

Governance, Competition and Opportunistic Accounting Choices by Banks

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Abstract

We investigate the influence of bank competition on agency costs by examining whether earnings management in the form of loan loss provision smoothing increases as the wedge between control rights and cash-flow rights increases. We hypothesize that disciplining pressure from intense bank competition counteracts negative consequences of a control rights-cash flow rights wedge, reducing incentives of controlling shareholders to engage in earnings smoothing. While we find that earnings smoothing by banks is increasing in the magnitude of the wedge, the impact of the wedge on earnings smoothing significantly decreases as bank competition increases. Our results illustrate the powerful role that competition can play in counteracting negative consequences of weak governance structures for opportunistic accounting choices by banks.

1. Introduction

While diffuse ownership structures give rise to potential agency conflicts between managers and owners of firms (e.g., Berle and Means 1932, Jensen and Meckling 1976), concentrated ownership structures are not immune from agency conflicts as controlling shareholders can exploit control to expropriate a firm's resources for their own private benefit (e.g., Shleifer and Vishny 1997). Ownership interests consist of two distinct ownership components, cash flow and control rights. From a governance perspective, controlling shareholders enjoying considerable control exceeding their cash flow rights have incentives and opportunities to obtain private benefits at the expense of firm value.¹ That is, conditional on having control, incentives to consume private benefits depend on a controlling shareholder's skin-in-the-game as embedded in their holdings of cash-flow rights.² Prior research provides evidence consistent with such expropriation, showing that firm value falls as cash flow rights of controlling shareholders decrease, and when control rights of controlling shareholders exceed cash-flow rights. This holds both for non-financial firms (Claessens et al. 2002) and banks (Caprio, Laeven and Levine 2007).

Expropriation activities create incentives for controlling shareholders to conceal such activities from outsiders to avoid political costs and potential disciplinary actions against them (see, e.g., Zingales 1994; Shleifer and Vishny 1997). Luez, Nanda and Wysocki (2003) posit that controlling owners have incentives to opportunistically manage a firm's earnings to mask true firm performance and conceal their extraction of private control benefits from outsiders. Focusing on the banking sector, we investigate how the intensity of a bank's competitive

¹ Mechanisms for separating control from cash flow rights include pyramids, cross-holdings, and dual class shares. See Bebchuk, Kraakman and Triantis (2000) for a detailed discussion of these mechanisms.

² Controlling shareholders could expropriate minority shareholders via self-dealing transactions in which profits can be transferred to other firms they control. They could also pursue objectives that are not profit-maximizing in return for personal utilities. See Fan and Wong (2002) for detail discussions.

environment impacts the incentives of controlling shareholders to extract private benefits and manage earnings to conceal such expropriation activities.³

We utilize a sample of banks from 46 countries to investigate whether earnings management in the form of loan loss provision smoothing increases as the wedge between a controlling shareholder's control and cash flow rights increases. A main objective of our paper is to investigate the extent to which bank competition mitigates controlling shareholders incentives to manage earnings. Specifically, we test the hypothesis that disciplining pressure exerted on banks by intense bank competition counteracts negative consequences of the control rights-cash flow rights wedge, reducing the influence of the wedge on the incentives of controlling shareholders to engage in earnings smoothing. We provide evidence consistent with this hypothesis.

Banks are in many respects similar to non-financial firms, and so our paper speaks generally to relations between ownership structures, private benefits of control, and opportunistic accounting. However, the banking sector is also in some respects special and is an important setting in which to investigate the nexus between governance and earnings management. Banks are the backbone of a country's financial sector, making it important to understand the role corporate governance plays in determining bank stability and the efficiency with which banks provide financial services to the economy (e.g., Caprio, Laeven and Levine 2007). Governance also has special relevance to the banking sector deriving from the tension created by the dual demands on banks to be value maximizing entities that also serve public interests that transcend the individual bank, where opportunistic behavior can impose substantial negative externalities on the economy. When controlling owners manage loan loss provisions to conceal private benefit

³ Healy and Wahlen (1999) define earnings management as the alteration of firms' reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes.

extraction by masking true performance and risk attributes of loan portfolios, the attendant loss of transparency can undermine bank stability. For example, Bushman and Williams (2012 and 2015) find that diminished transparency deriving from opportunistic management of loan loss provisions can dampen risk-taking discipline by inhibiting outside monitoring of banks, and by increasing equity financing frictions that restrict banks' ability to replenish capital during economic downturns.

Our bank ownership sample is from Laeven and Levine (2009). Data permitting, they collect detailed ownership data for the year 2001 on the 10 largest publicly listed banks in countries for which La Porta et al. (1998) assembled data on shareholder rights.⁴ Given the existence of complex pyramid schemes and cross-holding structures, cash flow and control rights are established by tracing indirect ownerships chains backwards through numerous corporations to identify the ultimate controllers of the votes. The data set contains cash flow rights and voting rights for all banks where the ultimate owner has direct and indirect voting rights that sum to 10% or more.⁵ Banks with no owner holding 10% or more of the voting rights are classified as diffusely held. All results are robust to increasing this cutoff to 30%. Our main variable of interest is the wedge, calculated as the total percentage of voting rights held minus the total percentage of cash flow rights. We also run specifications that include voting rights and cash flows rights separately in place of the wedge. While the sample size varies with the particular specification, our maximum sample consists of 243 banks from 46 countries.

To capture the opportunistic use of accounting discretion by banks we use earnings smoothing via loan loss provisions. The loan loss provision represents the main accounting

⁴ Laeven and Levine (2009) eliminate all state-owned banks (banks with majority stakes by the government), implying that the sample focuses only on private owners. We include the La Porta et al. (1998) shareholder rights variable, along with many others, as a control in all specifications.

⁵ The data includes two additional governance variables that we include as controls: total cash flow rights held by senior management of the bank, and an indicator if the controlling shareholder has a seat on the board of directors.

accrual for most banks, facilitating our ability to estimate smoothing by examining the behavior of loss provisions alone. Our focus on banks also minimizes innate differences in the wealth generating process across firms in our sample, an issue that plagues the study of earnings management at non-financial firms (Dechow, Ge and Schrand 2010). Earnings smoothing is commonly posited to reflect the opportunistic exercise of accounting discretion by insiders to manage reported earnings in order to conceal adverse economic shocks or underreport strong current performance to create reserves for the future (e.g., Leuz, Nanda and Wysocki 2003). In a banking context, Bushman and Williams (2012) provide evidence that discretionary smoothing via loan loss provisions reduces the transparency of banks to outsiders. We estimate smoothing using the coefficient from a regression of loan loss provisions on contemporaneous earnings, after controlling for non-discretionary determinants of loan loss provisions. Higher sensitivity of current provisions to current period earnings realizations is interpreted as greater discretionary smoothing.⁶

Using this empirical smoothing specification, we first investigate whether loan loss provision smoothing increases as the wedge between a controlling shareholder's control and cash flow rights increases. We find that earnings smoothing is increasing in the wedge, after controlling for a wide range of key bank-level and country-level variables. As noted earlier, Caprio, Laeven and Levine (2007) show that bank valuations fall as controlling owners' cash flow rights decrease, consistent with increasing private benefits of control. We extend Caprio, Laeven and Levine (2007) by showing that increasing private benefits of control are

⁶ A significant literature uses analogous empirical specifications to examine the use of discretionary loan loss provisioning to smooth earnings. Such papers include Greenwald and Sinkey (1988), Beatty, Chamberlain and Mogliolo (1995), Collins, Shackelford and Whalen (1995), Ahmed, Takeda and Thomas (1999), Laeven and Majnoni (2003), Bikker and Metzmakers (2005), Liu and Ryan (2006), Fonseca and Gonzalez (2008), Pérez, Salas-Fumas and Saurina (2008), and Gebhardt and Novotny-Farkas (2011), among others.

accompanied by increased smoothing, presumably to conceal expropriation activities.⁷ Our results also complement Fan and Wong (2002), who find that the informativeness of accounting earnings is decreasing in the wedge between voting and cash flow rights using a sample of firms from seven East Asian economies.

Building on this baseline result, we next examine the hypothesis that bank competition offsets the negative consequences of weak governance emanating from the control rights-cash flow rights wedge, reducing incentives of controlling shareholders to engage in earnings smoothing. Economists have long argued that competitive forces act as a disciplining device, exerting pressure on firms to reduce slack and improve efficiency in order to survive (e.g., Scherer 1980, Fama 1980). However, this hypothesis has been difficult to establish empirically (e.g., Giroud and Mueller 2010, Jagannathan and Srinivasan 1999). We exploit our setting to investigate the extent to which bank competition reduces opportunistic earnings management by controlling shareholders.

Following Beck, De Jonghe and Schepens (2013), among others, we estimate competition at the bank level using the Lerner index. The Lerner index captures competition by estimating pricing power as the distance between marginal revenues and marginal costs. In contrast to competition measures such as market share or market concentration, the Lerner index has several advantages for our study. First, it does not require explicit definition of the market in which the bank competes, potentially allowing the measure to capture the competition that a particular bank faces from existing domestic banks, foreign banks, potential entrants, and non-bank competitors. Second, the Lerner index conceptually measures the extent to which an individual bank can increase marginal price beyond marginal cost. The bank's ability to create a separation between

⁷ Potential channels through which the controlling shareholders of banks expropriate minority shareholders include making loans to risky related parties at below market rates, making loans to politicians or government officials, rolling over failing loans of cronies to keep them afloat, etc.

marginal price and marginal cost creates scope for the bank's controlling shareholders to expropriate and enjoy private benefits of control.

We split banks into high and low competition partitions based on estimated Lerner indices. We then estimate the relation between smoothing and the control-cash flow rights wedge separately within each partition. We find that our previous result that smoothing increases with the wedge, only holds in the low competition partition. In contrast, there is no relation between smoothing and the wedge in the high competition partition where banks face significant disciplining pressure from the competitive environment.

The recent financial crisis has focused much attention on sources of structural weaknesses in the banking sector. In this vein, bank governance has received significant attention from both academics (Mehran, Morrison and Shapiro 2011) and policy-makers (Senior Supervisors Group 2008, 2009; Walker Report 2009; Committee of European Banking Supervisors 2010). Our paper contributes to the literature on bank governance and bank competition by documenting the powerful role that bank competition plays in counteracting the negative consequences of weak governance structures as manifested in opportunistic accounting choices by banks. We also contribute to the debate with respect to the mechanisms through which competition affects stability in the banking sector by documenting the negative consequences of earnings smoothing, lending support to the competition-stability hypothesis.

The rest of the paper is organized as follows: section 2 discusses the related literature. Section 3 explains our data and empirical approach. Section 4 presents the empirical results and section 5 concludes.

2. Related Literature

A crucial agency problem is the ability of controlling owners to expropriate corporate resources (e.g., Jensen and Meckling 1976). The incentives of controlling shareholders to expropriate resources depend on their cash-flow rights. As their cash-flow rights rise, expropriation involves a greater reduction in their own cash flow. Since expropriation is costly, increases in the cash-flow rights of the controlling owner will reduce incentives to expropriate resources from the corporation, holding other factors constant.

Grossman and Hart (1988) and Harris and Raviv (1988) demonstrate that separating ownership and control can lower shareholders' value and may not be socially optimal. Shleifer and Vishny (1997) argue that when ownership exceeds the point where large owners gain nearly full control of the company they may prefer to use firms to generate private benefits of control that are not shared by minority shareholders. Bebchuk, Kraakman, and Triantis (2000) contend that separating control rights from cash-flow rights can create agency costs an order of magnitude larger than the costs associated with a controlling shareholder who also has a majority of the cash-flow rights in his or her corporation. Claessens et al. (2002) find that firm value increases with the cash-flow ownership of the largest shareholder, consistent with a positive incentive effect. But firm value falls when the control rights of the largest shareholder exceed its cash-flow ownership, consistent with an entrenchment effect.

Loan loss provisioning is a key accounting choice that directly influences the volatility and cyclicity of bank earnings, as well as information properties of banks' financial reports with respect to reflecting loan portfolios' risk attributes. Banks around the world have significant discretion over their loan provisioning decisions (Bushman and Williams 2012, Fonseca and Gonzalez 2008, Laeven and Majnoni 2003). However, accounting discretion is a double-edged

sword (e.g., Dechow and Skinner 2000). While increased discretion may facilitate incorporation of more information about future expected losses into loan provisioning decisions, it also increases potential for opportunistic or misguided accounting behavior by managers that can degrade bank transparency and lead to negative consequences along other dimensions (e.g., Koch and Wall 2000).

Dechow, Ge and Schrand (2010) classify research on earnings quality according to whether it provides evidence on the determinants or the consequences of the earnings quality proxy it examines. A significant literature exists examining the use of discretionary loan loss provisioning to smooth earnings that can be characterized as determinants studies. Such papers include Greenwald and Sinkey (1988), Beatty, Chamberlain and Mogliolo (1995), Collins, Shackelford and Whalen (1995), Ahmed, Takeda and Thomas (1999), Laeven and Majnoni (2003), Bikker and Metzmakers (2004), Liu and Ryan (2006), Pérez, Salas-Fumas and Saurina (2008), and Gebhardt and Novotny-Farkas (2011), among others.

Bushman and Williams (2012) explore consequences of banks' loan loss provision smoothing for bank stability. Examining banks across 27 countries, Bushman and Williams (2012) find that smoothing of loan loss provisions dampens discipline over risk-taking, consistent with diminished transparency inhibiting outside monitoring. Indicative of smoothing dampening disciplinary pressure over banks' risk-taking activities, they find that the sensitivity of bank capital to changes in asset volatility is lower in high smoothing regimes relative to low smoothing regimes, and that banks in high smoothing regimes exhibit more risk-shifting relative to banks in low smoothing countries.

How competition affects firm performance is a central question of economics. While the forces of competition are fundamental to all sectors of an economy, an issue of particular interest

to bank regulators and policy-makers is the potential link between bank competition and the financial stability of banks. A large body of prior research has failed to resolve this important question (e.g., Allen and Gale 2004, Beck 2008, Claessens 2009). On the one hand, the competition-fragility view posits that more competition among banks leads to more fragility. This “charter value” view of banking sees banks as choosing the risk of their asset portfolio. Banks owners, however, have incentives to shift risk to depositors, as in a world of limited liability they only participate in the up-side part of this risk taking. In a more competitive environment with more pressure on profits, banks have higher incentives to take more excessive risks, resulting in higher fragility. In systems with restricted entry and therefore limited competition, banks have better profit opportunities, capital cushions and therefore few incentives to take aggressive risks, with positive repercussions for financial stability. In addition, in a more competitive environment, banks earn fewer information rents from their relationship with borrowers, reducing their incentives to properly screen borrowers, again increasing the risk of fragility. On the other hand, the competition-stability hypothesis argues that more competitive banking systems result in more, rather less, stability. Specifically, Boyd and De Nicolo (2005) show that lower lending rates reduce the entrepreneurs’ cost of borrowing and increase the success rate of entrepreneurs’ investments. As a consequence, banks will face lower credit risk on their loan portfolio in more competitive markets, which should lead to increased banking sector stability.

In this paper, we take a novel approach to the competition-stability question by examining how banks’ competitive environment impacts the incentives of controlling shareholders to extract private benefits and manage earnings to conceal such expropriation activities. Our innovation is in examining how the interaction between bank competition and

governance impacts bank behavior, specifically the extent of opportunistic loan loss provisioning behavior. Building on prior literature examining connections between weak bank governance and expropriation by controlling owners, we first show that increasing private benefits of control are accompanied by increased smoothing, presumably to conceal expropriation activities. We then show that greater bank competition is associated with less smoothing, consistent with competition counteracting the expropriation incentives created by weak governance. Finally, we document the consequences of banks' earnings smoothing by showing that banks engaging in more earnings smoothing have lower valuation and higher default likelihood, lending support to the competition-stability hypothesis.

3. Data, Bank Ownership Estimation and Empirical Design

3.1 Data, Bank Ownership Estimation

The analyses in this study are based on the sample in Laeven and Levine (2009, hereafter LL). They collected information on the ten largest publicly listed banks,⁸ as defined by total assets at the end of 2001, in the countries for which La Porta et al. (1998) assembled data on shareholder rights. Because LL focuses on the incentives of private owners, all state-owned banks are excluded. State-owned banks are defined as banks where the government owns the majority stake over the sample period. This yields a sample of 279 banks from 48 countries in 2001. The sample, on average, accounts for over 80% of total assets in the banking system in each country.

Following Caprio, Laeven and Levine (2007), LL collect data on bank ownership structure in 2001 and classify a bank as having a large shareholder if the shareholder has direct

⁸ LL note that “focusing on the largest banks enhances comparability because they tend to comply with international accounting standards and have more liquid shares, reducing concerns that accounting or liquidity differences drive the results”.

or indirect voting rights of 10% or more. Otherwise, the bank is classified as being diffusely held. Shares registered in the shareholder's name are classified as direct ownership, while those held by entities controlled by ultimate shareholders are defined as indirect ownership. For indirect ownership, the control chain is traced backwards through numerous entities to identify the ultimate controllers. When there were several control chains between an ultimate controller and a bank, LL summarized the voting rights across all of these chains to calculate the control rights of that ultimate controller. For multiple shareholders with over 10% voting rights, they define the large shareholder as the owner with the highest control rights. As the large owner could hold cash flow rights directly and indirectly, the total number of cash flow rights is the sum of direct and indirect cash flow rights of the large shareholder. To compute indirect cash flow rights, LL use the products of the cash flow rights along the control chain of the large shareholder.

Using the data from LL, we compute the difference between a large shareholder's control rights and cash flow rights and label the variable *WEDGE*. We then use the variable *WEDGE* as a proxy for controlling shareholders' incentives to extract private benefits. We predict that banks with higher *WEDGE* engage in more earnings smoothing via loan loss provisions to conceal their expropriation activities.

3.2 Empirical Design

Following prior literature (Bushman and Williams, 2012; Liu and Ryan, 2006; Laeven and Majnoni, 2003) we estimate the extent to which banks' engage in loan loss provision smoothing using the following regression framework:

$$LLP_{ij} = \alpha + \beta_1 EBLLP_{ij} + Controls + \varepsilon_{ij}, \quad (1)$$

where LLP_{ij} is the loan loss provisions for bank i in country j , scaled by average loans outstanding during the year,⁹ and $EBLLP_{ij}$ is defined as earnings before loan loss provisions and taxes for bank i in country j . Under the incurred loss model of loan loss accounting, earnings before loan loss provisions and taxes should not explain contemporaneous provisioning after controlling for the determinants of provisions.¹⁰ To the extent banks smooth earnings via loan provision, LLP_{ij} , we will observe $\beta_1 > 0$.

To capture the effect of governance on observed income smoothing via the loan loss provision we modify equation (1) as follows:

$$LLP_{ij} = \alpha + \beta_1 EBLLP_{ij} + \beta_2 WEDGE_{ij} + \beta_3 EBLLP_{ij} * WEDGE_{ij} + Controls + \varepsilon_{ij} . \quad (2)$$

And also as:

$$LLP_{ij} = \gamma_0 + \gamma_1 CF_{ij} + \gamma_2 CF_{ij} * EBLLP_{ij} + \gamma_3 CONTROL_{ij} + \gamma_4 CONTROL_{ij} * EBLLP_{ij} + Control + \mu_{ij}, \quad (3)$$

where LLP and $EBLLP$ remain as defined previously. $WEDGE_{ij}$ is the difference between a controlling shareholder's control rights and cash flow rights for bank i in country j , calculated as total percentage of control rights ($CONTROL_{ij}$) minus total percentage of cash flow rights (CF_{ij}). As the incentives of controlling shareholders to expropriate increase, as proxied for by $WEDGE$, we also expect the incentives of controlling shareholders to engage in earnings smoothing to increase. We thus predict the coefficient β_3 in Eq. (2) to be significantly positive. In Eq. (3), we replace $WEDGE_{ij}$ with the measures of control rights ($CONTROL_{ij}$) and cash flow rights (CF_{ij}),

⁹ Average loans are computed as the mean value of total loans at the beginning of the year and those at the end of the year. Similar method applies to the computation of average assets.

¹⁰ U.S. GAAP and IFRS utilize an incurred loss model where loan losses are recognized only after loss events have occurred prior to the reporting date that are likely to result in future non-payment of loans.

and interact with $EBLLP_{ij}$. We expect that γ_4 in Eq. (3) to be significant positive if the incentives of controlling shareholders to expropriate increase their incentives to smooth earnings.

We include a number of bank-level control variables in all of our regression specifications to control for the determinants of LLP. We include a measure of bank capital, CAR_{ij} , computed as book value of equity divided by total assets for bank i in country j , to control for the effect of using loan loss provisions for capital management (Beatty, Chamberlain and Mogliolo 1995; Collins, Shackelford and Whalen 1995). We also include $Size_{ij}$ defined as natural logarithm of the average of total assets during the year for bank i in country j . We control for the risk of the bank using $ZSCORE_{ij}$, measuring the distance from insolvency as the return on assets plus the capital asset ratio divided by the standard deviation of asset returns (e.g., LL). $LoanGrowth_{ij}$ is the percentage change in total loans for bank i in country j for the year. Following LL, we include two governance related control variables. To control for senior management' share holdings, we include $MANAGER_CF_{ij}$, the total cash flow rights held by senior management of the bank. Finally, we include $OWNER_BOARD_{ij}$ an indicator set equal to "1" if a large shareholder has a seat on the management board of the bank, and "0" otherwise.

A vector of country-level capital market regulatory regimes is also included as control variables. To control for the general contracting and property rights environment of a country, we include a measure of the general disclosure requirements under securities law, *Disclosure*, (La Porta, Lopez-de-Silanes and Shleifer 2006), the efficiency of the judicial system, *Judicial*, (La Porta et al., 1998) and the country-level protection of investors against self-dealing, *Rights*, (Djankov et al., 2008). Stricter disclosure requirements and stronger associated enforcement should reduce opportunities for banks' earnings manipulation. Similarly, stronger investor protection rules facilitate equity financing in public equity markets by attempting to encourage

transparency in financial reporting. Thus, banks listed on stock markets characterized by higher disclosure requirements (*DISCLOSE*), higher judicial efficiency (*JUDICIAL*) and stronger investor protection (*RIGHT*) should have lower incentives and scope to mask true performance via earnings smoothing. Moreover, the level of GDP (*LGDP*) and the percentage change in GDP (ΔGDP) for a particular country are included to control for the overall development of the economy. Finally, we follow LL, and include a country-level index of official corruption (*CORRUPTION*) and a deposit insurance indicator at the country level (*DEPOSIT*). Detail description about these regimes is included in the Appendix.

After requiring all the variables for the regression analyses, our final sample consists of 174 banks from 37 countries. Table 1 Panel A reports country by country data on the number of sample banks and shows that no country makes up more than 6% of the sample, helping to eliminate concerns that any one country is driving the results. Since the values of some country-level variables are missing for certain countries, the number of observations used for regression analyses varies from 140 to 174.¹¹ Table 1 Panel B reports the descriptive statistics for the each of the regression variables for the pooled sample. Table 2 documents the results of estimating Eq. (2) without the interaction term $EBLLP_{ij} * WEDGE_{ij}$. After controlling for *WEDGE* and other bank-level and country-level characteristics, we show that the coefficient on *EBLLP* is significantly positive (i.e., 0.1799, significant at 1% level), consistent with banks engaging in earnings smoothing via loan loss provisions. Table 3 reports the distribution of wedge (*WEDGE*), cash flow rights (*CF*) and control rights (*CONTROL*) by country. The total sample mean values of *WEDGE*, *CF* and *CONTROL* are 0.0781, 0.2771 and 0.3552 respectively. The minimum mean

¹¹ In robustness analysis contained in section 4.3 below, we present analyses that include a number of additional controls for a country's bank regulatory regime including, restrictions on banks' activities, insurance activities, the power of supervisory authorities, the degree to which bank regulation promotes private monitoring activities, and the stringency of capital requirements. While all results are robust to including these variables, there is a substantial loss of sample size and so we relegate this analysis to the robustness section for expositional purposes.

value of *WEDGE* across countries is 0. The country with the largest mean *WEDGE* value is Brazil (0.574). The minimum mean values of *CF* and *CONTROL* across countries are 0, while the maximum mean value of *CF* is in Indonesia (0.7133) and that of *CONTROL* is in Brazil (0.804).

4. Empirical Results

4.1. Incentives to Smooth Earnings via the Loan Loss Provisions

Table 4 Panel A reports results estimating Eq. (2). As expected, banks' incentives to smooth earnings tend to be higher when the deviation between ultimate owners' control rights and cash flow rights is greater, as reflected by the positive coefficient of 0.3421 (p-value < 0.01) on the interaction between *WEDGE* and *EBLLP*. This result extends Caprio, Laeven and Levine (2007) by showing that increasing private benefits of control are accompanied by increased smoothing, presumably to conceal expropriation activities. That is, expropriation of private benefits of control goes hand-in-hand with obfuscation via earnings management. Our results also complement Fan and Wong (2002), who find that the informativeness of accounting earnings is decreasing in the wedge between voting and cash flow rights using a sample of firms from seven East Asian economies.

Results from the estimation of Eq. (3) are demonstrated in Table 4 Panel B. Consistent with our predictions, the coefficient on the interaction between *CONTROL* and *EBLLP* is significantly positive, i.e., 0.2878 (p-value < 0.01), implying that the above results in Panel A is driven by controlling shareholders' incentives to expropriate minority shareholders. Moreover, the coefficient on the interaction between *CF* and *EBLLP* is significantly negative (-0.3326, significant at 1% level). This implies that controlling shareholders' skin-in-the-game as

embedded in their holdings of cash-flow rights mitigate their incentives to expropriate, subsequently reducing the engagement of earnings smoothing by controlling shareholders. We turn next to an examination of the hypothesis that bank competition offsets the negative consequences of weak governance emanating from the control rights-cash flow rights wedge.

4.2. The Effects of Bank Competition on Incentives to Smooth

The literature on bank competition has employed a wide range of measures to capture the level of competition, including measures of industry concentration (e.g. Herfindahl indices), market share measures, measures of bank entry regulation, and measures based on observed relations between banks' output prices and input prices. In a recent paper, Bushman, Hendricks and Williams (2016) use bank management's discussion of competition found in the 10-K as a measure of banks' perceived competition. However, there is no consensus in the banking literature as to the best way to measure bank competition, as each measure has its own set of estimation and interpretation challenges.¹²

In this paper, we follow Beck, De Jonghe and Schepens (2012) and measure competition using the Lerner Index, a bank-level measure of market power. We employ the Lerner Index, as opposed to a country-level metric e.g. Herfindahl index, because Lerner directly captures the extent to which an individual bank can increase marginal price beyond the marginal cost. This ability to extract economic profits in essence creates scope for the bank's controlling shareholders to expropriate and enjoy private benefits of control. To capture a bank's market power, the Lerner Index employs the ratio between marginal revenue and marginal cost. Under perfect competition, marginal revenue will equal marginal cost. Reduced competition will induce a divergence between the two variables. Based on this economic reasoning, the Lerner Index is

¹² Berger et al. (2004) discuss the evolution of the literature in more details.

bound between 0 (perfect competition) and 1 (monopoly). Specifically, the Lerner Index is estimated as follows:

$$Lerner_{it} = \frac{P_{it} - MC_{it}}{P_{it}}. \quad (4)$$

P_{it} is measured as operating income (interest revenue plus non-interest revenue) to total assets.

MC_{it} is the marginal cost of the bank, and is estimated using the following translog cost function:

$$\begin{aligned} \ln C_{it} = & \beta_0 + \beta_1 \ln Q_{it} + \frac{\beta_2}{2} \ln Q_{it}^2 + \sum_{k=1}^3 \gamma_k \ln W_{k,it} + \sum_{k=1}^3 \varphi_k \ln Q_{it} \ln W_{k,it} \\ & + \sum_{k=1}^3 \sum_{j=1}^3 \ln W_{k,it} \ln W_{j,it} + \varepsilon_{it} \end{aligned} \quad (5)$$

C_{it} is total operating costs (interest expenses, personnel and other administrative or operating costs). Q_{it} is total output defined as total assets. $W_{1,it}$ is the input price of labor defined as wages divided by total assets. $W_{2,it}$ is the input price of funds defined as interest expense to total deposits. $W_{3,it}$ is the input price of fixed capital defined as non-interest expenses divided by total assets.

To estimate the Lerner Index, we obtain banks' financial data from the Bankscope database and estimate Eq. (5) by country using all banks with available data for the year 2001. For each country, we limit our estimations by only including bank holding companies, commercial banks and cooperative banks, consistent with Beck, De Jonghe and Schepens (2012). Using the estimated coefficients from Eq. (5), we calculate the marginal cost for each bank as:

$$MC_{it} = \frac{C_{it}}{Q_{it}} \left[\hat{\beta}_1 + \hat{\beta}_2 \ln Q_{it} + \sum_{k=1}^3 \hat{\varphi}_k \ln W_{k,it} \right] \quad (6)$$

The Lerner Index for each bank is then computed by inserting the bank-level measure of marginal cost from Eq. (6) into Eq. (4).

To investigate whether the disciplining pressure of bank competition counteracts the negative consequences of the control rights-cash flow rights wedge with respect to loan provision smoothing, we partition the sample into two groups based on the value of Lerner Index. As discussed earlier, lower levels of Lerner are indicative of higher competition. We therefore classify observations with a Lerner Index lower than the sample median into “High Competition” and classify those above the median into the “Low Competition” partition. We then estimate the relation between smoothing and the control-cash flow rights wedge separately within each partition. The descriptive statistics of Lerner Index are documented in Table 5. In Panel A, we show that the mean (median) value of Lerner Index for the entire sample of 140 banks is 0.2902 (0.2790). Table 5 Panel B demonstrates the mean value of Lerner Index by country for the “High Competition” and the “Low Competition” groups respectively. In the “High Competition” group, the average Lerner Index ranges from -0.0893 (Ecuador) to 0.2749 (Chile) across countries. Similarly, the mean value of Lerner Index varies between 0.2825 (Portugal) and 0.7633 (Jordan) for the “Low Competition” group.

Results from regression estimations are shown in Table 6 and Table 7. For regression estimations across partitions, we perform a Wald Test to test the hypothesis that the coefficients across regressions are significantly different from each other.¹³ In Table 6, we find that our result in Table 2 that banks smooth earnings via loan loss provisions holds in both the “High Competition” (coefficient of 0.3294, p-value < 0.01) and the “Low Competition” partition (coefficient of 0.1617, p-value < 0.01). The Chi-square statistics from the Wald Test is 4.28 (p-value < 0.05), indicating that the coefficients on *EBLLP* are significantly different across partitions.

¹³ See Section 6.4 in Greene (2012) for details.

However, in Table 7 Panel A, we find that our previous result from Table 4 Panel A that smoothing increases with the wedge, only holds in the low competition partition. In contrast, there is no relation between smoothing and the wedge in the high competition partition where banks face significant disciplining pressure from the competitive environment. That is, Table 7 Panel A shows that the coefficient on the interaction between *WEDGE* and *EBLLP* for banks in low competitive environments is significantly positive (coefficient of 0.9662, p-value < 0.05). Conversely, the interaction between *WEDGE* and smoothing is not significant in high competitive environments. Results from Wald Tests confirm that the coefficients on *EBLLP* (Chi-square: 3.45, p-value < 0.1) and the interaction between *WEDGE* and *EBLLP* (Chi-square: 6.14, p-value < 0.01) are significantly different across groups.

A further breakdown of *WEDGE* into *CF* and *CONTROL* shows similar results as documented in Table 7 Panel B. In Panel B of Table 7, our result from Table 4 Panel B that smoothing increases with the *CONTROL* while decreases with *CF* only holds in the low competition partition. Specifically, the coefficient on the interaction between *CONTROL* and *EBLLP* is significantly positive (coefficient of 1.0312, p-value < 0.05) and that on the interaction between *CF* and *EBLLP* is significantly negative (coefficient of -0.8717, p-value < 0.1) for banks in low competitive environments. Results from Wald Tests confirm that the coefficients on *EBLLP* (Chi-square: 6.09, p-value < 0.01), the interaction terms *CF* EBLLP* (Chi-square: 3.34, p-value < 0.1) and *CONTROL* EBLLP* (Chi-square: 8.59, p-value < 0.01) are significantly different across groups. Taken together, these results suggest that increased competitive pressures faced by banks counteract the negative consequences of weak governance structures as manifested in opportunistic accounting choices by banks.

4.3. Robustness Analysis

In this section, we describe a range of additional analyses that we perform to demonstrate the robustness of our main results. First, recall that LL define controlling owners using a 10% control rights cutoff. The implication is that the *WEDGE* variable in our study will only have a non-zero value when a large owner exists who holds at least 10% of the control rights. As a robustness check, we try an additional cutoff of 20% to compute *WEDGE*.¹⁴ This implies that the *WEDGE* will be coded as zero for any bank without an owner holding 20% or more of the control rights. Using this cutoff, we then re-estimate Eq. (2) for high competition and low competition groups respectively. In unreported regressions, we find results similar to those reported in Table 7 Panel A. Specifically, using 20% control rights cutoff, we document a significantly positive coefficient of 0.8923 (p-value < 0.1) on the interaction between *WEDGE* and *E BLLP* for banks in the low competitive partition, while the coefficient on the interaction is insignificant in the high competitive environments. Overall, the results are not affected by different control rights cutoffs.

Next, we extend our Table 7 analysis by including a number of additional country-level variables to control for cross-country differences in bank regulations. In terms of bank regulations, we control for various country-level bank regulation schemes. Bank regulation measures are from large sample survey data from the World Bank's website.¹⁵ We include three

¹⁴ Similar results are found using a cutoff of 30% control rights.

¹⁵ See the following link for the large sample survey of Barth, Caprio and Levine (2001, 2004, 2006, 2008) on the World Bank's website:

<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20345037~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html> The survey questions encompass regulation and supervision regimes with respect to the following 12 aspects: 1) entry into banking, 2) ownership, 3) capital, 4) activities, 5) external auditing requirements, 6) internal management/organizational requirements, 7) liquidity and diversification requirements, 8) depositor (savings) protection schemes, 9) provisioning requirements, 10) accounting information disclosure requirements, 11) discipline/problem institutions/exit, and 12) supervision. Indices for each of the 12 aspects are formed by certain aggregating rules based on the answers to survey questions. For detail methods in constructing the indices, please refer to Barth, Caprio and Levine (2001, 2004, and 2008).

measures of bank regulations. Overall restrictions on bank activities (*RESTRICT*), which measures restrictions for banks' participation in securities activities, insurance activities and real estate activities. Official supervision (*OFFICIAL*), measures the degree to which countries differ in the power of the supervisory authorities to take corrective actions when confronted with violations of regulations or other imprudent behavior on the part of banks.¹⁶ Private monitoring (*PRIVATE*), measures the degree to which bank regulation promotes market or private monitoring of banks.¹⁷ All results are robust to including these additional controls, despite entailing significant sample size reductions.

In untabulated regression estimation of Eq. (2), we document a significantly positive coefficient (1.5186, significant at 5% level) on the interaction between *WEDGE* and *E BLLP* for banks in lower competitive environments after controlling for these additional country-level regimes, while coefficient on this interaction term is not significant in the high competition partition. We find similar results for the estimation of Eq. (3) by including these additional controls. Specifically, untabulated results demonstrate that the coefficient on the interaction between *CONTROL* and *E BLLP* is significantly positive (coefficient of 1.3565, p-value < 0.01) and that on the interaction between *CF* and *E BLLP* is significantly negative (coefficient of -1.1971, p-value < 0.05) for banks in low competitive environments. Therefore, our conclusions

¹⁶ Major components of this measure include i) Prompt Corrective Action, i.e. government intervention to mandate the elimination of any supervision power to postpone or delay corrective actions to be taken against progressively deteriorating banks; ii) Restructuring Power, i.e. whether the supervisory authorities have the power to restructure and reorganize a troubled bank; iii) Declaring Insolvency Power, i.e. whether the supervisory authorities have the power to declare a deeply troubled bank insolvent.

¹⁷ Five major measures are constructed to capture private monitoring forces: i) Certified Audit Required, i.e. whether an external audit is required of the financial statement of a bank, and if so, by a licensed or certified auditor; ii) Percentage of Ten Biggest Banks Rated by International Rating Agencies; iii) Percentage of Ten Biggest Banks Rated by Domestic Rating Agencies; iv) No Explicit Deposit Insurance Scheme; v) Bank Accounting, i.e. whether income statement includes accrued though unpaid interest or principal on performing loans and nonperforming loans, whether banks are required to produce consolidated financial statements, and whether bank directors are legally liable if information disclosed is erroneous or misleading. Besides, other four measures are also included into private monitoring, i.e. off-balance sheet items disclosure, risk management procedure disclosure, if subordinated debt is allowed as a part of regulatory capital and if formal enforcement actions are made public.

do not change after controlling for country-level banking system concentration and bank regulations.

As a final robustness test, we extend the Eq. (2) and the Eq. (3) specifications by also interacting *EBLLP* with market-level institutions (i.e., *RIGHT*, *DISCLOSE*, *JUDICIAL*, *DEPOSIT*, *CORRUPT*) and governance characteristics (i.e., *MANAGER*, *OWNER_BOARD*). These results are reported in Table 8. For parsimony, Table 8 reports only the coefficients on the interaction terms, although all main effects are included in the regression. From Panel A, we see that all results are robust to inclusion of these additional interaction terms in the model. We document a significantly positive coefficient (1.2089, significant at 1% level) on the interaction between *WEDGE* and *EBLLP* for banks in lower competitive environments after controlling for these additional country-level regimes, while coefficient on this interaction term is not significant in the high competition partition. Similarly, Panel B of Table 8 shows consistent results with Table 7 Panel B. That is, controlling shareholders' incentives to smooth earnings increases with their control rights in lower competitive environments as reflected in the positive coefficient (0.4556, significant at 10% level) on the interaction between *CONTROL* and *EBLLP*.

5. Summary and Conclusions

The ability of controlling owners to expropriate corporate resources represents a fundamental agency problem. Incentives to expropriate private benefits depend on a controlling shareholder's skin-in-the-game as embedded in their holdings of cash-flow rights. Prior research shows that firm value falls both for banks and non-financial firms when the voting rights of controlling shareholders exceed their cash-flow rights. Controlling shareholders also have

incentives to conceal expropriation activities from outsiders by opportunistically managing the firm's accounting numbers.

Utilizing a sample of 174 banks from 37 countries, we investigate whether earnings management in the form of loan loss provision smoothing increases as the wedge between control rights and cash-flow rights increases. Our main objective is to investigate the extent to which bank competition reduces agency costs. We test the hypothesis that disciplining pressure exerted on banks by intense bank competition counteracts negative consequences of the control rights-cash flow rights wedge, reducing incentives of controlling shareholders to engage in earnings smoothing.

We find that the extent of loan provision smoothing by banks is increasing in the magnitude of the wedge, thus extending Caprio, Laeven and Levine (2007) by showing that increasing private benefits of control are accompanied by increased smoothing, presumably to conceal expropriation activities. We also find that the impact of the wedge on earnings smoothing significantly decreases as bank competition, measured using the Lerner index, increases. Finally, we document the consequences of earnings smoothing by showing that banks engaging in more earnings smoothing have lower market value and encounter future default events. We contribute to the literature by showing the powerful role that competition plays in counteracting the negative consequences of weak governance structures as manifested in banks' opportunistic earnings management choices.

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Appendix: Definition of Variables

Variable Name	Definition	Sources/Reference
<i>Bank-level Variables:</i>		
LLP	The reported loan loss provisions on the income statement at the end of the period scaled by average loans during the year.	Laeven and Levine (2009)
EBLLP	Earnings before taxes and loan loss provisions scaled by average loans during the year.	Laeven and Levine (2009)
WEDGE	The difference between control rights and cash flow rights of banks' ultimate controllers, calculated as total percentage of cash flow rights deducted from total percentage of control rights.	Laeven and Levine (2009)
CF	The cash flow rights of the large owner of the bank.	Laeven and Levine (2009)
CONTROL	The control rights held by the large owner of the bank.	Laeven and Levine (2009)
ZSCORE	The return on assets plus the capital asset ratio divided by the standard deviation of asset returns. ZSCORE measures the distance from insolvency.	Laeven and Levine (2009)
SIZE	Natural logarithm of the average of total assets during the year.	Laeven and Levine (2009)
CAR	Book value of equity divided by total assets.	Laeven and Levine (2009)
LoanGrowth	The percentage change in total loans for the year.	Laeven and Levine (2009)
LERNER	The Lerner Index attempts to capture the extent to which banks can increase the marginal price beyond the marginal cost, and is calculated as follows: $Lerner_{it} = \frac{P_{it} - MC_{it}}{P_{it}}$ <p>P_{it} is the operating income (interest revenue plus non-interest revenue) to total assets. MC_{it} is the marginal cost of the bank and is estimated using the following translog cost function:</p>	Beck, De Jonghe and Schepens (2012)

Variable Name	Definition	Sources/Reference
	$\ln C_{it} = \beta_0 + \beta_1 \ln Q_{it} + \frac{\beta_2}{2} \ln Q_{it}^2 + \sum_{k=1}^3 \gamma_{kt} \ln W_{k,it}$ $+ \sum_{k=1}^3 \varphi_k \ln Q_{it} \ln W_{k,it}$ $+ \sum_{k=1}^3 \sum_{j=1}^3 \ln W_{k,it} \ln W_{j,it} + \varepsilon_{it}$ <p>C_{it} is total costs (interest operating expense plus non-interest operating expenses). Q_{it} is total output defined as total assets. $W_{1,it}$ is the input price of labor defined as wages divided by total assets. $W_{2,it}$ is the input price of funds defined as interest expense to total deposits. $W_{3,it}$ is the input price of fixed capital defined as non-interest expenses divided by total assets. After estimating the cost function above, marginal cost of the bank is computed as:</p> $MC_{it} = \frac{C_{it}}{Q_{it}} \left[\hat{\beta}_1 + \hat{\beta}_2 \ln Q_{it} + \sum_{k=1}^3 \hat{\varphi}_k \ln W_{k,it} \right]$	
MANAGER_CF	Total cash flow rights held by senior management of the bank.	Laeven and Levine (2009)
OWNER_BOARD	An indicator equal to “1” if a large shareholder has a seat on the management board of the bank, and “0” otherwise.	Laeven and Levine (2009)
Q	Tobin’s Q, the ratio of the market value of equity plus the book value of liabilities to the book value of assets.	Laeven and Levine (2009)
Bank_Smoothing	A bank-level earnings smoothing measure estimated as the coefficient β_1 from the following bank-level regression: $LLP_t = \alpha + \beta_1 EBLLP_t + Control + \varepsilon_t$, where LLP is loan loss provisions on the income statement at the end of the period scaled by average loans during the year and EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. We also control for changes in non-performing loans, loan growth, Tier 1 capital ratio and total assets.	Bankscope, Laeven and Levine (2009)
ASSET	Total assets of the bank in millions of US dollars.	Laeven and Levine (2009)

Variable Name	Definition	Sources/Reference
LLP_RATIO	The ratio of bank's loan loss provisions to net interest income.	Laeven and Levine (2009)
DEFAULT	An indicator equal to "1" if a future default event occurs and "0" otherwise. The default events recognized are classified under one of the following events: (1) bankruptcy filing, receivership, liquidation or any other legal impasse to the timely settlement of interest and/or principal payments; (2) a missed or delayed payment of interest and/or principal, excluding delayed payments made within a grace period; (3) debt restructuring or distressed exchange, in which debt holders are offered a new security or package of securities that result in a diminished financial obligation (e.g., a conversion of debt to equity, debt with lower coupon or par amount, debt with lower seniority, debt with longer maturity).	Credit Research Initiative System
<i>Country-level Variables:</i>		
RIGHT	The Anti-self-dealing Index measures ex ante and ex post control of self-dealing through private enforcement for minority shareholder protection at the country level. The index is calculated based on answers to a questionnaire distributed to attorneys from Lex Mundi law firms. The lawyers received a case study regarding the transaction between two companies ("Buyer" and "Seller") and were asked to describe the minimum legal requirements in force with respect to: (1) who approves the transaction; (2) what needs to be disclosed to the board of directors or supervisory board, the shareholders, the stock exchange and the regulators; (3) the duties of officers, directors, and controlling shareholders; (4) how the transaction's validity could be challenged; (5) what causes of legal action are available if Buyer suffers damages; (6) what needs to be proved under each cause of legal action; (7) who has standing to sue under each cause of legal action; (8) the availability of director and derivative suits; (9) access to information and discovery rights; and (10) fines and criminal sanctions. The index has a scale of 0 to 1, with higher scores indicating higher level of anti-self-dealing controls.	Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008)
DISCLOSE	A measure of disclosure created from components of	La Porta, Lopez-

Variable Name	Definition	Sources/Reference
	the general securities law disclosure requirements. The index of disclosure requirement is computed based on the answers provided by one attorney from each country to the questionnaire describing the securities laws applicable to an offering of shares listed in the country's largest stock exchange. Specifically, the index includes disclosures of: (1) prospectus to potential investors before listing; (2) compensation of the issuer's directors and key officers; (3) the issuer's equity ownership structure; (4) the equity ownership of the issuer's shares by its directors and key officers; (5) the issuer's contracts outside the ordinary course of business; and (6) transactions between the issuer and its directors, officers, and/or large shareholders. The index has a scale of 0 to 1, with higher scores indicating higher disclosure requirements.	de-Silanes, and Shleifer (2006)
JUDICIAL	Judicial efficiency is the assessment of the "efficiency and integrity of the legal environment as it affects business, particularly foreign firms" produced by the country-risk rating agency Business International Corporation. It "may be taken to represent investors' assessments of conditions in the country in question." Average between 1980 and 1993. The index has a scale of 0 to 10, with lower scores equal to lower efficiency levels.	La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998)
LGDP	The natural logarithm of GDP.	Laeven and Levine (2009)
Δ GDP	The percentage change in GDP.	Laeven and Levine (2009)
DEPOSIT	An indicator equal to "1" if the country has explicit deposit insurance and "0" otherwise.	Laeven and Levine (2009)
CORRUPTION	Country-level official corruption.	Laeven and Levine (2009)

Table 1 Sample Distribution and Descriptive Statistics

Panel A. Number of Observations by Country	
ARGENTINA	1
AUSTRALIA	9
AUSTRIA	1
BRAZIL	5
CANADA	2
CHILE	4
COLOMBIA	4
DENMARK	9
ECUADOR	3
EGYPT	6
FINLAND	1
FRANCE	6
GERMANY	4
GREECE	4
HONG KONG	6
INDIA	1
INDONESIA	6
IRELAND	5
ISRAEL	7
ITALY	9
JAPAN	5
JORDAN	7
KENYA	4
MALAYSIA	5
MEXICO	1
NIGERIA	6
NORWAY	8
PAKISTAN	6
PERU	3
PORTUGAL	6
SINGAPORE	2
SPAIN	10
SWEDEN	3
THAILAND	4
USA	9
VENEZUELA	1
ZIMBABWE	1
Total	174

Table 1 Sample Distribution and Descriptive Statistics

Panel B. Descriptive Statistics					
Variable	N	Mean	Median	Std. Dev.	
LLP	174	0.0125	0.0078	0.0153	
EBLLP	174	0.0394	0.0276	0.0412	
SIZE	174	16.1663	16.1272	2.1635	
CAR	174	0.0755	0.0678	0.0529	
ZSCORE	174	23.2023	20.3760	15.5540	
LoanGrowth	174	0.0519	0.0484	0.1490	
MANAGER_CF	174	0.0528	0.0000	0.1265	
OWNER_BOARD	174	0.3276	0.0000	0.4707	
RIGHT	174	0.4885	0.4333	0.2218	
DISCLOSE	174	0.6183	0.5833	0.2065	
JUDICIAL	174	7.8096	8.0000	2.0865	
LGDP	174	8.9407	9.5997	1.4815	
Δ GDP	174	0.0100	0.0113	0.0182	
DEPOSIT	174	0.7931	1.0000	0.4062	
CORRUPT	174	7.1207	7.0000	1.0326	

LLP is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. SIZE is the natural logarithm of the average of total assets during the year. CAR is book value of equity divided by total assets. ZSCORE is return on assets plus the capital asset ratio divided by the standard deviation of asset returns. LoanGrowth is the percentage change in total loans for the year. MANAGER_CF is total cash flow rights held by senior management of the bank. OWNER_BOARD is an indicator equal to “1” if a large shareholder has a seat on the management board of the bank, and “0” otherwise. RIGHT is the country-level anti-self-dealing index capturing ex ante and ex post control of self-dealing through private enforcement for minority shareholder protection. DISCLOSE is a country-level measure of disclosure created from components of the general securities law disclosure requirements. JUDICIAL is the country-level judicial efficiency index, the assessment of the efficiency and integrity of the legal environment as it affects business, particularly foreign firms. LGDP is the natural logarithm of GDP. Δ GDP is the percentage change in GDP. DEPOSIT is an indicator equal to “1” if the country has explicit deposit insurance and “0” otherwise. CORRUPT is the Country-level official corruption. Detail definitions of variables are included in the Appendix.

Table 2 Ownership Structure and Earnings Smoothing

	<i>Coefficient</i>	<i>Std. Error</i>	
Intercept	0.0003	0.0128	
EBLLP	0.1799	0.0220	***
WEDGE	0.0049	0.0055	
SIZE	0.0009	0.0007	
CAR	0.0623	0.0503	
ZSCORE	-0.0001	0.0001	
LoanGrowth	-0.0060	0.0067	
MANAGER_CF	-0.0019	0.0052	
OWNER_BOARD	0.0014	0.0024	
RIGHT	-0.0037	0.0044	
DISCLOSE	-0.0074	0.0055	
JUDICIAL	0.0009	0.0007	
LGDP	-0.0021	0.0011	**
ΔGDP	-0.0758	0.0383	**
DEPOSIT	0.0024	0.0022	
CORRUPT	0.0005	0.0009	
<i>No. of observation</i>	<i>174</i>		
<i>Adj. R-square</i>	<i>0.4793</i>		
<i>Fixed Effect</i>	<i>Bank type</i>		

The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. WEDGE is the difference between control rights and cash flow rights of banks' ultimate controllers. Detail definitions of variables are included in the Appendix. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 3 Description of Ownership Structure by Country

Country Name	No. of Banks	Mean of WEDGE	Mean of CF	Mean of CONTROL
ARGENTINA	1	0.4700	0.4700	0.9400
AUSTRALIA	9	0.0000	0.0111	0.0111
AUSTRIA	1	0.0000	0.3600	0.3600
BRAZIL	5	0.5740	0.2300	0.8040
CANADA	2	0.0000	0.0000	0.0000
CHILE	4	0.2900	0.2400	0.5300
COLOMBIA	4	0.0325	0.3175	0.3500
DENMARK	9	0.0311	0.1711	0.2022
ECUADOR	3	0.0000	0.5000	0.5000
EGYPT	6	0.0650	0.2050	0.2700
FINLAND	1	0.0000	0.5700	0.5700
FRANCE	6	0.0000	0.4033	0.4033
GERMANY	4	0.0249	0.4001	0.4250
GREECE	4	0.0000	0.2225	0.2225
HONG KONG	6	0.1283	0.3950	0.5233
INDIA	1	0.3600	0.3100	0.6700
INDONESIA	6	0.0000	0.7133	0.7133
IRELAND	5	0.0000	0.0000	0.0000
ISRAEL	7	0.0000	0.4100	0.4100
ITALY	9	0.0111	0.1444	0.1556
JAPAN	5	0.0000	0.1120	0.1120
JORDAN	7	0.0229	0.2300	0.2529
KENYA	4	0.0000	0.1800	0.1800
MALAYSIA	5	0.0840	0.3060	0.3900
MEXICO	1	0.0200	0.5800	0.6000
NIGERIA	6	0.0000	0.1200	0.1200
NORWAY	8	0.0000	0.0600	0.0600
PAKISTAN	6	0.0283	0.4933	0.5217
PERU	3	0.0633	0.5500	0.6133
PORTUGAL	6	0.2583	0.1767	0.4350
SINGAPORE	2	0.0000	0.2700	0.2700
SPAIN	10	0.1370	0.1790	0.3160
SWEDEN	3	0.0900	0.0867	0.1767
THAILAND	4	0.0000	0.3950	0.3950
USA	9	0.0000	0.0000	0.0000
VENEZUELA	1	0.0000	0.3800	0.3800
ZIMBABWE	1	0.2000	0.0600	0.2600
Mean of Sample		0.0781	0.2771	0.3552

Table 4 Impact of Ownership Structure on Earnings Smoothing

Panel A. Effects of Wedge		
	<i>Coefficient</i>	<i>Std. Error</i>
Intercept	0.0042	0.0144
EBLLP	0.1618	0.0227 ***
WEDGE	-0.0086	0.0056
<i>WEDGE*EBLLP</i>	<i>0.3421</i>	<i>0.1033</i> ***
SIZE	0.0007	0.0007
CAR	0.0599	0.0512
ZSCORE	-0.0001	0.0001
LoanGrowth	-0.0062	0.0066
MANAGER_CF	-0.0037	0.0055
OWNER_BOARD	0.0011	0.0025
RIGHT	-0.0033	0.0042
DISCLOSE	-0.0054	0.0057
JUDICIAL	0.0009	0.0008
LGDP	-0.0022	0.0011 **
ΔGDP	-0.0565	0.0350
DEPOSIT	0.0030	0.0023
CORRUPT	0.0002	0.0008
<i>No. of observation</i>	<i>174</i>	
<i>Adj. R-square</i>	<i>0.4897</i>	
<i>Fixed Effect</i>	<i>Bank type</i>	

The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. WEDGE is the difference between control rights and cash flow rights of banks' ultimate controllers. Detail definitions of variables are included in the Appendix. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 4 Impact of Ownership Structure on Earnings Smoothing

Panel B. Effects of Cash Flow Rights and Control Rights			
	<i>Coefficient</i>	<i>Std. Error</i>	
Intercept	0.0086	0.0167	
EBLLP	0.1828	0.0673	***
CF	0.0031	0.0064	
<i>CF*EBLLP</i>	<i>-0.3326</i>	<i>0.0971</i>	***
CONTROL	-0.0089	0.0057	
<i>CONTROL*EBLLP</i>	<i>0.2878</i>	<i>0.1448</i>	**
SIZE	0.0006	0.0007	
CAR	0.0493	0.0492	
ZSCORE	-0.0001	0.0001	
LoanGrowth	-0.0067	0.0067	
MANAGER_CF	-0.0023	0.0057	
OWNER_BOARD	0.0024	0.0028	
RIGHT	-0.0017	0.0040	
DISCLOSE	-0.0086	0.0061	
JUDICIAL	0.0007	0.0009	
LGDP	-0.0019	0.0015	
ΔGDP	-0.0902	0.0347	***
DEPOSIT	0.0033	0.0025	
CORRUPT	0.0002	0.0009	
<i>No. of observation</i>	<i>174</i>		
<i>Adj. R-square</i>	<i>0.5000</i>		
<i>Fixed Effect</i>	<i>Bank type</i>		

The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. CF is the cash flow rights of the large owner of the bank. CONTROL is the control rights held by the large owner of the bank. Detail definitions of variables are included in the Appendix. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 5 Description of Bank Competition

Panel A. Statistical Descriptive of Lerner Index					
N	Mean	Std. Dev.	1st Quartile	Median	3rd Quartile
140	0.2902	0.2167	0.1825	0.2790	0.4123

Panel B. Lerner Index by Country					
High Competition			Low Competition		
Country	No. of Banks	Mean	Country	No. of Banks	Mean
AUSTRALIA	2	0.2386	ARGENTINA	1	0.3322
BRAZIL	5	0.1118	AUSTRALIA	7	0.3917
CANADA	1	0.2573	CANADA	1	0.4574
CHILE	2	0.2749	CHILE	2	0.3905
COLOMBIA	2	-0.1022	COLOMBIA	2	0.4227
ECUADOR	2	-0.0893	ECUADOR	1	0.2968
GERMANY	4	0.0761	FINLAND	1	0.4924
GREECE	3	0.2578	GREECE	1	0.3124
INDIA	1	0.2615	HONG KONG	6	0.4191
INDONESIA	3	0.0167	INDONESIA	3	0.4816
IRELAND	1	0.0259	IRELAND	4	0.4541
ITALY	8	0.1157	ISRAEL	7	0.4244
KENYA	2	0.1536	ITALY	1	0.3239
MALAYSIA	3	0.1624	JORDAN	7	0.7633
NORWAY	4	0.2371	KENYA	1	0.4357
PERU	3	-0.0906	MALAYSIA	2	0.3683
PORTUGAL	5	0.1755	NIGERIA	5	0.3948
SPAIN	6	0.2264	NORWAY	4	0.3338
SWEDEN	1	0.1918	PAKISTAN	5	0.6033
THAILAND	4	0.0141	PORTUGAL	1	0.2825
USA	7	0.1977	SPAIN	4	0.3568
VENEZUELA	1	0.0919	SWEDEN	2	0.4229
			USA	2	0.3332

Table 6 Earnings Smoothing and Bank Competition

	High Competition			Low Competition		
	<i>Coefficient</i>	<i>Std. Error</i>		<i>Coefficient</i>	<i>Std. Error</i>	
Intercept	-0.0357	0.0243		-0.0169	0.0176	
<i>EBLLP</i>	<i>0.3294</i>	<i>0.0782</i>	<i>***</i>	<i>0.1617</i>	<i>0.0481</i>	<i>***</i>
WEDGE	-0.0038	0.0058		0.0073	0.0079	
SIZE	0.0006	0.0012		0.0011	0.0006	*
CAR	0.1608	0.0553	<i>***</i>	0.0119	0.0127	
ZSCORE	0.0000	0.0001		0.0000	0.0001	
LoanGrowth	0.0040	0.0111		0.0006	0.0099	
MANAGER_CF	-0.0420	0.0188	<i>**</i>	0.0074	0.0072	
OWNER_BOARD	0.0064	0.0052		0.0017	0.0019	
RIGHT	0.0286	0.0197		-0.0135	0.0063	<i>**</i>
DISCLOSE	-0.0273	0.0146	*	0.0061	0.0069	
JUDICIAL	-0.0011	0.0013		0.0018	0.0007	<i>***</i>
LGDP	0.0025	0.0028		-0.0002	0.0016	
ΔGDP	-0.1974	0.0900	<i>**</i>	-0.0107	0.0609	
DEPOSIT	0.0052	0.0058		0.0027	0.0028	
CORRUPT	0.0002	0.0018		-0.0020	0.0015	
<i>No. of observation</i>	70			70		
<i>Adj. R-square</i>	0.7089			0.6719		
<i>Fixed Effect</i>	<i>Bank type</i>			<i>Bank type</i>		
<i>Wald Test Chi-square:</i>						
<i>EBLLP</i>			<i>4.28**</i>			

The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. WEDGE is the difference between control rights and cash flow rights of banks' ultimate controllers. Detail definitions of variables are included in the Appendix. Competition is measured as the bank-level Lerner Index. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. Wald Tests are performed to test the coefficients across regressions and Chi-square statistics are reported. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 7 Ownership Structure, Earnings Smoothing and Bank Competition

Panel A. Effects of Wedge						
	High Competition			Low Competition		
	<i>Coefficient</i>	<i>Std. Error</i>		<i>Coefficient</i>	<i>Std. Error</i>	
Intercept	-0.0357	0.0240		-0.0156	0.0172	
EBLLP	0.3401	0.1019	***	0.1536	0.0502	***
WEDGE	-0.0012	0.0067		-0.0301	0.0183	
WEDGE*EBLLP	-0.0681	0.1748		0.9662	0.4284	**
SIZE	0.0006	0.0011		0.0011	0.0006	*
CAR	0.1595	0.0564	***	0.0125	0.0129	
ZSCORE	0.0000	0.0001		0.0000	0.0001	
LoanGrowth	0.0037	0.0113		-0.0008	0.0100	
MANAGER_CF	-0.0407	0.0172	**	0.0066	0.0076	
OWNER_BOARD	0.0065	0.0054		0.0019	0.0021	
RIGHT	0.0279	0.0196		-0.0118	0.0062	*
DISCLOSE	-0.0269	0.0143	*	0.0079	0.0070	
JUDICIAL	-0.0011	0.0013		0.0020	0.0007	***
LGDP	0.0025	0.0028		-0.0002	0.0016	
ΔGDP	-0.2034	0.0928	**	0.0302	0.0515	
DEPOSIT	0.0049	0.0057		0.0030	0.0027	
CORRUPT	0.0001	0.0018		-0.0026	0.0014	*
<i>No. of observation</i>	70			70		
<i>Adj. R-square</i>	0.7092			0.6864		
<i>Fixed Effect</i>	<i>Bank type</i>			<i>Bank type</i>		
<i>Wald Test Chi-square:</i>						
	<i>EBLLP</i>			<i>3.45*</i>		
	<i>WEDGE*EBLLP</i>			<i>6.14***</i>		

The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. WEDGE is the difference between control rights and cash flow rights of banks' ultimate controllers. Detail definitions of variables are included in the Appendix. Competition is measured as the bank-level Lerner Index. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. Wald Tests are performed to test the coefficients across regressions and Chi-square statistics are reported. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 7 Ownership Structure, Earnings Smoothing and Bank Competition

Panel B. Effects of Cash Flow Rights and Control Rights					
	High Competition			Low Competition	
	<i>Coefficient</i>	<i>Std. Error</i>		<i>Coefficient</i>	<i>Std. Error</i>
Intercept	-0.0337	0.0346		0.0030	0.0138
EBLLP	0.4217	0.1677	**	0.0737	0.0552
CF	-0.0037	0.0116		0.0179	0.0171
<i>CF*EBLLP</i>	<i>0.0263</i>	<i>0.3159</i>		<i>-0.8717</i>	<i>0.4415</i> *
CONTROL	0.0009	0.0064		-0.0335	0.0181 *
<i>CONTROL*EBLLP</i>	<i>-0.1688</i>	<i>0.2270</i>		<i>1.0312</i>	<i>0.4591</i> **
SIZE	0.0008	0.0014		0.0008	0.0004 *
CAR	0.1436	0.0750	*	0.0059	0.0145
ZSCORE	0.0000	0.0001		-0.0001	0.0001
LoanGrowth	0.0030	0.0106		0.0002	0.0102
MANAGER_CF	-0.0343	0.0193	*	0.0080	0.0070
OWNER_BOARD	0.0062	0.0055		0.0028	0.0026
RIGHT	0.0306	0.0221		-0.0102	0.0053 *
DISCLOSE	-0.0294	0.0154	*	0.0015	0.0088
JUDICIAL	-0.0010	0.0012		0.0028	0.0010 ***
LGDP	0.0022	0.0030		-0.0011	0.0017
ΔGDP	-0.2334	0.1107	**	-0.0136	0.0641
DEPOSIT	0.0055	0.0051		0.0053	0.0028 *
CORRUPT	0.0000	0.0019		-0.0036	0.0018 *
<i>No. of observation</i>	70			70	
<i>Adj. R-square</i>	0.7161			0.7227	
<i>Fixed Effect</i>	<i>Bank type</i>			<i>Bank type</i>	
<i>Wald Test Chi-square:</i>					
<i>EBLLP</i>				<i>6.09***</i>	
<i>CF*EBLLP</i>				<i>3.34*</i>	
<i>CONTROL*EBLLP</i>				<i>8.59***</i>	

The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. CF is the cash flow rights of the large owner of the bank. CONTROL is the control rights held by the large owner of the bank. Detail definitions of variables are included in the Appendix. Competition is measured as the bank-level Lerner Index. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. Wald Tests are performed to test the coefficients across regressions and Chi-square statistics are reported. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 8 Robustness Test

	High Competition		Low Competition		
	<i>Coefficient</i>	<i>Std. Error</i>	<i>Coefficient</i>	<i>Std. Error</i>	
Intercept	-0.0395	0.0408	-0.0042	0.0319	
EBLLP	1.6781	2.4134	-0.1164	0.5959	
WEDGE*EBLLP	-0.2198	0.2380	1.2089	0.4683	***
MANAGER_CF*EBLLP	-0.6168	0.3214	-1.3272	0.7951	*
OWNER_BOARD*EBLLP	0.3330	0.3474	0.0051	0.1228	
RIGHT*EBLLP	-0.7669	1.0213	-0.0089	0.3598	
DISCLOSE*EBLLP	0.0619	0.6848	0.4158	0.3824	
JUDICIAL*EBLLP	0.0016	0.0684	-0.0187	0.0176	
DEPOSIT*EBLLP	-0.0606	0.4374	-0.0047	0.1938	
CORRUPT*EBLLP	-0.1652	0.3132	0.0239	0.0288	
<i>No. of observation</i>	70		70		
<i>Adj. R-square</i>	0.7609		0.7390		
<i>Main Effects</i>	Yes		Yes		
<i>Control Variables</i>	Yes		Yes		
<i>Fixed Effect</i>	Bank type		Bank type		

We include all the main effects of the interaction terms and other control variables, the coefficients on which are not reported for brevity. The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. WEDGE is the difference between control rights and cash flow rights of banks' ultimate controllers. MANAGER_CF is total cash flow rights held by senior management of the bank. OWNER_BOARD is an indicator equal to "1" if a large shareholder has a seat on the management board of the bank, and "0" otherwise. RIGHT is the country-level anti-self-dealing index capturing ex ante and ex post control of self-dealing through private enforcement for minority shareholder protection. DISCLOSE is a country-level measure of disclosure created from components of the general securities law disclosure requirements. JUDICIAL is the country-level judicial efficiency index, the assessment of the efficiency and integrity of the legal environment as it affects business, particularly foreign firms. DEPOSIT is an indicator equal to "1" if the country has explicit deposit insurance and "0" otherwise. CORRUPT is the Country-level official corruption. Too-big-too-fail is an indicator equals "1" if the bank's share in the country's total deposits exceeds 10% in 2001, and "0" otherwise. The following control variables are included in the regressions. SIZE is the natural logarithm of the average of total assets during the year. CAR is book value of equity divided by total assets. ZSCORE is return on assets plus the capital asset ratio divided by the standard deviation of asset returns. LoanGrowth is the percentage change in total loans for the year. LGDP is the natural logarithm of GDP. ΔGDP is the percentage change in GDP. Detail definitions of variables are included in the Appendix. Competition is measured as the bank-level Lerner Index. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.

Table 8 Robustness Test

Panel B. Effects of Other Mechanisms, Cash Flow Rights and Control Rights				
	High Competition		Low Competition	
	<i>Coefficient</i>	<i>Std. Error</i>	<i>Coefficient</i>	<i>Std. Error</i>
Intercept	-0.0762	0.0540	0.0050	0.0292
EBLLP	3.2486	3.3971	-0.2331	0.5912
<i>CF*EBLLP</i>	<i>-0.4927</i>	<i>0.5553</i>	<i>-0.3438</i>	<i>0.3163</i>
<i>CONTROL*EBLLP</i>	<i>-0.1794</i>	<i>0.2479</i>	<i>0.4556</i>	<i>0.2393</i> *
MANAGER_CF*EBLLP	-0.1992	0.6567	-1.6990	0.8248 **
OWNER_BOARD*EBLLP	0.1973	0.4316	0.0097	0.1104
RIGHT*EBLLP	-0.3357	1.2728	-0.0617	0.3887
DISCLOSE*EBLLP	-0.5255	0.9809	0.4054	0.4730
JUDICIAL*EBLLP	0.0056	0.0885	-0.0016	0.0142
DEPOSIT*EBLLP	-0.0409	0.4823	-0.0513	0.1886
CORRUPT*EBLLP	-0.3568	0.4732	0.0402	0.0360
<i>No. of observation</i>	70		70	
<i>Adj. R-square</i>	0.7892		0.7566	
<i>Main Effects</i>	Yes		Yes	
<i>Control Variables</i>	Yes		Yes	
<i>Fixed Effect</i>	<i>Bank type</i>		<i>Bank type</i>	

We include all the main effects of the interaction terms and other control variables, the coefficients on which are not reported for brevity. The dependent variable, LLP, is loan loss provisions on the income statement at the end of the period scaled by average loans during the year. EBLLP is earnings before taxes and loan loss provisions scaled by average loans during the year. CF is the cash flow rights of the large owner of the bank. CONTROL is the control rights held by the large owner of the bank. MANAGER_CF is total cash flow rights held by senior management of the bank. OWNER_BOARD is an indicator equal to “1” if a large shareholder has a seat on the management board of the bank, and “0” otherwise. RIGHT is the country-level anti-self-dealing index capturing ex ante and ex post control of self-dealing through private enforcement for minority shareholder protection. DISCLOSE is a country-level measure of disclosure created from components of the general securities law disclosure requirements. JUDICIAL is the country-level judicial efficiency index, the assessment of the efficiency and integrity of the legal environment as it affects business, particularly foreign firms. DEPOSIT is an indicator equal to “1” if the country has explicit deposit insurance and “0” otherwise. CORRUPT is the Country-level official corruption. Too-big-too-fail is an indicator equals “1” if the bank’s share in the country’s total deposits exceeds 10% in 2001, and “0” otherwise. The following control variables are included in the regressions. SIZE is the natural logarithm of the average of total assets during the year. CAR is book value of equity divided by total assets. ZSCORE is return on assets plus the capital asset ratio divided by the standard deviation of asset returns. LoanGrowth is the percentage change in total loans for the year. LGDP is the natural logarithm of GDP. ΔGDP is the percentage change in GDP. Detail definitions of variables are included in the Appendix. Competition is measured as the bank-level Lerner Index. Significance levels of coefficient estimates are based on standard errors adjusted for clustering at the country level. *, **, *** significant at 10%, 5%, 1% level respectively based on a two-tailed test.