita (*GDP*) indicate the economic conditions of our sample countries for the period from 2000 to 2004. These data are retrieved from the World Development Indicator (*WDI*) database.[13] In general, the sample includes countries with varied legal origins and varied economic conditions. Variables that represent the investor protection environment are: common law origin (*LAW*), anti-director rights (*ANTI*), corruption perception index (*CPIX*), and ratings of accounting standards on disclosure (*ACCT*). These four variables are obtained from La Porta et al. (1998) and the available data is only for 49 countries among our 87 countries. Variables that portray the regulation and supervision on banks are: overall capital stringency index (*CAR*), official supervisory power index (*SUPPWR*), private monitoring index (*PRIIDX*), external auditing (*AUDIT*), international rating on large banks (*LBKRATE*), bank accounting disclosure (*BKDISCL*), and official deposit insurance (*DEPOINSUR*). The bank regulation/supervision variables are available in more countries than are legal protection variables. The data also shows that, on average, 96% of the countries require banks to be audited by certified external auditors, 73% of the top ten large banks are rated by international agencies, and 22% of the countries do not have an explicit deposit insurance scheme.

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[13] The WDI database does not provide Taiwan's data, so we download them from the National Statistics website (http://www.stat.gov.tw/mp.asp?mp=4) supported by the government of Taiwan.

Table 2.2 Legal environment and bank regulation and supervision institutions by country

COUNTRY	Law Origin	GDP (US$)	ANTI (0~6)	CPIX (0~10)	ACCT (0~90)	CAR (0~5)	SUP PWR (0~14)	PRI IDX (0~9)	AUDIT (0/1)	LBK RATE (0~100)	BK DISCL (0~3)	DEPO INSUR (0/1)
Algeria	French	2,015	n.a.	n.a.	n.a.	n.a.	14	n.a.	1	n.a.	2	0
Argentina	French	5,013	4	6.02	45	4	8	7	1	100	3	0
Australia	English	23,556	4	8.52	75	5	10	9	1	100	3	1
Austria	German	27,991	2	8.57	54	5	13	5	1	90	3	0
Bahrain	English	12,274	n.a.	n.a.	n.a.	3	14	6	0	75	3	0
Bangladesh	English	366	n.a.	n.a.	n.a.	1	11	n.a.	1	0	n.a.	n.a.
Belgium	French	26,149	0	8.82	61	2	10	6	1	50	3	0
Bolivia	French	956	n.a.	n.a.	n.a.	1	10	6	1	100	2	0
Brazil	French	3,075	3	6.32	54	5	13	7	1	100	3	0
Bulgaria	Socialist	2,182	n.a.	n.a.	n.a.	4	11	6	1	40	3	0
Canada	English	25,355	5	10	74	1	10	8	1	100	3	0
Chile	French	4,818	5	5.3	52	3	11	6	1	90	3	0
China	Socialist	1,029	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0	100	2	n.a.
Colombia	French	1,938	3	5	50	3	13	n.a.	1	n.a.	3	0
Costa Rica	French	4,318	n.a.	n.a.	n.a.	4	13	6	1	40	3	0
Cote D'ivoire	French	753	n.a.	n.a.	n.a.	4	11	7	1	10	3	1
Croatia	Socialist	5,578	n.a.	n.a.	n.a.	1	12	6	1	10	3	0
Cyprus	English	15,047	n.a.	n.a.	n.a.	4	8	7	1	30	3	0
Czech Republic	Socialist	7,596	n.a.	n.a.	n.a.	4	8	7	1	50	3	0
Denmark	Scandinavian	35,156	2	10	62	5	9	6	1	60	3	0
Dominican Republic	French	2,282	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ecuador	French	1,846	2	5.18	n.a.	5	14	n.a.	1	n.a.	3	0
Egypt	French	1,346	2	3.87	24	1	14	n.a.	1	80	3	n.a.
El Salvador	French	2,240	n.a.	n.a.	n.a.	1	10	6	1	100	3	0
Finland	Scandinavian	27,739	3	10	77	4	6	n.a.	1	100	3	n.a.
France	French	26,294	3	9.05	69	2	7	n.a.	1	n.a.	2	0
Germany	German	26,265	1	8.93	62	1	9	6	1	100	1	0
Greece	French	13,404	2	7.27	55	3	12	6	1	80	3	0
Honduras	French	973	n.a.	n.a.	n.a.	n.a.	9	4	1	10	2	0
Hong Kong	English	23,834	5	8.52	69	4	11	n.a.	1	100	3	n.a.
Hungary	Socialist	6,842	n.a.	n.a.	n.a.	1	13	7	1	100	3	0
Iceland	Scandinavian	33,060	n.a.	n.a.	n.a.	4	5	6	1	60	3	0
India	English	521	5	4.58	57	4	10	n.a.	1	n.a.	2	0
Indonesia	French	965	2	2.15	n.a.	1	12	7	1	100	3	0
Iran	French	1,912	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	English	33,310	4	8.52	n.a.	2	11	n.a.	1	100	3	n.a.
Israel	English	17,129	3	8.33	64	3	8	n.a.	1	50	3	n.a.
Italy	French	22,521	1	6.13	62	2	7	6	0	100	2	0
Japan	German	34,246	4	8.52	65	3	12	8	1	100	3	0
Jordan	French	1,853	1	5.48	n.a.	4	14	6	1	50	3	0
Kazakhstan	Socialist	1,831	n.a.	n.a.	n.a.	3	11	4	1	90	2	0
Kenya	English	407	3	4.82	n.a.	4	13	n.a.	1	n.a.	3	0
Korea	German	11,871	2	5.3	62	1	12	8	1	100	3	0
Kuwait	French	16,091	n.a.	n.a.	n.a.	4	10	n.a.	1	100	3	n.a.
Lebanon	French	4,208	n.a.	n.a.	n.a.	4	10	6	1	90	3	0
Malaysia	English	4,071	4	7.38	76	1	11	7	1	40	3	0
Mexico	French	6,280	1	4.77	60	5	n.a.	7	1	100	3	0
Morocco	French	1,326	n.a.	n.a.	n.a.	4	12	7	1	70	3	0
Netherlands	French	28,040	2	10	64	3	6	7	1	100	3	0
New Zealand	English	17,309	4	10	70	4	10	9	1	100	3	1
Nicaragua	French	767	n.a.	n.a.	n.a.	3	12	5	1	60	3	0
Nigeria	English	398	3	3.03	59	4	13	6	1	30	3	0
Norway	Scandinavian	43,960	4	10	74	2	10	6	1	100	2	0
Oman	French	8,161	n.a.	n.a.	n.a.	4	14	8	1	100	3	0
Pakistan	English	543	5	2.98	n.a.	4	13	7	1	0	3	1
Panama	French	4,237	n.a.	n.a.	n.a.	4	11	7	1	80	3	1
Paraguay	French	1,208	n.a.	n.a.	n.a.	1	14	n.a.	1	n.a.	3	1
Peru	French	2,182	3	4.7	38	4	12	6	1	40	3	0

COUNTRY	Law Origin	GDP (US$)	ANTI (0~6)	CPIX (0~10)	ACCT (0~90)	CAR (0~5)	SUP PWR (0~14)	PRI IDX (0~9)	AUDIT (0 /1)	LBK RATE (0~100)	BK DISCL (0~3)	DEPO INSUR (0/1)
Philippines	French	977	3	2.92	65	3	11	7	1	90	3	0
Poland	Socialist	5,200	n.a.	n.a.	n.a.	1	8	7	1	100	3	0
Portugal	French	12,625	3	7.38	36	4	14	5	1	80	2	0
Qatar	French	31,271	n.a.	n.a.	n.a.	1	10	n.a.	1	n.a.	3	1
Romania	Socialist	2,306	n.a.	n.a.	n.a.	1	9	5	1	60	2	0
Russian Federation	Socialist	2,675	n.a.	n.a.	n.a.	4	10	7	1	80	3	1
Saudi Arabia	English	9,307	n.a.	n.a.	n.a.	3	14	8	1	70	3	1
Senegal	French	560	n.a.	n.a.	n.a.	4	11	7	1	10	3	1
Singapore	English	22,177	4	8.22	78	5	13	9	1	100	3	1
Slovakia	Socialist	5,166	n.a.	n.a.	n.a.	4	14	5	1	80	2	0
Slovenia	Socialist	12,114	n.a.	n.a.	n.a.	5	12	7	1	70	3	0
South Africa	English	3,276	5	8.92	70	4	6	8	1	50	3	1
Spain	French	17,731	4	7.38	64	5	9	7	1	100	3	0
Sri Lanka	English	915	3	5	n.a.	4	7	n.a.	1	40	3	n.a.
Sweden	Scandinavian	30,185	3	10	83	1	8	n.a.	1	50	2	n.a.
Switzerland	German	39,768	2	10	68	4	14	7	1	80	3	0
Taiwan	German	13,675	3	6.85	65	4	14	n.a.	1	50	2	n.a.
Tanzania	English	281	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Thailand	English	2,179	2	5.18	64	2	10	n.a.	1	n.a.	2	0
Trinidad And Tobago	English	7,483	n.a.	n.a.	n.a.	1	10	7	1	30	3	0
Tunisia	French	2,319	n.a.	n.a.	n.a.	4	13	7	1	100	2	1
Turkey	French	3,065	2	5.18	51	2	14	7	1	90	3	0
United Arab Emirates	English	20,128	n.a.	n.a.	n.a.	4	14	9	1	100	3	1
United Kingdom	English	28,274	5	9.1	78	4	11	8	1	100	3	0
Uruguay	French	4,486	2	5	31	2	12	8	1	100	3	1
USA	English	36,677	5	8.63	71	3	13	7	1	100	3	0
Venezuela	French	4,180	1	4.7	40	1	11	5	1	0	3	0
Vietnam	Socialist	455	n.a.	n.a.	n.a.	5	n.a.	n.a.	1	n.a.	n.a.	n.a.
Zimbabwe	English	880	3	5.42	n.a.	1	14	8	1	100	2	1
Mean		11,000	3.00	6.90	60.93	3.07	11.02	6.70	0.96	73.04	2.77	0.22
Median		4,818	3.00	7.27	64.00	4.00	11.00	7.00	1.00	85.00	3.00	0.00
Std Dev		11,943	1.31	2.29	13.40	1.39	2.33	1.13	0.19	31.39	0.45	0.42
Min		281	0.00	2.15	24.00	1.00	5.00	4.00	0.00	0.00	1.00	0.00
Max		43,960	5.00	10.00	83.00	5.00	14.00	9.00	1.00	100.00	3.00	1.00

Notes: The data sources and definitions of variables are provided in Appendix A.

5 Earnings management scores and their correlations with country-level institutions

5.1 Earnings management scores in the 87 countries

In Panel A of Table 2.3, we report the earnings management scores for each measure by country. The average occurrence of small gains (#SG = 17.61) is about 19 times the average occurrence of small losses (#SL = 0.95). This indicates that banks in most countries exhibit some extent of earnings management to avoid small losses reporting. When we look at *EM1*, Egypt, with the highest *EM1*, shows a 17.8% higher occurrence of small gains than small losses. Indonesia, with the median *EM1*, shows a 1.4% higher occurrence of small gains than small losses. New Zealand has the lowest *EM1*, which shows a 1.9% lower occurrence of small gains than small losses. The highest, the median and the lowest *EM2* are in Japan, Netherlands, and Zimbabwe, with the magnitude of discretionary *LLP* at about 164%, 36%, and 11% relative to their unmanaged operating income, respectively. For *EM3*, the highest, the median and the lowest level are in Philippines, Bangladesh, and Thailand, with the magnitude of operating income volatility at about 67.4%, 100%, and 248% relative to the volatility of their unmanaged operating income, respectively. Lastly, the highest, the median and the lowest *EM4* are in Kazakhstan, Peru, and New Zealand, which show a Spearman correlation of 0.62, 0.25, and -0.14 between changes in discretionary *LLP* and changes in unmanaged operating income, respectively.

Following Burgstahler et al. (2006), we construct three earnings management indexes for further analysis. All individual earnings management scores are transformed into percentage ranks. The earnings discretion index (EM_{DSC}) is constructed as the average rank of *EM*1 and *EM*2. The earnings smoothing index (EM_{SMTH}) is the average rank of *EM*3 and *EM*4. Finally, we construct our aggregate earnings management index (EM_{AGG}) as the average score of EM_{DSC} and EM_{SMTH}. Thus, all earnings management indexes range from 0 to 100. Among the 87

countries, Japan, Thailand, and New Zealand exhibit the highest, the median, and the lowest earnings discretion (EM_{DSC}), with the score of 97.7, 51.1, and 1.7, respectively.[14]   Besides, Philippine, Panama, and Thailand exhibit the highest, the median, and the lowest earnings smoothing (EM_{SMTH}), with the score of 98.9, 48.3, and 4.0, respectively.   Finally, when we look at the aggregate earnings management measures (EM_{AGG}), Egypt exhibits the largest extent of earnings management (EM_{AGG} = 88.2), while New Zealand exhibits the smallest extent of earnings management (EM_{AGG} = 8.6).

The above discussion shows that the extent of earnings management varies across country and across different measures.   It would be interesting to examine whether the variations in earnings management can be explained by the country-level institutional factors that may influence the incentives of bank managers to manage their earnings.   We focus our analysis on mechanisms of legal protection on investors, which have been well-documented as crucial factors for manager incentives to manage earnings (Burgstahler et al., 2006; Haw et al., 2004; Leuz et al., 2003; Shen and Chih, 2005), and factors regarding bank supervision and regulation, which indicate effects of different mechanisms that govern banks on their financial reporting in these countries.

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[14] We are curious about why Japan exhibits such high level of earnings discretion.   Its percentage ranks of *EM1* (loss avoidance) and *EM2* (magnitude of discretionary *LLP*) are 95.4 and 100, respectively.   This means that bank managers of Japan tend to avoid losses and recognize very large amount of discretionary *LLP* relative to banks in other countries.   Shen and Chih (2005) use an *EM3* (the ratio of number of small profits to number of small losses) which is similar to our *EM1* in measuring the loss avoidance behavior.   In their study, Japan's ranking (33th, percentage rank = 70) also show that it has a higher level of loss avoidance than many other sample countries.

Table 2.3 Earnings management measures and their correlations with the country-level institutional variables

COUNTRY	#SL	#SG	EM1 Discretion to avoid small losses	EM2 Discretion on Reported LLP	EM3 Smooth of OPI relative to unmanaged OPI	EM4 Smooth of OPI through changes in discretionary LLP	EM_{DSC} Average Percentage Rank of EM1 & EM2	EM_{SMTH} Average Percentage Rank of EM3 & EM4	EM_{AGG} Average of EM_{DSC} and EM_{SMTH}
					Panel A: Earnings management measures by country				
Algeria	0	3	0.130	1.069	-1.482	0.500	95.98	47.13	71.55
Argentina	1	15	0.033	0.530	-1.017	0.149	74.14	32.18	53.16
Australia	2	0	-0.011	0.199	-0.994	0.097	10.34	33.91	22.13
Austria	3	50	0.048	0.451	-0.895	0.359	75.86	80.46	78.16
Bahrain	1	1	0.000	0.470	-0.676	0.533	44.25	95.98	70.11
Bangladesh	0	19	0.123	0.228	-1.000	0.274	59.77	52.87	56.32
Belgium	4	12	0.026	0.269	-0.958	0.426	48.28	77.59	62.93
Bolivia	0	4	0.048	0.814	-1.856	0.067	85.06	5.75	45.40
Brazil	0	6	0.009	0.500	-0.983	0.283	56.61	58.62	57.61
Bulgaria	0	4	0.030	0.268	-0.850	0.515	49.71	91.95	70.83
Canada	3	7	0.015	0.555	-1.058	0.258	64.37	44.83	54.60
Chile	0	2	0.015	0.372	-0.978	0.301	54.60	63.79	59.20
China	0	4	0.027	0.282	-1.045	0.495	51.15	63.79	57.47
Colombia	0	4	0.030	0.611	-1.064	-0.001	74.43	20.69	47.56
Costa Rica	0	0	0.000	0.206	-0.928	0.193	18.97	56.32	37.64
Cote D'ivoire	0	2	0.045	0.353	-1.337	0.185	65.52	20.69	43.10
Croatia	0	4	0.026	0.831	-0.896	0.597	77.01	93.10	85.06
Cyprus	0	1	0.013	1.216	-1.236	-0.104	71.26	9.20	40.23
Czech Republic	1	5	0.049	0.472	-0.690	0.301	78.16	79.31	78.74
Denmark	0	3	0.005	0.209	-0.994	0.303	27.59	58.62	43.10
Dominican Republic	0	0	0.000	0.495	-0.907	0.350	45.40	78.16	61.78
Ecuador	0	9	0.083	0.639	-0.986	0.325	85.06	63.22	74.14
Egypt	0	28	0.178	0.609	-0.912	0.537	88.51	87.93	88.22
El Salvador	0	4	0.093	0.857	-1.025	0.537	91.38	68.97	80.17
Finland	0	0	0.000	0.207	-0.987	0.283	19.54	56.32	37.93
France	10	61	0.026	0.251	-0.974	0.243	44.83	56.90	50.86
Germany	17	571	0.062	0.614	-1.131	0.328	83.91	47.13	65.52
Greece	0	3	0.040	0.172	-0.950	0.214	46.55	58.05	52.30
Honduras	0	0	0.000	0.136	-1.137	0.147	12.64	20.69	16.67
Hong Kong	0	8	0.022	0.791	-1.193	0.171	72.99	21.26	47.13
Hungary	1	1	0.000	0.192	-0.911	0.252	17.24	66.09	41.67
Iceland	0	1	0.016	0.368	-0.900	0.203	55.17	61.49	58.33
India	0	3	0.009	0.252	-0.752	0.394	33.62	87.36	60.49
Indonesia	0	4	0.014	1.459	-1.211	0.320	74.14	42.53	58.33

COUNTRY	#SL	#SG	EM1 Discretion to avoid small losses	EM2 Discretion on Reported LLP	EM3 Smooth of OPI relative to unmanaged OPI	EM4 Smooth of OPI through changes in discretionary LLP	EM_{DSC} Average Percentage Rank of EM1 & EM2	EM_{SMTH} Average Percentage Rank of EM3 & EM4	EM_{AGG} Average of EM_{DSC} and EM_{SMTH}
Iran	0	0	0.000	0.324	-0.956	0.505	31.03	81.61	56.32
Ireland	0	4	0.031	0.298	-1.239	0.283	54.60	36.78	45.69
Israel	2	1	-0.013	0.382	-0.994	-0.039	29.89	28.74	29.31
Italy	7	67	0.017	0.207	-0.995	0.241	40.23	48.85	44.54
Japan	5	370	0.110	1.637	-1.398	0.230	97.70	24.14	60.92
Jordan	2	3	0.013	0.379	-1.099	-0.004	51.72	14.94	33.33
Kazakhstan	0	1	0.010	0.317	-0.967	0.620	41.95	84.48	63.22
Kenya	0	1	0.005	0.824	-1.069	0.267	60.92	43.68	52.30
Korea	1	1	0.000	0.891	-1.098	0.167	55.75	24.14	39.94
Kuwait	0	0	0.000	0.138	-0.834	0.250	13.22	70.69	41.95
Lebanon	0	25	0.105	0.274	-1.282	0.305	63.22	38.51	50.86
Malaysia	0	3	0.016	0.780	-1.250	0.070	70.11	12.07	41.09
Mexico	2	5	0.015	0.404	-0.979	0.175	56.32	45.40	50.86
Morocco	1	2	0.016	0.426	-1.581	0.292	60.92	31.61	46.26
Netherlands	0	2	0.010	0.361	-0.951	0.235	47.13	60.34	53.74
New Zealand	1	0	-0.019	0.082	-1.073	-0.142	1.72	15.52	8.62
Nicaragua	0	2	0.034	0.381	-0.811	0.421	67.82	88.51	78.16
Nigeria	0	0	0.000	0.256	-0.862	0.473	23.56	88.51	56.03
Norway	0	2	0.008	0.170	-1.067	0.111	23.56	24.71	24.14
Oman	1	1	0.000	0.654	-1.465	0.095	50.57	8.62	29.60
Pakistan	1	8	0.061	0.345	-0.927	0.229	66.67	59.77	63.22
Panama	0	6	0.025	0.391	-1.022	0.264	60.92	48.28	54.60
Paraguay	0	1	0.009	0.355	-1.004	0.155	43.68	34.48	39.08
Peru	0	3	0.034	0.843	-1.156	0.254	83.91	36.21	60.06
Philippines	0	5	0.027	0.461	-0.674	0.576	67.82	98.85	83.33
Poland	0	5	0.026	0.302	-1.098	0.198	51.15	31.61	41.38
Portugal	0	1	0.008	0.448	-0.986	0.394	50.57	67.82	59.20
Qatar	0	1	0.031	0.314	-1.161	0.062	56.90	14.37	35.63
Romania	0	0	0.000	0.341	-0.978	0.181	32.18	47.13	39.66
Russian Federation	0	15	0.034	0.385	-0.908	0.409	67.82	81.61	74.71
Saudi Arabia	0	0	0.000	0.186	-0.953	0.393	16.09	75.29	45.69
Senegal	0	0	0.000	0.272	-1.073	0.302	25.29	47.13	36.21
Singapore	1	2	0.013	0.422	-1.042	0.180	54.02	35.06	44.54
Slovakia	0	1	0.013	0.348	-1.059	0.235	48.28	39.66	43.97
Slovenia	0	6	0.090	0.535	-0.861	0.470	82.76	88.51	85.63
South Africa	1	0	-0.006	0.364	-0.980	0.172	29.89	43.68	36.78
Spain	2	30	0.034	0.139	-1.000	0.174	41.95	37.93	39.94
Sri Lanka	0	1	0.015	0.235	-0.783	0.197	39.08	64.94	52.01

	#SL	#SG	EM1	EM2	EM3	EM4	EM_{DSC}	EM_{SMTH}	EM_{AGG}
					Smooth of OPI	Smooth of OPI	Average	Average	
			Discretion to avoid	Discretion on	relative to	through changes in	Percentage Rank	Percentage Rank	Average of EM_{DSC}
COUNTRY			small losses	Reported LLP	unmanaged OPI	discretionary LLP	of EM1 & EM2	of EM3 & EM4	and EM_{SMTH}
Sweden	2	6	0.011	0.188	-1.291	0.171	29.31	17.24	23.28
Switzerland	1	50	0.035	0.329	-0.951	0.236	62.07	60.34	61.21
Taiwan	0	20	0.102	1.448	-1.400	0.389	94.83	40.80	67.82
Tanzania	0	0	0.000	0.427	-1.084	0.142	41.95	22.99	32.47
Thailand	1	0	-0.011	1.497	-2.485	0.038	51.15	4.02	27.59
Trinidad And Tobago	0	0	0.000	0.075	-1.014	0.371	10.34	59.77	35.06
Tunisia	1	1	0.000	0.201	-1.069	0.231	18.39	36.78	27.59
Turkey	1	0	-0.009	0.284	-1.005	0.181	20.11	39.08	29.60
United Arab Emirates	0	0	0.000	0.116	-0.965	0.460	12.07	77.59	44.83
United Kingdom	2	6	0.004	0.301	-0.982	0.315	35.06	63.79	49.43
Uruguay	1	0	-0.008	0.964	-1.197	0.118	50.00	17.24	33.62
USA	4	19	0.002	0.168	-1.045	0.108	20.11	27.01	23.56
Venezuela	0	2	0.009	0.297	-0.973	0.421	37.36	74.71	56.03
Vietnam	0	14	0.165	0.705	-1.269	0.564	90.80	54.60	72.70
Zimbabwe	0	0	0.000	0.115	-0.955	0.411	11.49	77.01	44.25
Mean	0.95	17.61	0.026	0.459	-1.060	0.271	50.57	50.57	50.57
Median	0.00	3.00	0.014	0.361	-1.000	0.254	51.15	48.28	50.86
Std Dev	2.36	72.67	0.039	0.331	0.245	0.161	23.82	24.77	16.96
Min	0.00	0.00	-0.019	0.075	-2.485	-0.142	1.72	4.02	8.62
Max	17.00	571.00	0.178	1.637	-0.674	0.620	97.70	98.85	88.22

Panel B Pearson correlations between earnings management indexes and country-level institutional variables

	EM_{DSC}	EM_{SMTH}	EM_{AGG}	LAW	GDP	ANTI	CPIX	ACCT	CAR	SUP PWR	PRI IDX	AUDIT	LBK RATE	BK DISCL
EM_{SMTH}(87)	-0.025													
EM_{AGG}(87)	0.684a	0.712a												
LAW(87)	-0.299a	-0.085a	-0.272b											
GDP(87)	-0.128	-0.139	-0.191	0.066										
ANTI(49)	-0.127	-0.149	-0.194	0.589a	0.093									
CPIX(49)	-0.275c	-0.254	-0.373a	0.056	0.853a	0.184								
ACCT(41)	-0.341b	-0.292	-0.439a	0.447a	0.565a	0.367b	0.631a							
CAR(81)	0.002	0.108	0.081	0.024	0.028	0.220	0.07	0.092						
SUPPWR(81)	0.125	0.116	0.172	0.005	-0.276b	-0.081	-0.423a	-0.394b	0.072					
PRIIDX(63)	-0.155	-0.261b	-0.296b	0.514a	0.183	0.465a	0.178	0.518a	0.132	0.076				
AUDIT(84)	0.046	-0.152	-0.077	-0.020	-0.010	0.223	0.049	-0.013	0.066	0.036	0.113			
LBKRATE(74)	-0.009	-0.109	-0.084	-0.114	0.340a	0.116	0.291c	0.170	0.026	0.055	0.349a	-0.123		
BKDISCL(82)	0.027	0.096	0.089	0.141	-0.003	0.136	-0.128	-0.094	0.262b	0.077	0.406a	0.188c	-0.114	
DEPOINSUR(72)	-0.311a	-0.115	-0.301	0.286b	-0.085	0.302c	0.051	0.149	0.114	0.110	0.552a	0.090	-0.037	0.116

Note: The data sources and definitions of variables are provided in Appendix A.   The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

5.2 Correlations on earnings management indexes and country-level institutional variables

We start our analysis by examining correlations on the earnings management indexes and the country-level institutional variables. In Panel B of Table 2.3, we first show that better legal protections are significantly associated with less earnings management, especially for the variable of law origin. This indicates that banks are less likely to manage their earnings in countries with common law origin (*LAW*), less corruption (*CPIX*), and stricter accounting standards (*ACCT*). Second, we present that stronger private monitoring (*PRIIDX*) is significantly associated with less earnings management by banks, while direct supervision by regulators (*SUPPWR*) does not show significant correlations with the extent of bank earnings management. The results further indicate that bank earnings management is less pronounced especially in countries where no deposit insurance mechanism exists (*DEPOINSUR*). Third, though insignificant, the negative correlations between earnings management indexes and GDP per capita (*GDP*) suggests that, in highly developed countries, banks are less likely to manage their earnings.

We also examine the correlations among institutional variables. The highly correlated *GDP* and legal protection institutions (*LAW, CPIX,* and *ACCT*) suggest that the more developed countries usually exhibit stronger legal protection of investors than those less developed do, such as fewer corruption problems and stricter accounting standards. [15] Similarly, variables for investor protection mechanisms are usually positively correlated. Since La Porta et al. (1998) show that commercial law origin is the best proxy for the protection and enforcement quality of laws for a country, we also use *LAW* to proxy for the legal environment of investor protection in the subsequent analysis. Lastly, as expected, the correlations between *PRIIDX*

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[15] The regressions examine the effects of bank regulation on earnings management are similar whether we include GDP per capita or not. Therefore, we do not report results with the control for GDP per capita in section 6.

and its sub-indexes, *AUDIT, LBKRATE, DEPOINSUR,* and *BKDISCL*, are positive. We will also

substitute *PRIIDX* with its sub-indexes to further examine the effects of different private

monitoring mechanisms on earnings management by banks.

6   The role of governance mechanisms on earnings management by banks

We have documented international differences on bank earnings management around

the world. As evidenced from Table 2.3, we find that banks in some country do engage in a

noteworthy level of earnings management measured by earnings discretion and income

smoothing. Our second goal in this study is to examine the role of institutional factors on the

international differences in earnings management activities. The empirical analyses are

performed by running the following multiple regressions with t-statistics computed from

robust standard errors:

$$EM_k = \alpha_0 + \alpha_1 ROA + \alpha_2 TA + \alpha_3 OWN + \sum \alpha_j INST_j + \varepsilon , \qquad (2.2)$$

where EM_k is one of the seven country-level earnings management indexes, called *EM1, EM2,*

EM3, EM4, EM_{DSC}, EM_{SMTH}, and *EM_{AGG}*. *ROA* is the country's median return on assets, *TA* is

the country's median asset size, and *OWN* represents the country-level ownership

concentration of banks.[16] Our control for these country-level bank characteristics is similar to

the study by Burgstahler et al. (2006), who also apply these variables to control for country-level

firm characteristics in examining earnings management by industrial firms. We expect the

regression coefficients on *ROA* (α_1) to be negative for the earnings discretion measures but to be

positive for the income smoothing measures. The reason is that profitable banks do not have

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[16] Since some of our dependent variables are country rankings of earnings management measures and our institutional variables are also similar to rankings, we perform an additional test to replace the country medians of *ROA* and *TA* with the percentage rankings of *ROA* and *TA* for the sample countries in our cross-country regressions. The results are generally unchanged, so we only report the results of regressions that use the country medians of *ROA* and *TA*.

to avoid losses, but a smoother income keeps them away from larger amount of tax expenses. We expect the regression coefficients on TA (α_2) to be negative for these earnings management measures because large banks usually have smoother income than small banks and thus have less intention to manage their earnings. The regression coefficients on OWN (α_3) are also expected to be negative, since more concentrated ownership promotes private-sector monitoring. $INST$ is one of the institutional variables, including variables for the investor protection mechanisms and bank supervisory frameworks. If these institutions function to limit insiders' incentives to mange earnings, we should observe negative coefficients for $INST$.

In general, we find that, consistent with our predictions, stronger legal protection on investors and bank supervision practices that enhance private-sector monitoring are important factors to limit bank earnings management activities. Furthermore, the number of countries included in the following analysis varies due to that we do not have all of the institutional data for some of our sample countries.

6.1 Earnings management and bank characteristics

Table 2.4 presents regression results that examine whether the earnings management level is associated with bank characteristics: size (TA), performance (ROA), and ownership concentration (OWN). In Columns 1-7 of Table 2.4, we present results using $EM1$-$EM4$, earnings discretion (EM_{DSC}), income smoothing (EM_{SMTH}), and aggregated earnings management indexes (EM_{AGG}), respectively.

Table 2.4 Effects of bank characteristics on cross-country differences of bank earnings management

| | $EM1$ | | $EM2$ | | $EM3$ | | $EM4$ | | EM_{DSC} | | EM_{SMTH} | | EM_{AGG} | |
| | Discretion to avoid small losses | | Discretion on Reported LLP | | Smooth of OPI relative to unmanaged OPI | | Smooth of OPI through changes in discretionary LLP | | Average Percentage Rank of EM1 & EM2 | | Average Percentage Rank of EM3 & EM4 | | Average of EM_{DSC} and EM_{SMTH} | |
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
Constant	0.073a	2.85	0.462a	2.76	-1.039a	-8.79	0.269a	3.60	66.094a	6.01	52.600a	4.94	59.347a	7.83
OWN	-0.004	-1.24	0.018	0.76	-0.011	-0.65	-0.006	-0.56	0.066	0.04	-1.465	-1.00	-0.699	-0.65
ROA	-0.012a	-3.14	-0.111a	-3.35	0.051b	2.28	0.041a	2.95	-11.609a	-4.83	7.583a	3.55	-2.013c	-1.69
TA	-0.002b	-2.49	0.006	0.90	-0.005	-0.86	-0.004	-1.22	-0.916	-1.29	-0.708c	-1.90	-0.812c	-1.94
R2	0.1369		0.1183		0.0549		0.0793		0.2275		0.1125		0.0521	
AdjR2	0.1057		0.0864		0.0208		0.0460		0.1996		0.0804		0.0178	

Notes: The data sources and definitions of the variables are provided in Appendix A. This table reports results from regressions of earnings management measures on bank characteristics. All explanatory variables are median values in each country. The Model is:

$$EM_k = \alpha_0 + \alpha_1 ROA + \alpha_2 TA + \alpha_3 OWN + \varepsilon,$$

where $EM_k = \{EM1, EM2, EM3, EM4, EM_{DSC}, EM_{SMTH}, EM_{AGG}\}$

The models are estimated by linear OLS regressions with the White robust standard errors. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

The results show that ownership concentration (*OWN*) has moderate but insignificant negative influence on most our earnings management measures. The insignificant results may be due to that most banks are highly leveraged which make the ownership concentration less varied across country, and thus we only get moderate effects for this factor. However, the negative coefficients still indicate that, in countries where banks have more concentrated ownership, insiders are less likely to exercise their private control benefits through earnings management. It is consistent with the argument by Beatty et al. (2002) that, with concentrated ownership structure, investors are more likely to participate in the management, directions, and operations of the banks. It is also consistent with the argument by Black (1992) that, with dispersed ownership, investors are less likely to monitor since the monitoring benefit is very limited.

Results for the effects of profitability (*ROA*) and bank size (*TA*) on banks' earnings management are consistent with our predictions. In countries where banks are more profitable, the level of earnings discretion is less pronounced, but the level of income smoothing is more prevalent. Take the practice of earnings management to avoid small losses as an example. It is reasonable that bank managers do not need to engage in this type of earnings management when they are profitable. On the other hand, it is plausible that profitable banks may engage in more earnings smoothing for tax or other purposes. Our results also show that the levels of earnings management are generally less pronounced in countries where the median size of banks is larger. Since these bank characteristics are significantly related to different types of bank earnings management, we include them as control variables in the subsequent regressions that examine effects of different institutions.

6.2 *The monitoring role of law protection and bank supervision/regulation practice*

We analyze the effects of governance mechanisms on bank earnings management activities in this subsection. The main argument here is that earnings management can be curbed when the law and bank supervision practices are designed to facilitate protection on investor rights and to improve private monitoring on banks. Taken as a whole, our findings generally support the above argument.

We apply law origin (*LAW*) to proxy for a country's overall legal protection on investor rights and the results are reported in Panel A, Table 2.5.[17] Consistent with our predictions, the coefficients on law origin are all negative and are significant for regressions on *EM1*, *EM4*, *EM$_{DSC}$*, and *EM$_{AGG}$*. The results imply that, in a country with common-law origin, investor rights are better protected and thus earnings management by banks is less pronounced. The results are consistent with the findings by Ball et al., (2000), Burgstahler et al. (2006), and Leuz et al. (2003) that financial reporting quality measured by either earnings management or the timeliness of loss recognition is substantially higher in countries with stronger protection of investors or in common-law countries.

Panels B of Table 2.5 presents the effects of bank regulatory supervision practices on earnings management, with control for law origin that proxy for protection of investor rights.[18] The direct supervision power index (*SUPPWR*) and the overall capital stringency index (*CAR*) are applied to investigate the effects of direct government supervision/regulation. The private monitoring index (*PRIIDX*) is used to explore the effects of policies that improve private-sector monitoring. For direct government supervision, the results show that most coefficients of

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[17] Previous studies suggest that law origin (LAW) proxies for a country's investor protection and law enforcement very well (La Porta et al., 1998; Leuz et al., 2003; Burgstahler et al., 2006).

[18] The regression results are from 61 sample countries because 26 of our sample countries lack some data on supervision practice. The 26 countries are: Algeria, Bangladesh, China, Colombia, Dominican Republic, Ecuador, Egypt, Finland, France, Honduras, Hong Kong, India, Iran, Ireland, Israel, Kenya, Kuwait, Mexico, Paraguay, Qatar, Sri Lanka, Sweden, Taiwan, Tanzania, Thailand, and Vietnam.

capital regulation stringency (*CAR*) and direct supervision power (*SUPPWR*) are insignificant. Although the results for EM2 suggest that banks in countries with stringent capital requirement (*CAR*) are less likely to do earnings discretion, the results for EM3 and EM4 suggest that banks in countries with stringent capital requirement (*CAR*) and stronger direct supervision power (*SUPPWR*) are more likely to execute earnings smoothing. Overall, our results for direct government supervision/regulation can not provide statistical evidence on whether direct government supervision limits or encourage bank behavior of earnings management. As for the supervision policies to improve private-sector monitoring, our results show that most coefficients of private monitoring index (*PRIIDX*) are negative and are significant for regressions on *EM3*, *EM4*, EM_{SMTH}, and EM_{AGG}. The results support that policies enhancing private-sector monitoring effectively limit earnings management activities and that the effects are stronger for income smoothing activities than earnings discretion activities.

Table 2.5 Effects of institutions on cross-country differences of bank earnings management

Panel A: Effects of Law Origin (# of countries =87)

| | EM1 | | EM2 | | EM3 | | EM4 | | EM_{DSC} | | EM_{SMTH} | | EM_{AGG} | |
| | Discretion to avoid small losses | | Discretion on Reported LLP | | Smooth of OPI relative to unmanaged OPI | | Smooth of OPI through changes in discretionary LLP | | Average Percentage Rank of EM1 & EM2 | | Average Percentage Rank of EM3 & EM4 | | Average of EM_{DSC} and EM_{SMTH} | |
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
Constant	0.077a	2.95	0.466a	2.68	-1.033a	-8.02	0.292a	3.79	69.267a	6.22	54.581a	4.77	61.924a	7.66
OWN	-0.005	-1.28	0.018	0.74	-0.011	-0.64	-0.007	-0.68	-0.104	-0.07	-1.572	-1.03	-0.838	-0.75
ROA	-0.011a	-2.67	-0.110a	-3.26	0.053b	2.17	0.048a	3.61	-10.677a	-4.33	8.165a	3.88	-1.256	-1.06
TA	-0.002a	-2.65	0.006	0.95	-0.005	-0.90	-0.004	-1.26	-0.846	-1.44	-0.664c	-1.82	-0.755b	-2.29
LAW	-0.018a	-2.77	-0.013	-0.17	-0.023	-0.33	-0.084b	-2.36	-11.642b	-2.51	-7.269	-1.36	-9.455a	-2.84
R2	0.1809		0.1186		0.0566		0.1333		0.2754		0.1297		0.1142	
AdjR2	0.1409		0.0756		0.0106		0.0915		0.2400		0.0872		0.0710	

Panel B: Effects of law origin and bank regulation/ supervision (# of countries =61)

| | EM1 | | EM2 | | EM3 | | EM4 | | EM_{DSC} | | EM_{SMTH} | | EM_{AGG} | |
| | Discretion to avoid small losses | | Discretion on Reported LLP | | Smooth of OPI relative to unmanaged OPI | | Smooth of OPI through changes in discretionary LLP | | Average Percentage Rank of EM1 & EM2 | | Average Percentage Rank of EM3 & EM4 | | Average of EM_{DSC} and EM_{SMTH} | |
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
Constant	0.020	0.55	0.206	0.45	-1.031a	-3.26	0.288	1.33	76.872a	2.89	64.891b	2.06	70.881a	3.46
OWN	0.003	1.35	0.007	0.28	0.036	1.33	0.019	1.00	0.177	0.09	3.218	1.13	1.698	0.93
ROA	-0.008b	-2.14	-0.124a	-4.09	0.038b	2.12	0.041a	2.77	-11.008a	-3.66	7.621a	3.48	-1.693	-1.04
TA	-0.001	-1.56	-0.004	-0.51	0.009c	1.82	0.000	-0.01	-0.675	-1.21	0.344	0.68	-0.165	-0.43
LAW	-0.013c	-1.70	-0.101	-0.81	0.094	1.38	-0.018	-0.33	-11.302	-1.63	4.646	0.51	-3.328	-0.62
PRIIDX	-0.001	-0.37	0.055	1.25	-0.061b	-2.56	-0.046b	-2.45	-1.427	-0.56	-9.107a	-3.09	-5.267a	-2.67
SUPPWR	0.001	0.44	0.022	1.27	-0.004	-0.47	0.012c	1.88	0.554	0.55	0.637	0.55	0.595	0.72
CAR	0.000	-0.07	-0.078a	-2.64	0.039c	1.89	-0.003	-0.25	-2.283	-1.10	2.831	1.37	0.274	0.18
R2	0.2379		0.2492		0.1757		0.2631		0.3544		0.2550		0.2068	
AdjR2	0.1372		0.1500		0.0668		0.1657		0.2691		0.1566		0.1020	

Panel C: Effects of legal protection (LAW, CPIX and ACCT) and sub-index of PRIIDX (LBKRATE, BKDISCL, and DEPOINSUR) (# of countries =30)

	EM1		EM2		EM3		EM4		EM_{DSC}		EM_{SMTH}		EM_{AGG}	
	Discretion to avoid small losses		Discretion on Reported LLP		Smooth of OPI relative to unmanaged OPI		Smooth of OPI through changes in discretionary LLP		Average Percentage Rank of EM1 & EM2		Average Percentage Rank of EM3 & EM4		Average of EM_{DSC} and EM_{SMTH}	
	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
Constant	-0.059	-0.47	-0.913	-0.60	-0.290	-0.60	0.919a	2.78	50.624	0.88	160.629a	3.37	105.627a	3.24
OWN	0.008	0.73	0.187	1.52	-0.092b	-2.30	-0.047	-1.33	5.243	1.14	-12.006a	-2.60	-3.381	-1.12
ROA	-0.017a	-3.58	-0.258a	-3.14	0.063c	1.81	-0.003	-0.07	-22.118a	-4.07	6.449	1.03	-7.835b	-2.15
TA	0.000	0.26	0.026c	1.66	-0.014a	-2.58	-0.011b	-2.00	0.248	0.36	-2.218a	-3.06	-0.985c	-1.95
LAW	-0.023c	-1.95	-0.028	-0.18	-0.047	-0.69	-0.064	-0.86	-5.934	-0.55	-10.775	-0.88	-8.354	-0.95
CPIX	-0.001	-0.85	-0.032c	-1.76	-0.019	-1.10	-0.026c	-1.77	-3.012b	-2.36	-2.083	-0.78	-2.547c	-1.70
ACCT	0.001c	1.86	0.001	0.20	0.002	0.50	0.002	0.75	0.239	0.67	0.211	0.41	0.225	0.74
SUPPWR	0.003	1.38	0.050c	1.75	-0.018b	-1.98	0.000	0.05	2.155	1.52	-1.177	-1.02	0.489	0.54
CAR	0.002	0.75	-0.048c	-1.77	0.027b	2.45	0.013	0.80	-0.414	-0.16	3.942	1.58	1.764	0.85
LBKRATE	0.000b	-2.43	-0.003	-1.42	0.001	1.09	-0.001	-1.14	-0.307c	-1.76	-0.089	-0.44	-0.198c	-1.69
BKDISCL	-0.003	-0.35	0.100	1.01	-0.008	-0.22	-0.053	-1.30	-1.018	-0.12	-3.864	-0.61	-2.441	-0.41
DEPOINSUR	-0.019b	-2.38	-0.001	-0.01	-0.018	-0.52	-0.110b	-2.14	-17.467c	-1.65	-14.366c	-1.76	-15.917b	-2.38
R2	0.5179		0.4576		0.4723		0.5594		0.5385		0.5039		0.5337	
AdjR2	0.2234		0.1261		0.1798		0.2901		0.2565		0.2008		0.2487	

Notes: The data sources and definitions of the variables are provided in Appendix A. This table reports results from regressions of earnings management measures on bank characteristics, investor protection and bank regulation variables to show the effects of monitoring mechanisms on the behaviors of earnings management by banks. Models for each Panel are:

Panel A: $EM_k = \alpha_0 + \alpha_1 ROA + \alpha_2 TA + \alpha_3 OWN + \alpha_4 LAW + \varepsilon$,

Panel B: $EM_k = \alpha_0 + \alpha_1 ROA + \alpha_2 TA + \alpha_3 OWN + \alpha_4 LAW + \sum \alpha_j BKREG_j + \varepsilon$,

Panel C: $EM_k = \alpha_0 + \alpha_1 ROA + \alpha_2 TA + \alpha_3 OWN + \sum \alpha_i InvP_i + \sum \alpha_j BKREG_j + \varepsilon$,

where $EM_k = \{EM1, EM2, EM3, EM4, EM_{DSC}, EM_{SMTH}, EM_{AGG}\}$, $InvP_i = \{LAW, CPIX, ACCT\}$, $BKREG_j = \{SUPPWR, CAR, PRIIDX(or\ PRI\_M)\}$, and $PRI\_M = \{LBKRATE, BKDISCL, DEPOINSUR\}$.

The models are estimated by linear OLS regressions with the White robust standard errors. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

6.3 Underlying factors for monitoring effects of law protection and private-sector monitoring

In this section, we examine what underlying forces for law protection and private-sector monitoring have stronger effects on limiting bank earnings management. For law protection, we further include two legal protection variables, the corruption perception index (*CPIX*) and the rating on accounting standards (*ACCT*).[19] We also substitute private-sector monitoring index (*PRIIDX*) with its sub-indexes, international rating on large banks (*LBKRATE*), bank accounting disclosure (*BKDISCL*), and official depositor insurance (*DEPOINSUR*).[20]

We run the regressions with the 30 countries,[21] which have all of the above institutional data, and report the results in Panel C of Table 2.5. The coefficients of perceived corruption index (*CPIX*) show that lower perception of government corruption (higher *CPIX*) is significantly associated with lower level of earnings management, *EM2*, *EM4*, EM_{DSC} and EM_{AGG}. It suggests that, in countries with lower level of government corruption, bank managers are less likely to bribe the government officials for their dishonest behavior and thus outsiders' rights are better protected. Consistent with the effect of law origin, the corruption index (*CPIX)* also has stronger effects on limiting bank behavior of earnings discretion than income smoothing. However, the results do not support that higher accounting standards (*ACCT*) have effects on curbing banks' earnings management activities.

The private-sector monitoring forces, *LBKRATE*, *BKDISCL* and *DEPOINSUR,* indicate effects of stronger monitoring by international rating agencies, more disclosure requirement

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[19] We do not include anti-director rights (*ANTI*). It might be inappropriate to include this variable as many of our sample banks are privately-held rather than publicly-traded and anti-director rights (*ANTI*) measures the shareholders' voting rights against the management, which are usually applied in public-traded firms.

[20] We do not report results with the variable external auditor (*AUDIT*), because, among the countries examined, only in Italy banks are not required to have an external auditor and because the results remain whether we include external auditor (*AUDIT*) or not.

[21] The 30 countries are: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Denmark, Germany, Greece, Italy, Japan, Korea, Malaysia, Netherlands, New Zealand, Nigeria, Norway, Peru, Philippines, Portugal, Singapore, Spain, Switzerland, Turkey, United Arab Emirates, United Kingdom, United States, and Venezuela.

and higher litigation risk to bank managers for reporting misleading information, and stronger depositor incentives to monitor banks. Our results show that almost all private-monitoring forces (*LBKRATE, BKDISCL* and *DEPOINSUR*) are negatively correlated with the earnings management measures. However, only some coefficients of *LBKRATE* and *DEPOINSUR* have significance level with smaller than 10% or 5%, suggesting that, when international rating agencies and depositors are better encouraged to monitoring banks, the level of bank earnings management is lower. Further, our results suggest while monitoring by international rating agencies has stronger effects to limit earnings discretion, monitoring by depositors constrains both earnings discretion and income smoothing. Lastly, we are unable to conclude whether mandating better reporting quality and raising litigation risks of bank managers have any effects to curb earnings management activities as these coefficients are all insignificant.

7   Conclusions

In this study, we extend previous studies to show that not only the well-established legal protection of investors, but also bank regulatory supervision can have effects on explaining bank earnings management activities around the world. An international comparison in the banking industry provides us with the opportunity to gain insight into the incentives for bank earnings management, because it offers more variation in investor protection mechanisms and bank supervision frameworks. Using earnings management measures modified from the ones developed by Leuz et al. (2003), we examine the variation of bank earnings management across countries and explore the institutional factors that affect the reporting incentives of banks internationally.

We document international differences in the degree of earnings management using a unique database consisting of 39,723 bank-year data across 87 countries. We then investigate

whether institutional factors help explain earnings management activities in an international setting. Consistent with the corporate governance literature, we show that better legal protection of investors lowers the extent to which banks engage in earnings management. Our findings also show that, in addition to the legal protection factors, bank regulation/supervision policies are important determinants in limiting banks' earnings management activities. In general, banks are less likely to use earnings management to conceal their performance from outsiders in countries where higher percentage of large banks are rated by international rating agencies and where depositors are less covered by official deposit insurance. This better reporting quality under these systems can be attributed to stronger private-sector monitoring on banks from these mechanisms. However, we do not find evidence to support effects of stronger direct government supervision to improve bank financial reporting quality.

To sum up, our study represents an extension of the recent work by Leuz et al. (2003) on earnings management by industrial firms around the world to the banking industry. Our study also represents an extension of a recent study by Barth et al. (2004) on the roles of bank regulation and supervision on the development and efficiency of the banking sector to their roles on the reduction of earnings management. Our evidence confirms that bank earnings management is more pervasive in countries with fewer mechanisms on enhancing legal protection of investors. In addition to legal protection, mechanisms that may improve private-sector monitoring, such as monitoring by international rating agencies and depositors, also help explain the quality of earnings across banks around the world.

Our study contributes to the literature on the monitoring role of bank supervision mechanisms in limiting earnings management activities by banks. To our best knowledge, we are among the first to examine this issue. We extend Barth et al.'s (2004) finding to the role of bank supervisory practices that promote private-sector monitoring on improving financial

reporting quality. We show that banks in a regulatory environment that promotes private-sector monitoring engage in less earnings management activities. Our research also contributes to the literature regarding the role of legal protection of investors on bank financial reporting quality. Using earnings management as an indicator for financial reporting quality by banks, we find that investor protection plays an important role on curbing earnings management activities. Consistent with Burgstahler et al. (2006) and Ball et al. (2000), our results support that banks from countries with stronger legal protection of investors usually have better financial reporting quality.

Chapter III

The Influence of Supervision and Regulation on the Conservatism of Financial Reporting by Banks

1. Introduction

In this chapter, we investigate how the conservatism of financial reporting by banks is affected by the supervision and regulation policies of banks. We focus on the financial reporting of earnings changes and loan losses. We argue that international differences in the conservatism of financial reporting are driven by institutional factors that shape the corporate governance systems of banks around the world. By reducing the information asymmetry between fund providers and banks, conservative accounting disclosure enhances the quality of accounting information. Accordingly, we argue that conservative financial reporting should be observed in countries where bank supervision and regulation policies are likely to enhance the corporate governance mechanisms of banks. To test our argument, we consider two governance mechanisms used by bank regulators: (1) direct government supervision and regulation policies and (2) indirect government policies that encourage private-sector monitoring.

Previous studies have documented that conservative financial reporting is positively related to the quality of corporate governance through curtailing the information asymmetry and improving the capital allocation efficiency of investments.[22] Evidence also shows that conservatism in financial reporting varies across countries and is associated with institutional factors. For example, Ball and Shivakumar (2005) show that public firms rely more on

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[22] Watts (2003a, 2003b) views conservatism as an efficient contracting mechanism, because it reduces information asymmetry problems through a higher degree of verification of gain recognition than of loss recognition. Bushman et al. (2005) show that firms in countries with more conservative financial reporting respond to and withdraw capital from losing projects relatively faster than do firms in countries with less conservative reporting.

shareholder governance mechanisms than do their private counterparts and thus financial reporting is more conservative among public firms than among private firms. It has also been shown that firms in countries with common-law origins, with less reliance on inside networks for communication, or with less political intervention are likely to report more conservative financial statements than are their counterparts.[23] Bushman and Piotroski (2006) further examine how securities laws and political forces affect conservative reporting of income among industrial firms across 38 countries. Their evidence shows that stringent regulation and intervention by governments may influence the incentives for managers to be conservative in financial reporting.

Although factors that affect the incentives to be conservative in financial reporting among industrial firms may apply to banks, two special features should be considered in examining the conservatism of financial reporting by banks: (1) information opaqueness and (2) government intervention. Caprio and Levine (2002) and Levine (2004) argue that information opaqueness and heavy intervention by governments in the banking industry complicate corporate governance issues for banks and that these two special features weaken many traditional corporate governance mechanisms for banks.

The information opaqueness among banks leads to greater information asymmetry between insiders and outsiders and thus makes it difficult for outsiders to monitor banks. We argue that outsiders can reduce the problems of information asymmetry if they demand conservative financial reporting. Such a demand for conservative financial reporting can reduce upwardly biased reporting on income and downwardly biased reporting on loan loss provisions. Although such reporting does not eliminate the information opaqueness problem completely, conservative financial reporting at least provides more informative accounting

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[23] See, for example, Ball et al. (2000), Ball et al. (2003).

information and hence complements the role of outside monitoring.

Governments intervene in the activities of banks mainly through their regulatory and supervisory policies. [24] Recent cross-country studies document the dangers of powerful regulatory supervisors and show the importance of private-sector monitoring to the corporate governance of the banking industry. [25] Evidence also indicates that both government supervision/regulation policies and private-sector monitoring mechanisms contribute to assessments of bank conditions and to executing adequate disciplinary actions against banks.[26] Given this evidence, we ask here how the two governance mechanisms complement each other and how authorities supervise banks and encourage private-sector monitoring as they pursue better governance systems for banks.

There are many ways to understand how corporate governance mechanisms work. In this study, we examine how existing corporate governance mechanisms affect incentives for banks to be conservative in their financial reporting. Financial reporting is an important source of information in assessing a bank's financial conditions. As such, for corporate governance mechanisms to function well, bank supervisors and private-sector monitors will demand conservative financial reporting to ensure that the banks provide informative accounting information. We expect that corporate governance mechanisms that function well are positively related to a bank's incentives to be conservative in financial reporting. In other words, we test the effects of these mechanisms on bank corporate governance by examining how they influence a bank's incentives to be conservative in financial reporting.

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[24] In the extreme, governments intervene in banks through ownership of banks. When a government owns a bank, the conflict of interest makes its role as a monitor ineffective. Evidence also shows that the government ownership of banks has a negative impact on the development, performance and stability of the banking system (Barth et al. 2004; La Porta et al. 2002).

[25] See, for example, Barth et al. (2004) and Beck et al. (2005).

[26] See, for example, Berger and Davies (1998), DeYoung et al. (2001), Flannery (1998), and Gunther and Moore (2003).

Using a unique and large data set of information from 1,248 publicly traded and 6,481 privately held banks across 48 countries during 1997 to 2004, we document two kinds of conservatism in financial reporting. First, banks are more conservative in reporting earnings changes. Second, banks incorporate more loan losses into their financial reports when their operating cash flows decrease or when the amount of problem loans increases. We also find that banks charge off more problem loans when their loan loss provisions increase. In general, our evidence indicates that banks are conservative in their financial reporting. In addition, public banks appear to be more conservative than are private banks in financial reporting.

When we compare reporting conservatism across countries, our results show that the degree of conservatism varies by country. We then use cross-country regressions to examine whether bank supervision and regulation policies explain the variation in reporting conservatism across countries. We find support for the hypothesis that both direct government supervision/regulation policies and indirect policies that encourage private-sector monitoring are important factors that affect the conservatism of financial reporting among banks. More specifically, in reporting earnings changes, banks in countries with stronger supervisory powers to declare bank insolvency, with stringent requirements on accounting disclosure, and with more large banks rated by international rating agencies are likely to be more conservative in financial reporting. Banks in countries where supervisors have more powers to order corrective actions and to restructure troubled banks and banks that are publicly traded recognize more loan loss provisions when their operating cash flows decrease.

The remainder of this chapter is organized as follows. Section 2 delineates the role of governance mechanisms in the conservatism of financial reporting by banks. Section 3 describes how we estimate the measures of conservatism in financial reporting and how we examine the effects of governance mechanisms on the conservatism of financial reporting by

banks.   Section 4 describes the sample selection and provides summary descriptive statistics. Section 5 presents the estimated results for conservatism in financial reporting.   Section 6 reports the effects of corporate governance mechanisms on conservatism in financial reporting. Section 7 discusses further examinations.   Finally, Section 8 concludes the chapter.

2.   The role of governance mechanisms in the conservatism of financial reporting by banks

A well-functioning governance mechanism should be capable of assessing a bank's financial conditions and applying adequate disciplinary actions. Our information on governance mechanisms of banks is from the 2003 bank regulation and supervision database supplied by the World Bank.   We follow Barth et al. (2004) in assessing bank governance mechanisms by classifying bank supervision/regulation practices into a supervisory power index (*SUPPWR*), a capital stringency index (*CAR*) and a private monitoring index (*PRIIDX*). The supervisory power index and the capital stringency index capture direct government regulation and supervision, while the private monitoring index measures how supervisory policies encourage private-sector monitoring.

In this section, we discuss what the underlying factors for the conservatism of financial reporting are and how the governance frameworks function to influence the conservatism of financial reporting by banks.   In Appendix B, we describe the definitions of these variables in detail.

2.1   *Financial reporting conservatism: definition and the contracting explanation*

Conservatism is a fundamental practice of financial reporting.   Traditionally, it is

defined as "anticipate no profit, but anticipate all losses" (Bliss, 1924).[27]   Basu (1997) portrays conservatism as indicating "the accountant's tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses".   Watts (2003a) adopts this view and describes conservatism as a higher verifiability required for recognition of profits than losses.   Following this concept, we consider the degree of conservatism is greater when the difference in degree of verification required for gains versus losses is greater.

Based on the examples and suggestions by Watts (2003a), we apply the contracting mechanism to explain the phenomenon of "asymmetric verifiability" for gains versus losses in the bank industry.   Banks maintain debt contracts with their depositors and bondholders and keep compensation contracts between managers and shareholders.   The managers of banks may have opportunistic attitudes to report accounting numbers which are frequently used as performance measures in debt and compensation contracts.   Since depositors and bondholders usually possess less information about bank performance than managers, they are concerned about the lower end of the earnings and net asset distributions.   A demand for conservatism can constrain the reporting of upwardly biased income and downwardly biased loan loss provisions.   Moreover, by accelerating loss reporting, conservatism provides shareholders a signal to explore the causes for these losses and thus strengthen the governance of banks.

2.2   Direct government regulation and supervision

Bank supervisors have access to a bank's confidential information.   They gather information by requiring banks to file financial reports and by conducting onsite inspections.   They are also authorized to implement disciplinary actions when they uncover evidence of

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[27] Under conservative accounting, a firm's net assets is kept systematically lower than its economic value (Watts, 2003a; Penman and Zhang, 2002; Givoly et al., 2007).

deterioration in a bank's performance. In onsite inspections, supervisors examine bank loans, particularly problem loans, to determine the adequacy of the bank's loan loss reserves. Evidence shows that supervisors can detect an early stage of performance deterioration through onsite inspections and thereby force banks to file accounting restatements to correct their loss underreporting (Gunther and Moore, 2003). To avoid the threat of subsequent supervisory actions in the case when loss underreporting is uncovered, banks may have incentives to file conservative financial reports, particularly when reporting loan losses.

Following Barth et al. (2004), we examine the effects of supervisory actions through the following indexes. The official supervisory power index (*SUPPWR*) measures the power of supervisors to take specific actions to avoid and to remedy the problems of banks. *SUPPWR* is an aggregate index and it ranges from 0 to 14. Among the sub-indexes of *SUPPWR*, we pay special attention to the prompt corrective power (*CORRPWR*), the restructuring power (*RESTRPWR*), and the power to declare bank insolvency (*INSLVNPWR*). *CORRPWR* measures if there is a predetermined level of bank solvency deterioration by law and how supervisors are empowered to intervene in bank operations in this case. *CORRPWR* ranges from 0 to 6. *RESTRPWR* measures how supervisors are empowered to restructure troubled banks and it ranges from 0 to 3. *INSLVNPWR* measures how supervisors are empowered to declare a bank as insolvent and it ranges from 0 to 2. A higher score in any of the above four indexes indicates more powerful supervisory actions and thus we expect that they are all positively associated with conservative financial reporting.

We also examine the effects of stringent capital regulations on conservative financial reporting. The overall capital stringency index (*CAR*) measures if the requirements on the minimum capital adequacy are stringent, such as if the capital asset ratios are weighted, if losses are deducted from capital, and so forth. *CAR* ranges from 0 to 5. Stringent capital regulations

may have conflicting effects on the conservatism of financial reporting by banks. On one hand, they may keep banks from reporting losses because losses lead to a smaller capital adequacy ratio. On the other hand, stringent capital regulations indicate that supervisors may examine bank loan adequacy strictly and thus force banks to report conservatively on loan losses. Consequently, the relation between *CAR* and conservative financial reporting is an empirical issue.

2.3 Private-sector monitoring

Building on the discussions by Caprio and Honohan (2004), we argue that private-sector discipline functions through several channels. First, depositors may execute their discipline on banks by withdrawing deposits or by requiring higher interest rates. The argument for depositor discipline is supported by Martinez Peria and Schmukler's (2001) evidence from Argentina, Chile and Mexico. Second, securities holders such as bondholders and outside stockholders discipline banks by raising banks' funding costs. Third, specialized information agencies such as certified auditors and credit rating agencies monitor banks by respectively providing trustworthy auditor's reports and credit rating reports to major users. They are motivated to monitor banks by maintaining their own reputations.[28]

Although evidence shows that private-sector monitoring functions well in some countries, it may not work for countries where market participants have little incentive to monitor banks. For example, Demirgüç-Kunt and Huizinga (2004) provide evidence that an explicit deposit insurance scheme reduces market discipline on banks. In finding an effective private-sector monitoring mechanism, Caprio and Honohan (2004) suggest that supervisors apply policies that increase the incentives for market discipline. With more incentives to

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[28] See Flannery (1998) for an excellent survey of the empirical evidence of market discipline in the U.S.

monitor banks, market participants may increase the demand for conservative financial reporting. Hence, we expect to observe a positive relation between supervisory policies that help to increase market discipline and conservative financial reporting.

Following Barth et al. (2004) and Caprio and Honohan (2004), we examine the policy effects of enhancing private-sector monitoring through the following indexes. For depositor incentives, we examine depositor insurance (*DEPOINSUR*) and bank accounting disclosure (*BKDISCL*). *DEPOINSUR* is a dummy variable that takes the value of one when there is no official depositor protection and zero otherwise. We find two types of the lack of official depositor protection: (1) when there is no deposit insurance scheme and no case of bank failure, and (2) when there is no deposit insurance scheme and depositors were not fully compensated the last time a bank failed. *BKDISCL* measures if a bank's managers are required to be responsible for the quality of its accounting information, including how they deal with the accrued interest and principal of nonperforming loans, if they are required to provide consolidated financial statements, and if they are responsible for disclosing misleading information. *BKDISCL* ranges from 0 to 3. We expect that, in countries with a higher value of *DEPOINSUR* or *BKDISCL*, more depositors are motivated to monitor banks and demand conservative financial reporting.

To understand securities holders' incentives, we examine the listing status of banks (*PUB*). *PUB* is a dummy variable that takes the value of one for publicly traded banks and zero for privately held banks. If the listing status helps to motivate monitoring by securities holders, we expect that public banks engage in more conservative financial reporting than do their private counterparts. We also examine if policy helps to encourage monitoring by agencies such as auditors and international ratings agencies. External auditing (*AUDIT*) is a dummy variable, which takes the value of one if an external and certified auditor is required by

law or by the supervisory authority and zero otherwise.   A value of one is taken as an indicator

of stronger monitoring by external auditors.   The large bank rating (*LBKRATE*) variable

measures the percentage of a country's top ten banks that are rated by international rating

agencies.   A higher percentage indicates stronger monitoring by rating agencies.   Lastly, the

private monitoring index (*PRIIDX*) is an aggregate index and is the combination of *DEPOINS*,

BKDISCL, *AUDIT*, *LBKRATE* and measures of other disclosure requirements.   The measures of

other disclosure requirements are: if banks are required to disclose off-balance sheet items, to

disclose risk management procedures, and if subordinated debt is allowed or required as part of

a bank's capital.   *PRIIDX* ranges from 0 to 9.   A higher value in any of these indexes indicates

a better environment for private-sector monitoring and is expected to be positively associated

with conservative financial reporting.

3.   Methodology

We first estimate the degree of conservatism in financial reporting by listing status in

each country.   Two types of conservatism in financial reporting are estimated: earnings

changes and loan losses.   The measures of conservatism estimated from the first-stage

regressions are then regressed on various country-level institutional factors that may influence

the conservatism of financial reporting by banks.

3.1   *Models for estimating the conservatism of financial reporting by banks*

3.1.1 Conservative reporting on earnings changes

Basu (1997) reports firms that practice conservatism have a greater tendency to show

reverses in the next period for negative earnings changes than for positive earnings changes.

Evidence consistent with this view has been documented by Ball and Shivakumar (2005) and

Nichols et al. (2005). Ball and Shivakumar (2005) find that negative earnings changes in industrial firms in the U.K. tend to revert but positive earnings changes tend to be persistent. They also provide evidence that this tendency is more pronounced for public firms than for private firms and conclude that public firms are more conservative in their financial reporting than are private firms. Nichols et al. (2005) follow Ball and Shivakumar (2005) to compare the conservatism of financial reporting between public and private banks in the U.S. and also document evidence to support the view that public banks are more conservative in reporting earnings changes than are private banks. We follow this line of literature by employing the following serial dependence model to examine the degree of conservatism in reporting earnings changes by banks in each of the 48 countries in the sample.

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it}, \tag{3.1}$$

where ΔNI_{it} is the change in net income from fiscal year t-1 to t scaled by total assets at the end of year t-1. $D_{\Delta NI_{i,t-1}<0}$ is a dummy variable that takes the value of one if the prior year's earnings change ($\Delta NI_{i,t-1}$) is negative and zero otherwise. We estimate the model for publicly traded and privately held banks in each country separately.

The regression coefficient, α_3, called *CNSV_NI*, is the measure of conservatism in reporting earnings changes. A more negative α_3 indicates a tendency for the group of banks included in the estimation to report earnings changes more conservatively. We also examine earnings before taxes instead of net income to proxy for earnings and obtain similar results. We therefore report only the results from net income in the subsequent analysis.

3.1.2 Conservative reporting on loan losses relative to changes in operating cash flows

We apply two models to measure conservatism in reporting loan losses. The first

model examines the relation between loan loss provisions and changes in the bank's operating cash flows. The second model examines the relation between loan loss provisions and changes in problem loans and the relation between loan loss provisions and net charge-offs.

The concept of our first model comes from the literature on the relation between accruals and operating cash flows in industrial firms. Dechow (1994) and Dechow et al. (1998) note that the function of accruals is to mitigate noise in operating cash flows, i.e., to stabilize earnings. Ball and Shivakumar (2005) view unrealized (expected) gain and loss recognition as a second function for accruals. They show that, with conservative accounting, this second function is stronger for loss recognition than for gain recognition. In the banking industry, loan loss provisions are the bank's accruals for expected changes in future loan loss realizations. Following the literature on accruals in industrial firms, we measure the degree of conservatism in reporting loan loss provisions (LLP) relative to changes in the bank's operating cash flows (ΔCF_t) by estimating the following regression:

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it}<0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it}<0} \times \Delta CF_{it} + \varepsilon_{it} \, , \tag{3.2}$$

where LLP_{it} is the loan loss provision in year t scaled by the lagged total assets. CF_{it} is the operating cash flow and is proxied by income before the loan loss provision scaled by the lagged total assets. ΔCF_{it} is the change in the operating cash flow from year t-1 to t. $D_{\Delta CF_{it}<0}$ is a dummy variable that takes the value of one if the change in the cash flow in year t (ΔCF_{it}) is negative and zero otherwise. The role of loan loss provisions to stabilize earnings indicates a positive contemporaneous relation between loan loss provisions (LLP_{it}) and changes in operating cash flows (ΔCF_{it}), i.e., $\beta_2 > 0$. With conservative reporting, loan loss provisions are used to recognize unrealized (expected) losses, but not unrealized (expected) gains of the loan portfolio. We assume that changes of operating cash flows (ΔCF_{it}) also reveal changes of bank

loan quality.   Hence, this second role of loan loss provisions indicates a negative contemporaneous relation between loan loss provisions (LLP_{it}) and negative changes of operating cash flows (negative ΔCF_{it}), but no relation between loan loss provisions (LLP_{it}) and positive changes of operating cash flows (positive ΔCF_{it}).   As such, we expect that loan loss provisions are more likely to be negatively correlated with negative changes of operating cash flows (negative ΔCF_{it}) than with positive changes of operating cash flows (positive ΔCF_{it}), i.e., $\beta_3 < 0$.

The regression coefficient, β_3, called *CNSV_LLP_CF*, is a measure of conservatism in reporting loan loss provisions (LLP_{it}) relative to changes in operating cash flows (ΔCF_{it}).   A more negative β_3 indicates a tendency for the group of banks included in the estimation to recognize loan losses more conservatively.

3.1.3 Conservatism in reporting loan losses relative to changes in problem loans and to net charge-offs

Banks usually classify their loan portfolios into performing and nonperforming loans. Nonperforming loans are also called impaired loans or problem loans.   Problem loans usually include overdue, restructured and other nonperforming loans.   In many countries, banks follow a systematic procedure to determine their loan classification, which is usually based on the number of days that a loan is in arrears, a forward-looking estimate of default probability, or a combination of these two methods.   Based on the above information on the problem loans of the existing loan portfolio and the last period loan loss reserves, bank managers estimate the expected changes in the value of loan losses to determine their loan loss provisions at the end of each period.   Loan loss reserves (i.e., the cumulative loan loss provisions) are a reduction of a bank's outstanding loans shown on the balance sheet.   Bank managers charge off part or all of a loan when they realize that it is uncollectible.   The charge-off leads to a reduction of loan loss

reserves. If part of a loan that has been charged off can be recovered in later periods, the recoveries increase the loan loss reserves and decrease the net charge-offs.

As Nichols et al. (2005) points out, banks that practice conservative loan loss reporting incorporate loan loss provisions at a larger amount and prior to or at the same time as loans become nonperforming. In contrast, banks that practice less conservative loan loss reporting incorporate loan loss provisions at a smaller amount and after the loans become nonperforming. We also expect that banks that practice more conservative loan loss reporting charge off uncollectible loans at a quicker rate than do banks that practice less conservative loan loss reporting. Our second model for conservative loan loss reporting builds on the work of Nichols et al. (2005). The model mainly examines the relationship between loan loss provisions, changes in problem loans, and net charge-offs as described in the following regression:[29]

$$
\begin{aligned}
LLP_{it} = {} & \gamma_0 + \gamma_1 \Delta PL_{i,t-1} + \gamma_2 \times \Delta PL_{it} + \gamma_3 \Delta PL_{i,t+1} + \gamma_4 NCOF_{it} \\
& + \gamma_5 NCOF_{i,t+1} + \gamma_6 LLR_{i,t-1} + \gamma_7 TCL_{it} + \varepsilon_{it},
\end{aligned}
\tag{3.3}
$$

where LLP_{it} is the loan loss provision in year t scaled by the lagged total assets. PL_{it} is the amount of problem loans in year t scaled by the lagged total assets. ΔPL_{it} is the change in the amount of problem loans from year t-1 to t. $NCOF_{it}$ is the net charge-offs (i.e., charge-offs minus recoveries) in year t scaled by the lagged total assets. LLR_{it} is the loan loss reserves in year t scaled by the lagged total assets and it controls for the beginning level of loan loss reserves in year t. TCL_{it} is the total amount of customer loans scaled by the lagged total assets and it controls for the size of the bank loans.

If banks are more conservative in reporting loan losses, we should observe significant

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[29] For further discussion on the relations across these variables, please see Hasan and Wall (2004).

positive coefficients on ΔPL_{it} and $NCOF_{it}$.   If the coefficient on ΔPL_{it} is not significantly positive but the coefficient on ΔPL_{t-1} is significantly positive, or if the coefficient on $NCOF_{it}$ is not significantly positive but the coefficient on $NCOF_{i,t+1}$ is significantly positive, banks are less conservative in their loan loss reporting.   We call the parameters γ_2 and γ_4 $CNSV\_LLP\_PL$ and $CNSV\_LLP\_COF$, respectively, and they are the measures of conservative reporting on loan loss provisions relative to changes in problem loans and to net charge-offs, respectively.   A more positive γ_2 or γ_4 indicates a stronger tendency to report loan losses more conservatively among the group of banks included in the estimation.

3.2   Models for measuring the effects of governance mechanisms on the conservatism of financial reporting by banks

Our purpose of the second-stage regressions is to examine the relationship between the institutional factors and the degree of conservatism in financial reporting.   Accordingly, we estimate the following two cross-sectional regressions for the measure of conservatism in reporting earnings changes ($CNSV\_NI$) and for the measure of conservatism in reporting loan losses ($CNSV\_LLP$), respectively:

$$CNSV\_NI = \theta_0 + \sum \theta_{1j} SUP - related\ index_{1j} + \sum \theta_{2j} PRI\ monitor - related\ index_{2j} + \theta_3 PUB + \theta_4 LAW + \theta_5 GDP + \varepsilon, \tag{3.4}$$

$$CNSV\_LLP = \theta_0 + \sum \theta_{1j} SUP - related\ index_{1j} + \sum \theta_{2j} PRI\ monitor - related\ index_{2j} + \theta_3 PUB + \theta_4 LAW + \theta_5 GDP + \varepsilon, \tag{3.5}$$

where *SUP-related indexes* include the official supervisory power index ($SUPPWR$), the prompt corrective power index ($CORRPWR$), the restructuring power index ($RESTRPWR$), the index for the power to declare bank insolvency ($INSLVNPWR$), and the overall capital stringency index (CAR). *PRI monitor-related indexes* include the private monitoring index ($PRIIDX$), the deposit

insurance index (*DEPOINSUR*), the bank accounting disclosure index (*BKDISCL*), the external auditing index (*AUDIT*), and the large bank rating index (*LBKRATE*). *PUB* is a dummy variable that takes the value of one if the measure of conservative reporting is estimated from a sample of public banks and zero otherwise. *LAW* is a dummy variable that takes the value of one if the origin of the commercial law of the country is German, Scandinavian or English, and zero otherwise. *GDP* is the average of GDP per capita from 2000 to 2004. The control for the law origin is to examine whether the incentives for financial reporting are influenced by the country's legal origin, which proxies for investor protection and law enforcement (Leuz et al. 2003; Burgstahler et al. 2006).

4. Sample selection and summary descriptive statistics

4.1 Sample selection and data sources

Accounting variables are obtained from the September 2005 CD-ROM edition of the BANKSCOPE database supplied by Bureau Van Dijk. BANKSCOPE provides accounting data only for the past eight years. We require sample countries with sufficient firm-level accounting data on banks over the period from 1997 to 2004 to estimate our models. Sample banks include commercial banks, savings banks, cooperative banks, real estate/mortgage banks, medium- and long-term credit banks, non-banking credit institutions and bank holding companies.[30] We also require that there be information on the commercial law origins and bank supervision and regulation institutions of the countries. The commercial law origins of the countries are obtained from La Porta et al. (2002). Bank supervision and regulation

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[30] BANKSCOPE groups banks into 12 specializations. We exclude investment banks/securities houses, Islamic banks, specialized governmental credit institutions, Central banks, and multi-lateral governmental banks from the sample, because their primary activities are different from traditional banking and seem to be more specialized.

variables are mainly retrieved from the bank regulation and supervision database (the 2003 edition) supplied by the World Bank. If a country is not included in the 2003 edition of the database but is included in the original 2001 database, the original 2001 database information is used. We start from the 92 countries listed by La Porta et al. (2002). We require that each country includes at least 20 non-missing observations for both publicly traded and privately held banks. We exclude Ecuador from our sample due to its problematic extreme accounting figures.[31] These restrictions result in a final sample of 1,248 publicly traded and 6,481 privately held banks across 48 countries. Among the final 48 sample countries, the information on Bangladesh, China, and Indonesia is retrieved from the original 2001 database.[32]

Because the information on problem loans and net charge-offs is unavailable for banks in many countries, the number of countries drops sharply when we analyze these two accounting variables. Thus, we require at least 15 non-missing observations for the estimation of equation (3.3), and, in this case, the number of countries drops to 14. We acknowledge that the criteria of 20 or 15 observations to estimate the models are debatable. There is a trade-off between the number of countries and the number of observations included in each of our estimation.

4.2 Descriptive statistics

Table 3.1 presents the summary statistics of the accounting variables for public and private banks by country. The accounting variables are scaled by the lagged total assets.

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[31] For example, Ecuador's net income to lagged total assets (*NI*) and problem loans to lagged total assets (*PL*) ratios are -105.8 percent and 378.75 percent, respectively. According to information from the CIA World Factbook, Ecuador suffered from economic crisis and political instability during this period. We conjecture that these problems led to the inaccurate accounting information. The results for Ecuador are available upon request.

[32] Both the 2003 edition and the original 2001 database can be obtained from the website of the World Bank (http://econ.worldbank.org).

Banks in our sample countries exhibit the following characteristics. First, it is noticeable that the number of banks varies across listing status and across countries. The number of private banks is usually larger than that of public banks per country. We find that 41.3 percent of the public banks are from the U.S. (394, 31.6 percent) and Japan (122, 9.8 percent) and that 56.5 percent of the private banks are from Germany (1,646, 25.4 percent), Italy (705, 10.9 percent), Japan (657, 10.1 percent) and the U.S. (655, 10.1 percent). It is noteworthy that Germany and Italy have a strikingly smaller number of public banks than do the U.S. and Japan, although they have a larger number of private banks. Second, public banks are larger and more profitable than are private banks. Third, the average ratio of total customer loans to lagged total assets is about 67 percent for both public and private banks, but public banks have a higher average ratio of loan loss provisions to lagged total assets than do private banks. The mean (median) ratios of loan loss provisions to lagged total assets for public and private banks are 0.79 percent (0.37 percent) and 0.63 percent (0.33 percent), respectively. It appears that public banks are more conservative in recognizing loan losses than are their private counterparts.

Table 3.1 Summary statistics of accounting variables for public and private banks by country

| Country | Public banks (N = 1,248) | | | | | Private banks (N = 6,481) | | | | |
	# of Banks	TA (M)	ROA (%)	NI (%)	LLP (%)	TCL (%)	# of Banks	TA (M)	ROA (%)	NI (%)	LLP (%)	TCL (%)
Argentina	5	7,301	-2.00	-0.22	0.64	49.40	94	917	-6.07	-2.40	1.93	44.81
Australia	11	58,984	1.53	1.52	0.20	83.97	42	2,249	0.51	0.53	0.07	77.17
Austria	13	31,523	0.83	0.73	0.34	67.09	205	2,086	0.55	0.51	0.16	62.98
Bangladesh	16	396	1.02	1.16	1.07	68.27	17	807	0.69	0.96	0.75	90.82
Belgium	6	217,975	2.36	2.14	0.11	38.21	87	14,931	1.69	1.56	0.21	44.05
Bolivia	5	558	0.74	0.75	1.85	64.48	8	251	-0.54	-0.51	2.10	62.05
Brazil	16	18,173	1.01	1.09	1.16	31.33	149	1,603	2.53	2.40	1.75	46.71
Canada	14	82,133	2.00	2.22	0.33	67.42	42	4,417	1.15	1.23	0.60	77.11
Chile	7	6,348	1.63	1.68	0.94	70.46	27	1,478	1.15	1.29	0.89	58.38
China	5	25,244	0.49	0.59	0.65	76.06	56	51,424	0.58	0.81	0.47	56.04
Colombia	13	1,793	1.12	1.47	1.86	63.32	16	833	-0.30	-0.16	1.75	58.91
Croatia	22	1,014	0.82	1.06	1.32	67.88	15	452	0.53	0.91	2.71	84.73
Cyprus	4	6,798	0.09	0.03	1.04	76.68	18	549	2.09	1.24	1.07	66.82
Denmark	41	6,525	1.36	1.51	0.82	70.18	74	7,464	0.81	1.07	0.47	62.45
Egypt	20	1,106	1.47	1.47	1.18	57.99	8	8,000	0.32	0.33	0.98	58.97
France	41	68,846	2.63	2.60	0.27	65.28	392	14,874	0.93	0.99	0.38	59.85
Germany	24	128,801	-0.58	-0.82	0.58	54.52	1,646	2,541	0.30	0.32	0.60	67.21
Hong Kong	17	15,369	1.51	1.61	1.08	48.64	61	9,138	2.43	2.08	1.25	57.53
India	43	7,363	1.02	1.19	0.85	56.91	42	1,898	0.86	1.13	0.78	52.86
Indonesia	21	4,086	-4.58	-3.08	3.09	48.19	36	359	-0.23	0.71	2.99	61.90
Ireland	5	75,029	0.95	1.10	0.21	69.15	43	5,166	1.59	1.51	0.29	64.15
Italy	35	51,189	0.62	0.67	0.52	68.94	705	1,473	0.87	1.49	0.51	77.80
Japan	122	46,101	0.12	0.18	0.99	68.22	657	4,685	-0.05	-0.07	0.60	58.70
Kazakhstan	14	571	2.51	2.98	3.25	94.20	12	147	6.14	7.71	0.88	56.08
Kenya	8	499	1.26	1.39	2.40	69.32	33	67	1.37	1.66	2.16	61.80
Lebanon	6	3,603	0.76	1.12	0.18	28.49	48	730	0.89	0.96	0.43	34.92
Malaysia	13	8,848	1.02	1.17	1.15	60.52	29	4,091	0.98	1.03	1.13	58.18
Morocco	8	3,001	0.61	0.61	1.99	68.93	7	4,303	0.42	0.46	1.47	58.30
Nigeria	27	579	2.99	3.16	1.62	43.84	47	151	2.95	4.01	1.79	51.26
Norway	17	7,460	0.80	0.91	0.43	100.99	45	4,390	1.13	1.30	0.38	99.99
Pakistan	18	1,212	0.77	0.88	0.38	61.56	8	2,049	2.09	1.93	1.57	60.04
Peru	10	1,683	1.15	1.29	2.98	68.86	8	2,245	-0.65	-0.39	1.30	56.24
Philippines	20	2,444	0.71	0.74	1.01	58.63	26	709	0.42	0.60	1.00	75.94
Poland	13	6,346	0.75	0.81	0.97	71.14	32	615	1.21	1.43	0.89	69.83
Portugal	5	28,265	0.80	0.88	0.74	77.35	24	8,172	1.44	1.49	0.85	70.41
Singapore	9	23,383	1.64	1.74	0.52	66.65	20	1,325	1.30	1.44	0.03	73.22
South Africa	11	17,327	2.96	3.45	0.57	56.57	26	7,682	2.27	2.44	1.72	78.52
Spain	14	62,239	1.33	1.46	0.47	83.93	142	5,936	0.66	0.81	0.37	67.17
Sri Lanka	7	658	1.19	1.26	0.77	70.83	6	971	-1.78	-1.24	1.40	74.48
Sweden	6	118,560	-0.65	-0.66	0.13	69.63	113	2,963	0.95	1.09	0.29	94.63
Switzerland	18	89,687	2.21	2.08	0.40	51.55	382	1,339	1.01	1.25	0.30	74.37
Taiwan	31	15,514	0.37	0.53	1.40	70.53	25	12,381	0.21	1.10	0.79	61.91
Tunisia	15	1,085	1.26	1.35	1.21	84.89	10	84	0.96	1.02	1.57	84.58
Turkey	13	11,436	0.79	0.69	0.88	42.34	26	4,636	2.19	2.45	1.13	67.84
UAE	12	4,170	2.41	2.61	0.61	77.61	7	626	1.70	2.43	0.98	68.56
UK	37	67,800	2.25	3.37	1.28	37.36	265	19,332	1.23	1.12	0.31	59.47
USA	394	21,887	1.08	1.13	0.35	74.20	655	15,430	1.28	1.50	0.54	78.09
Venezuela	16	1,576	4.42	4.81	1.74	45.99	45	184	3.19	3.74	2.10	46.26
Mean	1,248	27,936	1.04	1.20	0.79	67.03	6,481	6,195	0.68	0.87	0.63	67.39
Median	1,248	2,376	1.02	1.10	0.37	67.92	6,481	585	0.42	0.46	0.33	65.00
StdDev	1,248	105,622	4.61	5.29	1.77	31.69	6,481	38,471	4.59	11.00	2.92	201.35

Notes: UAE stands for United Arab Emirates. Accounting variables are obtained from BANKSCOPE. The detailed definitions of variables are provided in Appendix B.

Panel A of Table 3.2 presents the legal origins, economic conditions, and variables representing the structures of bank regulation and supervision by country. The countries are classified into five groups based on commercial law origins, including English, French, German, Scandinavian, and Socialist legal origins. The averages of GDP per capita (*GDP*), GDP growth (*GDPGR*), and inflation rates (*INFL*) indicate the economic conditions of our sample countries for the period from 2000 to 2004. These data are retrieved from the World Development Indicator (WDI) database.[33] Nigeria, Turkey, and Venezuela exhibit average inflation rates higher than 15 percent during this period. In our subsequent analysis, we report results including these countries because the main results hold whether or not we include them. In general, the sample includes countries with varied legal origins and varied economic conditions. To make sure that these country characteristics do not drive our results, we control for these variables in our second-stage, cross-country regressions. Since GDP per capita (*GDP*), GDP growth (*GDPGR*) and inflation rates (*INFL*) are highly correlated as shown in Panel B of Table 3.2, we include only GDP per capita to represent a country's economic conditions in our second-stage regressions.

5. Empirical results on conservatism in financial reporting by banks around the world

5.1 Conservatism in financial reporting: Results from pooled regressions

Table 3.3 reports the results on the conservatism of financial reporting of publicly traded and privately held banks using the pooled sample of 48 countries. The models are estimated by linear OLS regressions with the White and country-clustered robust standard errors. For each model, the number of observations varies due to missing accounting variables.

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[33] The WDI database does not provide Taiwan's data, so we download them from the National Statistics website (http://www.stat.gov.tw/mp.asp?mp=4) supported by the government of Taiwan.

Table 3.2 Law origins, economic conditions and descriptive statistics for bank regulation and supervision variables by country

Country	Law origin	GDP (US$)	GDPGR (%)	INFL (%)	CAR (0~5)	SUP PWR (0~14)	CORR PWR (0~6)	RESTR PWR (0~3)	INSLVN PWR (0~2)	PRI IDX (0~9)	AUDIT (0 or 1)	LBK RATE (0~100)	DEPO INSUR (0 or 1)	BK DISCL (0~3)
Panel A: Institutional Variables By Country														
Argentina	French	5,013	0.35	10.04	4	8	0	1	1	7	1	100	0	3
Australia	English	23,556	3.10	3.32	5	10	0	3	0	9	1	100	1	3
Austria	German	27,991	1.70	1.75	5	13	5	3	1	5	1	90	0	3
Bangladesh (2001)	English	366	5.28	4.07	1	11	0	3	0	n.a.	1	0	n.a.	n.a.
Belgium	French	26,149	1.84	1.77	2	10	0	1	0	6	1	50	0	3
Bolivia	French	956	2.60	4.95	1	10	4	3	2	6	1	100	0	2
Brazil	French	3,075	2.66	10.10	5	13	0	3	2	7	1	100	0	3
Canada	English	25,355	3.07	2.54	1	10	0	3	1	8	1	100	0	3
Chile	French	4,818	3.75	5.16	3	11	3	3	2	6	1	90	0	3
China (2001)	Socialist	1,029	8.52	2.05	n.a.	n.a.	n.a.	3	1	n.a.	0	100	n.a.	2
Colombia	French	1,938	2.86	7.99	3	13	4	3	2	n.a.	1	n.a.	0	3
Croatia	Socialist	5,578	4.10	3.59	1	12	4	2	2	6	1	10	0	3
Cyprus	English	15,047	3.36	3.26	4	8	2	3	2	7	1	30	0	3
Denmark	Scandinavian	35,156	1.65	2.13	5	9	2	2	2	6	1	60	0	3
Egypt	French	1,346	3.86	4.86	1	14	6	3	2	n.a.	1	80	n.a.	3
France	French	26,294	1.97	1.55	2	7	0	1	0	n.a.	1	n.a.	0	2
Germany	German	26,265	1.08	0.94	1	9	0	2	2	6	1	100	0	1
Hong Kong	English	23,834	4.78	-4.13	4	11	0	2	1	n.a.	1	100	n.a.	3
India	English	521	5.74	3.98	4	10	0	2	1	n.a.	1	n.a.	0	2
Indonesia (2001)	French	965	4.63	10.99	1	12	6	2	2	7	1	100	0	3
Ireland	English	33,310	6.36	3.95	2	11	0	3	0	n.a.	1	100	n.a.	3
Italy	French	22,521	1.32	2.63	2	7	0	2	1	6	0	100	0	2
Japan	German	34,246	1.66	-1.89	3	12	6	3	2	8	1	100	0	3
Kazakhstan	Socialist	1,831	10.36	11.00	3	11	4	3	2	4	1	90	0	2
Kenya	English	407	1.21	9.37	4	13	6	3	1	n.a.	1	n.a.	0	3
Lebanon	French	4,208	3.89	1.34	4	10	6	0	1	6	1	90	0	3
Malaysia	English	4,071	5.14	3.07	1	11	0	3	2	7	1	40	0	3
Morocco	French	1,326	3.84	1.27	4	12	6	3	1	7	1	70	0	3
Nigeria	English	398	4.63	19.29	4	13	6	3	2	6	1	30	0	3
Norway	Scandinavian	43,960	2.05	4.49	2	10	1	3	2	6	1	100	0	2
Pakistan	English	543	4.13	9.24	4	13	6	3	1	7	1	0	1	3
Peru	French	2,182	3.36	2.65	4	12	4	3	2	6	1	40	0	3
Philippines	French	977	4.58	5.41	3	11	6	3	2	7	1	90	0	3
Poland	Socialist	5,200	3.09	3.11	1	8	3	2	1	7	1	100	0	3

Country	Law origin	GDP (US$)	GDPGR (%)	INFL (%)	CAR (0~5)	SUP PWR (0~14)	CORR PWR (0~6)	RESTR PWR (0~3)	INSLVN PWR (0~2)	PRI IDX (0~9)	AUDIT (0 or 1)	LBK RATE (0~100)	DEPO INSUR (0 or 1)	BK DISCL (0~3)
Portugal	French	12,625	1.06	3.56	4	14	0	3	2	5	1	80	0	2
Singapore	English	22,177	4.24	1.35	5	13	0	3	1	9	1	100	1	3
South Africa	English	3,276	3.39	7.43	4	6	0	1	0	8	1	50	1	3
Spain	French	17,731	2.92	4.11	5	9	3	3	1	7	1	100	0	3
Sri Lanka	English	915	4.06	8.58	4	7	0	2	2	n.a.	1	40	n.a.	3
Sweden	Scandinavian	30,185	2.51	1.62	1	8	0	3	1	n.a.	1	50	n.a.	2
Switzerland	German	39,768	1.23	1.12	4	14	0	3	2	7	1	80	0	3
Taiwan	German	13,675	3.31	0.48	4	14	6	3	2	n.a.	1	50	n.a.	2
Tunisia	French	2,319	4.51	2.69	4	13	6	3	1	7	1	100	1	2
Turkey	French	3,065	4.51	36.24	2	14	6	3	2	7	1	90	0	3
UAE	English	20,128	5.87	3.25	4	14	5	3	2	9	1	100	1	3
UK	English	28,274	2.57	2.65	4	11	0	3	1	8	1	100	0	3
USA	English	36,677	2.78	2.00	3	13	5	3	2	7	1	100	0	3
Venezuela	French	4,180	1.57	27.25	1	11	3	3	2	5	1	0	0	3
Mean		13,446	3.48	5.38	3.04	10.98	2.64	2.58	1.40	6.72	0.96	75.00	0.15	2.72
Median		5,106	3.33	3.29	4.00	11.00	3.00	3.00	2.00	7.00	1.00	90.00	-	3.00
StdDev		13,471	1.90	6.85	1.41	2.20	2.57	0.74	0.71	1.14	0.20	32.53	0.36	0.50

Panel B: Correlations among institutional variables

Pearson / Spearman	LAW	GDP	GDPGR	INFL	CAR	SUP PWR	CORR PWR	RESTR PWR	INSLVN PWR	PRI IDX	AUDIT	LBK RATE	DEPO INSUR	BK DISCL
LAW (48)	1.000	0.482a	-0.046	-0.250c	0.211	-0.009	-0.267c	0.195	-0.113	0.433a	0.217	-0.149	0.301c	0.055
GDP (48)	0.321b	1.000	-0.387a	-0.425a	0.048	-0.105	-0.379a	0.030	-0.122	0.181	0.026	0.331b	-0.048	-0.097
GDPGR (48)	0.029	-0.479a	1.000	0.084	-0.042	0.168	0.197	0.188	-0.021	-0.007	-0.160	-0.016	0.236	-0.031
INFL (48)	-0.274c	-0.604a	0.196	1.000	-0.142	0.170	0.257c	0.127	0.247c	-0.203	0.094	-0.244	-0.081	0.186
CAR (47)	0.222	0.040	-0.042	-0.095	1.000	0.168	0.052	0.038	-0.061	0.234	0.110	0.143	0.363b	0.261c
SUPPWR (47)	-0.008	-0.166	0.182	0.062	0.170	1.000	0.528a	0.565a	0.394a	0.015	0.269c	0.030	0.099	0.198
CORRPWR (47)	-0.256c	-0.378a	0.219	0.184	0.013	0.513a	1.000	0.224	0.390a	-0.137	0.153	-0.035	0.006	0.199
RESTRPWR (48)	0.149	-0.068	0.130	0.131	0.082	0.582a	0.285c	1.000	0.363b	0.092	0.024	-0.005	0.063	0.027
INSLVNPWR (48)	-0.105	-0.083	-0.045	0.233	-0.131	0.383a	0.366b	0.287b	1.000	-0.346b	0.118	-0.026	-0.387b	-0.030
PRIIDX (36)	0.404b	0.117	0.247	-0.138	0.226	0.052	-0.099	0.148	-0.329c	1.000	0.109	0.271	0.576a	0.403b
AUDIT (48)	0.217	0.045	-0.030	0.135	0.107	0.231	0.154	0.071	0.159	0.145	1.000	-0.170	0.067	0.310b
LBKRATE (44)	-0.075	0.360b	-0.103	-0.187	0.075	-0.066	-0.111	-0.017	-0.165	0.394b	-0.217	1.000	-0.032	-0.198
DEPOINSUR (40)	0.301c	-0.061	0.346b	0.006	0.377b	0.157	0.006	0.098	-0.368b	0.530a	0.067	0.084	1.000	0.072
BKDISCL (47)	0.095	-0.029	0.107	0.187	0.235	0.185	0.168	0.044	0.008	0.444a	0.349b	-0.188	0.063	1.000

Notes: The data sources and definitions of variables are provided in Appendix B. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 3.3 Financial reporting conservatism by public and private banks across 48 countries:
Conservatism in net income changes and in loan loss provisions

	Predicted Sign	Panel A Model for ΔNI				Panel B Model for LLP on ΔCF				Panel C Model for LLP on ΔPL and on NCOF			
		Public Banks		Private Banks		Public Banks		Private Banks		Public Banks		Private Banks	
		Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
Intercept		0.0017a	2.95	-0.0003	-0.75	0.0066a	3.72	0.0061a	9.34	0.0023	0.98	-0.0026b	-2.74
$D_{\Delta NI_{t-1}<0}(\alpha_1)$		-0.0038a	-3.49	0.0014	0.97								
$\Delta NI_{t-1}(\alpha_2)$		-0.0810	-1.06	-0.0028	-0.45								
$\Delta NI_{t-1} \times D_{\Delta NI_{t-1}<0}(\alpha_3)$	-	*-0.7780a*	*-4.10*	-0.3798	-1.62								
$D_{\Delta CF_t<0}(\beta_1)$						-0.0011	-1.10	-0.0015b	-2.02				
$\Delta CF_t(\beta_2)$						0.1203c	1.92	0.1320a	2.74				
$\Delta CF_t \times D_{\Delta CF_t<0}(\beta_3)$	-					*-0.4623a*	*-2.74*	*-0.1480a*	*-2.76*				
$\Delta PL_{t-1}(\gamma_1)$	+									0.0029	0.14	-0.0001a	-2.94
$\Delta PL_t(\gamma_2)$	+									*0.1523a*	*3.63*	*-0.0001b*	*-2.37*
$\Delta PL_{t+1}(\gamma_3)$	+									-0.0133	-0.40	0.0385	1.07
$NCOF_t(\gamma_4)$	+									*0.3781b*	*2.12*	*0.9485b*	*2.65*
$NCOF_{t+1}(\gamma_5)$	+									-0.0000	-0.10	-0.0553	-1.10
$LLR_{t-1}(\gamma_6)$										0.1042b	2.54	0.0102	1.14
$TCL_t(\gamma_7)$										-0.0005	-0.22	0.0061b	2.39
R²		0.2073		0.0617		0.0710		0.3319		0.3120		0.6355	
# of obs.		5,735		25,304		6,401		28,379		2,502		4,499	

Notes: The data sources and definitions of the variables are provided in Appendix B. This table reports results from the following regressions: (1) changes in net income (ΔNI), (2) loan loss provisions (LLP) on changes in cash flows (ΔCF) and (3) loan loss provisions (*LLP*) on changes in problem loans (ΔPL) and on net charge offs (*NCOF*):

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it},$$

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it}<0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it}<0} \times \Delta CF_{it} + \varepsilon_{it},$$

$$LLP_{it} = \gamma_0 + \gamma_1 \Delta PL_{i,t-1} + \gamma_2 \Delta PL_{it} + \gamma_3 \Delta PL_{i,t+1} + \gamma_4 NCOF_{it} + \gamma_5 NCOF_{i,t+1} + \gamma_6 LLR_{i,t-1} + \gamma_7 TCL_{it} + \varepsilon_{it}.$$

The models are estimated by linear OLS regressions with the White and country-clustered robust standard errors. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A of Table 3.3 reports the results on the conservatism of reporting earnings changes (α_3 or *CNSV_NI*) estimated from equation (3.1). It shows that, for public banks, negative earnings changes (α_3) tend to reverse more strongly than do positive earnings changes (α_2). But this is not the case for private banks. Consistent with our prediction, public banks are more conservative in reporting negative earnings changes than are private banks.

The results on the conservatism of reporting loan loss provisions relative to changes in operating cash flows (β_3 or *CNSV_LLP_CF*) estimated from equation (3.2) are reported in Panel B of Table 3.3. A significant negative β_3 is evidence for conservative loan loss reporting relative to changes in operating cash flows, since it indicates that banks recognize a higher level of loan loss provisions when operating cash flows decrease. Our results show that both public and private banks are conservative in reporting loan loss provisions relative to changes in operating cash flows, but public banks are more conservative than are private banks. In Panel C of Table 3.3, the results estimated from equation (3.3) show that both public and private banks are conservative in charging off problem loans as indicated by a significantly positive γ_4. Public banks also report more loan loss provisions when their problem loans increase as indicated by a significantly positive γ_2. This result is reversed for private banks. Their loan loss provisions decrease when the amount of problem loans increases, although the magnitude is very small ($\gamma_2 = -0.0001$ with t $= -2.37$). Generally, our estimates of conservative reporting of loan losses show that public banks are more conservative than are private banks in their financial reporting.

In summary, the results from pooled regressions indicate that banks, especially those that are publicly traded, are conservative in their financial reporting.[34] However, our results

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[34] We also estimate Table 3.3 with dummy variables of bank specializations to see whether banks with different activity focus influence their reporting conservatism and find similar results (not tabulated).

might be driven by countries with a large number of observations such as the U.S., the U.K., Japan, Germany, and Italy. As a result, in the following sections, we turn our attention to the country-by-county analyses to see if our results from pooled regressions still hold.

5.2 *The conservatism of financial reporting by country*

We estimate equations (3.1) to (3.3) by country and report the results in Tables 3.4 to 3.6, respectively. The following discussions focus on the regression coefficients that indicate conservative financial reporting. We also compare the results with the existing literature. Although the degree of conservatism varies across different conservatism measures, listing status, and countries, the results are consistent with the findings of the existing studies.

First, we compare the results of *CNSV_NI* (α_3) from public banks in Table 3.4 with the findings on public industrial firms by Bushman and Piotroski (2006). We find conservative reporting in earnings changes for public banks in many countries, although the results from Belgium, Hong Kong, Lebanon, Morocco and Spain are counter to conservative financial reporting. If we compare the results of countries examined in this study and those in Bushman and Piotroski's (2006) study, our results are consistent with their findings except for Belgium, Hong Kong and Spain. Second, consistent with the findings by Ball and Shivakumar (2005) for industrial firms in the U.K. and with the findings by Nichols et al. (2005) for banks in the U.S., our results show that, in most countries with English law origins, public banks are more conservative in reporting earnings changes than are private banks.

Table 3.4 Conservative reporting of earnings changes by country

Country	Results for Public Banks					Results for Private Banks				
	α_1	α_2	α_3	R^2	Obs.	α_1	α_2	α_3	R^2	Obs.
Predicted sign			−					−		
Argentina	-0.0234	-0.0744	-1.8135[a]	0.75	23	-0.0710[b]	0.0966	-3.8421[a]	0.53	312
	(-1.41)	(-0.60)	(-13.99)			(-2.44)	(1.37)	(-4.42)		
Australia	0.0041	0.7758[a]	-1.6121[a]	0.49	58	0.0026	-0.1072	0.1602	0.03	108
	(1.26)	(8.15)	(-16.92)			(1.25)	(-0.25)	(0.33)		
Austria	0.0016[c]	0.2123[b]	-0.0066	0.55	52	0.0009	-0.0865	0.3340[c]	0.13	787
	(1.71)	(2.55)	(-0.07)			(1.21)	(-0.94)	(1.72)		
Bangladesh	0.0006	0.4166[a]	-0.9779[a]	0.15	88	-0.0128	0.3724[a]	-0.8216[a]	0.15	61
	(0.43)	(2.95)	(-3.29)			(-1.25)	(3.21)	(-4.68)		
Belgium	-0.0074	-1.0437[a]	1.0274[a]	0.75	26	-0.0067[b]	-0.4390[a]	0.0072	0.43	303
	(-0.50)	(-8.44)	(7.30)			(-2.46)	(-4.75)	(0.042)		
Bolivia	-0.0082	-0.108	-0.7614	0.18	30	0.0136	0.1126[b]	-0.4348	0.09	42
	(-1.68)	(-0.25)	(-1.25)			(1.58)	(2.43)	(-1.33)		
Brazil	0.0003	0.0348	-1.2088[a]	0.56	68	-0.0213[b]	-0.2018	-0.6500[b]	0.32	449
	(0.03)	(1.27)	(-25.79)			(-2.27)	(-1.39)	(-2.25)		
Canada	0.0011	0.4349[b]	-0.5303	0.41	68	0.0132[b]	1.8351[c]	-2.1177[b]	0.34	169
	(0.76)	(1.90)	(-1.50)			(2.24)	(1.90)	(-2.15)		
Chile	-0.0066[b]	-0.0158	-1.5841[c]	0.31	35	0.0035	-0.2383	-0.3571	0.23	75
	(-2.08)	(-0.10)	(-1.83)			(0.50)	(-0.62)	(-0.83)		
China	-0.0013[a]	-0.0965	-0.2392	0.07	24	-0.0009	0.0054[a]	-0.0719	0.01	146
	(-2.64)	(-0.53)	(-1.30)			(-0.87)	(3.21)	(-0.77)		
Colombia	-0.0292[a]	-0.0195	-1.3743[a]	0.28	41	-0.0291	0.1310[a]	-0.9854[a]	0.37	68
	(-2.78)	(-0.13)	(-2.95)			(-1.49)	(10.75)	(-12.38)		
Croatia	-0.0123[a]	-0.0068	-1.1237[a]	0.62	94	-0.0148[c]	-0.1497[a]	-1.4592[a]	0.91	35
	(-3.00)	(-0.08)	(-8.48)			(-1.68)	(-3.33)	(-22.86)		
Cyprus	-0.0043	-0.7647[b]	0.9655	0.11	23	-0.0075	-0.5202	0.7317	0.12	54
	(-0.45)	(-2.45)	(1.62)			(-1.54)	(-1.55)	(1.41)		
Denmark	-0.0053[a]	-0.2346[a]	-1.0501[a]	0.14	236	0.0028	-0.0767	-0.1088	0.03	308
	-(4.75)	(-3.41)	(-6.74)			(1.14)	(-0.41)	(-0.41)		
Egypt	-0.0020	-0.0566	-0.3248	0.03	99	-0.0023	-0.8598[a]	1.1840[b]	0.13	42
	(-1.02)	(-0.37)	(-1.25)			(-1.55)	(-2.43)	(2.08)		
France	0.0048	0.0328	0.0520	0.02	165	-0.0035[c]	-0.6147[a]	0.7102[b]	0.18	1,588
	(1.38)	(0.08)	(0.12)			(-1.79)	(-3.67)	(2.48)		
Germany	0.0055	0.0434[a]	-0.3682	0.02	84	0.0001	-0.3832[a]	0.3164[a]	0.13	7,292
	(0.52)	(3.40)	(-0.46)			(0.47)	(-20.15)	(4.84)		
Hong Kong	-0.0182[b]	-2.3126[a]	2.3056[a]	0.61	92	-0.0246	0.1736[b]	-2.4363[c]	0.25	245
	(-2.54)	(-2.90)	(2.89)			(-1.49)	(2.33)	(-1.86)		
India	-0.0068[b]	-1.1409	0.1285	0.25	149	-0.0024	-0.1486	-0.7428[a]	0.25	124
	(-1.97)	(-1.47)	(0.16)			(-1.42)	(-1.51)	(-4.02)		
Indonesia	-0.0100	0.1535[a]	-1.4538[a]	0.67	111	-0.0255[b]	0.0997	-1.9889[a]	0.80	131
	(-0.71)	(2.60)	(-9.26)			(-2.22)	(1.55)	(-8.62)		
Ireland	-0.0078[a]	-0.2018	-1.9647[a]	0.49	25	-0.0013	0.6726	-1.1146	0.11	138
	(-3.07)	(-0.86)	(-3.62)			(-0.49)	(1.01)	(-1.52)		
Italy	0.0014	0.3251[b]	-0.7357[a]	0.13	173	0.0025[a]	0.0001[b]	0.1044	0.01	2,784
	(1.29)	(2.33)	(-4.03)			(3.06)	(2.52)	(1.00)		
Japan	-0.0038[b]	-0.4053	-0.6316[c]	0.40	529	-0.0030[b]	-0.1312	-1.0096[a]	0.18	2,242
	(-2.00)	(-1.22)	(-1.74)			(-2.17)	(-1.056)	(-3.00)		
Kazakhstan	-0.0150[a]	-0.6184[a]	0.4450	0.24	57	0.0018	-0.3948	0.1503	0.09	22
	(-3.17)	(-2.72)	(1.47)			(0.09)	(-0.96)	(0.28)		
Kenya	-0.0042	0.0265	-0.3827[c]	0.07	41	0.0039	-0.2943	-0.5858	0.18	116
	(-0.61)	(0.278)	(-1.85)			(0.26)	(-0.94)	(-1.55)		
Lebanon	0.0003	0.0700[a]	0.8869[b]	0.58	30	-0.0023	-0.5501[a]	0.4277[b]	0.44	162
	(0.47)	(23.30)	(2.18)			(-1.63)	(-3.00)	(2.17)		

Country	Results for Public Banks					Results for Private Banks				
	α_1	α_2	α_3	R^2	Obs.	α_1	α_2	α_3	R^2	Obs.
Malaysia	-0.0013	-0.3340	-0.2028	0.14	43	0.0008	-0.0140	-0.5951[c]	0.16	130
	(-0.23)	(-1.47)	(-0.26)			(0.18)	(-0.06)	(-1.77)		
Morocco	-0.0026	-1.4874[a]	3.0014[a]	0.47	32	0.0101[a]	-0.9377[b]	5.0247[a]	0.81	22
	(-0.57)	(-7.33)	(3.51)			(2.86)	(-2.42)	(5.16)		
Nigeria	0.0026	0.0114	-0.2491	0.08	98	-0.0267[c]	0.0036	-1.6611[b]	0.29	105
	(0.57)	(0.10)	(-0.97)			(-1.92)	(0.05)	(-2.16)		
Norway	-0.0004	-0.7151[b]	0.5847	0.37	73	-0.0010	-0.0866	-0.1928	0.11	129
	(-0.14)	(-1.97)	(1.53)			(-0.40)	(-0.18)	(-0.39)		
Pakistan	-0.0008	0.3241	-0.9930[b]	0.22	69	-0.0244[b]	-1.3904[a]	0.0686	0.76	23
	(-0.24)	(0.69)	(-2.12)			(-2.37)	(-3.74)	(0.167)		
Peru	-0.0015	0.5340[a]	-1.4079[a]	0.45	43	-0.0188[b]	-2.1344[b]	1.4183	0.48	28
	(-0.66)	(4.09)	(-3.27)			(-2.36)	(-2.10)	(1.35)		
Philippines	-0.0002	0.0747	-0.1305	0.00	91	-0.0034	-0.1112	-0.312	0.06	46
	(-0.10)	(0.49)	(-0.21)			(-1.27)	(-1.55)	(-1.54)		
Poland	-0.0031	-0.1119	-0.6765	0.19	63	-0.0022	0.1805[b]	-0.5687	0.03	95
	(-0.62)	(-0.38)	(-1.20)			(-0.48)	(2.25)	(-0.70)		
Portugal	-0.0003	0.0678	-0.9104[b]	0.17	27	-0.0004	-0.0049	0.3581	0.02	87
	(-0.33)	(0.22)	(-2.09)			(-0.16)	(-0.01)	(0.72)		
Singapore	0.0048	0.2017	0.2702	0.10	41	0.0066	0.1308	-0.4650	0.03	34
	(0.89)	(1.36)	(1.36)			(0.57)	(0.33)	(-0.90)		
South Africa	0.0250	-0.2416[a]	-1.0061	0.08	62	-0.0027	-0.1091	-0.8372	0.16	98
	(0.80)	(-3.27)	(-1.10)			(-0.23)	(-0.76)	(-1.30)		
Spain	-0.0022[a]	-0.6126[c]	0.7690[b]	0.32	84	-0.0036	-0.2705	-0.3501	0.19	602
	(-2.64)	(-1.80)	(2.25)			(-1.38)	(-1.54)	(-1.04)		
Sri Lanka	-0.0008	-0.3553	0.0932	0.06	29	-0.0173	0.3854[b]	-1.7548[a]	0.37	24
	(-0.22)	(-1.02)	(0.15)			(-1.42)	(2.08)	(-3.55)		
Sweden	0.0028	0.4897[a]	-0.9712[a]	0.92	25	0.0006	-0.1741	0.1350	0.02	275
	(1.52)	(55.40)	(-16.35)			(0.54)	(-0.93)	(0.32)		
Switzerland	0.0037	0.0635	-0.0855	0.00	74	-0.0026	-0.2184	-0.1725	0.10	1,128
	(0.32)	(0.76)	(-0.72)			(-1.55)	(-1.03)	(-0.67)		
Taiwan	-0.0011	0.0185	-1.2665[a]	0.58	118	0.0032	0.0111	-1.0835[a]	0.71	97
	(-0.18)	(0.43)	(-13.44)			(0.33)	(0.90)	(-8.01)		
Tunisia	0.0023	-0.1582	1.7574	0.14	59	-0.0046	-0.2053[b]	0.1764	0.02	32
	(0.66)	(-0.74)	(1.09)			(-0.56)	(-2.29)	(0.91)		
Turkey	-0.0607[b]	-0.1454[c]	-1.1369[a]	0.52	36	-0.0169	0.1158[b]	-2.9698[a]	0.71	44
	(-2.41)	(-1.71)	(-4.32)			(-0.80)	(2.13)	(-11.64)		
UAE	-0.0036	-0.3829	-0.3743	0.33	72	-0.0067	0.1741	-0.5378	0.12	26
	(-1.44)	(-0.73)	(-0.71)			(-1.43)	(0.30)	(-0.89)		
UK	0.0065	-0.1636[a]	-0.5997	0.16	183	-0.004	-1.1857	1.1788	0.12	1,044
	(0.17)	(-2.81)	(-1.57)			(-1.15)	(-1.32)	(1.31)		
USA	-0.0008	0.1642	-0.7675[a]	0.15	1,925	0.0013	-0.0024	-0.0812	0.00	3,321
	(-1.55)	(1.41)	(-4.51)			(1.48)	(-0.29)	(-0.59)		
Venezuela	-0.0021	0.1502	0.3135	0.04	67	0.0123	-0.151	0.1685	0.03	111
	(-0.31)	(0.52)	(0.81)			(0.58)	(-0.90)	(0.45)		

Public bank sample

\# of countries with significant negative α_3 =20

\# of countries with significant positive α_3 =4

Private bank sample

\# of countries with significant negative α_3 =15

\# of countries with significant positive α_3 =6

Notes: UAE stands for United Arab Emirates. The data sources and definitions of the variables are provided in Appendix B. The table reports the results from the following regression:

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it}.$$

The models are estimated by linear OLS regressions with the White robust standard errors. The robustness t-statistics are in parentheses. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

The results on conservative reporting of loan loss provisions relative to changes in operating cash flows (*CNSV_LLP_CF* or β_3) are presented in Table 3.5. The results resemble the results on earnings changes (*CNSV_NI* or α_3) reported in Table 3.4. However, for private banks, the variation in conservatism across countries is larger for earnings changes than for loan losses. It appears that both public and private banks tend to be conservative in reporting loan loss provisions relative to changes in operating cash flows. Moreover, public banks are usually more conservative than are private banks.

Table 3.6 reports results on conservative reporting of loan loss provisions relative to changes in problem loans (*CNSV_LLP_PL* or γ_2) and to net charge-offs (*CNSV_LLP_COF* or γ_4) for 14 countries. The reason for the sudden drop in the number of countries examined is due to the fact that the information on problem loans and net charge-offs is usually reported in footnotes and is unavailable for many of the banks in the countries sampled. Again, in many countries, both public and private banks are conservative in reporting loan losses relative to problem loans and to net charge-offs. However, public banks are in general more conservative than are private banks. Our results from the U.S. show that public banks recognize more loan loss provisions at the time when the amount of problem loans increases and charge off more problem loans at the time when loan loss provisions increase. In contrast, private banks recognize less loan loss provisions at the time when the amount of problem loans increases. The results support the findings by Nichols et al. (2005) that, in the U.S., public banks are more conservative in reporting loan losses than are private banks.

Table 3.5 Conservative reporting of loan loss provisions to changes in cash flows by country

Country	Results for Public Banks					Results for Private Banks				
	β_1	β_2	β_3	R^2	Obs.	β_1	β_2	β_3	R^2	Obs.
Predicted sign			$-$					$-$		
Argentina	-0.0020	-0.0357[b]	-0.0148	0.02	29	-0.0059	-0.1111	0.0756	0.13	312
	(-0.21)	(-2.29)	(-0.23)			(-1.00)	(-1.50)	(0.96)		
Australia	0.00002	0.1901[b]	-0.3490[b]	0.14	65	-0.0016	0.1417	-0.1741	0.03	112
	(0.06)	(2.14)	(-2.25)			(-1.21)	(1.02)	(-0.80)		
Austria	-0.0011[a]	0.4645[a]	-3.8732[a]	0.54	23	-0.0004	0.4963[b]	-0.0551	0.81	25
	(-2.60)	(5.16)	(-12.14)			(-0.31)	(2.46)	(-0.27)		
Bangladesh	0.0019	0.1068	0.2775	0.02	67	-0.0032[b]	0.2619[a]	-1.0059[a]	0.57	65
	(0.83)	(1.13)	(0.64)			(-2.35)	(3.96)	(-2.90)		
Belgium	-0.0006[c]	-0.1702[a]	0.1468	0.42	24	-0.0009	0.0292	-0.0428	0.01	268
	(-1.72)	(-6.69)	(5.71)			(-1.44)	(0.84)	(-0.96)		
Bolivia	0.0061	0.7694[a]	-0.7527	0.12	35	0.0183[a]	1.6403[a]	-1.6525[a]	0.39	48
	(1.20)	(2.83)	(-1.35)			(3.06)	(3.38)	(-3.17)		
Brazil	-0.0034	-0.0827[a]	0.1928[a]	0.23	79	0.0064	0.4814	-0.4715	0.24	543
	(-1.46)	(-3.19)	(6.82)			(0.55)	(1.17)	(-1.15)		
Canada	-0.0002	0.3429[a]	-0.6204[a]	0.58	74	0.0004	0.4999[a]	-0.0451	0.18	194
	(-0.45)	(3.29)	(-5.93)			(0.12)	(3.78)	(-0.07)		
Chile	-0.0030	0.4007[a]	-1.7552[b]	0.30	39	-0.0024	0.1701	-0.1134	0.11	95
	(-1.59)	(3.59)	(-2.45)			(-0.87)	(1.41)	(-0.92)		
China	0.0034	0.8727[a]	-6.8755	0.39	24	-0.0005	0.4243[a]	-0.0101	0.32	101
	(0.69)	(3.47)	(-1.14)			(-0.46)	(4.30)	(-0.09)		
Colombia	-0.0051	0.2921	-1.2953[a]	0.27	51	-0.0041	0.2066	-0.8028	0.34	83
	(-0.80)	(1.47)	(-3.84)			(-0.49)	(0.94)	(-1.47)		
Croatia	0.0028	0.2813	-0.0244	0.06	107	0.0245	0.5712[a]	-0.5215	0.23	45
	(0.60)	(1.30)	(-0.09)			(1.14)	(4.12)	(-1.57)		
Cyprus	0.0049	0.0628	-0.0823	0.05	27	0.0035	0.2994	-0.3935	0.09	45
	(0.93)	(0.29)	(-0.14)			(1.08)	(1.19)	(-1.33)		
Denmark	0.0005	0.3702[a]	-0.2474[b]	0.27	275	-0.0011	0.2060[a]	-0.1993[a]	0.18	331
	(0.61)	(6.33)	(-2.03)			(-1.19)	(4.36)	(-3.87)		
Egypt	-0.0015	0.1393	-0.1659	0.02	110	-0.0011	1.0845	-1.3364[c]	0.29	44
	(-0.83)	(0.80)	(-0.80)			(-0.38)	(1.58)	(-1.85)		
France	0.0016[c]	0.3799[b]	0.1697	0.33	180	-0.0021[a]	0.0226	0.0035	0.01	1,772
	(1.76)	(2.56)	(0.49)			(-3.53)	(1.05)	(0.10)		
Germany	-0.0019	-0.0066[a]	-0.2812[b]	0.53	101	-0.0002	0.8192[a]	-0.8585[a]	0.39	8,752
	(-0.95)	(-3.36)	(-2.46)			(-0.90)	(12.86)	(-12.54)		
Hong Kong	0.0022	0.2788	-0.5829	0.03	84	0.0171	2.6881	-2.6811	0.17	263
	(0.67)	(0.96)	(-1.22)			(1.49)	(1.41)	(-1.40)		
India	-0.0043[a]	0.7207[a]	-1.8289[a]	0.71	167	-0.0008	0.3863[a]	-0.7191	0.13	140
	(-2.63)	(4.16)	(-8.76)			(-0.51)	(5.33)	(-1.50)		
Indonesia	0.0198	0.0448	-0.7644	0.17	124	0.0193	0.3949[b]	-0.3117	0.20	157
	(1.12)	(0.47)	(-1.64)			(1.60)	(2.04)	(-1.61)		
Ireland	0.0002	0.2494[c]	-0.1818	0.17	27	-0.0003	0.4993	-0.6768[b]	0.11	98
	(0.25)	(1.79)	(-1.02)			(-0.19)	(1.57)	(-2.07)		
Italy	-0.0010	0.2468	-0.4347[c]	0.11	205	-0.0017[a]	0.0942[a]	-0.0961[a]	0.93	3,354
	(-1.29)	(1.60)	(-1.88)			(-6.48)	(356.95)	(-14.66)		
Japan	-0.0042[b]	0.3937	-0.6457[b]	0.16	564	-0.0003	0.5778[a]	-0.9009[a]	0.23	2,676
	(-2.33)	(1.54)	(-2.07)			(-0.31)	(3.04)	(-3.83)		
Kazakhstan	-0.0017	0.5653[a]	-0.8851[a]	0.38	70	0.0059	0.0246	0.2491[a]	0.12	30
	(-0.27)	(2.99)	(-3.80)			(1.17)	(0.36)	(2.77)		
Kenya	0.0002	0.8049[a]	-1.5830[a]	0.35	46	-0.0027	0.0884	-0.1527	0.03	146
	(0.03)	(10.03)	(-5.03)			(-0.55)	(1.11)	(-1.28)		
Lebanon	-0.0011	-0.0596	-0.1076	0.05	36	-0.0002	0.0976	-0.0624	0.01	190
	(-1.63)	(-1.34)	(-1.10)			(-0.10)	(0.19)	(-0.12)		

Country	Results for Public Banks					Results for Private Banks				
	β_1	β_2	β_3	R^2	Obs.	β_1	β_2	β_3	R^2	Obs.
Malaysia	0.0020	0.4082[c]	-0.3452	0.11	51	-0.0026	-0.0716	0.3389	0.03	139
	(0.67)	(1.80)	(-1.52)			(-0.86)	(-0.30)	(1.30)		
Morocco	0.0168[c]	3.3304[a]	-3.5883[b]	0.44	35	0.0050[c]	0.5977[c]	0.6513	0.61	22
	(1.80)	(2.61)	(-2.53)			(1.70)	(1.80)	(1.22)		
Nigeria	-0.0075	0.0542	-0.0391	0.06	123	0.0048	0.1508	0.0800	0.12	142
	(-1.59)	(0.28)	(-0.17)			(0.70)	(1.64)	(0.30)		
Norway	0.0007	0.1494[c]	-0.0544	0.03	82	-0.0006	0.6107[a]	-1.0253[a]	0.35	156
	(0.83)	(1.82)	(-0.35)			(-0.67)	(3.47)	(-4.34)		
Pakistan	-0.0067	-0.2500	-0.3456	0.09	88	0.0149[b]	-0.0225	0.3856	0.17	27
	(-1.50)	(-0.54)	(-0.37)			(2.05)	(-0.79)	(1.44)		
Peru	-0.0105	0.9480[b]	-2.1088[a]	0.24	52	0.0055	0.9056[a]	-1.1066[a]	0.52	36
	(-1.15)	(2.58)	(-3.42)			(0.94)	(4.56)	(-4.40)		
Philippines	0.0024	0.3149	-0.1648	0.06	109	-0.0050[c]	0.3319[b]	-0.4865[a]	0.17	75
	(0.92)	(1.53)	(-0.62)			(-1.74)	(2.51)	(-2.79)		
Poland	0.0057[c]	0.2969	0.1955	0.09	75	0.0004	0.7900[a]	-1.0888[b]	0.34	117
	(1.68)	(1.31)	(0.47)			(0.12)	(5.49)	(-2.56)		
Portugal	-0.0018	0.8490[c]	-1.2586[b]	0.26	32	-0.0015	0.4397[b]	-0.5838[a]	0.26	100
	(-0.78)	(1.96)	(-2.41)			(-0.93)	(2.31)	(-2.75)		
Singapore	-0.0010	-0.2081	0.1973	0.02	37	-0.0123	-0.2752	-0.2381	0.04	41
	(-0.44)	(-0.57)	(0.54)			(-1.22)	(-0.53)	(-0.31)		
South Africa	0.0061	-0.0035	-0.2537	0.05	49	0.0038	0.4153[a]	-0.4029[b]	0.38	116
	(0.96)	(-0.71)	(-1.01)			(0.64)	(10.91)	(-2.25)		
Spain	-0.0019[b]	0.3185	-0.3052	0.35	98	-0.0035[a]	-0.0097	0.0128	0.04	729
	(-2.03)	(1.21)	(-1.16)			(-6.20)	(-1.42)	(1.47)		
Sri Lanka	0.0014	0.5311[b]	-0.4286	0.22	35	-0.0160[a]	-0.2504[a]	-0.6752	0.12	29
	(0.81)	(2.39)	(-1.53)			(-2.65)	(-2.78)	(-1.20)		
Sweden	-0.0006[c]	0.0399	-0.1131[a]	0.46	30	0.0007	0.5387[a]	-0.4748[b]	0.10	344
	(-1.87)	(1.22)	(-3.46)			(0.92)	(2.95)	(-2.54)		
Switzerland	0.0032	-0.1121	-0.0161	0.06	74	-0.0008	0.1422[b]	-0.1298	0.05	1,248
	(1.01)	(-1.22)	(-0.07)			(-1.51)	(1.99)	(-1.29)		
Taiwan	0.0029	2.9299[a]	-3.3800[a]	0.36	131	-0.0011	-0.0635	0.1199	0.01	63
	(0.70)	(3.42)	(-3.66)			(-0.68)	(-0.69)	(1.16)		
Tunisia	-0.0003	0.6839[a]	-1.1713[c]	0.14	74	-0.012	-0.2247	-0.6378	0.13	38
	(-0.17)	(4.93)	(-1.93)			(-1.61)	(-1.45)	(-1.11)		
Turkey	-0.0043	-0.0758[b]	-0.0207	0.09	48	0.0048	0.0789[c]	-0.0956	0.12	59
	(-1.25)	(-2.09)	(-0.28)			(1.10)	(1.83)	(-0.72)		
UAE	0.0001	0.3449[a]	-1.5776[a]	0.56	79	-0.0012	0.2707	-0.8421	0.04	30
	(0.07)	(3.30)	(-11.49)			(-0.29)	(0.69)	(-0.84)		
UK	0.0068[a]	1.9474[a]	-1.9146[a]	0.70	106	-0.0012[b]	0.1614[c]	-0.1640[c]	0.06	877
	(3.85)	(8.95)	(-8.67)			(-2.00)	(1.83)	(-1.86)		
USA	0.0010	0.6391[a]	-0.9454[a]	0.24	2,277	0.0010[b]	0.5359[a]	-0.6586[a]	0.91	3,889
	(1.52)	(3.21)	(-4.02)			(2.55)	(29.31)	(-12.92)		
Venezuela	-0.0054	0.0826	-0.1820	0.06	83	-0.0093	0.1308[c]	-0.5789[c]	0.12	131
	(-1.37)	(1.52)	(-1.11)			(-1.46)	(1.91)	(-1.93)		
	Public bank sample					**Private bank sample**				
	# of countries with significant negative β_3 =21					# of countries with significant negative β_3 =18				
	# of countries with significant positive β_3=1					# of countries with significant positive β_3=1				

Notes: UAE stands for United Arab Emirates. The data sources and definitions of the variables are provided in Appendix B. The table reports the results from the following regression:

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it} < 0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it} < 0} \times \Delta CF_{it} + \varepsilon_{it}$$

The models are estimated by linear OLS regressions with the White robust standard errors. The robustness t-statistics are in parentheses. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 3.6 Conservative reporting of loan loss provisions relative to changes in problem loans and to net charge-offs by country

COUNTRY	Results for Public Banks									Results for Private Banks								
	ΔPL_{t-1}	ΔPL_t	ΔPL_{t+1}	$NCOF_t$	$NCOF_{t+1}$	LLR_{t-1}	TCL_t	R^2	Obs.	ΔPL_{t-1}	ΔPL_t	ΔPL_{t+1}	$NCOF_t$	$NCOF_{t+1}$	LLR_{t-1}	TCL_t	R^2	Obs.
Predicted sign	+	+	+	+	+					+	+	+	+	+				
Australia	0.0567	0.1569[b]	0.0976	0.1530	0.3202	0.0791[c]	0.0020[a]	0.52	45	0.2694[c]	0.5253[a]	0.0607	0.6127[a]	-0.1436	0.2245[b]	0.0006	0.79	27
	(0.93)	(2.15)	(0.80)	(1.56)	(1.56)	(1.87)	(2.87)			(1.90)	(4.71)	(1.52)	(3.62)	(-0.86)	(2.25)	(0.49)		
Brazil	0.2675[a]	0.6315[b]	0.8293[a]	-0.6689[a]	0.6655[a]	0.4140[b]	-0.0020	0.83	15	0.2433[a]	0.3734[a]	0.0505	0.3204	0.3198[b]	0.0176	0.0008	0.79	99
	(4.54)	(2.47)	(2.95)	(-2.77)	(3.60)	(2.39)	(-0.07)			(2.69)	(5.24)	(0.96)	(1.26)	(2.31)	(0.07)	(0.20)		
Hong Kong	0.0244	0.2587[a]	0.0181	0.8655[a]	0.2028[a]	-0.1354[a]	-0.0019	0.98	51	0.1263[c]	0.0763[a]	-0.0210	0.1505	-0.0641[c]	0.1191	0.0091[a]	0.57	103
	(1.28)	(12.45)	(0.21)	(12.82)	(3.52)	(-3.27)	(-0.54)			(1.65)	(5.28)	(-1.47)	(1.64)	(-1.68)	(1.32)	(3.49)		
Japan	-0.0011	0.1924[a]	0.0007	1.4802[a]	-0.2651	0.1128[a]	-0.0012	0.46	269	0.0055	0.0344	0.0083	1.0310[a]	-0.1193	0.0512	0.0186	0.25	1,083
	(-0.06)	(5.30)	(0.04)	(10.31)	(-1.57)	(3.82)	(-0.52)			(0.76)	(0.71)	(0.65)	(3.95)	(-0.51)	(1.61)	(1.32)		
Kenya	0.2189[b]	0.0370	0.3516[a]	-0.0247	0.0023	0.4218[b]	0.0076	0.75	23	0.0004	-0.0235	-0.0383[b]	0.2699[a]	-0.0049	0.0026	0.0240[a]	0.49	43
	(2.11)	(0.48)	(3.12)	(-0.13)	(0.01)	(2.09)	(0.79)			(0.02)	(-1.22)	(-2.26)	(3.70)	(-0.12)	(0.05)	(3.28)		
Nigeria	-0.0195	0.1326[b]	-0.0515	0.2051	-0.0019[a]	0.0365	0.0347[a]	0.40	61	-0.0312	0.1797[a]	0.0060	-0.0972	-0.3196[a]	0.1413[a]	0.0038	0.61	43
	(-1.12)	(2.17)	(-1.24)	(1.87)	(-4.35)	(1.34)	(3.13)			(-0.78)	(5.72)	(0.22)	(-0.51)	(-2.59)	(3.10)	(0.74)		
Norway	0.0406[c]	0.1866[a]	0.0088	0.2634[b]	0.2254[a]	0.0602	0.0016	0.88	35	0.0484	0.0471	0.0498	-0.6575[a]	0.9600[a]	0.1472[a]	0.0026	0.51	34
	(1.66)	(6.90)	(0.34)	(2.46)	(2.59)	(1.39)	(0.99)			(0.59)	(0.78)	(0.94)	(-2.84)	(3.29)	(5.39)	(0.78)		
Portugal	-0.1017	0.3534[b]	-0.0555	0.4153[b]	0.0285	0.2713[a]	-0.0008	0.84	18	-0.1402[c]	0.3647[a]	0.0785	0.5846[b]	-0.1050	0.0741	0.0025	0.63	23
	(-1.50)	(2.37)	(-1.39)	(2.27)	(0.21)	(3.56)	(-0.24)			(-1.82)	(3.04)	(0.64)	(2.26)	(-0.34)	(1.02)	(0.59)		
South Africa	-0.0500	-0.0786	0.1176	0.1788	-0.2278	0.0283	0.0111[a]	0.65	23	0.2893[a]	0.5084[a]	0.1563[b]	0.5377[a]	0.0473	-0.1489	-0.0188[a]	0.97	24
	(-0.65)	(-1.63)	(1.09)	(0.66)	(-0.72)	(0.19)	(4.78)			(5.42)	(7.61)	(2.30)	(5.51)	(0.19)	(-1.55)	(-4.81)		
Spain	0.3051[b]	0.3118[a]	0.2235[a]	0.4427[a]	-0.1475	-0.0393	0.0029[a]	0.75	43	0.1386[a]	-0.0855	0.0236	-0.0162	0.1598[c]	0.0334	0.0059[a]	0.60	133
	(2.17)	(3.77)	(2.73)	(2.80)	(-1.01)	(-0.30)	(4.03)			(3.80)	(-1.56)	(0.86)	(-0.22)	(1.68)	(1.37)	(6.20)		
Taiwan	0.1001	-0.1255	-0.0386	0.4050[a]	0.0581	0.0377	0.0075	0.42	36	-0.0637	0.0849[b]	-0.1629[b]	0.0687	0.8526[a]	0.2197	0.0123	0.71	15
	(0.76)	(-0.88)	(-0.38)	(3.16)	(0.87)	(0.13)	(0.52)			(-1.44)	(2.02)	(-2.04)	(1.00)	(4.80)	(0.52)	(1.04)		
UK	0.1057[b]	0.1625[a]	-0.0751	0.2677	0.2654	0.1202[b]	0.0032	0.82	22	0.1169[a]	0.1909[a]	0.0723	0.6915[a]	0.1481	-0.0270[a]	0.0022[b]	0.93	105
	(2.23)	(2.77)	(-0.94)	(1.34)	(1.32)	(2.20)	(1.46)			(3.49)	(2.78)	(1.47)	(7.32)	(1.52)	(-2.98)	(2.16)		
USA	0.0431	0.1735[a]	0.0502[b]	0.9100[a]	0.1151[c]	-0.0545[b]	0.0024[a]	0.76	1,503	0.0057	-0.2785[a]	0.0323	1.3848[a]	-0.1130	0.0011	0.0064[a]	0.90	2,597
	(1.00)	(4.58)	(2.15)	(17.74)	(1.74)	(-2.16)	(6.44)			(0.51)	(-2.97)	(1.03)	(7.81)	(-0.80)	(0.18)	(3.32)		
Venezuela	0.3708[b]	-0.2688[a]	-0.1246	0.5924[a]	0.2970[c]	-0.1166	0.0099	0.64	38	-0.0853[a]	-0.0784	-0.1726	-0.1855	1.4047[a]	0.0020	0.0178[a]	0.85	17
	(2.18)	(-2.84)	(-0.51)	(3.71)	(1.76)	(-0.91)	(0.95)			(-2.66)	(-1.22)	(-1.19)	(-0.32)	(3.56)	(0.02)	(2.62)		

Public bank sample

# of countries with significant positive γ_2 =10

# of countries with significant negative γ_2 =1

# of countries with significant positive γ_4 =8

# of countries with significant negative γ_4 =1

Private bank sample

# of countries with significant positive γ_2 =8

# of countries with significant negative γ_2 =1

# of countries with significant positive γ_4 =7

# of countries with significant negative γ_4 =1

Notes: The data sources and definitions of the variables are provided in Appendix B. The table reports the results from the following regression:

$$LLP_{it} = \gamma_0 + \gamma_1 \Delta PL_{i,t-1} + \gamma_2 \Delta PL_{it} + \gamma_3 \Delta PL_{i,t+1} + \gamma_4 NCOF_{it} + \gamma_5 NCOF_{i,t+1} + \gamma_6 LLR_{i,t-1} + \gamma_7 TCL_{it} + \varepsilon_{it}.$$

The models are estimated by linear OLS regressions with the White robust standard errors. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

In sum, our results on conservative financial reporting by banks are consistent with the results from the existing studies on industrial firms in the U.K. and banks in the U.S. However, the estimated regression coefficients that represent the degree of conservatism vary substantially across countries. In some countries, we even find evidence counter to conservative reporting, either for different listing status or for different measures of conservatism. It would be interesting to examine whether the variation in conservative financial reporting can be explained by the country-level institutional factors that may influence financial reporting incentives by banks, especially the factors that indicate different corporate governance mechanisms in these countries.

6. The role of governance mechanisms on reporting conservatism

We examine the effects of supervision and regulation policies on reporting conservatism in this section. All the second-stage regressions control for the legal origin and GDP per capita. Earnings changes and loan losses are analyzed separately. The results in general indicate that some supervisory and regulatory policies and policies that encourage private-sector monitoring play important roles in improving the conservatism of financial reporting. They also show that the legal origin, shown to be important for industrial firms, does not have a significant effect on the conservatism of financial reporting by banks.

6.1 *The role of governance mechanisms in the conservatism of reporting earnings changes*

In Table 3.7, we report results on the effects of supervision and regulation policies on conservative reporting of earnings changes. Although we report the results on the degree of conservative financial reporting in 48 countries in the previous sections, the regressions in this second stage include only 36 countries. We exclude 12 countries because we do not have

sufficient information on their policies on private-sector monitoring.[35]   In Model 1 of Table 3.7,

the supervisory power index (*SUPPWR*) and the capital stringency index (*CAR*) proxy for direct

supervision stringency, and the private monitoring index (*PRIIDX*) proxies for policies that

encourage private-sector monitoring. A more negative *CNSV_NI* (α_3) indicates more

conservative reporting of earnings changes.   As a result, we expect mechanisms that improve

banks' incentives to report net income changes more conservatively have significantly negative

coefficients in Table 3.7.   The regression results show that a stringent capital requirement (*CAR*)

leads to less conservative reporting of earnings changes, while a better environment for

private-sector monitoring (*PRIIDX*) helps to improve conservative reporting of earnings

changes.   In addition, public banks seem to report earnings changes more conservatively than

do private banks, although the regression coefficient on *PUB* (θ_4) is insignificant.

To examine the individual effects of supervisory policies on conservative reporting, we

replace *SUPPWR* with its sub-indexes, *CORRPWR, RESTRPWR* and *INSLVNPWR*.   To

examine the individual effects of policies that encourage market discipline, *PRIIDX* is replaced

by its sub-indexes, *DEPOINSUR, BKDISCL, AUDIT* and *LBKRATE*.   The results are reported

under Models 2 to 4 of Table 3.7.   Model 2 focuses on different supervisory actions; Model 3

focuses on different policies for encouraging market discipline; and Model 4 examines the

effects from both direct supervision actions and market discipline policies.

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[35] The excluded countries are Bangladesh, China, Colombia, Egypt, France, Hong Kong, India, Ireland, Kenya, Sri Lanka, Sweden, and Taiwan.

Table 3.7 The effects of governance mechanisms on conservative reporting of earnings changes

Independent variables	Predicted sign	CNSV_NI (α_3)							
		Model 1		Model 2		Model 3		Model 4	
		Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
Constant		0.2144	0.25	0.8944	1.20	1.0655c	1.78	2.1033a	2.62
SUPPWR	–	0.0053	0.08			0.0092	0.14		
CORRPWR				0.0998	1.58			0.1514b	2.27
RESTRPWR	–			0.4466c	1.84			0.4715c	1.93
INSLVNPWR	–			-0.6951b	-2.50			-0.9550a	-2.70
CAR	?	0.1937b	2.13	0.1043	1.28	0.2650b	2.48	0.2316b	2.54
PRIIDX	–	-0.1784c	-1.79	-0.3006a	-2.77				
DEPOINSUR	–					-0.0849	-0.23	-0.8914	-1.58
BKDISCL	–					-0.6739a	-3.33	-1.0275a	-4.71
AUDIT	–					0.3959	0.88	0.5502	1.38
LBKRATE	–					-0.0102a	-2.58	-0.0126a	-3.18
PUB	–	-0.0365	-0.13	-0.0365	-0.14	-0.0365	-0.14	-0.0365	-0.15
LAW	–	-0.1654	-0.48	-0.1694	-0.49	-0.5270	-1.63	-0.3740	-1.07
GDP×10^{-3}		0.0082	1.00	0.0144c	1.66	0.0183	1.51	0.0204c	1.66
R^2		0.07		0.18		0.13		0.30	
# of obs.		72		72		72		72	

Notes: The data sources and definitions of the variables are provided in Appendix B. This table reports results from the second stage regression to show the governance effects of different mechanisms on financial reporting conservatism for earnings changes.

First stage regression:

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it},$$

Second stage regression:
$$CNSV\_NI(\alpha_3) = \theta_0 + \sum \theta_{1j} SUP - related\ index_{1j} + \sum \theta_{2j} PRI\ monitor - related\ index_{2j} + \theta_3 PUB$$
$$+ \theta_4 LAW + \theta_5 GDP + \varepsilon_t,$$

where *SUP-related index* = {SUPPWR, CORRPWR, RESTRPWR, INSLVNPWR, CAR} and *PRI-monitor related index* = {PRIIDX, DEPOINSUR, BKDISCL, AUDIT, LBKRATE}.
The models are estimated by linear OLS regressions with the White robust standard errors. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

Among the sub-indexes representing supervisory power, supervisors with stronger powers to prompt corrective actions (*CORRPWR*) and to restructure banks (*RESTRPWR*) cause banks to have greater incentives to report less conservative earnings changes. Supervisors with stronger powers to declare insolvency of troubled banks (*INSLVNPWR*) improve incentives to be conservative in financial reporting. It seems that, when supervisors have the power to intervene in bank operations, banks can hide their problems by reporting less conservative earnings changes, although the power for supervisors to declare bank insolvency

motivates banks to file more conservative reports of earnings changes.

We also document that some market discipline works to encourage banks to be conservative in reporting earnings changes. The negative coefficients on *DEPOINSUR* and *BKDISCL* indicate that policies that create environments for depositor monitoring motivate banks to report more conservative earnings changes. Although the coefficient on *DEPOINSUR* is insignificant, the strongly significant coefficient on *BKDISCL* indicates that stringent requirements for bank accounting disclosure work to strengthen monitoring effects on incentives to be more conservative in financial reporting. The significant negative coefficient on *LBKRATE* supports our contention that international rating agencies also play a role in monitoring banks, and they can therefore motivate banks to report earning changes more conservatively. Moreover, the negative coefficient on *PUB* also indicates a monitoring role of securities holders on listed banks, although it is not significant.

6.2   *The role of governance mechanisms in conservative reporting of loan losses*

In this subsection, we examine the institutional effects on the degree of conservatism in reporting loan losses. Table 3.8 presents results from the effects of the institutional factors on loan loss provisions relative to changes in cash flows.[36] Since a more negative *CNSV_LLP_CF* (β_3) indicates that banks are more conservative in reporting loan losses, we expect that mechanisms that help to improve conservative reporting will exhibit significantly negative coefficients in Table 3.8.

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[36] We do not report results for the effects of institutional factors on loan loss provisions relative to changes in problem loans or to net charge-offs. This is because it is difficult to draw conclusions from regression results containing only 11 sample countries that have sufficient information on problem loans, net charge-offs and supervision policies.

Table 3.8 The effects of governance mechanisms on conservative reporting of loan losses

Independent variables	Predicted sign	CNSV_LLP_CF (β_3)							
		Model 1		Model 2		Model 3		Model 4	
		Coeff	t-stat	Coeff	t-stat	Coeff	t-stat	Coeff	t-stat
Constant		0.0233	0.03	-0.1042	-0.12	0.2953	0.53	0.0240	0.04
SUPPWR	−	-0.0600[b]	-1.96			-0.0621[c]	-1.74		
CORRPWR	−			-0.0695[c]	-1.69			-0.0799[c]	-1.66
RESTRPWR	−			-0.2466[b]	-2.23			-0.2345[c]	-1.90
INSLVNPWR	−			0.1345	0.63			0.1854	0.66
CAR	?	-0.0300	-0.48	-0.0188	-0.37	-0.0443	-0.62	-0.0412	-0.63
PRIIDX	−	0.0633	0.55	0.0785	0.58				
DEPOINSUR	−					0.1561	0.58	0.2511	0.55
BKDISCL	−					0.1903	1.39	0.2615	1.51
AUDIT	−					-0.1727	-0.70	-0.2801	-1.52
LBKRATE	−					-0.0027	-1.16	-0.0018	-0.76
PUB	−	-0.3404[b]	-1.97	-0.3404[b]	-2.04	-0.3404[b]	-1.99	-0.3404[b]	-2.07
LAW	−	0.0739	0.32	0.1319	0.53	-0.0016	-0.01	0.0542	0.22
GDP×10^{-3}		-0.0046	-0.73	-0.0093	-1.47	0.0011	0.14	-0.0044	-0.62
R^2		0.09		0.16		0.11		0.30	
# of obs.		72		72		72		72	

Notes: The data sources and definitions of the variables are provided in Appendix B. This table reports results from the second stage regression to show the governance effects of different mechanisms on the reporting conservatism for loan losses.

First-stage regression:

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it}<0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it}<0} \times \Delta CF_{it} + \varepsilon_{it}$$

Second-stage regression:

$$CNSV\_LLP\_CF(\beta_3) = \theta_0 + \sum \theta_{1j} SUP - related\ index_{1j} + \sum \theta_{2j} PRI\ monitor - related\ index_{2j} + \theta_3 PUB$$
$$+ \theta_4 LAW + \theta_5 GDP + \varepsilon_t,$$

where *SUP-related index* = {*SUPPWR, CORRPWR, RESTRPWR, INSLVNPWR, CAR*}. *PRI-monitor related index* = {*PRIIDX, DEPOINSUR, BKDISCL, AUDIT, LBKRATE*}.
The models are estimated by linear OLS regressions with the White robust standard errors. The robustness t-statistics are in parentheses. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

The results from Model 1 show that both stronger supervisory power (*SUPPWR*) and listing status (*PUB*) promote conservative reporting of loan losses relative to changes in cash flows. In addition, the results from Models 2 to 4 indicate that monitoring by securities investors (*PUB*) and the threat of supervisory actions, such as prompt corrective power (*CORRPWR*) and restructuring power (*RESTRPWR*), encourage banks to report more loan loss provisions when their operating cash flows decrease. Although insignificant, the negative

coefficients on *AUDIT* and *LBKRATE* indicate that banks in countries with more monitoring by external auditors and rating agencies tend to report more loan losses when their operating cash flows decrease.

Compared with reporting of earnings changes, it seems that direct supervision has a stronger effect on conservative recognition of loan losses than does indirect private monitoring. Our evidence that bank supervisors have strong monitoring effects on loan loss reporting supports the view that supervisors have access to confidential information to assess the quality of bank loans more accurately. The evidence also shows that the monitoring effect by securities holders is stronger in reporting loan losses than in reporting earnings changes. This monitoring effect by securities investors is consistent with the findings by Ball and Shivakumar (2005) and Nichols et al. (2005). Furthermore, the significant influence of supervisory actions on loan loss conservatism supports the findings by Gunther and Moore (2003) that supervisors find underreporting of loan losses during onsite inspections and force banks to restate their underreported loan losses.

As a robustness check, we also ran the regressions that do not include the indexes for private-sector monitoring mechanisms so that our analysis can include as many countries as possible. In this case, we include all 47 countries except China (which does not have sufficient information on its direct supervision policies) in our analysis. The results (not tabulated) are similar regardless whether we include the indexes for private-sector monitoring mechanisms.[37]

7. Further examinations

7.1 Influence of observations from Germany, Japan, and United States

Among our sample countries, Germany, Japan and United States have relatively larger

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[37] The results for this additional test are available upon request.

number of observations.   It is possible that our results of reporting conservatism in Table 3 are driven by these three countries, although we estimate t-statistics with country-clustered robust standard errors to alleviate the dominate effects of large countries.   To further control for this concern, we also re-estimate Table 3 by excluding observations from these three countries. Our results (not tabulated) are similar whether we exclude these three countries or not.

7.2   The role of domestic rating agencies when debt holders are mainly local investors

It is very likely that most debt holders of banks are domestic debt investors.   If this is the case, their decision making might rely mainly on information from domestic rating agencies rather than international rating agencies.   To test whether domestic rating agencies play a monitoring role for debt holders to monitor banks, we replace LBKRATE (the proxy for monitoring effects of international rating agencies) with the percentage of top ten banks that are rated by domestic rating agencies.[38]   Similar to the monitoring effects of international rating agencies, the results (not tabulated) show that banks are significantly more conservative in reporting earnings when monitoring by domestic rating agencies is stronger.

7.3   How might different accounting policies across countries affect our results?

We focus on the bank industry because its financial reporting is subject to substantially equivalent regulatory provisions for both private and public banks and its accounting standards are largely harmonized around the globe by the implementation of the Basel Accord.   The one that may be of concern is the effect of accounting rules on loan loss reporting.   Differences of accounting rules in recognizing loan loss provisions may lead to the results that some countries

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[38] Only 24 countries are included in this additional test because many countries do not report the ratio of top ten banks rated by domestic credit rating agency.   The 24 countries are Argentina, Belgium, Bolivia, Brazil, Canada, Chile, Columbia, Croatia, Denmark, Japan, Kazakhstan, Kenya, Lebanon, Malaysia, Morocco, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, South Africa, Tunisia, and United States.

recognize a higher level of loan loss provisions but others do not.   We consider that this effect is reflected in the intercept of our first stage regressions, which is larger (smaller) for those with policies that require a higher (lower) level of loan loss provisions.   Therefore, the use of coefficient $_3$ from the first stage regressions as a measure for conservative reporting on loan loss provisions is not influenced by the country differences of accounting policies in recognizing loan loss provisions.

7.4   Weighted least square estimation of the second-stage regression

It is possible that measures of reporting conservatism estimated from countries with smaller number of observations are less reliable because of larger variation of data in these countries.   To control for this possibility, we also apply the weighted least square (WLS) method to estimate the second stage regressions, assuming that the variance of the residual term is proportional to the inverse of number of observations for each country estimated in the first stage regressions.   In general, the results (not tabulated) are similar whether we use the ordinary least square (OLS) or the weighted least square (WLS) estimation.

8.   Conclusions

In this chapter, we extend previous studies to show that bank supervision frameworks rather than a country's legal origin play an important role in explaining international differences in the conservatism of financial reporting.   An international banking industry comparison provides us with the opportunity to gain insights into the incentives for conservative reporting, because it offers more variation in bank regulation and supervision mechanisms.   By examining reporting of earnings changes and loan losses, we document reporting conservatism and explore the forces that shape banks' incentives for conservative

reporting internationally.

By pooling all sample banks from 48 countries in our regressions, we provide empirical evidence that banks report their earnings changes and loan losses conservatively. The argument that banks are conservative in reporting earnings changes is supported by the finding that negative earnings changes have a stronger tendency to reverse than do positive earnings changes. Our results on the conservatism of reporting loan losses are as follows. First, banks recognize more loan loss provisions when their operating cash flows decline. Second, banks recognize more loan loss provisions when the amount of their problem loans increases. Third, banks charge off more problem loans when their loan loss provisions increase. Moreover, a comparison on the size and significance of the estimated coefficients indicates that public banks are more conservative in their financial reporting than are private banks.

Further examination of conservative reporting by country shows that reporting conservatism varies across countries. This result motivates our intention to explore institutional factors that determine international differences in conservative reporting by banks. Our main argument is that the demand for conservative financial reporting complements well-functioning supervision mechanisms because conservative reporting ensures more informative financial information on which monitors can rely to assess bank conditions and to apply adequate discipline. Thus, we expect that supervision mechanisms that function well to monitor banks are positively related to conservative reporting. We further suggest that both direct government supervision actions and indirect policies that encourage private-sector monitoring improve incentives for banks to practice conservative financial reporting. The results are generally consistent with our arguments. Moreover, our evidence indicates that bank supervisors and securities investors seem to have stronger monitoring effects on conservative reporting of loan losses than of earnings changes.

In sum, our main findings show that banks are conservative in reporting earnings changes and loan losses. We also show that the variation in conservatism across countries is mainly driven by supervision mechanisms such as direct government supervision and private-sector monitoring. In other words, banks report earnings changes more conservatively when supervisors have stronger powers to declare insolvency, when they face stringent requirements on accounting disclosure, and when they face greater monitoring from international rating agencies. Further, banks report loan losses more conservatively when supervisors have stronger powers to intervene in their operations and when they are monitored by securities investors. Taken together, our study explains the variation in conservative reporting by banks across countries and improves our understanding on how supervision mechanisms function to monitor and influence financial reporting incentives by banks.

We contribute to the literature on the relation between conservatism in financial reporting and institutional factors.[39] Unlike previous studies on non-financial firms, our results indicate that regulation and supervision policies rather than the legal origin of a country have dominant effects on the incentives for banks to be conservative in financial reporting. We show that the threat of supervisory intervention and indirect policies that encourage market discipline help to promote conservative financial reporting by banks. Consistent with findings by Ball and Shivakumar (2005) on industrial firms in the U.K., our results also show that public banks report loan losses more conservatively than do private banks.

We also extend the literature on the incentives for financial reporting by banks by examining their reporting conservatism across countries. Previous studies have focused on the incentives for banks to engage in earnings management in the U.S.[40] The only exception is the

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[39] See, for example, Ball et al. (2000), Ball et al. (2003) and Bushman and Piotroski (2006).
[40] For example, Beatty and Harris (1999) and Beatty et al. (2002) compare earnings management between

study by Nichols et al. (2005), in which they compare conservative financial reporting across listing status among U.S. banks. Our results from the U.S. banks are consistent with their findings. We provide further evidence that, in addition to listing status, other governance mechanisms, such as monitoring by supervisors, rating agencies, and depositors, have influences on the reporting incentives by banks as well.

We also contribute to the literature on the role of bank supervision and regulation policies in bank governance. Our results confirm conclusions drawn by Barth et al. (2004) and Beck et al. (2005) by demonstrating that policies that empower private-sector monitoring function well as governance mechanisms by encouraging banks to be conservative in their financial reporting. Inconsistent with their findings, our results indicate that direct government supervision and regulation policies also play important roles in improving conservative reporting by banks on loan losses. This may be due to the fact that bank supervisors can access confidential information about a bank's loan quality. Thus, supervision lowers the problems of information opacity in bank loans and forces banks to be conservative in reporting loan losses. Further, the result that supervisors play a role in improving conservatism in loan loss reporting also supports the finding by Gunther and Moore (2003).

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public and private banks in the U.S. Recently, Shen and Chih (2005) examine earnings management to exceed thresholds across 48 countries. They show that stronger investor protection and more transparent accounting disclosure reduce banks' incentives to manage earnings.

Chapter IV

**The Effects of Securities Market Governance on the Conservatism in
Financial Reporting: Publicly-traded vs. Privately-held Banks**

1.   Introduction

This chapter extends the studies by Ball and Shivakumar (2005) and Nichols et al. (2005)

to examine bank conservatism in financial reporting across listing status around the world.

We investigate bank reporting on earnings changes and loan losses, document the degree of

reporting conservatism for public banks, and assess the difference of reporting conservatism

across listing status.   We further examine whether international differences in securities

market governance explain variations of bank reporting conservatism across listing status,

focusing on: (1) the effects of securities law rules that are designed to raise the issuing firms'

litigation risks and to protect the rights of securities holders, and (2) the effects of securities

market development.

Ball and Shivakumar (2005) and Nichols et al.(2005) show that publicly-traded firms

(banks) are more likely to rely on communication through accounting disclosure than their

private counterparts, and thus exhibit a larger degree of financial reporting conservatism.

Studies on international comparisons point out that public firms in countries with common-law

origins, with better legal protections, with fewer private networks, with less political

interventions and with more stringent securities regulations are more likely to rely on

communication through accounting disclosure rather than insider communication (Ball et al.,

2000; Ball et al., 2003; Bushman and Piotroski, 2006).   They also document that firms in

countries with institutions that encourage communication through accounting disclosure are

more likely to exhibit financial reporting conservatism.   Thus, we expect not only listing status

but also other institutions may explain the international variations of bank conservatism in

financial reporting.

Most of existing studies focus on examining reporting conservatism for firms. One exception is Nichols et al. (2005), who compare conservative financial reporting across listing status for U.S. banks. Their results show that public banks in the U.S. are more conservative than private banks in financial reporting, but they do not explore whether listing status also determines bank reporting conservatism for other countries.

In most countries, banking industry and the securities markets are highly regulated. Therefore, international regulation differences may play important roles on banking governance: affect the role of accounting disclosure on communication and influence bank incentives to be conservative in financial reporting across listing status. Whether the banking industry regulations influence financial reporting conservatism has been examined by Chang et al. (2006). They show that, in countries where supervisors are more empowered to apply adequate actions on banks or where private discipline encouraged by supervision policies is more prevalent, banks are more likely to rely on communication through accounting disclosure and exhibit conservative financial reporting. Nonetheless, their study does not examine the effects of securities market governance. We try to fill this gap in the literature by examining whether securities market governance has incremental effects on public bank conservatism, with controls for effects of banking industry regulations, and whether it explains variations on differences of reporting conservatism across listing status.

Basing on La Porta et al. (2006), we test effects of securities laws on financial reporting conservatism by public banks. We categorize the rules of securities laws as private enforcement rules and public enforcement rules. A more stringent private enforcement rules for a country represent that its securities laws better standardizes the private contracting framework and thus the costs for investors to sue the issuing firms are lower. A more

stringent public enforcement rules for a country indicate that its securities regulators are more empowered to intervene the issuing firms for violations to securities laws and hence the issuing firms face higher litigation costs raised by the government. Therefore, we expect that public banks are more likely to show reporting conservatism and exhibit a larger degree of conservatism than their private counterparts in countries with stringent enforcement rules. We also examine the hypothesis that public banks are more likely to show reporting conservatism in countries with more developed securities markets that strengthen debt contracting demand for conservatism. The underlying premise is that market discipline and private litigation through contracting mechanism may function well to ensure good conducts in highly developed securities markets without applying the rules in securities laws.

Using a unique large dataset of 1,195 publicly traded and 6,404 privately held banks across 45 countries during 1997 to 2004, we show that public banks are conservative in their financial reporting. We also show that the degree of conservatism for public banks is larger than that for private banks. The behaviors for financial reporting conservatism are: (1) larger extent of reversal of negative earnings changes than that of positive earnings changes, (2) more loan loss recognition for decreases in operating cash flows or increases in problem loans, (3) more charged off loans for increases in loan loss provisions.

The results from country-by-country estimation show that the degree of conservatism varies across countries. Public banks show conservative financial reporting for all of our conservatism measures in most countries, but they do not show larger degree of conservatism than their private counterparts in about half of the sample countries. Furthermore, results in the U.K. and the U.S. show that public banks are more conservative than private banks, consistent with findings for U.K. firms by Ball and Shivakumar (2005) and with findings for U.S. banks by Nichols et al. (2005). The country-by-country results indicate that there may be

institutions other than listing status that we should consider for comparing international differences on bank conservatism in financial reporting. We then apply cross-country regressions to examine whether rules of securities laws and securities market development explain the international variations for public bank conservatism and for difference of conservatism across listing status.

Our empirical results support that public enforcement rules work better than private enforcement rules to encourage reporting conservatism by public banks. We also find support for the hypothesis that conservatism in financial reporting by public banks is more associated with debt market demand for contracting mechanism and less associated with stock market demand. More specifically, public banks report earnings changes more conservatively in countries where public enforcement rules of securities laws are more stringent, but not in countries where private enforcement rules are more stringent. Furthermore, public banks are more likely to report earnings changes conservatively and show a larger degree of conservatism than their private counterparts in countries with larger bond market capitalization to GDP, but not in countries with larger stock market capitalization to GDP. Finally, the results also show that effects of securities market governance mechanism for bank conservatism are stronger in reporting earnings changes than in reporting loan losses.

We extend the literature on incentives for bank financial reporting to compare reporting conservatism across listing status using bank data around the world.[41] Our results confirm those presented by Nichols et al. (2005) by demonstrating that public banks are more conservative in financial reporting than private banks for the pooling 45 country results and for

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[41] Prior research includes papers on bank earnings management across listing status in the U.S. (Beatty and Harris, 1999; Beatty et al, 2002), cross-country comparison on bank earnings management (Shen and Chih, 2005); bank reporting conservatism across listing status in the U.S., effects of bank supervision and regulation on cross-country variations of bank reporting conservatism (Chang et al., 2006).

country-by-country results in the U.S. But, inconsistent with their findings, our results show that, in many countries, public banks do not show larger degree of conservatism than their private counterparts. We further show that larger difference of conservatism across listing status exists in countries where debt market is larger and this confirms that debt contracting mechanism improves accounting disclosure in communication and strengthens financial reporting conservatism for public banks.

Our results also complement the literature on effects of securities market governance. Both Shleifer (2005) and La Porta et al. (2006) argue that securities market regulation and enforcement rules are needed to ensure good conduct in securities markets.[42] Hail and Leuz (2004) and Daouk et al. (2005) examine different dimensions of securities market governance and regulations to show that they affect securities market performance in several ways, including lowering cost of equity capital.[43] Further, Ball et al. (2005) show that conservative financial reporting exists mainly for debt contracting efficiency. We examine the effects of securities market governance on bank reporting conservatism. By comparing effects of public enforcement rules with private enforcement rules and comparing effects of debt market contracting with stock market contracting, we show that stronger public enforcement rules and debt market contracting better explain the international variations on public bank conservatism and difference of conservatism across listing status.

The remainder of this chapter is organized as follows. Section 2 delineates the relations between institutions and bank conservatism in financial reporting. Section 3 describes the

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[42] Shleifer (2005) further suggest that private enforcement on public rules in securities laws is the most efficient strategy. La Porta et al. (2006) document evidence supports that private enforcement benefit stock markets.

[43] Hail and Leuz (2004) document that stronger enforcement mechanisms in securities laws are associated with lower cost of equity capital. Daouk et al. (2005) show that better capital market governance is associated with lower cost of equity capital, higher market liquidity, and higher price efficiency. In Daouk et al. (2005), the capital market governance is measured with an index that captures the degree of earnings capacity, the effect of removing short-selling restrictions, and the insider law enforcement.

measures of conservatism in bank financial reporting.   Section 4 discusses the sample selection, and provides summary descriptive statistics.   Section 5 reports estimated results for reporting conservatism.   Section 6 presents the model and the results for the effects of securities market governance on financial reporting conservatism.   Finally, Section 7 concludes the chapter.

2.   Institutional incentives for bank conservatism in financial reporting

2.1   Corporate governance issues for the banking industry

As Caprio and Levine (2002) and Levine (2004) state, information opaqueness and heavy intervention by governments for the banking industry should be considered when we examine corporate governance issues for banks.   We view that demand for conservative reporting is one way to alleviate information opaqueness in the banking industry.   We further claim that we should examine supervision effects by the monitory authority and by the securities market regulators when we examine corporate governance issues for banks.

Bank information opaqueness leads to greater information asymmetries between insiders and outsiders and thus causes difficulties for outsiders to monitor them.   The information asymmetries can be smaller if outsiders demand for conservative financial reporting through contracting (Watts, 2003a, 2003b).   This demand for conservative financial reporting complements outsider's monitoring on banks because it encourage banks to provide more informative financial reporting.   Outside monitors for banks are depositors, securities holders, specialized information agencies such as certified auditors and credit rating agencies, and the government supervisors and regulators.

All banks are supervised and regulated by the monetary authority, but publicly-traded banks further face monitoring and regulation from the securities markets.   Chang et al. (2006) examine the supervision/regulation effects by the monetary authority and provide evidence

that supervision/regulation policies for banks have crucial role on bank conservatism in financial reporting. Their examination focuses on effects of direct bank supervision policies and indirect supervision policies for encouraging private sector monitoring.[44] In this study, we view monitoring and regulation from the securities market as mechanisms for securities market governance. With controls for banking industry supervision policies examined by Chang et al. (2006), we focus on the incremental effects of securities market governance on the international variations of conservative reporting behaviors by public banks. We also investigate whether securities market governance explains international variations on difference of conservatism across listing status.

2.2 *The role of securities market governance on reporting conservatism for public banks*

We use two traits of securities markets to examine relations between securities market governance mechanisms and financial reporting conservatism for public banks around the world. One is rules of securities laws and the other is securities market development.[45]

Based on La Porta et al. (2006), there are two possibilities for the securities laws to influence bank financial reporting conservatism. First, private enforcement rules of securities laws that standardize the private contracting framework reduce the cost of private litigation for investors and improve their demand for conservative reporting on public banks. As Watts (2003a) and Bushman and Piotroski (2006) maintain, self-interested regulators may have incentives to apply regulation policies that encourage conservative financial reporting because

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[44] For further evidence on effects of government supervision policies, please refer to Barth et al. (2004) and Beck et al. (2005). For evidence on effects of bank supervisory actions, please refer to Berger and Davies (1998), DeYoung et al. (2001), Gunther and Moore (2003). For evidence on effects of private sector discipline, please refer to Martinez Peria and Schmukler (2001), Caprio and Honohan (2004) and Demirgüç-Kunt and Huizinga (2004).

[45] For further discussions about securities market regulation, enforcement of laws, and securities market development, please refer to Shleifer (2005).

they are less likely to be blamed for understatements in financial reporting scandals. By empowering independent securities regulators to intervene in listed firms for violations to securities laws, public enforcement rules may increase bank litigation risks and force them to report more conservative financial information. Since more stringent rules of private or public enforcement increase public banks' litigation risks, we expect they may improve securities holder's reliance on contracting mechanism, lead to higher demand on verifiable information, and raise the reporting conservatism by public banks. Therefore, in countries with stringent private or public enforcement rules, public banks should be more likely to show a larger degree of reporting conservatism than their private counterparts.

It is also possible that, in countries with highly developed securities markets, market discipline and private litigation through contracting mechanism function well to ensure good conducts in the market without applying the rules in securities laws. Thus, we hypothesize that, in countries with more developed securities markets, public banks are more likely to show reporting conservatism than those in countries with less developed securities markets. We also expect that difference of conservatism across bank's listing status should be more prevalent in countries with more developed securities markets than in countries with less developed securities markets. Furthermore, we compare the debt market demand (debt contracting) with the stock market demand (compensation contracting) for conservatism, using bond market development and stock market development measures as proxies. We expect that contracting mechanism works mainly through debt contracting rather than stock (compensation) contracting because other tools for compensation contracting, such as stock price information and stock options, may weaken its role on financial reporting conservatism.

3. Measures for bank conservatism in financial reporting

3.1 Conservative reporting on earnings changes

The work by Basu (1997) shows that conservative financial reporting exhibits a greater tendency for negative earnings changes to reverse in the next period than for positive earnings changes. By applying Basu's work on conservative reporting for earnings changes as a measure of conservatism, Ball and Shivakumar (2005) and Nichols et al. (2005) examine difference in reporting conservatism across listing status for U.K. firms and U.S. banks, respectively. Both studies support that listing status is a crucial factor for financial reporting conservatism by showing that listed firms (banks) are more conservative in reporting earnings changes. We follow this line of literature to apply the serial dependence model in examining bank conservative reporting across listing status around the world. In this model, data for publicly traded and privately held banks are pooled together and a dummy variable, D_{PR}, is used for private bank data to estimate difference in reporting conservatism across listing status. Specifically, we estimate equation (4.1) for each country.

$$
\begin{aligned}
\Delta NI_{it} = \alpha_0 &+ \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \alpha_4 D_{PR} \\
&+ \alpha_5 D_{PR} \times D_{\Delta NI_{i,t-1}<0} + \alpha_6 D_{PR} \times \Delta NI_{i,t-1} + \alpha_7 D_{PR} \times D_{\Delta X_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it},
\end{aligned}
\tag{4.1}
$$

where NI_{it} is change in net income from fiscal year t-1 to t, scaled by the total assets at the end of year t-1; $D_{NI_{i,t-1}<0}$ is a dummy variable that takes the value of one if the prior year's earnings change ($NI_{i,t-1}$) is negative and it is zero otherwise. D_{PR} is a dummy variable that takes the value of one for private banks and zero for public banks.

In equation (4.1), α_3, named *PUBCNSV_NI*, is a measure of conservative reporting on negative earnings changes for public banks, and α_7, named *DIFCNSV_NI*, is a measure of difference in conservative reporting across listing status on negative earnings changes. According to the literature on financial reporting conservatism, we expect that public banks are

conservative in reporting negative earnings changes, i.e., a negative *PUBCNSV_NI* ($_3$). If private banks are less conservative than public banks in reporting negative earnings changes, we may observe a positive *DIFCNSV_NI* ($_7$).

3.2 *Conservative reporting on loan losses*

To measure bank conservative reporting for loan losses, we examine two behaviors of reporting on loan loss provisions. First, we analyze relations between loan loss provisions and changes in bank operating cash flows. Second, we examine relations between loan loss provisions and changes in problem loans and relations between loan loss provisions and net charge offs.

3.2.1 Conservative reporting on loan loss provisions to changes in bank operating cash flows

The relations between loan loss provisions and bank operating cash flows build on the literature for the relations between accruals and operating cash flows for firms. Accruals have two roles in financial reporting. First, they mitigate noise in operating cash flows, i.e. earnings stabilization (Dechow, 1994; Dechow et al., 1998). Second, they incorporate unrealized (expected) gains and losses into financial statements. The second role is stronger for loss recognition than for gain recognition, because firms with conservative reporting tend to recognize losses rather than gains as unrealized accrued charges (Ball and Shivakumar, 2005). In the banking industry, loan loss provisions are bank accruals for expected changes of future loan loss realizations. The first stabilizing role indicates that banks increase their loan loss provisions when the performance goes up and decrease their loan loss provisions when the performance goes down. Since the role of loan loss provisions for unrealized loss recognition is stronger than that for unrealized gains recognition, when the performance goes down, the

second role indicates that banks with conservative reporting incorporate more expected loan losses by recognizing higher loan loss provisions.   Based on this idea, we measure conservative reporting of loan loss provisions (*LLP*) relative to changes in bank operating cash flows (ΔCF_t) through equation (4.2) for each country:

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it}<0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it}<0} \times \Delta CF_{it}$$
$$+ \beta_4 D_{PR} + \beta_5 D_{PR} \times D_{\Delta CF_{it}<0} + \beta_6 D_{PR} \times \Delta CF_{it} + \beta_7 D_{PR} \times D_{\Delta CF_{it}<0} \times \Delta CF_{it} + \varepsilon_{it}$$

(4.2)

where *LLP_{it}* is loan loss provisions in year t, scaled by lagged total assts; ΔCF_{it} is proxied by income before loan loss provisions, scaled by lagged total assets; D $_{CF_{it}<0}$ is a dummy variable that takes the value of one if earnings change in year t (ΔNI_{it}) is negative and it is zero otherwise.

In equation (4.2), β_3, named *PUBCNSV_LLP_CF*, is a measure of conservative reporting on loan loss provisions relative to negative changes in operating cash flows for public banks, and β_7, named *DIFCNSV_LLP_CF*, is a measure of difference in conservative reporting across listing status on loan loss provisions relative to negative changes in operating cash flows.   For the conservatism of public banks, if loan loss provisions play a stronger role in recognizing unrealized losses than unrealized gains, when operating cash flows decrease (the performance goes down) we may observe banks incorporate more loan loss provisions, i.e., a negative *PUBCNSV_LLP_CF* (β_3).   If private banks are less conservative in reporting loan losses than public banks, when operating cash flows decrease we may observe a smaller degree of increase in loan loss provisions for private banks, i.e., a positive *DIFCNSV_LLP_CF* (β_7).

3.2.2 Conservative reporting on loan losses provisions to changes in problem loans and to net charge offs

According to Hasan and Wall (2004), banks around the world follow analogous steps to determine their loan loss provisions.   In many countries, banks apply systematic procedures to

classify loans as performing and non-performing (also called problem loans). The procedures are usually based on a combination of the following methods: the number of days that a loan is in arrears, or a forward looking estimate of default probability. Using the information on the problem loans in the existing loan portfolio and the loan loss reserves in the previous period, banks estimate expected changes in the value of loan losses and then determine their loan loss provisions at the end of each period. Loan loss reserves, the cumulative loan loss provisions, are a reduction for the outstanding loans on the balance sheet for a bank. Furthermore, banks charge off problem loans when they realize that the loans become uncollectible. The charge off reduces the level of loan loss reserves and the outstanding loans. When previously charged off loans are recovered, banks recognize gains in their income statements.

By examining U.S. banks, Nichols et al. (2005) show that banks with conservative reporting incorporate loan loss provisions for a larger amount prior to or at the same time when problem loans increase. We also expect banks with more conservative loan loss reporting charge off uncollectible loans at a greater speed than those with less conservative loan loss reporting. In equation (4.3), the measure of conservative loan loss reporting builds on Nichols et al. (2005), which mainly looks at the relationships across loan loss provisions, changes in problem loans, and net chare offs.

$$\begin{aligned} LLP_{it} = \ &\gamma_0 + \gamma_1 \Delta PL_{i,t-1} + \gamma_2 \times \Delta PL_{it} + \gamma_3 \Delta PL_{i,t+1} + \gamma_4 NCOF_{it} + \gamma_5 NCOF_{i,t+1} + \gamma_6 LLR_{i,t-1} + \gamma_7 TCL_{it} \\ &+ \gamma_8 D_{PR} + \gamma_9 D_{PR} \times \Delta PL_{it-1} + \gamma_{10} D_{PR} \times \Delta PL_{it} + \gamma_{11} D_{PR} \times \Delta PL_{i,t+1} + \gamma_{12} D_{PR} \times NCOF_{it} + \gamma_{13} D_{PR} \times NCOF_{i,t+1} \\ &+ \gamma_{14} D_{PR} \times LLR_{i,t-1} + \gamma_{15} D_{PR} \times TCL_{it} + \varepsilon_{it} \end{aligned} \quad (4.3)$$

where LLP_{it} is loan loss provisions in year t, scaled by lagged total assts; $PL_{i,t-1}$, PL_{it}, and $PL_{i,t+1}$, are changes in problem loans scaled by lagged total assets at year t-1, t, and t+1; $NCOF_{it}$ and $NCOF_{i,t+1}$ are net charge offs scaled by lagged total assets at year t and t+1; $LLR_{i,t-1}$ is loan loss reserves scaled by lagged total assets at year t-1 and it controls for the beginning level

of loan loss reserves in year t; TCL_{it} is total customer loans scaled by lagged total assets at year t and it controls for different strategies for bank loan portfolios.

In equation (4.3), $_2$ and $_4$, named *PUBCNSV_LLP_PL* and *PUBCNSV_LLP_COF*, are measures of conservative reporting on loan loss provisions relative to changes in problem loans and to net charge offs for public banks, respectively. Furthermore, $_{10}$ and $_{12}$, named *DIFCNSV_LLP_PL* and *DIFCNSV_LLP_COF*, are measures of difference in conservative reporting across listing status on loan loss provisions relative to changes in problem loans and to net charge offs, respectively. We expect banks that are conservatism in financial reporting recognize more loan loss provisions when their problem loans increase and charge off more problem loans when their loan loss provisions increase, i.e. positive *PUBCNSV_LLP_PL* ($_2$) and *PUBCNSV_LLP_COF* ($_4$). If private banks are less conservative than their public counterparts, we should observe a smaller degree of conservatism for private banks, i.e., negative *DIFCNSV_LLP_PL* ($_{10}$) and *PUBCNSV_LLP_COF* ($_{12}$).

4.   Sample selection and summary descriptive statistics

4.1   Sample selection and data sources

Accounting variables are obtained from the September 2005 CD-ROM edition of BANKSCOPE database supplied by Bureau Van Dijk. Because accounting variables are only available for the past eight years in BANKSCOPE, we require sample countries with sufficient firm-level accounting data for banks over the period from 1997 to 2004 to estimate our models. In addition, we exclude investment banks/securities houses, Islamic banks, specialized governmental credit institutions, central banks, and multi-lateral governmental banks from the sample, because their primary activities are very different from traditional banks.

We also require sample countries contain data for legal origin and rules of securities

laws.   Data for legal origin and rules of securities laws are obtained from La Porta et al. (1998)

and La Porta et al. (2006), respectively.   New Zealand and Uruguay are excluded because no

data on public banks are available.   Ecuador is excluded due to its problematic extreme

accounting figures.[46]   Zimbabwe is excluded because, during the sample period, it experienced

hyperinflation (an average inflation rate of 79.18% from 2000 to 2004) and involved in a war.[47]

After these restrictions are applied, the final sample consists of 1,195 public traded banks and

6,404 private held banks around 45 countries.

4.2   Descriptive statistics and institution variables

Table 4.1 presents descriptive statistics of accounting variables for public and private

banks by country.   In many cases, public banks have larger size (*TA*) and better performance

(*ROA* and *NI*) than their private counterparts.   The data show that number of banks varies

across listing status and across countries.   Over 43% of the public banks comes from U.S.A.

(394 banks, or 33%) and Japan (122 banks, or 10%), and over 57% of the private banks comes

from Germany (1,646 banks, or 26%), Italy (705 banks, or 11%), Japan (657 banks, or 10%) and

U.S.A. (655 banks, or 10%).   Among countries with large number of banks, German and Italy

have very small number of public banks relative to private banks.   In many other countries,

both number of public banks and private banks are small.   To make sure that our results are

not dominated by some countries, we estimate country-by-country measures for conservatism

and apply cross-country regressions to examine the effects of securities laws on bank reporting

conservatism.   The data also indicate that public banks may be more conservative in reporting

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[46] For example, its net income to lagged total assets (*NI*) and problem loans to lagged total assets (*PL*) are -105.8% and 378.75%, respectively.   According to information from the CIA World Factbook, Ecuador suffers from economic crisis and political instability during this period.   We conjecture that these problems lead to its inaccurate accounting information.   However, the results for Ecuador are available upon request.

[47] For more information about the economy and political situation in Zimbabwe during the sample years, please refer to the CIA World Factbook.   Besides, the results for Ecuador are available upon request.

loan losses than their private counterparts. Public banks report a higher level of loan loss provisions (*LLP*) on average, although the average level of total customer loans (*TCL*) is similar between public and private banks. Furthermore, the large variation of total customer loans (*TCL*) indicates banks have very different strategy for their loan portfolios. Thus, we control for this factor when we examine the conservatism in reporting loan loss provisions to problem loans and to net charge offs.

Table 4.1 Summary statistics of accounting variables for public and private banks by country

Country	Public banks (N = 1,195)						Private banks (N = 6,404)					
	# of Banks	TA (M)	ROA (%)	NI (%)	LLP (%)	TCL (%)	# of Banks	TA (M)	ROA (%)	NI (%)	LLP (%)	TCL (%)
Argentina	5	7,301	-2.00	-0.22	0.64	49.40	94	917	-6.07	-2.40	1.93	44.81
Australia	11	58,984	1.53	1.52	0.20	83.97	42	2,249	0.51	0.53	0.07	77.17
Austria	13	31,523	0.83	0.73	0.34	67.09	205	2,086	0.55	0.51	0.16	62.98
Belgium	6	217,975	2.36	2.14	0.11	38.21	87	14,931	1.69	1.56	0.21	44.05
Brazil	16	18,173	1.01	1.09	1.16	31.33	149	1,603	2.53	2.40	1.75	46.71
Canada	14	82,133	2.00	2.22	0.33	67.42	42	4,417	1.15	1.23	0.60	77.11
Chile	7	6,348	1.63	1.68	0.94	70.46	27	1,478	1.15	1.29	0.89	58.38
Colombia	13	1,793	1.12	1.47	1.86	63.32	16	833	-0.30	-0.16	1.75	58.91
Denmark	41	6,525	1.36	1.51	0.82	70.18	74	7,464	0.81	1.07	0.47	62.45
Egypt	20	1,106	1.47	1.47	1.18	57.99	8	8,000	0.32	0.33	0.98	58.97
Finland	3	14,356	1.08	1.08	0.01	66.50	10	30,328	1.65	1.05	0.38	82.46
France	41	68,846	2.63	2.60	0.27	65.28	392	14,874	0.93	0.99	0.38	59.85
Germany	24	128,801	-0.58	-0.82	0.58	54.52	1,646	2,541	0.30	0.32	0.60	67.21
Greece	10	17,279	1.10	1.15	0.58	72.28	10	2,223	0.44	0.79	0.75	86.37
Hong Kong	17	15,369	1.51	1.61	1.08	48.64	61	9,138	2.43	2.08	1.25	57.53
India	43	7,363	1.02	1.19	0.85	56.91	42	1,898	0.86	1.13	0.78	52.86
Indonesia	21	4,086	-4.58	-3.08	3.09	48.19	36	359	-0.23	0.71	2.99	61.90
Ireland	5	75,029	0.95	1.10	0.21	69.15	43	5,166	1.59	1.51	0.29	64.15
Israel	9	22,292	0.35	0.40	0.57	75.14	6	2,686	0.75	0.79	0.50	81.52
Italy	35	51,189	0.62	0.67	0.52	68.94	705	1,473	0.87	1.49	0.51	77.80
Japan	122	46,101	0.12	0.18	0.99	68.22	657	4,685	-0.05	-0.07	0.60	58.70
Jordan	10	2,981	0.76	0.84	0.96	54.76	2	14,238	1.11	1.28	0.00	56.00
Kenya	8	499	1.26	1.39	2.40	69.32	33	67	1.37	1.66	2.16	61.80
Korea	10	51,726	-0.12	-0.12	1.91	73.23	4	8,096	-2.51	-2.34	0.19	72.56
Malaysia	13	8,848	1.02	1.17	1.15	60.52	29	4,091	0.98	1.03	1.13	58.18
Mexico	5	6,913	2.42	2.50	0.93	75.80	47	4,230	0.31	0.29	1.16	70.12
Netherlands	6	225,119	2.36	2.20	0.15	41.58	68	29,777	0.59	0.71	0.26	85.25
Nigeria	27	579	2.99	3.16	1.62	43.84	47	151	2.95	4.01	1.79	51.26
Norway	17	7,460	0.80	0.91	0.43	100.99	45	4,390	1.13	1.30	0.38	99.99
Pakistan	18	1,212	0.77	0.88	0.38	61.56	8	2,049	2.09	1.93	1.57	60.04
Peru	10	1,683	1.15	1.29	2.98	68.86	8	2,245	-0.65	-0.39	1.30	56.24
Philippines	20	2,444	0.71	0.74	1.01	58.63	26	709	0.42	0.60	1.00	75.94
Portugal	5	28,265	0.80	0.88	0.74	77.35	24	8,172	1.44	1.49	0.85	70.41
Singapore	9	23,383	1.64	1.74	0.52	66.65	20	1,325	1.30	1.44	0.03	73.22
South Africa	11	17,327	2.96	3.45	0.57	56.57	26	7,682	2.27	2.44	1.72	78.52
Spain	14	62,239	1.33	1.46	0.47	83.93	142	5,936	0.66	0.81	0.37	67.17
Sri Lanka	7	658	1.19	1.26	0.77	70.83	6	971	-1.78	-1.24	1.40	74.48
Sweden	6	118,560	-0.65	-0.66	0.13	69.63	113	2,963	0.95	1.09	0.29	94.63
Switzerland	18	89,687	2.21	2.08	0.40	51.55	382	1,339	1.01	1.25	0.30	74.37
Taiwan	31	15,514	0.37	0.53	1.40	70.53	25	12,381	0.21	1.10	0.79	61.91
Thailand	14	10,674	-1.50	-1.86	2.09	74.06	6	5,041	1.59	2.40	0.80	84.52
Turkey	13	11,436	0.79	0.69	0.88	42.34	26	4,636	2.19	2.45	1.13	67.84
UK	37	67,800	2.25	3.37	1.28	37.36	265	19,332	1.23	1.12	0.31	59.47
USA	394	21,887	1.08	1.13	0.35	74.20	655	15,430	1.28	1.50	0.54	78.09
Venezuela	16	1,576	4.42	4.81	1.74	45.99	45	184	3.19	3.74	2.10	46.26
Mean	1,195	30,676	0.99	1.13	0.75	66.51	6,404	6,245	0.66	0.86	0.63	67.83
Median		2,876	0.99	1.07	0.35	67.51		605	0.42	0.46	0.33	65.39
Std Dev		110,885	4.76	5.48	1.88	32.05		38,198	4.59	11.05	2.93	203.43

Notes: Accounting variables are obtained from BANKSCOPE. The detailed definitions of variables are provided in Appendix C.

Table 4.2 presents law origins, economic conditions, and descriptive statistics for indexes that portray the stringencies for banking industry regulations and securities laws regulations in our sample countries. Sample countries are grouped into four commercial law origins which are English, French, German and Scandinavian origins. The averages of GDP per capita (*GDP*), GDP growth (*GDPGR*) and inflation rate (*INFL*), retrieved from the World Development Indicator (WDI) database, show economic conditions of sample countries for the period from 2000 to 2004.[48] It shows that our sample consists of countries with varieties of legal origins and economic conditions, and thus we control for them in the cross-country regressions. We use GDP per capita as a control for economic condition for a country and set it to 1 if the value of GDP per capita is higher than or equal to the median country value; otherwise, it is set to 0.

Columns 6-7 of Table 4.2 report indexes for banking industry regulations. Supervisory power index (*SUPPWR*), ranging from 0 to 14, measures supervisory powers to take actions to avid and to cure problem banks. It is a proxy for the stringency of direct government supervision on banks for a country. Private monitoring index (*PRIIDX*), ranging from 0 to 5, measures supervision policies for encouraging private sector monitoring, including monitors from depositors, certified auditors, and credit rating agencies. Higher values of *SUPPWR* and *PRIIDX* indicates more powerful supervisory actions and better environment for outside monitoring and are expected to be positively associated with more conservative financial reporting. Data source for *SUPPWR* and *PRIIDX* is the 2003 edition of the World Bank's bank regulation and supervision database. Further, in the cross-country regressions, we set these supervision variables to 1 if their values are higher then or equal to the median country value; otherwise, they are set to 0.

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[48] The WDI database does not provide Taiwan's data, so we download them from the website of the National Statistics (http://www.stat.gov.tw/mp.asp?mp=4) supported by the government of Taiwan.

Table 4.2 Law origins, economic conditions and descriptive statistics for bank supervision and securities law stringencies by country

Country	Law origin	GDP (US$)	GDPGR (%)	INFL (%)	SUP PWR	PRI IDX	PRIV ENF	PUBL ENF	BOND CAP	STK CAP
Argentina	French	5,013	0.35	10.04	8	7	0.360	0.500	0.068	0.131
Australia	English	23,556	3.10	3.32	10	9	0.705	0.896	0.275	0.631
Austria	German	27,991	1.70	1.75	13	5	0.180	0.188	0.345	0.067
Belgium	French	26,149	1.84	1.77	10	6	0.428	0.188	0.441	0.327
Brazil	French	3,075	2.66	10.10	13	7	0.290	0.521	0.107	0.128
Canada	English	25,355	3.07	2.54	10	8	0.958	0.865	0.195	0.608
Chile	French	4,818	3.75	5.16	11	6	0.457	0.542	0.202	0.495
Colombia	French	1,938	2.86	7.99	13	n.a.	0.263	0.521	0.004	0.045
Denmark	Scandinavian	35,156	1.65	2.13	9	6	0.680	0.271	1.100	0.307
Egypt	French	1,346	3.86	4.86	14	n.a.	0.360	0.333	n.a.	0.111
Finland	Scandinavian	27,739	2.81	1.77	6	n.a.	0.580	0.354	0.236	0.931
France	French	26,294	1.97	1.55	7	n.a.	0.485	0.802	0.418	0.487
Germany	German	26,265	1.08	0.94	9	6	0.208	0.250	0.532	0.264
Greece	French	13,404	4.17	3.46	12	6	0.387	0.354	0.005	0.248
Hong Kong	English	23,834	4.78	-4.13	11	n.a.	0.788	0.875	0.176	1.390
India	English	521	5.74	3.98	10	n.a.	0.788	0.719	0.005	0.192
Indonesia	French	965	4.63	10.99	12	7	0.580	0.563	0.017	0.116
Ireland	English	33,310	6.36	3.95	11	n.a.	0.608	0.271	0.102	0.423
Israel	English	17,129	2.41	1.75	8	n.a.	0.663	0.750	n.a.	0.236
Italy	French	22,521	1.32	2.63	7	6	0.443	0.375	0.367	0.195
Japan	German	34,246	1.66	-1.89	12	8	0.705	0.000	0.468	0.585
Jordan	French	1,853	5.05	1.49	14	6	0.443	0.542	n.a.	0.328
Kenya	English	407	1.21	9.37	13	n.a.	0.470	0.667	n.a.	0.053
Malaysia	English	4,071	5.14	3.07	11	7	0.788	0.844	0.509	0.781
Mexico	French	6,280	2.61	7.91	n.a.	7	0.347	0.250	0.023	0.106
Netherlands	French	28,040	1.09	3.34	12	7	0.750	0.375	0.471	0.878
Nigeria	English	398	4.63	19.29	13	6	0.553	0.281	n.a.	0.059
Norway	Scandinavian	43,960	2.05	4.49	10	6	0.512	0.396	0.217	0.247
Pakistan	English	543	4.13	9.24	13	7	0.512	0.500	0.000	0.084
Peru	French	2,182	3.36	2.65	12	6	0.497	0.750	0.035	0.104
Philippines	French	977	4.58	5.41	11	7	0.917	0.813	0.001	0.276
Portugal	French	12,625	1.06	3.56	14	5	0.538	0.500	0.243	0.222
Singapore	English	22,177	4.24	1.35	13	9	0.830	0.875	0.185	0.805
South Africa	English	3,276	3.39	7.43	6	8	0.747	0.292	0.099	0.780
South Korea	French	11,871	5.41	2.49	12	8	0.705	0.292	0.449	0.323
Spain	French	17,731	2.92	4.11	9	7	0.580	0.375	0.179	0.317
Sri Lanka	English	915	4.06	8.58	7	n.a.	0.595	0.333	n.a.	0.044
Sweden	Scandinavian	30,185	2.51	1.62	8	n.a.	0.457	0.438	0.438	0.903
Switzerland	German	39,768	1.23	1.12	14	7	0.553	0.208	0.417	1.443
Taiwan	German	13,675	3.31	0.48	14	n.a.	0.705	0.438	0.273	0.828
Thailand	English	2,179	5.03	2.12	10	n.a.	0.625	0.667	0.133	0.178
Turkey	French	3,065	4.51	36.24	14	7	0.360	0.563	0.000	0.133
UK	English	28,274	2.57	2.65	11	8	0.747	0.667	0.179	1.196
USA	English	36,677	2.78	2.00	13	7	1.000	0.875	1.025	1.178
Venezuela	French	4,180	1.57	27.25	11	5	0.193	0.479	n.a.	0.051
Mean		15,465	3.12	5.38	10.93	6.78	0.563	0.501	0.262	0.427
Median		13,404	2.92	3.32	11.00	7.00	0.553	0.500	0.199	0.276
Std Dev		13,436	1.48	7.03	2.34	1.04	0.201	0.231	0.255	0.384

Notes: The detailed definitions of variables are provided in Appendix C.

Columns 8-11 of Table 4.2 present measures for securities market governance. They are Private enforcement rules (*PRIVENF*), public enforcement rules (*PUBLENF*), bond market capitalization to GDP (*BONDCAP*) and stock market capitalization to GDP (*STKGDP*). Private enforcement rules (*PRIVENF*) assess the prospectus disclosure requirements for issuing firms and the liability standards for the issuer, its distributors and accountants when investors sue them for recovering losses due to misleading statements in the prospectus. A higher value for *PRIVENF* indicates more stringent rules that standardize the private contracting framework and lower costs of private litigation for investors. Public enforcement rules (*PUBLENF*) assess the independence of securities market regulators and their powers to make rules regarding securities offerings, to investigate violations of securities laws, and to issue non-criminal and criminal sanctions for violations of securities laws. A higher value for *PUBLENF* indicates that independent regulators with experience and expertise are better empowered to protect investor's rights. We expect that a county with better empowered regulators exhibits higher litigation risks for issuing firms and thus is associated with stronger conservative reporting by public banks. In the cross-country regressions, we set these variables for securities market governance to 1 if their values are higher then or equal to the median country value; otherwise, they are set to 0. Appendix C describes variable definitions and provides data sources in more detail.

5. Results of bank financial reporting conservatism across listing status around the globe

5.1 Financial reporting conservatism across listing status: Results from pooled regressions

Using the pooled sample banks from all 45 countries, we estimate the conservatism of bank financial reporting and examine whether public banks are more conservative than their private counterparts. The models are estimated by linear OLS regressions with the White and

the country clustered robust standard deviations. The results are presented in Table 4.3.
Panels A-C of Table 4.3 discuss the reporting conservatism across listing status on earnings
changes, loan loss provisions relative to changes in operating cash flows, and loan loss
provisions relative to changes in problem loans and to net charge offs, respectively.   Number
of observations differs for each model due to missing accounting variables.   Our results for
pooled sample generally support that banks are conservative in their financial reporting and
that public banks are more conservative than their private counterparts.

Panel A of Table 4.3 estimates the conservative reporting across listing status on
earnings changes.   With a significantly negative α_3 (-0.761 with t-stat = -4.18), public banks
show a larger amount of reverse in earnings changes for negative earnings changes in the
previous period than for positive earnings changes.   This supports our argument that public
banks are conservative in reporting earnings changes.   Public banks also report a larger
amount of reverse in earnings changes for negative earnings changes in the previous period
than private banks do, with α_7 (0.382 with t-stat =1.77) indicating the amount of difference in
reverse.   The parameters show that, for 1% of earnings decreases in a period, public banks
report 0.765% of earnings increases in the next period, but private banks report only 0.333% of
earnings increases.

Panel B of Table 4.3 estimates the conservative reporting across listing status on loan loss
provisions relative to changes in operating cash flows.   It shows that public banks report larger
loan loss provisions (β_3 = -0.480 with t-stat = -2.93) for worse performance (i.e., decreases in
operating cash flows) than for better performance.   Public banks also show a stronger
conservatism than private banks in reporting loan loss provisions to changes in operating cash
flows, with β_7 (0.333 with t-stat = 1.86) indicating the amount of difference in conservative
reporting between them.   The parameters show that, when operating cash flows decrease for

1%, public banks recognize an increase in loan loss provisions at about 0.480%, but private banks only recognize an increase at about 0.147%.

Panel C of Table 4.3 estimates the conservative reporting across listing status on loan loss provisions relative to changes in problem loans and to net charge offs.   In this model, we control for the level of loan loss reserves in previous period ($LLR_{i,t-1}$) and bank's difference in strategy for loan portfolios (TCL_{it}).   The results show that public banks report higher loan loss provisions when problem loans increase ($_2$ = 0.237 with t-stat =6.51).   They also charge off more problem loans when reported loan loss provisions are higher ($_4$ = 0.480 with t-stat =2.49). Compared with reporting by private banks, public banks financial reporting is usually more conservative.   First, other things being equal, public banks report a higher level of loan loss provisions than their private counterparts, i.e., the private bank dummy is significantly negative ($_2$ = -0.005 with t-stat = -2.38).   Second, reporting of public banks on loan loss provisions is larger than that of private banks for simultaneous increases in problem loans ($_{10}$ = -0.237 with t-stat = -6.51).   Besides, we also find that private banks tend to charge off more problem loans than their public counterparts when loan loss provisions are higher, but the coefficient is insignificant ($_{12}$ = 0.467 with t =1.63).

Table 4.3 Differences of financial reporting conservatism for public and private banks across 45 countries:
Conservatism in net income changes and in loan loss provisions

Panel A — Model for ΔNI

	Predicted Sign	Coeff	t-stat
Intercept		0.002[a]	2.93
$D_{\Delta NI_{t-1}<0}(\alpha_1)$		-0.087	-1.19
$\Delta NI_{t-1}(\alpha_2)$		-0.004[a]	-3.22
$\Delta NI_{t-1} \times D_{\Delta NI_{t-1}<0}(\alpha_3)$	-	-0.761[a]	-4.18
$D_{PR}(\alpha_4)$		-0.002[a]	-2.77
$D_{PR} \times D_{\Delta NI_{t-1}<0}(\alpha_5)$		0.005[a]	2.92
$D_{PR} \times \Delta NI_{t-1}(\alpha_6)$		0.084	1.18
$D_{PR} \times \Delta NI_{t-1} \times D_{\Delta NI_{t-1}<0}(\alpha_7)$	+	0.382[c]	1.77
R square		0.10	
Usable obs		30,546	

Panel B — Model for LLP on ΔCF

	Predicted Sign	Coeff	t-stat
Intercept		0.006[a]	3.78
$D_{\Delta CF_t<0}(\beta_1)$		-0.001	-1.34
$\Delta CF_t(\beta_2)$		0.102[c]	1.87
$\Delta CF_t \times D_{\Delta CF_t<0}(\beta_3)$	-	-0.480[a]	-2.93
$D_{PR}(\beta_4)$		0.000	-0.22
$D_{PR} \times D_{\Delta CF_t<0}(\beta_5)$		0.000	-0.29
$D_{PR} \times \Delta CF_t(\beta_6)$		0.030	0.50
$D_{PR} \times \Delta CF_t \times D_{\Delta CF_t<0}(\beta_7)$	+	0.333[c]	1.86
R square		0.31	
Usable obs		34,236	

Panel C — Model for LLP on ΔPL and on NCOF

	Predicted Sign	Coeff	t-stat
Intercept		0.002	1.18
$\Delta PL_{t-1}(\gamma_1)$		-0.026[a]	-2.89
$\Delta PL_t(\gamma_2)$	+	0.237[a]	6.51
$\Delta PL_{t+1}(\gamma_3)$		-0.058[b]	-2.15
$NCOF_t(\gamma_4)$	+	0.480[b]	2.49
$NCOF_{t+1}(\gamma_5)$		0.000	-0.59
$LLR_{t-1}(\gamma_6)$		0.105[b]	4.26
$TCL_t(\gamma_7)$		-0.001	-0.60
$D_{PR}(\gamma_8)$		-0.005[b]	-2.38
$D_{PR} \times \Delta PL_{t-1}(\gamma_9)$		0.026[a]	2.88
$D_{PR} \times \Delta PL_t(\gamma_{10})$	-	-0.237[a]	-6.51
$D_{PR} \times \Delta PL_{t+1}(\gamma_{11})$		0.096[b]	2.11
$D_{PR} \times NCOF_t(\gamma_{12})$	-	0.467	1.63
$D_{PR} \times NCOF_{t+1}(\gamma_{13})$		-0.054	-1.08
$D_{PR} \times LLR_{t-1}(\gamma_{14})$		-0.095[a]	-3.68
$D_{PR} \times TCL_t(\gamma_{15})$		0.007[c]	1.94
R square		0.62	
Usable obs		6,995	

Notes: The data sources and definitions of the variables are provided in Appendix C. This table reports results from the following regressions: (1) changes in net income (ΔNI), (2) loan loss provisions (LLP) on changes in cash flows (ΔCF) and (3) loan loss provisions (LLP) on changes in problem loans (ΔPL) and on net charge offs (NCOF):

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \alpha_4 D_{PR}$$
$$+ \alpha_5 D_{PR} \times D_{\Delta NI_{i,t-1}<0} + \alpha_6 D_{PR} \times \Delta NI_{i,t-1} + \alpha_7 D_{PR} \times D_{\Delta X_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it},$$

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it}<0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it}<0} \times \Delta CF_{it}$$

$$+ \beta_4 D_{PR} + \beta_5 D_{PR} \times D_{\Delta CF_{it}<0} + \beta_6 D_{PR} \times \Delta CF_{it} + \beta_7 D_{PR} \times D_{\Delta CF_{it}<0} \times \Delta CF_{it} + \varepsilon_{it}$$

$$LLP_{it} = \gamma_0 + \gamma_1 \Delta PL_{i,t-1} + \gamma_2 \times \Delta PL_{it} + \gamma_3 \Delta PL_{i,t+1} + \gamma_4 NCOF_{it} + \gamma_5 NCOF_{i,t+1} + \gamma_6 LLR_{i,t-1} + \gamma_7 TCL_{it}$$

$$+ \gamma_8 D_{PR} + \gamma_9 D_{PR} \times \Delta PL_{it-1} + \gamma_{10} D_{PR} \times \Delta PL_{it} + \gamma_{11} D_{PR} \times \Delta PL_{i,t+1} + \gamma_{12} D_{PR} \times NCOF_{it} + \gamma_{13} D_{PR} \times NCOF_{i,t+1}$$

$$+ \gamma_{14} D_{PR} \times LLR_{i,t-1} + \gamma_{15} D_{PR} \times TCL_{it} + \varepsilon_{it}$$

The models are estimated by linear OLS regressions with the White and country-clustered robust standard deviations. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

5.2 Country-by-country results of financial reporting conservatism

Table 4.4 presents the results for conservatism in earnings changes by country. Thirty-one countries exhibit negative coefficients for *PUBCNSV_NI* (or α_3), indicating public banks are conservative in reporting earnings changes, and 18 of them show significance level at 1%, 5% or 10%. But, the other 14 countries exhibit positive coefficients for *PUBCNSV_NI* (or α_3), indicating public banks are not conservative in reporting earnings changes, and 7 of them show significance level at 1%, 5% or 10%. They are Belgium, Greece, Hong Kong, Israel, Mexico, Netherlands, and Spain.[49] We further examine the institutional variables for them and find that their bank supervision or securities laws rules are less stringent than the median level of our 45 sample countries. Hong Kong and Israel are English legal origin and have lower level of bank direct government supervisions (*SUPPWR*).[50] The remainder 5 countries are French legal origin and exhibit lower level of bank supervision policies on private monitoring (*PRIIDX*). In addition, Belgium, Greece, and Mexico have lower level of private enforcement (*PRIVENF*) and public enforcement (*PUBLENF*) for rules of securities laws. It seems that bank supervision and securities market regulations may explain international variations on reporting conservatism for public banks.

As for the difference of conservatism in reporting earnings changes, only 22 countries show that public banks are more conservative than private banks. Thirteen of them exhibit significant coefficients for *DIFCNSV_NI* (or α_7) at 1%, 5% or 10% levels. They are Australia, Brazil, Denmark, Egypt, Italy, Jordon, Pakistan, Peru, Portugal, South Korea, Sweden, U.K. and U.S.A. These countries have better developed securities market than the median country in terms of bond or stock market size to GDP, except Brazil, Egypt, Pakistan and Peru. They also

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[49] Our results for public bank reporting in Hong Kong are consistent with findings for public firms in Hong Kong by Ball et al. (2003). They argue that this is because firms in Hong Kong rely more on insider networks as communication tools.

[50] We have no information regarding supervision policies on private monitoring for Hong Kong and Israel.

exhibit higher regulation stringency than the median country in terms of public enforcement rules in securities laws (*PUBLENF*), except Denmark, Egypt, Italy, South Korea, and Sweden. However, in terms of private enforcement rules in securities laws (*PRIVENF*), only Australia, Denmark, South Korea, U.K. and U.S.A show higher regulation stringency than the median country.   It seems that securities market development and regulation stringencies may explain international variations on difference in reporting conservatism across listing status.

Table 4.5 reports the results estimated from equation (4.2) for conservatism in loan loss provisions relative to changes in operating cash flows.   For public bank conservatism, 40 out of 45 countries show that banks report higher loan loss provisions when operating cash flows decrease, and 18 of them exhibit significant coefficients for *PUBCNSV_LLP_CF* (or β_3) at 1% or 5% levels.   Among the 5 countries where public banks report lower loan loss provisions for decreases in operating cash flows, Belgium and Brazil exhibit 1% significance level for *PUBCNSV_LLP_CF* (or β_3).

Nevertheless, for difference of conservatism across listing status, only 24 out of 45 countries show that public banks report higher loan loss provisions than their private counterparts for decreases in operating cash flows.   Only 9 of the 24 countries show significant coefficients for *DIFCNSV_LLP_CF* (or β_7) at 1% or 5% levels.   They are Austria, Chile, India, Israel, Jordon, Kenya, Malaysia, Taiwan and U.K.   These countries exhibit higher regulation stringency than the median country in terms of public enforcement rules in securities laws (*PUBLENF*), except Austria and Taiwan.

Table 4.4 Differences of financial reporting conservatism for public and private banks by country: Conservatism in net income changes

Country	1	2	3	4	5	6	7	R^2	OBS
Predicted Sign			-				+		
Argentina	-0.074	-0.023	-1.813[a]	-0.016	-0.048	0.171	-2.029[b]	0.53	335
	(-0.60)	(-1.41)	(-13.99)	(-0.94)	(-1.42)	(1.21)	(-2.31)		
Australia	0.776[a]	0.004	-1.612[a]	0.004	-0.002	-0.883[b]	1.772[a]	0.41	166
	(8.15)	(1.26)	(-16.92)	(1.23)	(-0.39)	(-2.03)	(3.54)		
Austria	0.212[b]	0.002[c]	-0.007	0.000	-0.001	-0.299[b]	0.341	0.13	839
	(2.55)	(1.71)	(-0.07)	(0.64)	(-0.55)	(-2.41)	(1.59)		
Belgium	-1.044[a]	-0.007	1.027[a]	-0.008	0.001	0.605[a]	-1.020[a]	0.49	329
	(-8.44)	(-0.50)	(7.30)	(-1.21)	(0.05)	(3.92)	(-4.60)		
Brazil	0.035	0.000	-1.209[a]	0.008	-0.022[c]	-0.237	0.559[c]	0.34	517
	(1.27)	(0.03)	(-25.79)	(0.83)	(-1.66)	(-1.60)	(1.91)		
Canada	0.435[c]	0.001	-0.530	-0.010[c]	0.012[b]	1.400	-1.587	0.34	237
	(1.90)	(0.76)	(-1.50)	(-1.77)	(1.98)	(1.41)	(-1.52)		
Chile	-0.016	-0.007[b]	-1.584[c]	-0.007	0.010	-0.222	1.227	0.24	110
	(-0.10)	(-2.08)	(-1.83)	(-1.13)	(1.30)	(-0.53)	(1.27)		
Colombia	-0.019	-0.029[a]	-1.374[a]	-0.005	0.000	0.150	0.389	0.37	109
	(-0.13)	(-2.78)	(-2.95)	(-0.84)	(0.00)	(0.97)	(0.82)		
Denmark	-0.235[a]	-0.005[a]	-1.050[a]	-0.003[b]	0.008[a]	0.158	0.941[a]	0.04	544
	(-3.41)	(-4.75)	(-6.74)	(-2.14)	(3.03)	(0.80)	(3.07)		
Egypt	-0.057	-0.002	-0.325	0.002	0.000	-0.803[b]	1.509[b]	0.05	141
	(-0.37)	(-1.02)	(-1.25)	(1.32)	(-0.11)	(-2.09)	(2.41)		
Finland	-1.014	-0.005	1.238	-0.005	0.005	0.711	-1.236	0.57	44
	(-1.03)	(-0.85)	(1.19)	(-0.87)	(0.71)	(0.72)	(-1.18)		
France	0.033	0.005	0.052	0.004[c]	-0.008[b]	-0.647	0.658	0.17	1,753
	(0.08)	(1.38)	(0.12)	(1.71)	(-2.09)	(-1.49)	(1.28)		
Germany	0.043[a]	0.005	-0.368	0.002[c]	-0.005	-0.427[a]	0.685	0.1	7,376
	(3.40)	(0.52)	(-0.46)	(1.90)	(-0.51)	(-18.62)	(0.86)		
Greece	-0.645	-0.005	0.818[b]	-0.001	-0.009	0.568	-0.952[b]	0.17	70
	(-1.63)	(-1.12)	(2.01)	(-0.25)	(-1.03)	(1.38)	(-2.02)		
Hong Kong	-2.313[a]	-0.018[b]	2.306[a]	-0.024[a]	-0.006	2.486[a]	-4.742[a]	0.3	337
	(-2.90)	(-2.54)	(2.89)	(-3.49)	(-0.36)	(3.10)	(-3.09)		
India	-1.141	-0.007[b]	0.128	-0.005	0.004	0.992	-0.871	0.25	273
	(-1.47)	(-1.97)	(0.16)	(-1.33)	(1.13)	(1.27)	(-1.07)		
Indonesia	0.154[a]	-0.010	-1.454[a]	-0.004	-0.015	-0.054	-0.535[c]	0.73	242
	(2.60)	(-0.71)	(-9.26)	(-0.46)	(-0.85)	(-0.62)	(-1.92)		
Ireland	-0.202	-0.008[a]	-1.965[a]	-0.004	0.006[c]	0.874	0.850	0.11	163
	(-0.86)	(-3.07)	(-3.62)	(-1.64)	(1.77)	(1.24)	(0.93)		
Israel	-1.213[a]	-0.003[b]	0.485[a]	0.001	0.005[c]	0.949[a]	0.356	0.51	66
	(-16.57)	(-2.43)	(3.19)	(0.44)	(1.87)	(7.36)	(1.26)		
Italy	0.325[b]	0.001	-0.736[a]	0.000	0.001	-0.325[b]	0.840[a]	0.01	2,957
	(2.33)	(1.29)	(-4.03)	(0.26)	(0.83)	(-2.33)	(3.99)		
Japan	-0.405	-0.004[b]	-0.632[c]	-0.002	0.001	0.274	-0.378	0.22	2,771
	(-1.22)	(-2.00)	(-1.74)	(-1.32)	(0.34)	(0.77)	(-0.76)		
Jordan	0.248[a]	-0.006	-1.468[a]	-0.001	0.011[a]	2.651	3.271[a]	0.5	65
	(2.66)	(-1.55)	(-11.65)	(-0.28)	(2.94)	(3.24)	(3.98)		
Kenya	0.027	-0.004	-0.383	-0.002	0.008	-0.321	-0.203	0.18	157
	(0.28)	(-0.61)	(-1.85)	(-0.26)	(0.49)	(-0.98)	(-0.47)		
Korea	-0.032	-0.008[b]	-0.971[a]	0.006	-0.005	-0.678[b]	0.657[b]	0.79	43
	(-0.46)	(-2.27)	(-8.16)	(1.11)	(-0.90)	(-2.19)	(2.02)		
Malaysia	-0.334	-0.001	-0.203	-0.005	0.002	0.320	-0.392	0.15	173
	(-1.47)	(-0.23)	(-0.26)	(-0.92)	(0.29)	(1.01)	(-0.46)		
Mexico	-0.788[a]	0.005	1.058[a]	-0.009[a]	-0.004	0.606[a]	-1.636[a]	0.24	174
	(-10.58)	(0.53)	(7.14)	(-2.75)	(-0.38)	(3.22)	(-5.36)		

Country	1	2	3	4	5	6	7	R^2	OBS
Netherlands	-0.816[c]	0.009	1.076[b]	0.006	-0.011	0.606	-0.810[c]	0.06	237
	(-1.76)	(1.06)	(2.30)	(0.71)	(-1.25)	(1.28)	(-1.67)		
Nigeria	0.011	0.003	-0.249	-0.001	-0.029[b]	-0.008	-1.412[c]	0.26	203
	(0.10)	(0.57)	(-0.97)	(-0.25)	(-2.00)	(-0.06)	(-1.74)		
Norway	-0.715[b]	0.000	0.585	-0.002	-0.001	0.628	-0.777	0.2	202
	(-1.97)	(-0.14)	(1.53)	(-0.75)	(-0.16)	(1.03)	(-1.24)		
Pakistan	0.324	-0.001	-0.993[b]	0.020[b]	-0.024[b]	-1.714[a]	1.062[c]	0.64	92
	(0.69)	(-0.24)	(-2.12)	(2.06)	(-2.18)	(-2.87)	(1.70)		
Peru	0.534[a]	-0.002	-1.408[a]	0.017[b]	-0.017[b]	-2.668[a]	2.826[b]	0.5	71
	(4.09)	(-0.66)	(-3.27)	(2.22)	(-2.08)	(-2.60)	(2.49)		
Philippines	0.075	0.000	-0.131	-0.001	-0.003	-0.186	-0.181	0.02	137
	(0.49)	(-0.09)	(-0.21)	(-0.38)	(-0.84)	(-1.10)	(-0.28)		
Portugal	0.068	0.000	-0.910[b]	0.003	0.000	-0.073	1.268[c]	0.03	114
	(0.22)	(-0.33)	(-2.09)	(1.19)	(-0.03)	(-0.14)	(1.91)		
Singapore	0.202	0.005	0.270	-0.001	0.002	-0.071	-0.735	0.05	75
	(1.36)	(0.89)	(1.36)	(-0.23)	(0.14)	(-0.17)	(-1.33)		
South Africa	-0.242[a]	0.025	-1.006	-0.007	-0.028	0.132	0.169	0.1	160
	(-3.27)	(0.80)	(-1.10)	(-0.99)	(-0.83)	(0.82)	(0.15)		
Spain	-0.613[c]	-0.002[a]	0.769[b]	-0.002	-0.001	0.342	-1.119[b]	0.19	686
	(-1.80)	(-2.64)	(2.25)	(-1.15)	(-0.50)	(0.89)	(-2.33)		
Sri Lanka	-0.355	-0.001	0.093	-0.002	-0.017	0.741[c]	-1.848[b]	0.36	53
	(-1.02)	(-0.22)	(0.15)	(-0.59)	(-1.31)	(1.87)	(-2.29)		
Sweden	0.490[a]	0.003	-0.971[a]	0.003[a]	-0.002	-0.664[a]	1.106[b]	0.46	300
	(55.40)	(1.52)	(-16.35)	(3.44)	(-1.01)	(-3.56)	(2.57)		
Switzerland	0.064	0.004	-0.086	0.002	-0.006	-0.282	-0.087	0.08	1,202
	(0.77)	(0.32)	(-0.72)	(0.62)	(-0.54)	(-1.24)	(-0.31)		
Taiwan	0.019	-0.001	-1.266[a]	-0.001	0.004	-0.007	0.183	0.68	215
	(0.43)	(-0.18)	(-13.44)	(-0.08)	(0.37)	(-0.16)	(1.11)		
Thailand	-0.287[a]	-0.024	-0.469	-0.013[b]	0.014	0.735[b]	-0.990[c]	0.42	77
	(-4.41)	(-1.15)	(-0.96)	(-2.19)	(0.64)	(2.53)	(-1.75)		
Turkey	-0.145[c]	-0.061[b]	-1.137[a]	-0.018	0.044	0.261[a]	-1.833[a]	0.66	80
	(-1.71)	(-2.41)	(-4.32)	(-1.37)	(1.33)	(2.59)	(-5.00)		
UK	-0.164[a]	0.006	-0.600	0.002	-0.010	-1.022	1.778[c]	0.15	1,227
	(-2.81)	(0.17)	(-1.57)	(0.20)	(-0.27)	(-1.14)	(1.82)		
USA	0.164	-0.001	-0.768[a]	0.001	0.002[b]	-0.167	0.686[a]	0.01	5,246
	(1.41)	(-1.55)	(-4.51)	(1.57)	(2.05)	(-1.43)	(3.13)		
Venezuela	0.150	-0.002	0.313	0.005	0.014	-0.301	-0.145	0.03	178
	(0.52)	(-0.31)	(0.81)	(0.49)	(0.64)	(-0.91)	(-0.27)		

Notes: The data sources and definitions of the variables are provided in Appendix C. The table reports the results from the following regression:

$$\Delta NI_{it} = \alpha_0 + \alpha_1 D_{\Delta NI_{i,t-1}<0} + \alpha_2 \Delta NI_{i,t-1} + \alpha_3 D_{\Delta NI_{i,t-1}<0} \times \Delta NI_{i,t-1} + \alpha_4 D_{PR}$$
$$+ \alpha_5 D_{PR} \times D_{\Delta NI_{i,t-1}<0} + \alpha_6 D_{PR} \times \Delta NI_{i,t-1} + \alpha_7 D_{PR} \times D_{\Delta X_{i,t-1}<0} \times \Delta NI_{i,t-1} + \varepsilon_{it},$$

The models are estimated by linear OLS regressions with the White robust standard deviations. The robustness t-statistics are in parentheses. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively. We name α_3 and α_7 as *PUBCNSV_NI* and *DIFCNSV_NI* and use them as proxies for public bank conservatism in negative earnings changes and difference of conservatism across listing status, respectively.

Table 4.5 Differences of financial reporting conservatism for public and private banks by country: Conservatism in reporting on loan loss provisions relative to changes in cash flows

Country	β_1	β_2	β_3	β_4	β_5	β_6	β_7	R^2	OBS
Predicted Sign			-				+		
Argentina	-0.002	-0.036[b]	-0.015	0.019[a]	-0.004	-0.075	0.090	0.13	423
	(-0.21)	(-2.29)	(-0.23)	(2.65)	(-0.36)	(-0.99)	(0.89)		
Australia	0.000	0.190[b]	-0.349[b]	-0.001	-0.002	-0.048	0.175	0.04	177
	(0.06)	(2.14)	(-2.25)	(-0.84)	(-1.18)	(-0.29)	(0.66)		
Austria	-0.001[a]	0.464[a]	-3.873[a]	0.000	0.001	0.032	3.818[a]	0.79	48
	(-2.60)	(5.16)	(-12.14)	(-0.15)	(0.63)	(0.14)	(10.09)		
Belgium	-0.001[c]	-0.170[a]	0.147[a]	0.001[c]	0.000	0.199[a]	-0.190[a]	0.02	292
	(-1.72)	(-6.69)	(5.70)	(1.68)	(-0.35)	(4.62)	(-3.70)		
Brazil	-0.003	-0.083[a]	0.193[a]	-0.011	0.010	0.564	-0.664	0.25	622
	(-1.46)	(-3.19)	(6.82)	(-0.95)	(0.82)	(1.37)	(-1.61)		
Canada	0.000	0.343[a]	-0.620[a]	0.003[b]	0.001	0.157	0.575	0.18	268
	(-0.45)	(3.29)	(-5.93)	(2.39)	(0.19)	(0.93)	(0.88)		
Chile	-0.003	0.401[a]	-1.755[b]	0.001	0.001	-0.231	1.642[b]	0.12	134
	(-1.59)	(3.59)	(-2.45)	(0.52)	(0.16)	(-1.40)	(2.26)		
Colombia	-0.005	0.292	-1.295[a]	-0.003	0.001	-0.086	0.493	0.33	134
	(-0.80)	(1.47)	(-3.84)	(-0.58)	(0.09)	(-0.29)	(0.77)		
Denmark	0.000	0.370[a]	-0.247[b]	-0.003[a]	-0.002	-0.164[b]	0.048	0.25	606
	(0.61)	(6.33)	(-2.03)	(-3.27)	(-1.31)	(-2.18)	(0.36)		
Egypt	-0.002	0.139	-0.166	-0.005[c]	0.000	0.945	-1.171	0.1	154
	(-0.83)	(0.80)	(-0.80)	(-1.71)	(0.12)	(1.33)	(-1.56)		
Finland	0.000	0.008	-0.007	0.004[b]	-0.002	-0.015	-0.016	0.1	55
	(-0.84)	(0.45)	(-0.36)	(2.06)	(-0.79)	(-0.38)	(-0.37)		
France	0.002[c]	0.380[b]	0.170	0.003[a]	-0.004[a]	-0.357[b]	-0.166	0.02	1,952
	(1.76)	(2.56)	(0.49)	(5.15)	(-3.39)	(-2.39)	(-0.47)		
Germany	-0.002	-0.007[a]	-0.281[b]	0.000	0.002	0.826[a]	-0.577[a]	0.4	8,853
	(-0.95)	(-3.36)	(-2.46)	(0.68)	(0.82)	(12.96)	(-4.33)		
Greece	-0.001	0.137	-0.132	0.001	-0.004[b]	0.107	-0.238	0.4	73
	(-0.99)	(1.01)	(-0.95)	(0.41)	(-2.16)	(0.60)	(-1.32)		
Hong Kong	0.002	0.279	-0.583	-0.015	0.015	2.409	-2.098	0.16	347
	(0.67)	(0.96)	(1.22)	(-1.33)	(1.25)	(1.25)	(-1.06)		
India	-0.004[a]	0.721[a]	-1.829[a]	0.002[c]	0.003	-0.334[c]	1.110[b]	0.52	307
	(-2.63)	(4.16)	(-8.76)	(1.87)	(1.49)	(-1.78)	(2.12)		
Indonesia	0.020	0.045	-0.764	0.004	-0.001	0.350	0.453	0.19	281
	(1.12)	(0.47)	(-1.64)	(0.52)	(-0.03)	(1.62)	(0.90)		
Ireland	0.000	0.249[c]	-0.182	0.000	0.000	0.250	-0.495	0.12	125
	(0.25)	(1.79)	(-1.02)	(0.12)	(-0.28)	(0.72)	(-1.33)		
Israel	-0.002[c]	0.894[b]	-3.597[a]	0.001	0.001	-0.730	3.061[a]	0.49	77
	(-1.85)	(2.03)	(-6.42)	(0.56)	(0.39)	(-1.29)	(4.33)		
Italy	-0.001	0.247	-0.435[c]	0.000	-0.001	-0.153	0.339	0.93	3,559
	(-1.29)	(1.60)	(-1.88)	(0.60)	(-0.83)	(-0.99)	(1.46)		
Japan	-0.004[b]	0.394	-0.646[b]	-0.006[a]	0.004[c]	0.184	-0.255	0.22	3,240
	(-2.33)	(1.54)	(-2.07)	(-3.42)	(1.94)	(0.58)	(-0.65)		
Jordan	-0.003	0.426[b]	-1.759[b]	-0.003[b]	0.005	-0.970[a]	7.952[b]	0.45	77
	(-1.11)	(2.53)	(-2.45)	(-2.18)	(1.39)	(-5.43)	(2.23)		
Kenya	0.000	0.805[a]	-1.583[a]	0.008	-0.003	-0.716[a]	1.430[a]	0.09	192
	(0.03)	(10.03)	(-5.03)	(1.43)	(-0.34)	(-6.34)	(4.25)		
Korea	-0.007[c]	0.085	-0.166	-0.017[a]	0.004	-0.093	0.125	0.29	53
	(-1.81)	(0.44)	(-0.67)	(-5.02)	(1.02)	(-0.48)	(0.50)		
Malaysia	0.002	0.408[c]	-0.345	0.003	-0.005	-0.480	0.684[b]	0.04	190
	(0.67)	(1.80)	(-1.52)	(1.08)	(-1.07)	(-1.45)	(1.97)		
Mexico	0.001	0.147[c]	-0.171	0.000	0.001	0.157	-0.131	0.22	201
	(0.49)	(1.72)	(-1.43)	(-0.05)	(0.25)	(0.78)	(-0.59)		

Country	β_1	β_2	β_3	β_4	β_5	β_6	β_7	R^2	OBS
Netherlands	-0.001[a]	-0.043	0.028	0.000	0.002[b]	0.529[a]	0.029	0.029	191
	(-3.35)	(-1.20)	(0.80)	(-0.28)	(2.28)	(2.80)	(0.11)		
Nigeria	-0.007	0.054	-0.039	-0.004	0.012	0.097	0.119	0.1	265
	(-1.59)	(0.28)	(-0.17)	(-0.85)	(1.47)	(0.44)	(0.34)		
Norway	0.001	0.149[c]	-0.054	-0.002[c]	-0.001	0.461[b]	-0.971[a]	0.32	238
	(0.83)	(1.82)	(-0.35)	(-1.83)	(-1.05)	(2.37)	(-3.42)		
Pakistan	-0.007	-0.250	-0.346	0.004	0.022[b]	0.227	0.731	0.19	115
	(-1.50)	(-0.54)	(-0.37)	(1.01)	(2.53)	(0.49)	(0.76)		
Peru	-0.011	0.948[b]	-2.109[a]	-0.018[a]	0.016	-0.042	1.002	0.35	88
	(-1.15)	(2.58)	(-3.42)	(-2.69)	(1.48)	(-0.10)	(1.51)		
Philippines	0.002	0.315	-0.165	0.001	-0.007[c]	0.017	-0.322	0.11	184
	(0.92)	(1.53)	(-0.62)	(0.44)	(-1.90)	(0.07)	(-1.01)		
Portugal	-0.002	0.849[c]	-1.259[b]	0.000	0.000	-0.409	0.675	0.26	132
	(-0.78)	(1.96)	(-2.41)	(0.13)	(0.08)	(-0.86)	(1.20)		
Singapore	-0.001	-0.208	0.197	-0.001	-0.011	-0.067	-0.435	0.06	78
	(-0.44)	(-0.57)	(0.54)	(-0.24)	(-1.10)	(-0.11)	(-0.51)		
South Africa	0.006	-0.004	-0.254	0.008	-0.002	0.419[a]	-0.149	0.33	165
	(0.96)	(-0.71)	(-1.01)	(1.20)	(-0.26)	(10.90)	(-0.48)		
Spain	-0.002[b]	0.319	-0.305	0.001	-0.002	-0.328	0.318	0.04	827
	(-2.03)	(1.21)	(-1.16)	(0.91)	(-1.46)	(-1.24)	(1.20)		
Sri Lanka	0.001	0.531[b]	-0.429	0.013[a]	-0.017[a]	-0.781[a]	-0.247	0.21	64
	(0.81)	(2.39)	(-1.53)	(3.30)	(-2.77)	(-3.25)	(-0.39)		
Sweden	-0.001[c]	0.040	-0.113[a]	0.000	0.001	0.499[a]	-0.362[c]	0.11	374
	(-1.87)	(1.22)	(-3.46)	(0.45)	(1.53)	(2.69)	(-1.91)		
Switzerland	0.003	-0.112	-0.016	0.000	-0.004	0.254[b]	-0.114	0.06	1,322
	(1.01)	(-1.22)	(-0.07)	(-0.35)	(-1.24)	(2.18)	(-0.48)		
Taiwan	0.003	2.930[a]	-3.380[a]	0.005	-0.004	-2.993[a]	3.500[a]	0.36	194
	(0.70)	(3.42)	(-3.66)	(1.14)	(-0.90)	(-3.48)	(3.76)		
Thailand	0.015	0.262	-1.127	-0.006	-0.017	0.102	-2.692[a]	0.16	89
	(1.11)	(0.43)	(-1.39)	(-0.57)	(-1.23)	(0.16)	(-3.08)		
Turkey	-0.004	-0.076[b]	-0.021	-0.004	0.009	0.155[a]	-0.075	0.12	107
	(-1.25)	(-2.09)	(-0.28)	(-1.42)	(1.64)	(2.74)	(-0.49)		
UK	0.007[a]	1.947[a]	-1.915[a]	0.005[a]	-0.008[a]	-1.786[a]	1.751[a]	0.34	983
	(3.85)	(8.95)	(-8.67)	(3.87)	(-4.28)	(-7.61)	(7.36)		
USA	0.001	0.639[a]	-0.945[a]	0.000	0.000	-0.103	0.287	0.9	6,166
	(1.52)	(3.21)	(-4.02)	(0.66)	(-0.04)	(-0.52)	(1.19)		
Venezuela	-0.005	0.083	-0.182	0.000	-0.004	0.048	-0.397	0.12	214
	(-1.37)	(1.52)	(-1.11)	(-0.10)	(-0.52)	(0.55)	(-1.16)		

Notes: The data sources and definitions of the variables are provided in Appendix C. The table reports the results from the following regression:

$$LLP_{it} = \beta_0 + \beta_1 D_{\Delta CF_{it}<0} + \beta_2 \Delta CF_{it} + \beta_3 D_{\Delta CF_{it}<0} \times \Delta CF_{it}$$
$$+ \beta_4 D_{PR} + \beta_5 D_{PR} \times D_{\Delta CF_{it}<0} + \beta_6 D_{PR} \times \Delta CF_{it} + \beta_7 D_{PR} \times D_{\Delta CF_{it}<0} \times \Delta CF_{it} + \varepsilon_{it}$$

The models are estimated by linear OLS regressions with the White robust standard deviations. The robustness t-statistics are in parentheses. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively. We name β_3 and β_7 as *PUBCNSV_LLP_CF* and *DIFCNSV_LLP_CF* and use them as proxies for public bank conservatism in loan loss provisions relative to negative changes in operating cash flows and difference of conservatism across listing status, respectively.

In Table 4.6, we report the results for conservatism in loan loss provisions relative to changes in problem loans and to net charge offs. We only examine 19 countries for this analysis because banks in many countries do not provide information for problem loans and net charge offs. We find that 16 out of 19 countries show higher loan loss provisions for public banks when problem loans increase (positive *PUBCNSV_LLP_PL* or $_2$), and 13 of them exhibit significance level at 1%, 5%, or 10%. In addition, 17 out of 19 countries show simultaneous relations between loan loss provisions and net charge offs for public banks, and 11 of them are at 1%, 5%, or 10% significance level. Only 9 out of 19 countries show that public banks are more conservative than private banks in loan loss reporting, with negative *DIFCNSV_LLP_PL* (or $_{10}$) or negative *DIFONS_LLP_COF* (or $_{12}$), although some of the coefficients are insignificant.

In sum, the country-by-county results in Tables 4.4 - 4.6 show that financial reporting of public banks is conservative in most countries. For public banks in Tables 4.4 - 4.5, 31 out of 45 countries exhibit conservatism in earnings changes (with negative *PUBCNSV_NI* or α_3), and 40 out of 45 countries exhibit conservatism in loan loss provisions to changes in operating cash flows (with negative *PUBCNSV_LLP_CF* or β_3), although some of the coefficients are insignificant. For public banks in Table 4.6, 16 out of 19 countries exhibit conservatism in loan loss provisions to changes in problem loans (with positive *PUBCNSV_LLP_PL* or $_2$), and 17 out of 19 countries exhibit conservatism in loan loss provisions to net charge offs (with positive *PUBCNSV_LLP_COF* or $_4$), although some of the coefficients are insignificant.

Table 4.6 Differences of financial reporting conservatism for public and private banks by country: Conservatism in reporting on loan loss provisions relative to changes in problem loans and to net charge offs

Country	1	2	3	4	5	8	9	10	11	12	13	R^2	OBS
Predicted Sign		+		+				-		-			
Australia	0.057	0.157[b]	0.098	0.153	0.320	0.001	0.213	0.368[a]	-0.037	0.460[b]	-0.464[c]	0.77	72
	(0.93)	(2.15)	(0.80)	(1.56)	(1.56)	(0.64)	(1.38)	(2.76)	(-0.29)	(2.35)	(-1.76)		
Brazil	0.267[a]	0.631[b]	0.829[a]	-0.669[a]	0.666[a]	-0.001	-0.024	-0.258	-0.779[a]	0.989[a]	-0.346	0.79	114
	(4.54)	(2.47)	(2.95)	(-2.77)	(3.60)	(-0.10)	(-0.22)	(-0.97)	(-2.72)	(2.82)	(-1.50)		
Chile	0.101	0.160	-0.105	0.627[a]	0.225	0.036[a]	0.041	0.550[a]	1.511[a]	-0.977[a]	1.373[a]	0.92	23
	(0.70)	(0.82)	(-0.80)	(5.03)	(1.02)	(5.66)	(0.29)	(2.81)	(11.50)	(-7.83)	(6.21)		
Hong Kong	0.024	0.259[a]	0.018	0.866[a]	0.203[a]	-0.006[b]	0.102	-0.182[a]	-0.039	-0.715[a]	-0.267[a]	0.76	154
	(1.28)	(12.45)	(0.21)	(12.82)	(3.52)	(-2.14)	(1.29)	(-7.20)	(-0.46)	(-6.27)	(-3.86)		
Ireland	-0.090[b]	0.009	-0.210	0.217[a]	0.200[a]	0.006[a]	0.241[a]	0.068[c]	0.388[c]	1.045[a]	-0.028	0.99	23
	(-2.15)	(0.23)	(-1.02)	(2.80)	(3.67)	(5.86)	(5.73)	(1.86)	(1.88)	(13.48)	(-0.52)		
Israel	0.045	0.105[b]	-0.065	0.906	0.202	0.071[a]	0.117[a]	0.212[a]	0.011	-0.659	-1.150	0.36	37
	(1.19)	(2.13)	(-1.29)	(1.33)	(0.28)	(18.89)	(2.75)	(3.79)	(0.21)	(-0.97)	(-1.37)		
Japan	-0.001	0.192[a]	0.001	1.480[a]	-0.265	-0.011	0.007	-0.158[a]	0.008	-0.449	0.146	0.27	1,352
	(-0.06)	(5.30)	(0.04)	(10.31)	(-1.57)	(-1.44)	(0.32)	(-2.60)	(0.34)	(-1.51)	(0.51)		
Kenya	0.219[b]	0.037	0.352	-0.025	0.002	-0.001[b]	-0.219	-0.061	-0.390[b]	0.295	-0.007[a]	0.65	66
	(2.11)	(0.48)	(3.12)	(-0.13)	(0.01)	(2.09)	(0.79)	(-0.13)	(-2.08)	(-0.76)	(-3.43)		
Nigeria	-0.019	0.133[b]	-0.052	0.205[c]	-0.002[a]	0.006	-0.012	0.047	0.057	-0.302	-0.318[b]	0.49	104
	(-1.12)	(2.17)	(-1.24)	(1.87)	(-4.35)	(1.13)	(-0.27)	(0.68)	(1.16)	(-1.37)	(-2.57)		
Norway	0.041[c]	0.187[a]	0.009	0.263[b]	0.225[a]	-0.002	0.008	-0.139[b]	0.041	-0.921[a]	0.735[b]	0.67	69
	(1.66)	(6.90)	(0.34)	(2.46)	(2.59)	(-0.62)	(0.09)	(-2.11)	(0.70)	(-3.61)	(2.41)		
Pakistan	0.028	0.092[a]	-0.058[c]	0.139	0.318[a]	0.028[a]	0.006	-0.029	-0.163[a]	0.678[a]	2.369[a]	0.66	43
	(0.99)	(3.17)	(-1.75)	(0.62)	(4.03)	(10.67)	(0.23)	(-1.01)	(-4.90)	(3.04)	(30.03)		
Philippines	0.050[c]	0.125[c]	0.059	0.234	0.000	0.077[a]	-0.051[c]	-0.126[c]	0.008	5.052[a]	-4.435[a]	0.33	62
	(1.88)	(1.72)	(0.86)	(0.72)	(0.12)	(7.58)	(-1.90)	(-1.73)	(0.12)	(11.66)	(-14.93)		
Portugal	-0.102	0.353[b]	-0.056	0.415[b]	0.029	-0.001	-0.039	0.011	0.134	0.169	-0.134	0.67	41
	(-1.50)	(2.37)	(-1.39)	(2.27)	(0.21)	(-0.48)	(-0.38)	(0.06)	(1.04)	(0.53)	(-0.40)		
South Africa	-0.050	-0.079	0.118	0.179	-0.228	0.024[a]	0.339[a]	0.587[a]	0.039	0.359	0.275	0.96	47
	(-0.65)	(-1.63)	(1.09)	(0.66)	(-0.72)	(4.19)	(3.63)	(7.13)	(0.30)	(1.24)	(0.69)		
Spain	0.305[b]	0.312[a]	0.224[a]	0.443[a]	-0.148	-0.004	-0.167	-0.397[a]	-0.200[b]	-0.459[a]	0.307[c]	0.64	176
	(2.17)	(3.77)	(2.73)	(2.80)	(-1.01)	(-1.51)	(-1.15)	(-4.01)	(-2.32)	(-2.63)	(1.76)		
Taiwan	0.100	-0.125	-0.039	0.405[a]	0.058	-0.007	-0.164	0.210	-0.124	-0.336[b]	0.794[a]	0.49	51
	(0.76)	(-0.88)	(-0.38)	(3.16)	(0.87)	(-0.52)	(-1.18)	(1.42)	(-0.96)	(-2.31)	(4.19)		
UK	0.106[b]	0.162[a]	-0.075	0.268	0.265	0.002	0.011	0.028	0.147	0.424[b]	-0.117	0.93	127
	(2.23)	(2.77)	(-0.94)	(1.34)	(1.32)	(0.87)	(0.19)	(0.32)	(1.57)	(1.92)	(-0.52)		
USA	0.043	0.173[a]	0.050[b]	0.910[a]	0.115[c]	-0.004[a]	-0.037	-0.452[a]	-0.018	0.475[b]	-0.228	0.9	4,100
	(1.00)	(4.58)	(2.15)	(17.74)	(1.74)	(-3.02)	(-0.84)	(-4.47)	(-0.46)	(2.57)	(-1.46)		
Venezuela	0.371[b]	-0.269[a]	-0.125	0.592[a]	0.297[c]	-0.004	-0.456[a]	0.190[c]	-0.048	-0.778	1.108[a]	0.71	55
	(2.18)	(-2.84)	(-0.51)	(3.71)	(1.76)	(0.52)	(-2.64)	(1.66)	(-0.17)	(-1.31)	(2.58)		

Notes: The data sources and definitions of the variables are provided in Appendix C. The table reports the results from the following regression:

$$LLP_{it} = \gamma_0 + \gamma_1 \Delta PL_{i,t-1} + \gamma_2 \times \Delta PL_{it} + \gamma_3 \Delta PL_{i,t+1} + \gamma_4 NCOF_{it} + \gamma_5 NCOF_{i,t+1} + \gamma_6 LLR_{i,t-1} + \gamma_7 TCL_{it}$$
$$+ \gamma_8 D_{PR} + \gamma_9 D_{PR} \times \Delta PL_{it-1} + \gamma_{10} D_{PR} \times \Delta PL_{it} + \gamma_{11} D_{PR} \times \Delta PL_{i,t+1} + \gamma_{12} D_{PR} \times NCOF_{it} + \gamma_{13} D_{PR} \times NCOF_{i,t+1}$$
$$+ \gamma_{14} D_{PR} \times LLR_{i,t-1} + \gamma_{15} D_{PR} \times TCL_{it} + \varepsilon_{it}$$

The models are estimated by linear OLS regressions with the White robust standard deviations. The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively. We name γ_2, γ_4, γ_{10} and γ_{12} as *PUBCNSV_LLP_PL, PUBCNSV_LLP_COF, DIFCNSV_LLP_PL,* and *DIFCNSV_LLP_COF* and use them as proxies for public bank conservatism in loan loss provisions relative to changes in problem loans, to net charges offs, and difference of conservatism in loan loss provisions relative to changes in problem loans and to net charge offs across listing status, respectively.

However, there is no inference can be drawn on whether financial reporting of public banks is more conservative than that of private banks, based on the country-by-country results for our 45 sample countries. For differences in reporting conservatism estimated from equation (4.1) to (4.3), about half of the countries exhibit that public banks are more conservative, but the other half exhibit the reverse situation. That is, our international results do not support the argument by Ball and Shivakumar (2005) or Nichols et al. (2005) that listing status is associated with more conservative financial reporting, although our results for U.K. and U.S.A. are consistent with these two studies. Furthermore, our results do not contradict the conservatism of bank financial reporting, but suggest that it may be insufficient to consider only listing status when we compare conservatism reporting across listing status in international settings. They indicate that more investigations for effects of regulations on bank incentives to reporting conservatism are needed.

6. The role of securities market governance on reporting conservatism across listing status

In this section, we take conservatism measures estimated from each country as dependent variables and run cross-country regressions to examine whether securities market governance mechanisms explain the international variations on public banks conservatism and on difference in conservatism across listing status. We do not include conservatism measures for loan loss provisions to changes in problem loans and to net charges offs at this stage because that less than 15 country observations with both conservatism measures and regulation variables are insufficient for the cross-country regressions. Therefore, only conservatism measures for earnings changes and for loan loss provisions relative to changes in operating cash flows are examined. The cross-country regressions are presented in equations (4.4) and (4.5).

$$PUBCNSV\_NI(or\ PUBCNSV\_LLP\_CF)$$
$$= \theta_0 + \theta_1 PRIVENF + \theta_2 PUBLENF + \theta_3 BONDCAP + \theta_4 STKCAP$$
$$+ \theta_5 SUPPWR + \theta_6 PRIIDX + \theta_7 LAW + \theta_8 GDP + \eta, \tag{4.4}$$

$$DIFCNSV\_NI(or\ DIFCNSV\_LLP\_CF)$$
$$= \theta_0 + \theta_1 PRIVENF + \theta_2 PUBLENF + \theta_3 BONDCAP + \theta_4 STKCAP$$
$$+ \theta_5 LAW + \theta_6 GDP + \eta, \tag{4.5}$$

where *PRIVENF* and *PUBLENF* represent whether a country has more stringent private enforcement rules and public enforcement rules or not, respectively; *BONDDCAP* and *STKCAP* represent whether a country has more developed bond and stock markets or not, respectively;[51] *SUPPWR* and *PRIIDX* represent whether a country has stronger supervisor power and a better private monitoring environment or not, respectively; *LAW* takes the value of one if the commercial law origin of the country is English, German or Scandinavian origin, and it is zero otherwise; *GDP* represent whether a country has higher GDP per capita or not and it controls for a country's economic condition. Further, the control for the law origin is to examine whether incentives for bank financial reporting are influenced by its legal origin which proxies for investor protection and law enforcement (La Porta et al., 1998; Leuzet al., 2003; Burgstahler et al., 2006).

In equation (4.4), we control for the banking industry regulation variables, *SUPPWR* and *PRIIDX*, because public banks are under supervision by the monetary authority and follow the securities market regulations at the same time. But, we do not control for the banking industry regulation variables in equation (4.5) because both public and private banks are under

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[51] The use of market capitalization scaled by GDP to proxy for the market development may also proxy for the market size, although it is usually applied by most of the existing studies that examine stock market development (Beck et al., 2003; Demirgüç-Kunt and Levine, 1995; and La Porta et al., 2006). Recently, Frost et al. (2006) develop an index, which comprises several variables measuring market size, liquidity or trading activities, to proxy for stock market development. In an additional test, we replace our original measure of stock market development with the measure of Frost et al. (2006) to reexamine the effects of market development on bank reporting conservatism. The results regarding the effects of stock market development are similar for the original and the new measure. Thus, we only report the original results in the subsequent discussion.

supervision by the monetary authority and thus the difference in conservatism across listing status is unrelated with the banking industry regulations.

If securities laws play a role to encourage bank financial reporting conservatism, we should observe that stringent rules are associated with more conservative reporting by public banks (i.e. negative *PUBCNSV_NI* and *PUBCNSV_LLP_CF*) and with larger difference in conservatism across listing status. Thus we expect to observe negative β_1 and β_2 for regressions on *PUBCNSV_NI* and *PUBCNSV_LLP_CF*, but positive β_1 and β_2 for regressions on *DIFCNSV_NI* and *DIFCNSV_LLP_CF*. We also expect that better developed bond (stock) market is associated with conservative reporting by public banks and with larger difference in conservatism across listing status because these relations are the evidence for well-functioned debt contracting (stock or compensation contracting) mechanism. Hence, we expect negative β_3 and β_4 for regressions on *PUBCNSV_NI* and *PUBCNSV_LLP_CF*, but positive β_3 and β_4 for regressions on *DIFCNSV_NI* and *DIFCNSV_LLP_CF*.

6.1   Factors for international variations in conservatism of public bank reporting

Panel A of Table 4.7 reports results from the effects of securities market governance on reporting conservatism for public banks. Results for conservatism in earnings changes (*PUBCNSV_NI*) are presented in Models 1-2. Model 1 examines only the effects of securities market regulation and Model 2 further include the effects of securities market development. Both models are controlled with the effects of banking industry regulations. We have some missing data on variables for securities market development and for banking industry regulations. Therefore, the regressions in Models 1 and 2 only include 31 and 28 countries, respectively.

Model 1 of Panel A in Table 4.7 shows that, in countries with more stringent private

enforcement in securities laws (*PRIVENF*), public banks do not report more conservative earnings changes, but that, in countries with more stringent public enforcement in securities laws (*PUBLENF*), public banks are more conservative in reporting earnings changes (with p-value = 5%). The results indicate that regulation on strengthening private enforcement is insufficient to ensure bank reporting conservatism, but regulation on empowering regulators with expertise functions to improve bank reporting conservatism. Thus, the results support our argument that public banks face more litigation risks and thus report earnings changes more conservatively in countries with stringent public enforcement in securities laws.

In Model 2, Panel A of Table 4.7, we present results for the effects of securities market development. With significant negative coefficient on *BONDCAP* but positive coefficient on *STKCAP*, we show that public banks are more conservative in reporting earnings changes in countries where bond market is more developed, but not in countries where stock market is more developed. Our results support the argument that countries with more developed bond market have well-functioned debt contracting mechanism and thus encourage conservative reporting in earnings changes by public banks. Furthermore, the significant negative coefficient on *PRIIDX* indicates that public banks are more conservative in reporting earning changes when they face higher level of private discipline encouraged by the monitory authority.

In Models 3-4, Panel A of Table 4.7, we present results for conservatism in reporting loan losses (*PUBCNSV_LLP_CF*). Negative coefficients on *PUBLENF* and *BONDCAP* indicate that public banks tend to report larger loan loss provisions for decreases in operating cash flows in countries with more stringent public enforcement securities laws and more developed bond market. However, both coefficients on *PUBLENF* and *BONDCAP* are not significant. Thus, it seems that securities market governance effects on bank conservatism is stronger for reporting on earnings changes than for reporting on loan losses.

Table 4.7 Effects of banking industry regulation and securities market governance on financial reporting conservatism:
Conservatism in earnings changes and loan loss provisions to changes in cash flows

		Panel A: Reporting conservatism for public banks									Panel B: Difference of reporting conservatism for public banks relative to private banks								
		Earnings changes (PUBCNSV_NI or α_3)				Loan loss provisions to changes in operating cash flows (PUBCNSV_LLP_CF, or β_3)					Earnings changes (DIFCNSV_NI or α_7)				Loan loss provisions to changes in operating cash flows (DIFCNSV_LLP_CF, or β_7)			
	Predicted Sign	Model1		Model2		Model3		Model4		Predicted Sign	Model5		Model6		Model7		Model8	
		Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat		Coeff	T-stat	Coeff	T-stat	Coeff	T-stat	Coeff	T-stat
Constant		-0.428	-1.38	-0.583	-1.51	-0.255	-0.59	-0.125	-0.21		0.115	0.24	-0.414	-0.67	0.225	0.40	0.034	0.06
PRIVENF	-	0.285	0.99	-0.343	-0.77	0.574	1.43	0.404	0.58	+	-0.847c	-1.66	-0.695	-1.00	-0.502	-0.82	-0.122	-0.19
PUBLENF	-	-0.685b	-2.58	-0.656b	-2.20	-0.416	-1.13	-0.425	-0.91	+	0.286	0.64	0.285	0.54	0.595	1.11	0.078	0.16
BONDCAP	-			-0.553c	-1.74			-0.308	-0.62	+			0.940c	1.70			0.594	1.18
STKCAP	-			0.858c	1.82			0.128	0.17	+			0.302	0.44			-0.049	-0.08
SUPPWR	-	0.036	0.15	0.279	1.07	-0.267	-0.80	-0.208	-0.51									
PRIIDX	-	-0.368	-1.01	-0.691c	-1.75	-0.032	-0.06	-0.113	-0.18									
LAW	-	-0.312	-1.03	-0.050	-0.15	-0.311	-0.74	-0.248	-0.48	+	0.187	0.35	0.368	0.66	0.143	0.23	0.024	0.05
GDP		0.663b	2.38	0.805b	2.65	-0.223	-0.58	-0.164	-0.34		0.060	0.13	-0.540	-0.91	0.136	0.24	-0.141	-0.26
R square		0.49		0.59		0.49		0.13			0.08		0.17		0.05		0.06	
Usable obs		31		28		31		28			45		38		45		38	

Notes: The data sources and definitions of the variables are provided in Appendix C. The table reports the results from the following regressions: (1) Panel A reports the regression results for public bank conservatism (PUBCNSV_NI and PUBCNSV_LLP_CF), (2) Panel B reports the regression results for difference of conservatism across listing status (DIFCNSV_NI and DIFCNSV_LLP_CF)

$$PUBCNSV\_CNI(or\ PUBCNSV\_LLP\_CF)$$
$$= \theta_0 + \theta_1 PRIVENF + \theta_2 PUBLENF + \theta_3 BONDCAP + \theta_4 STKCAP$$
$$+ \theta_5 SUPPWR + \theta_6 PRIIDX + \theta_7 LAW + \theta_8 GDP + \eta,$$

The models are estimated by linear OLS regressions.   The marks a, b, and c indicate significance at the 1%, 5%, and 10% levels, respectively.

6.2 Factors for international variations of difference in conservatism across listing status

Panel B of Table 4.7 reports results from the effects of securities market governance on difference of conservatism across listing status. Results for differences of conservatism in reporting earnings changes (*DIFCNSV_NI)* and loan losses (*DIFCNSV_LLP_CF)* are presented in Models 5-6 and Models 7-8, respectively. Model 5 and Model 7 examine only the effects of securities market regulation; Model 6 and Model 8 further include the effects of securities market development. The regressions in Model 6 and Model 8 only include 38 countries due to some missing data on variables for securities market development. Positive coefficients for variables on securities market governance indicate that the securities market governance effects is the main drive for the stronger reporting conservatism for public banks relative to their private counterparts. The results show that stronger public enforcement in securities laws (*PUBLENF*) and more developed debt market (*BONDCAP*) are related to larger differences of reporting conservatism across listing status for conservatism measures of reporting on earnings changes and reporting on loan losses. However, only the coefficient on *BONDCAP* in the regression for conservatism in earnings changes is significant (p-value = 10%). The evidence seems to support that developed bond market (*BONDCAP*) is more important than stringent public enforcement of securities laws (*PUBLENF*) to explain why public banks are more conservative in reporting earnings changes than their private counterparts in some countries.

7. Conclusions

This chapter extends previous studies to show that securities market governance mechanism play an important role in explaining financial reporting conservatism for public banks and for difference of reporting conservatism across listing status around the world. An international banking industry comparison provides us with the opportunity to gain insight

into the incentives of bank financial reporting. It offers more variation in securities market governance, while the accounting standards are largely analogous. Using conservatism measures for reporting on earnings changes and loan losses, we examine whether bank reporting conservatism varies across listing status and across country and further explore the forces that shape the reporting incentives for banks internationally.

Using the pooled sample banks from 45 countries in our regressions, we provide evidence that public banks are conservative in their financial reporting and they are more conservative than their private counterparts. The behaviors of conservative reporting for public banks are: (1) a stronger tendency for negative earnings changes to reverse than positive earnings changes, (2) more loan loss provisions for decreases in operating cash flows than for increases in operating cash flows, (3) more loan loss provisions when problem loans increase and more net charge offs when loan loss provisions increase.

However, country-by-country comparisons on bank reporting conservatism across listing status indicate that, in most countries, public banks show conservatism in their financial reporting, but, in about half of the sample countries, public banks do not show larger degree of conservatism than private banks. The results from our international data contradict the argument by Nichols et al. (2005) that public banks rely more on accounting disclosure as communication tool and thus are more conservative in their financial reporting than their private counterparts.

Empirical results for the further cross-country examination generally support our hypothesis that securities market governance mechanisms may influence public bank incentives for reporting conservatism and also explain the difference of conservatism across listing status. First, stringent public enforcement rules but not stringent private enforcement rules in securities laws improve public bank reporting conservatism by raising litigation risks for them. Second,

more developed bond market but not more developed stock market is associated with more conservatism in financial reporting for public banks. It is consistent with the view that debt contracting mechanism plays a more crucial role than stock (compensation) contracting mechanism to enhance bank reporting conservatism. Third, the securities market governance effects on conservatism in reporting earnings changes are stronger than their effects on conservatism in reporting loan losses. Fourth, bond market development is better than securities law stringency to explain why public banks are more conservatism in their financial reporting than their private counterparts in some countries. Furthermore, we also control for the banking industry regulations when we examine reporting conservatism by public banks. The results that public banks in countries with policies on strong private sector monitoring exhibit more conservative reporting confirms the role of private sector monitoring on banking governance presented in Barth et al. (2004) and Chang et al. (2006).

Finally, interpretation of our findings on cross-country regressions is subject to the caveat that the regressions use very small sample sizes. In the cross-country comparison, we fail to examine reporting conservatism on loan loss provisions to changes in problem loans and to net charge offs due to lack of data on information for problem loans, charge offs, and some institutional variables. Even for the other two conservatism measures examined, the data limitations reduce the country observations to as few as 28. The small sample size problem also limits the possible statistical methods we can use and might produce results with low power.

Despite the caveats we discuss above, our results generally support the argument that, after controlling for the banking industry regulations, securities market governance has incremental effects on public bank conservatism in their financial reporting. We also find evidence that debt market development better explain the international difference in

conservatism across listing status than securities market regulations. In other words, public bank report earnings changes more conservatively when bank supervisors encourage more private sector monitoring, when public enforcement rules of securities laws are stronger and when more developed bond market exists. Further, the stronger conservatism for public banks relative to private banks is widespread in countries with more developed bond market. Finally, the effects of securities market governance on bank conservatism are stronger for earnings changes than for loan losses.

CHAPTER V

Conclusions and Future Studies

This dissertation extends previous studies to explore the effects of institutions on the quality of bank financial reporting. Financial reporting quality is measured either by the level of earnings management or the extent of reporting conservatism. The cross-country comparison in the banking industry provides us with the opportunity to gain insights into bank reporting incentives, because it offers more variations in investor protection environment, bank supervision/regulation frameworks and the governance mechanisms on securities markets. Using the measures for financial reporting quality, we examine how the practices of these governance frameworks on banks shape their incentives to report financial statements. Our results should have policy implications regarding the supervision/regulation on banks.

In the first essay, we extend Leuz et al. (2003) to the banking industry and document the international differences in bank activities to manage earnings. Earnings management is displayed in earnings discretion and income smoothing. We show that earnings discretion is less severe in countries where legal protection is stronger, but income smoothing is alleviated in countries where supervision policies on encouraging private-sector monitoring are more prevalent. Our results confirm the study by Shen and Chih (2005) that stronger legal protection limits bank earnings management to exceed threshold. Further, our results suggest that it is insufficient for supervisors to limit bank earnings management by strengthening direct supervision powers without encouraging private-sector monitoring.

Our second essay extends the literature on the incentives for bank financial reporting to investigating their reporting conservatism across countries. Consistent with findings in the U.S. by Nichols et al. (2005), we show that public-traded banks are more conservative in

reporting earnings changes and loan loss provisions than their private counterparts. In addition to listing status, we provide further evidence that other governance mechanisms, such as the monitoring by supervisors, international rating agencies and depositors, have influences on the reporting conservatism as well. Our evidence also indicates that, unlike previous studies on industrial firms, bank regulation/supervision policies rather than the legal origin of a country have dominant effects on bank incentives to be conservative in financial reporting. Further, our evidence that bank reporting conservatism is improved by policies that encourage market discipline confirms the conclusions in Barth et al. (2004) and Beck et al. (2005) that private-sector monitoring plays a crucial governance role. Unlike their findings, our results also suggest that direct government supervision improves the quality of loan loss reporting because supervisors have access to confidential information about a bank's loan quality. In other words, bank financial reporting is shown to be more conservative under the threat of supervisory intervention and the stronger market discipline encouraged by the supervision policies.

Our third essay extends the studies by Ball and Shivakumar (2005) and Nichols et al. (2005) to compare the financial reporting conservatism between publicly-traded and privately-held banks around the world. The results indicate that the securities market governance explains the variations of reporting conservatism across listing status. With controls for bank supervision/regulation practices, we show that public banks practice more financial reporting conservatism when independent securities regulators are more empowered to intervene for violations to securities laws and when the bond markets are better developed. We also document that, in countries with better developed bond markets, reporting conservatism by public banks are stronger than that by private banks. Our results suggest that the threat of intervention by securities regulators works better than the standardized private

contracting framework to increase the litigation risks for banks and thus improve bank incentives to be conservative in their financial reporting. Our results also imply that, in countries with better developed bond markets, public banks face stronger market discipline and higher private litigation risks and thus report more conservatively than their private counterparts. Our study extends La Porta et al. (2006) to show that stronger public enforcement rules that empower securities regulators to intervene in banks improve the conservatism of bank financial reporting. We also confirm the results by Ball et al. (2005) that debt contracting mechanism is the main drive for the conservative financial reporting.

Taken together, our evidence indicates that supervisory policies on strengthening direct supervision and encouraging monitoring by private-sector players do improve bank incentives to report better quality of financial statements. First, bank earnings management level is lower not only in countries where law protection on investors is stronger, but also in countries where supervisory policies strongly promote private-sector monitoring. Second, banks are more conservative in reporting earnings changes when supervisory policies encourage private discipline against banks. Also, banks are more conservative in reporting loan losses in countries where bank supervisors have stronger corrective and restructuring powers against troubled banks and when banks are publicly traded (i.e., monitored by securities investors). Finally, the difference of reporting conservatism in earnings changes between public and private banks is larger in countries where regulators have stronger power to intervene in bank operations for violations in securities laws and where bond markets are more developed. These results support our claim that, to improve banking governance and financial reporting quality, the bank regulatory bodies should apply supervisory policies not only to strengthen direct supervisory powers, but also to encourage monitoring by small fund providers.

Furthermore, this dissertation mainly focuses on effects of the country-level governance

structure on the quality of bank financial reporting. It might be interesting to examine the effects of firm-level governance structures on bank reporting quality. For example, the board composition and the ownership structure of a bank may affect the incentives and behaviors of bank mangers and hence may have effects on bank reporting quality. The compensation schemes may also influence bank manager incentives to report financial statement. In addition, how the governance structures examined in this dissertation influence bank management strategies and their performance, for example diversification strategy, is also a good topic for further research. Besides, the study by Liu and Ryan (2006) document that banks may use specific methods to smooth their income over different business cycles in the U.S. In our future studies, we would like to extend their study to banks around the world to examine the effects of macro economic factors on bank incentives to their financial reporting.

Appendix A: Variable definitions and data sources for Chapter II

Variable	Earnings management measures
#SG (#SL)	Number of small profits (SG) or small losses (SL). A bank-year observation is classified as *SG* and *SL* when net income divided by lagged total assets is in the range of [0, 0.0006] and [-0.0006, 0), respectively.
EM1 Discretion to avoid small losses	EM1 is equal to #SG minus #SL and then scaled by the number of bank-year observations for a country. A higher EM1 represents that small profits are reported more frequently than small losses and is the evidence of more earnings discretion to avoid small losses.
EM2 Discretion on reported LLP	*EM*2 is a country's median ratio of absolute value of discretionary LLP scaled by absolute value of unmanaged operating income (unmanaged OPI). Unmanaged operating income (unmanaged OPI) is equal to operating income (OPI) plus discretionary LLP. A higher score of *EM*2 indicates that managers reporting larger magnitude of discretionary LLP.
EM3 Smooth of OPI relative to unmanaged OPI	*EM*3 is a country's median ratio of the standard deviation of operating income (OPI) divided by the standard deviation of unmanaged operating income (unmanaged OPI) multiplied by (-1). A higher value of *EM*3 indicates that managers smooth their operating income (OPI).
EM4 Smooth of OPI through changes in discretionary LLP	*EM*4 is a country's Spearman correlation between the changes in discretionary loan loss provisions (Δ discretionary LLP) and the changes in unmanaged operating income (Δ unmanaged OPI). A higher value of *EM*4 indicates that managers smooth the reported earnings by keeping the recognition of discretionary LLP positively correlated with their operating performance.
EM_{DSC}	EM_{DSC} is the average percentage rank of EM1 and EM2 and ranges from 0 to 100. A higher value of EM_{DSC} indicates that managers perform more earnings discretion.
EM_{SMTH}	EM_{SMTH} is the average percentage rank of EM3 and EM4 and ranges from 0 to 100. A higher value of EM_{SMTH} indicates that managers perform more earnings smoothing.
EM_{AGG}	EM_{AGG} is the average percentage rank of EM_{DSC} and EM_{SMTH} and ranges from 0 to 100. A higher value of EM_{AGG} indicates that managers perform more earnings management.

	Bank characteristics and economic condition variables
TA	The country's median total assets of banks.
ROA	The country's median return on assets of banks.
OWN	OWN is a country's median IND score. The IND score is the number transformed from the *BvD Independence indicator* in BANKSCOPE using the following rules: A+=1, A=2, A- =3, B+=4, B=5, B- =6, C=7, and U=8. A bank with a higher score has a more concentrated ownership structure.
GDP	The average of GDP per capita from 2000 to 2004. *Source: The database of World Development Indicators provided by the World Bank.*

	Investor protection environment
LAW	*LAW* is a common law dummy variable. *LAW* equals to 1 if a country has a common law origin and 0 otherwise. *Source: La Porta, Lopez-de-Silanes, and Shleifer (2002).*
ANTI	*ANTI* is the anti-director rights index and it ranges from zero to six. A higher score means better protection of investors. *Source: La Porta et al. (1998)*
ACCT	*ACCT* is a rating on accounting standard. A higher score means higher accounting quality.

Source: La Porta et al. (1998)

CPIX	CPIX is an average of the corruption perception index during 1986~1995. A lower score means a higher corruption level. *Source: La Porta et al. (1998)*

Bank regulatory supervision

SUPPWR	The supervisory power stringency index with a range from 0 to 14. A higher value indicates greater supervisory power to take specific actions to avoid and resolve problems. Following Barth, Caprio, and Levine (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 5.5+5.6+5.7+6.1+10.4+11.2+11.3.1+11.3.2+11.3.3+11.6.1+11.7.1+11.9.1.1+11.9.2.1+11.9.3.1. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
CAR	The overall capital stringency index with a range from 0 to 5. A higher value indicates greater stringency. Following Barth, Caprio, and Levine (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 3.1.1+3.3+3.9.1+3.9.2+3.9.3. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
PRIIDX	The private monitoring index with a range from 0 to 9. A higher value indicates greater private monitoring mechanisms required by the supervisor. Following Barth, Caprio, and Levine (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = AUDIT + [1, if LBKRATE equals 100%; 0, otherwise] + DEPOINSUR + BKDISCL + Other disclosure requirements including the World Bank Guide items 10.4.1, 10.5, and 3.5. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
AUDIT	= 1, if an external and certified auditor is required by the law or the supervisor; = 0 otherwise. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
LBKRATE	The percentage of the country's top ten banks rated by international rating agencies. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
BKDISCL	The index that represents the informativeness of bank accounting information with a range from 0 to 3. A higher value indicates more informative accounting information. Following Barth, Caprio, and Levine (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = (1 - 10.1.1) +10.3+10.6. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
DEPOINSUR	=1, if (i) no explicit deposit insurance scheme and no cases of bank failure or (ii) no explicit deposit insurance scheme and depositors were not fully compensated the last time a bank failed; = 0 otherwise. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*

Variable	Measures of conservatism
CNSV_NI	This measure represents conservatism in recognizing earnings changes. A more negative CNSV_NI indicates more conservative reporting of earnings changes. *Source: The coefficient α_3 in equation (3.1).*
CNSV_LLP_CF	This measure represents conservatism in reporting loan loss provisions relative to cash flow changes. A more negative CNSV_LLP_CF represents more conservative loan loss reporting. *Source: The coefficient β_3 in equation (3.2).*
CNSV_LLP_PL	This measure represents conservatism in reporting loan loss provisions relative to changes in problem loans. A more positive CNSV_LLP_PL represents more conservative loan loss reporting. *Source: The coefficient γ_2 in equation (3.3).*
CNSV_LLP_COF	This measure represents conservatism in reporting loan loss provisions relative to net charge-offs. A more positive CNSV_LLP_COF indicates more conservative loan loss reporting. *Source: The coefficient γ_4 in equation (3.3).*

	Institutional variables
PUB	=1, public banks; =0 private banks *Source: BANKSCOP CD_ROM, the September 2005 edition.*
LAW	=1, if the legal origin of a country's commercial laws is English, German, or Scandinavian origin; =0, if the legal origin of a country's commercial laws is French or Socialist origin. *Source: La Porta et al. (2002).*
GDP	The average of GDP per capita from 2000 to 2004. *Source: The database of World Development Indicators provided by the World Bank.*
GDPGR	The average of GDP growth rate from 2000 to 2004. *Source: The database of World Development Indicators provided by the World Bank.*
INFL	The average inflation rate from 2000 to 2004. *Source: The database of World Development Indicators provided by the World Bank.*
SUPPWR	The supervisory power stringency index with a range from 0 to 14. A higher value indicates greater supervisory power to take specific actions to avoid and resolve problems. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 5.5+5.6+5.7+6.1+10.4+11.2+11.3.1+11.3.2+11.3.3+11.6.1+11.7.1+11.9.1.1+11.9.2.1+11.9.3.1. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
CORRPWR	The prompt corrective power index with a range from 0 to 6. A higher value indicates greater supervisory power to intervene in bank operations when bank solvency deteriorates to predetermined levels by the law. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 11.8 × (11.1+11.2+11.3.1+11.3.2+11.3.3+6.1). *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
RESTRPWR	The restructuring power index with a range from 0 to 3. A higher value indicates greater supervisory powers to restructure troubled banks. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 11.9.1.1+11.9.2.1+11.9.3.1. Yes = 1; No = 0. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
INSLVNPWR	The declaring insolvency power index with a range from 0 to 2. A higher value indicates greater supervisory powers to declare insolvency of troubled banks. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 11.6.1+11.7.1.

	Source: the World Bank's Bank regulation and supervision database, the 2003 edition.
CAR	The overall capital stringency index with a range from 0 to 5. A higher value indicates greater stringency. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = 3.1.1+3.3+3.9.1+3.9.2+3.9.3. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
AUDIT	= 1, if an external and certified auditor is required by the law or the supervisor; = 0 otherwise. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
LBKRATE	The percentage of the country's top ten banks rated by international rating agencies. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
DEPOINSUR	=1, if (i) no explicit deposit insurance scheme and no cases of bank failure or (ii) no explicit deposit insurance scheme and depositors were not fully compensated the last time a bank failed; = 0 otherwise. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
BKDISCL	The index that represents the informativeness of bank accounting information with a range from 0 to 3. A higher value indicates more informative accounting information. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = (1 - 10.1.1) +10.3+10.6. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*
PRIIDX	The private monitoring index with a range from 0 to 9. A higher value indicates greater private monitoring mechanisms required by the supervisor. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.) = AUDIT + [1, if LBKRATE equals 100%; 0, otherwise] + DEPOINSUR + BKDISCL + Other disclosure requirements including the World Bank Guide items 10.4.1, 10.5, and 3.5. *Source: the World Bank's Bank regulation and supervision database, the 2003 edition.*

Accounting Variables	
TA	Total assets in millions of U.S. dollars. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
ROA	Returns on Assets. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
NI	Net income scaled by lagged total assets. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
LLP	Loan loss provisions scaled by lagged total assets. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
TCL	Total customer loans scaled by lagged total assets. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
CF	Operating cash flows scaled by lagged total assets. It is proxied by net income plus loan loss provision. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
PL	Problem loans scaled by lagged total assets. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
NCOF	Net charge offs scaled by lagged total assets. *Source: BANKSCOP CD_ROM, the September 2005 edition.*
LLR	Loan loss reserves scaled by lagged total assets. *Source: BANKSCOPE CD_ROM, the September 2005 edition.*

Appendix C: variable definitions and data sources in Chapter IV

Variable	Measures of reporting conservatism
PUBCNSV_NI	This measure represents public bank conservatism in recognizing earnings changes. A more negative PUBCNSV_NI indicates more conservative reporting on earnings changes. *Source: The coefficient α_3 in equation (4.1).*
PUBCNSV_LLP_CF	This measure represents public bank conservatism in reporting loan loss provisions relative to cash flow changes. A more negative PUBCNSV_LLP_CF represents more conservative in loan reporting. *Source: The coefficient β_3 in equation (4.2).*
PUBCNSV_LLP_PL	This measure represents public bank conservatism in reporting loan loss provisions relative to changes in problem loans. A more positive PUBCNSV_LLP_PL represents more conservative in loan loss reporting. *Source: The coefficient γ_2 in equation (4.3).*
PUBCNSV_LLP_COF	This measure represents public bank conservatism in reporting loan loss provisions relative to net charge offs. A more positive PUBCNSV_LLP_COF indicates more conservative in loan loss reporting. *Source: The coefficient γ_4 in equation (4.3).*
DIFCNSV_NI	This measure represents difference in bank conservatism across listing status in recognizing earnings changes. A more positive DIFCNSV_NI indicates that public bank reporting is more conservative than private bank reporting in earnings changes. *Source: The coefficient $_7$ of equation (4.1).*
DIFCNSV_LLP_CF	This measure represents difference in bank conservatism across listing status in reporting loan loss provisions relative to cash flow changes. A more positive DIFCNSV_LLP_CF represents that the loan loss reporting for public banks is more conservative than that for private banks. *Source: The coefficient $_7$ of equation (4.2).*
DIFCNSV_LLP_PL	This measure represents difference in bank conservatism across listing status in reporting loan loss provisions relative to changes in problem loans. A more negative DIFCNSV_LLP_PL represents that the loan loss reporting for public banks is more conservative than that for private banks. *Source: The coefficient $_{10}$ of equation (4.3).*
DIFCNSV_LLP_COF	This measure represents difference in bank conservatism across listing status in reporting loan loss provisions relative to net charge offs. A more negative DIFCNSV_LLP_COF indicates that the loan loss reporting for public banks is more conservative than that for private banks. *Source: The coefficient $_{12}$ of equation (4.3).*

	Institutional variables
LAW	=1, if the legal origin of a country's commercial laws is English, German, or Scandinavian origin; =0, if the legal origin of a country's commercial laws is French origin. *Source: La Porta et al.(1998).*
GDP	The average of GDP per capita from 2000 to 2004. In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0. *Source: The database of World Development Indicators provided by the World Bank.*
GDPGR	The average of GDP growth rate from 2000 to 2004. *Source: The database of World Development Indicators provided by the World Bank.*
INFL	The average inflation rate from 2000 to 2004. *Source: The database of World Development Indicators provided by the World Bank.*
SUPPWR	It is the official supervisory power stringency index with a range from 0 to 14. A higher value indicates greater supervisory power to take specific actions to avoid and cure problems. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.)

	=5.5+5.6+5.7+6.1+10.4+11.2+11.3.1+11.3.2+11.3.3+11.6.1+11.7.1+11.9.1.1+11.9.2.1+11.9.3.1.
	In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0.
	Source: the World Bank's Bank regulation and supervision database, the 2003 edition.
PRIIDX	It is the private monitoring index with a range from 0 to 9. A higher value indicates greater private monitoring mechanisms required by the supervisor. Following Barth et al. (2004), this index is the sum of the following items in the World Bank Guide: (If it is "Yes," the item = 1; if it is "No," the item = 0.)
	= AUDIT + [1, if LBKRATE equals 100%; 0, otherwise] + DEPOINSUR + BKDISCL + Other disclosure requirements including the World Bank Guide items 10.4.1, 10.5, and 3.5.
	where AUDIT = 1, if an external and certified auditor is required by the law or the supervisor; = 0 otherwise; LBKRATE is the percentage of the top ten banks rated by international rating agencies; DEPOINSUR =1, if (i) no explicit deposit insurance scheme and no cases of bank failure or (ii) no explicit deposit insurance scheme and depositors were not fully compensated the last time when a bank failed; = 0 otherwise; BKDISCL is an index for the informativeness of bank accounting information and is the sum of the World Bank Guide items: (1-10.1.1)+10.3+10.6 (If it is "Yes," the item = 1; if it is "No," the item = 0.).
	In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0.
	Source: the World Bank's Bank regulation and supervision database, the 2003 edition.
BONDCAP	An average ratio of the amount of domestic debt securities issued by financial institutions and firms to GDP in 1997-2004. It represents the bond market development for a country, i.e., a proxy for debt contracting channel. A larger *BONDCAP* is expected to be associated with more conservative earnings of public banks.
	In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0.
	Source: Database on Financial Development and Structure (1960-2004) from The World Bank. Beck et al. (2000) provide a complete introduction to this database.
STKCAP	An average ratio of stock market capitalization held by small investors to GDP in 1996-2000. It represents the stock market development for a country, i.e. a proxy for compensation contracting channel. A larger *STKCAP* is expected to be associated with more conservative reporting of public banks.
	In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0.
	Source: La Porta et al. (2006).
PRIVENF	An index measures the stringency on rules of private enforcement in securities laws and is the average of the following two indexes: (1) disclosure requirement index that measures the prospectus disclosure requirements for issuing firms, (2) liability standard index that measures the liability standards for the issuer, its distributors and accountings when securities holders sue them for recovering losses due to misleading statements in the prospectus.
	In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0.
	Source: La Porta et al, (2006).
PUBLENF	An index measures the stringency on rules of public enforcement in securities laws and is the average of the following five indexes: (1) supervisor characteristics index that measures their independence and focus, (2) rule making power index that measures supervisor's powers to issue regulations on securities offerings, (3) investigative powers index that measures supervisor's powers to investigate violations of securities laws, (4) orders index that measures supervisor's powers to issue non-criminal sanctions for violations of securities laws, (5) criminal index that measures supervisor's powers to

issue criminal sanctions for violations of securities laws.

In the cross-country regression, it is set to 1 if its value is greater than or equal to value of the median country; otherwise it is set to 0.

Source: La Porta et al. (2006).

	Accounting Variables
TA	Total assets in USD millions. *Source: BANKSCOP CD_ROM, September 2005 edition.*
ROA	Return of Assets. *Source: BANKSCOP CD_ROM, September 2005 edition.*
NI	Net income scaled by lagged total assets. *Source: BANKSCOP CD_ROM, September 2005 edition.*
LLP	Loan loss provisions scaled by lagged total assets. *Source: BANKSCOP CD_ROM, September 2005 edition.*
TCL	Total customer loans scaled by lagged total assets. *Source: BANKSCOP CD_ROM, September 2005 edition.*
CF	Operating cash flows scaled by lagged total assets. We use net income plus loan loss provision to proxy for operating cash flows. *Source: BANKSCOP CD_ROM, September 2005 edition.*
PL	Problem loans scaled by lagged total assets. *Source: BANKSCOP CD_ROM, September 2005 edition.*
NCOF	Net charge offs scaled by lagged total assets. *Source: BANKSCOP CD_ROM, September 2005 edition.*
LLR	Loan loss reserves scaled by lagged total assets. *Source: BANKSCOPE CD_ROM, September 2005 edition.*

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