Title: Corporate governance and performance of financial institutions

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PII: S0148-6195(15)00022-3
DOI: http://dx.doi.org/doi:10.1016/j.jeconbus.2015.04.004
Reference: JEB 5712

To appear in: *Journal of Economics and Business*

Received date: 2-6-2014
Revised date: 22-4-2015
Accepted date: 27-4-2015

Please cite this article as: Zagorchev, A., and Gao, L.,Corporate governance and performance of financial institutions, *Journal of Economics and Business* (2015), http://dx.doi.org/10.1016/j.jeconbus.2015.04.004

Corporate Governance and Performance of Financial Institutions

Research Highlights

- Better corporate governance reduces excessive risk-taking and improves the performance of U.S. financial institutions.
- Better governance components reduce non-performing loans and improve Tobin's Q.
- Better governance increases the provisions and reserves for asset losses, suggesting income smoothing.
- The evidence is supported by different robustness checks.

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1. Introduction

This study evaluates the role of corporate governance on degree of excessive risk-taking and performance of U.S. financial institutions from 2002 to 2009. Corporate governance deals with agency problems caused by the separation of ownership and control and represents a set of mechanisms for direction and control of firms (Jensen and Meckling, 1976; Cadbury Committee, 1992; Shleifer and Vishny, 1997). We analyze how corporate governance by restricting managerial self-interest can affect corporate investment risk choices and the consequent effects on U.S. financial institutions.

Since many financial institutions are primarily focused on higher rates of return, they may employ obscure and sophisticated financial instruments and engage in risky lending activities without appropriate risk assessment, resulting in greater information asymmetries and a more unstable financial system (Morgan, 2002; Summit on Financial Markets and the World Economy, 2008). Collapses of financial institutions and misconducts within the financial sector illustrate that highly developed financial systems are exposed to systemic risks, weaknesses, and wrongdoings when good governance is lacking (Alexander, 2006). Some of the main instances of failure or misconduct in the U.S. financial industry include IndyMac Bank, Washington Mutual, Wachovia, and recently J.P. Morgan, among many others. Most of the recent corporate governance research focuses on large, systematically important financial firms across the globe. This study expands the scope of the analysis by including a variety of firms in the U.S. financial sector with broader range of market capitalization. By utilizing a governance index with a number of attributes as well as specific governance components for different U.S. financial institutions, this research fills a gap in the literature.

Recently banking regulators and central banks have stressed the need for effective corporate governance practices in the banking system because failures and weaknesses in bank governance contribute to the development of financial crises (Kirkpatrick, 2009; Basel Committee on Banking Supervision, 2010; Board of Governors of the Federal Reserve System, 2010a-b).[1] How sound corporate governance in terms of stronger management oversight and better practices by the board of directors could affect excessive risk-taking and performance of financial institutions? This is an essential research question since the corporate governance of banks affects economic progress and has important implications for society.

On the one hand, prior studies about corporate governance in the financial industry show that weak governance has a detrimental impact on the performance, valuation, and opportunistic manipulation of earnings by financial companies (Caprio et al., 2007; Andres and Vallelado, 2008; Rezaee, 2008; Cornett et al., 2009). Firms with weaker corporate governance quality may not implement adequate incentives and controls that can increase shareholder value (Diamond and Rajan, 2009). Further, Akhigbe and Martin (2006, 2008) find that improvements in certain governance characteristics as a result of SOX in 2002 are associated with greater valuation of financial companies and reduced risk measures.

Alternatively, it is also conceivable that better corporate governance practices fail to improve the performance the financial firm because either the riskiness of the projects increases or the costs of implementing good governance exceed the market value benefits (John et al., 2008; Pathan, 2009; Fortin et al., 2010; Beltratti and Stulz, 2012). As a result, financial firms will not find it advantageous to improve the quality of their governance if it doesn't help them to better identify project risk and potential return. A study by Erkens et al. (2012) during 2007-2008

[1] Given that there are mixed findings of the impact of corporate governance on bank risk-taking and performance, the significance of corporate governance is still unsettled. For example, see Beltratti and Stulz (2012), Erkens et al. (2012), Peni and Vähämaa (2012), Aebi et al. (2011), Fortin et al. (2010) and Cornett et al. (2009).

period documents that greater board independence and larger institutional ownership of financial firms is related with lower stock returns. Examining the relationship between chief executive officer (CEO) ownership stakes and U.S. bank profitability, Fahlenbrach and Stulz (2011) show that larger equity ownership stakes by bank managers were not correlated with higher profitability. In other words, CEOs driven by shareholder wealth maximization principles had incentives to take risks that enhanced their compensation and, as a result, their firms' experienced inferior stock returns.

In this paper, we postulate that better corporate governance practices minimize excessive risk-taking and enhance the profitability for financial firms during the sample period including the 2008 financial turmoil. An excessive risk-taking can occur when a firm undertakes projects without adequately considering the tradeoff between risk and return and the probability of actually suffering a loss. Poorly governed financial institutions can report big losses during a crisis if they have previously accepted projects with excessive risks. Conversely, a well-governed financial institution has a greater number of mechanisms to identify the undue risks that can hurt future returns and pursue investments consistent with its goals. Thus, a financial institution with sound governance can omit some extremely risky projects and focus on creating value through projects with more controllable risks.

The central goal of the study is to empirically investigate whether more stringent corporate governance mechanisms covering a broad range of important factors are associated with less excessive risk-taking, better performance, and an informative income smoothing for financial institutions. Specifically, we use 41 factors of the RiskMetrics' corporate governance index (CG41), a popular measure in the literature, for publicly-traded U.S. financial institutions to explore our research questions. Additionally, we disaggregated the governance index to

analyze the effect of specific components that have been used in the literature (Borisova et al., 2012). To this end, we examine the specific governance components: executive directors' equity ownership, board independence, board committees and classified board. This allows us to assess how equity ownership by managers and board composition are correlated with excessive risk-taking and performance of financial firms.

The main findings show that better corporate governance is associated with less total non-performing assets, less real estate related non-performing assets and higher Tobin's Q for financial institutions, suggested by Akhigbe and Martin (2006, 2008). Further, higher quality corporate governance practices have the same positive effects on financial institutions when we exclude the 2008 financial crisis. The results imply that if more U.S. financial institutions had stronger governance structures, businesses and the economy would have experience less destructive effects before and during the financial crisis. The second finding is that better corporate governance of financial institutions is positively related to their provisions and reserves for loan/asset losses. The evidence is consistent with Beaver et al. (1989), Wahlen (1994), Tucker and Zarowin (2006) and Yang et al. (2012) and supports the value relevant information related to the income smoothing hypothesis for financial institutions. Moreover, the results are reinforced if we omit the 2008 crisis period. Lastly, all the results are confirmed when we perform robustness checks using dynamic GMM specifications, models with lagged explanatory variables, and instrumental variable (IV) analysis.

The paper provides several contributions to the current literature. First, we use an extensive corporate governance dataset covering 41 attributes and distinguish among different governance components. The governance 41 index allows us to explore the overall effect of governance on financial firms from 2002 to 2009. After disaggregating the data, we investigated

the effects of specific governance components on financial firms. Since the dataset incorporates various measures for excessive risk-taking and performance covering the largest possible spectrum of commercial banks and saving institutions in the U.S., the study provides additional findings relevant for the entire financial industry and thus contributes to the existing literature. By using different methodological specifications for a broad set of U.S. financial institutions, the paper attempts to provide robust results and expand the current stream of corporate governance research. Furthermore, we examine the excessive risk-taking and performance of financial institutions after we exclude the 2008 financial crisis period. To shed some light about the importance of governance for financial institutions, we analyze critical measures such as non-performing assets, Tobin's Q, and loan loss provisions and reserves.

The remainder of this paper is organized as follows. Section II discusses the characteristics and governance of financial institutions and lays out the hypotheses. Section III describes the data set covering U.S. financial institutions and the methodologies. Section IV reports the empirical results, provides a discussion, and presents robustness checks. The last section provides a conclusion.

2. Characteristics and Governance of Financial Institutions and Hypotheses

Although financial institutions are similar to non-financial firms in terms of having shareholders, debt holders, and executives, the research on the governance of financial institutions is motivated by three specific corporate characteristics (Levine, 2004; Mehran et al., 2011). First, consistent with (Furfine, 2001), financial institutions tend to be more opaque and have greater information asymmetries than non-financial companies. For example, banks can change the mix and hide the quality of their assets rather quickly compared to non-financial

firms. Recent changes in legislation and supervision of financial firms can alleviate some of these differences. Flannery et al. (2013) show that the trading properties and opacity of banks during the financial crisis are largely different compared to the ones before the crisis.

Second, banks are very different from non-financial firms since they are regulated and have deposit insurance due to their importance and opacity (Macey and O'Hara, 2003). International organizations can amplify government regulation by creating more global standards for financial institutions. The federal insurance of bank deposits helps to establish confidence in the banking system and avoid bank runs. But, this creates moral hazard problems because banks may engage in excessive risk-taking and depositors have fewer incentives to monitor banks to abate the occurrence of fraud.

Third, Macey and O'Hara (2003) state that financial firms and their managers should have fiduciary duties to both non-shareholders and shareholders. The authors argue that non-shareholders such as uninsured bank depositors might value the contractual obligations and fiduciary duties of financial institutions more than shareholders do. Given that banks have relatively high leverage, there is a great public interest for their responsibility to depositors, debt holders and shareholders. Unlike the failure of non-financial firms, bank failures create larger negative externalities. As discussed by Levine (2004), poor bank governance along with a banking crisis has huge negative impacts for companies, economic development and society. Therefore, consistent with Laeven (2007) and Mehran et al. (2011), the government is also a stakeholder in banks as people may be highly concerned about and affected by bank failures. This suggests that financial institutions have more stakeholders than non-financial companies.

2.1 Hypotheses:

Hypothesis 1: Better overall corporate governance and higher values of specific governance components are associated with less excessive risk-taking and higher performance for financial institutions.

A firm can engage in excessive risk-taking by initiating projects with unmeasurable risk levels or projects with unwarranted risks, but this will more likely lead to negative outcomes. If a firm avoids extremely risky projects and implement projects with typical risks and smaller probability of default, it can improve its performance and create wealth for shareholder.

On the one hand, Diamond and Rajan (2009) argue that financial institutions with high quality governance are likely to establish appropriate incentives and controls so that the risk-taking practices of these firms preserve or enhance shareholder value. Levine (2004) shows that the governance of banks is very important because banks are critical for mobilization and allocation of capital and growth in industrial productivity. When banks implement good governance structures, bank managers bring about efficient capital allocation, enhance markets and exert positive influence on the governance practices of other firms. Moreover, Peni and Vähämaa (2012) find that financial institutions with stronger governance structures exhibit greater profitability in 2008 and after the market collapse. As documented by Akhigbe and Martin (2006, 2008), we expect that financial firms with good governance would undertake projects with less extreme risks and fare better compared to financial institutions with poor governance.

As pointed out by Graham and Narasimhan (2004), financial institutions with better governance might make better decisions and thus assuage the negative effects of a crisis. The analysis of Lemmon and Lins (2003) indicates that firms with weak corporate governance where

managers had high control rights and low cash flow rights experienced lower stock returns during the Asian financial crisis. If inadequate corporate governance provisions contribute to the deterioration of a firm's financial position, then we would expect financial institutions with superior governance to take less extreme risks and perform better in almost all time periods.

On the other hand, the positive correlation between corporate governance and performance of financial institutions could be driven by excessive risk-taking, which is supported by John et al. (2008), Pathan (2009), and Fortin et al. (2010). For example, better corporate governance could stimulate more and very risky investments that generate higher value for the firm. Consequently, these financial firms will have meager performances and more non-performing assets during recession periods. Using large banks from 32 countries during the financial collapse of 2008, Beltratti and Stulz (2012) find that banks with strong governance in terms of shareholder-friendly boards had significantly worse performance compared to other banks. Yet, Beltrazzi and Stulz (2012) also state that "banks with good governance had poor returns because of the risks they had, but they would have had even lower returns had they had worse governance." Compared to Beltrazzi and Stulz (2012) cross-country study with large country effects and a short time period around 2008, our study is based only on US financial institutions for a longer time series.

Given that financial institutions are highly interconnected according to Farhi and Tirole (2012), the failure of one large bank can spread insolvency to other banks. The shocks in the banking system tend to be correlated and associated with bank runs, systemic crisis and macroeconomic uncertainty. For example, the poor corporate governance of a few firms could directly and indirectly contribute to large negative impacts for the entire financial system. Therefore, very risky projects of banks have different effects on markets compared to these

projects of non-financial firms. To test the first hypothesis, we use total non-performing assets, real estate related non-performing assets and Tobin's Q.

Hypothesis 2: Better overall corporate governance and higher values of specific governance components contribute to income smoothing for financial institutions.

Following accounting standards, a financial institution has to record reasonable provisions for loan losses in the current period which, in turn, reduces its current net income. After managers estimate the annual net change in loan losses, they adjust the amount for loan loss provisions. According to federal regulations, financial institutions have to include reserves for loan/asset losses in their financial statements. The loan loss reserves account covers losses from bad loans and certain good loans that later could become uncollectable. Therefore, we use both loan loss provisions and reserves for loan/asset losses to test the effect of corporate governance on the income smoothing hypothesis for financial firms. In general, when a firm manages earnings to reach a certain target level, it engages in a form of income smoothing.

Beaver et al. (1989) document that higher allowance for loans losses are related to greater market values for the firm. As suggested by Beaver et al. (1989), we assume that income smoothing reflects the accumulation of greater provisions/reserves for loan and asset losses by financial firms. Furthermore, the managing of earnings through building of provisions/reserves has a positive effect for the firm as it improves the disclosure of information to investors (Tucker and Zarowin, 2006). Consistent with Wahlen (1994), Beatty et al. (1995) and Beaver and Engel (1996), an institution that smooth earnings by amassing greater provisions/reserves sends a positive signal for future earnings and reveals good news to investors. In other words, if a bank has already reported very strong earnings, the managers have the discretion to publicize the

amount for provisions/reserves and can tolerate some asset losses. In line with our expectations, Yang et al. (2012) find that better corporate governance is positively related to income smoothing. Furthermore, in a cross-country investigation of income smoothing, Fonseca and Gonzalez (2008) report less income smoothing with stronger regulation, investor protection, disclosure and institutional environment. Based on the above discussion, this research question is not settled. Overall, we anticipate that sound corporate governance of financial institutions will have a positive influence on income smoothing.

3. Data and Methodology

3.1 Data

We draw the sample financial institutions from all financial companies listed in the Compustat Bank Annual data files between the years from 2002 to 2009. Our sample starts in 2002 since this is the first year for which corporate governance data is available. The sample includes firms with SIC codes of 6020, 6022, 6035, 6036 and 6311 which represent commercial banks, state commercial banks, federally chartered savings institutions, not federally chartered savings institutions and life insurance companies, respectively. Following Aggarwal et al. (2011), we select the relevant corporate governance data from RiskMetrics' Corporate Governance Quotient (CGQ), a widespread measure in different studies. RiskMetrics generates governance scores depending on the firm's achievement of the minimal governance thresholds for the attributes. We believe the minimal governance levels are comparable across US financial institutions, and the CG41 index allows us to evaluate essential firm-level governance practices.

We also use disaggregated governance data because we expect that different components can further explain the relationships between governance and the performance of financial firms. To construct the dataset, we merged the accounting data from Compustat with the corporate governace data. We eliminated firms with missing accounting data and firms without a corporate governance match. The final sample has 820 unique U.S. financial institutions that are publicly traded.

We collect firm-level metrics to study the main hypotheses of the paper. The dependent variables for excessive risk-taking and performance are non-performing assets/total assets, real estate owned non-performing assets/total assets and Tobin's Q (Bouvatier and Lepetit, 2008; Cornet et al., 2009; Grove et al., 2011). Non-performing assets/total assets is calculated as total non-performing assets divided by total assets at t-1. Real estate owned non-performing assets/total assets is calculated as real estate owned non-performing assets divided by total assets at t-1. Along the lines of Morck et al. (1988) and Anderson et al. (2012), Tobin's Q is a common measure of corporate valuation because it accounts for the overall market valuation of the firm. We compute Tobin's Q as the market value of assets divided by the book value of assets (Kaplan and Zingales, 1997; Bebchuk and Cohen, 2005). For the Tobin's Q measure, the market value of assets is the sum of the book value of assets and the market value of common equity minus the book value of common stock and the balance sheet's deferred taxes, and the market value of equity is the number of shares outstanding multiplied by the year-end stock price.

To analyze the income smoothing hypothesis, we use the dependent variables of provision for loan/asset losses/total loans and reserves for loan/assets losses/total loans (Bikker and Metzemakers, 2005; Kanagaretnam et al., 2006; Fonseca and González, 2008). Provision for loan/asset losses/total loans is calculated as provisions for loan/asset losses divided by total loans

at time t-1. Reserves for loan/asset losses/total loans is calculated as reserves for loan/asset losses divided by total loans.

Additionally, we gather data for several independent variables. The RiskMetrics' corporate governance index is the key independent variable used to test the hypotheses. The corporate governance 41 index (CG41) consists of 41 components of corporate governance that are available for all US companies as discussed by Aggarwal et al. (2011). RiskMetrics' governance index has a broad coverage and is extensively used by researchers.[2] One advantage of CG41 is that one company generates governance scores across various industries and firms in the US employing the same methodology. Second, using consistent data, we can examine the effect of corporate governance on financial institutions. Third, the CG41 index focuses on the 41 governance measures that have been identified as relevant by Aggarwal et al. (2011).

Furthermore, the disaggregated corporate governance measures allow us to explore the effects of specific components and gain more insights about the hypotheses. Following Bebchuk and Cohen (2005), Fahlenbrach and Stulz (2011), Beltratti and Stulz (2012), and Borisova et al. (2012), we create four components of governance that are popular in recent research. The components include directors' ownership, board independence, board committees and classified board.

Directors' Ownership takes a value of one if the directors own more than 10% of the shares outstanding, and zero otherwise. As mentioned in Beltratti and Stulz (2012), greater corporate executive ownership provides incentives to managers to work for the best interests of shareholders. Compared to corporate structures without proper alignment of incentives, firms

[2] Some up to the present studies that utilize the CGQ measure are Doidge et al. (2007), Aggarwal et al. (2009, 2011) and Borisova et al. (2012).

that have more closely aligned the incentives of the executives to those of shareholders could take different types of risks for the firm (Fahlenbrach and Stulz, 2011).

Board independence takes a value of one when the board has a majority of independent outsiders, and zero otherwise. According to Weisbach (1988), corporate boards with greater number of outside directors could more easily replace managers following poor firm performance.

Board committee takes values from 0 to 4, where one point is assigned for the existence of an audit, compensation, governance, and nomination committee. The Sarbanes–Oxley Act of 2002 emphasizes the importance of board committees since they are critical for good governance. Along this line, Uzun et al. (2004) documents more fraudulent activity when a firm is missing an audit committee.

Staggered board takes a value of one if the firm has a classified board, and zero otherwise. Bebchuk and Cohen (2005) show that classified boards are negatively correlated with Tobin's Q as they exacerbate principal-agent conflicts and insulate current executives from the external market.

Consistent with Kanagaretnama et al. (2006, 2009), EBTP/total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. Sales growth is the growth in sales measured by the change in the sales from time t-1 to t scaled by total sales at t-1. Sales growth captures the effects of the investment opportunities of the firm. Sales are the annual net sales (turnover) in millions of USD by a financial firm.

Following Fonseca and Gonzalez (2008) and Anderson et al. (2012), the pretax margin is the pre-tax profit margin calculated as earnings before taxes over total sales times 100,

controlling for profitability. Log (assets) is the log of total assets in millions of USD and controls for firm size. The change in total assets is calculated as the change in total assets from time t-1 to t scaled by total assets at t-1, and the change in non-performing assets reflects the changes in non-performing assets from time t-1 to t divided by total assets at t-1. The ratio of liquid assets/total deposits is calculated as the financial institution's cash and short-term investments over total deposits, expressed as a percentage. Dividend yield is calculated as dividend per share divided by the market price per share at t. Consistent with Huizinga and Laeven (2012), reserves for loan/asset losses/total loans is calculated as reserves for loan/asset losses divided by total loans. The ratio of total loans represents total loans net of allowance for loan losses divided by total assets, and the ratio of total deposits is calculated as total deposits/total assets. As suggested by Kanagaretnama et al. (2009), the tier 1 risk-adjusted capital ratio and the total risk-adjusted capital ratio are included as control variables. Appendix 1 provides a full description of all variables, and Appendix 2 describes the corporate governance index.

Table 1 illustrates the final sample construction and the number of firms by industry codes. The final sample consists of 820 firms representing different types of financial institutions. Looking at the distribution of firms by industry codes, you can see that the predominant firms in the sample are commercial banks.

Table 2 reports a summary for accounting statistics and corporate governance of financial firms. Examining the statistics, you can see that the average financial firm has a board committee index of 0.62, a board independence dummy of 0.74, a change in non-performing assets of 0.52% and a change in total assets of about 10%. The average governance 41 index is 0.55 with deviations from 0.39 in the 5th percentile and 0.73 in the 95th percentile. Financial institutions have an average directors' ownership dummy of 0.16 and a dividend yield of 2.83%. The

average firm in the sample has an EBTP ratio of 1.47%, a liquid assets ratio of 6.27%, total assets of $15.68 billion, a non-performing assets ratio of 1.31%, a pretax margin of 12.79%, a provision for loan/asset losses ratio of 0.72%, a real estate owned non-performing assets ratio of 0.23%, reserves for loan/asset losses ratio of 1.30%, sales of $0.859 billion, a sales growth of 9.25%, a staggered board dummy of 0.87, a tier 1 capital ratio of 11.32%, a Tobin's Q of 1.05, a total deposit ratio of 73.84%, a total loans ratio of 66.93% and total risk-adjusted capital ratio of 14.39%.

3.2 Methodology

We use various econometric methodologies to test the main hypotheses. First, the multivariate panel models with random effects utilize firm-level clustered standard errors to control for correlations within a firm. The second set of models are based on panel Tobit specifications and are used with censored dependent variables. Overall, we employ the following empirical specification to test the main hypotheses:

$$y_{it} = \beta_0 + \beta_1 CG_{it} + \beta_2 CGEBTPAT_{it} + \beta_3 EBTPAT_{it} + \beta_4 X_{it} + \gamma_k + \theta_t + e_{it}$$

where y_{it} represents a vector of the dependent variable depending on the model. Furthermore, β_0 is the constant term, β_i are vectors of coefficients, CG_{it} is a vector of the corporate governance measures, $CGEBTPAT_{it}$ is a vector of the interaction term between CG_{it} and $EBTPAT_{it}$, $EBTPAT_{it}$ is a vector of (earnings before taxes and loan loss provisions /total assets)$_{it}$, X_{it} is a matrix of explanatory variables, γ_k (k = 1…5) represents industry fixed effects, θ_t (t = 1…8) represents yearly fixed effects, e_{it} is the error term, *i* represents a firm and *t* is a year.

For the first hypothesis, the dependent variables are non-performing assets/total assets, real estate owned non-performing assets/total assets, and Tobin's Q. We test the second hypothesis using provision for loan/asset losses/total loans and reserves for loan/assets losses/total loans as dependent variables. To alleviate any endogeneity problems in the models, we use one-year lagged values of the following independent variables: sales growth, liquid assets ratio, reserves for loan/assets losses, non-performing assets ratio and total loans ratio.

First, we analyze the contemporaneous effects of corporate governance on excessive risk-taking and performance of financial institutions. To test the hypotheses, we employ both a panel Tobit regression and a standard panel regression approaches. The firm-level dependent variables for non-performing assets and real estate owned non-performing assets are left-censored because the values of these variables cannot fall below zero. Therefore, the Tobit estimation approach is appropriate for these two censored variables.

In addition, we investigate the robustness of the results using a first-differenced GMM (Generalized Method of Moments) estimator, lagged independent variables, and instrumental variable (IV) analysis. The first-differenced GMM specifications with robust standard errors deal with potential endogenous regressors, fixed effects, and measurement errors. The difference GMM is developed by Arrelano and Bond (1991) and removes the time-invariant fixed effects by first-differencing the variables. The GMM estimator assumes that the error terms are not serially correlated and that the current values of the dependent variable are not affected by the values from the previous years. Based on the dynamic nature of the estimation, the GMM models include the one-year lag of the dependent variable as a right-hand-side variable and instrument the independent variables with lags.

Furthermore, we use lags of the CG41 index and the other independent variables to examine the effect on excessive risk-taking and performance of financial institutions. Lastly, we estimate two-stage least square instrumental variables models using the following instruments: a one-year lag of EBTPAT, the interaction of the government intervention indicator and the one-year lag of EBTPAT, the interaction of the state antitakeover indicator and the one-year lag of EBTPAT, the government intervention and state antitakeover indicators, the two-year lag of sales growth, and the two- and three-year lags of sales as instruments. We assume that the instrumental variables are related to corporate governance but are not affecting the future excessive risk-taking and performance of financial institutions. The government intervention indicator takes a value of one if a financial institution has received a capital injection by the government's TARP (Troubled Asset Relief Program), and zero otherwise. Based on Bebchuk and Cohen (2003), the state antitakeover indicator takes a value ranging from 0 to 5 depending on the number of antitakeover provisions for the state. The models use the two-year lag of liquidity, reserves for loan/assets losses, total loans ratio, and the one-year lag of change in total assets, tier 1 capital, and total risk-adjusted capital to abate endogeneity problems.

4. Results, Discussion, and Robustness Checks

4.1 Corporate governance, excessive risk-taking and performance of financial institutions

The first hypothesis that we test is whether better corporate governance is associated with less excessive risk-taking and higher performance for financial institutions. Table 3 reports Models 1 with total non-performing assets, Model 2 with real estate related non-performing

assets, Models 3 with Tobin's Q, and Models 4, 5, and 6 with the same dependent variables, respectively, excluding the 2008 period of the financial crisis. To ameliorate any potential endogeneity in all models of Tables 3, 4, 5 and 6, we use one-year lag of several independent variables: sales growth, liquid assets ratio, reserves for losses and loans ratio. Model 1 illustrates that the coefficient on the GG41 index is negative and significant for total non-performing assets at the 1% level. The sum of the coefficients of the GG41 index, EBTPAT and their interaction term is negative and significant for total non-performing assets at 1%.[3] The results suggest that better governed and more profitable financial institutions tend to have less total non-performing assets.

As demonstrated in Model 2, the CG41 coefficient is significantly negative for real estate related non-performing assets at the 1% level. The evidence points out that more profitable financial institutions with better governance typically hold less real estate related non-performing assets. Additionally, the sum of the coefficients of the CG41 index, EBTPAT and their interaction term is negative and significant for real estate related non-performing assets at 1%. One can argue that financial institutions with better corporate governance practices limited their exposure to real estate related non-performing securities. The results mean that corporate governance was crucial for the management of real estate assets by financial institutions.

Model 3 indicates that the coefficient on the GG41 index is positive and significant for Tobin's Q at the 1% level. The sum of the coefficients of the GG41 index, EBTPAT and their interaction term is significantly positive for Tobin's Q at 1%. The evidence implies that financial institutions with better governance mechanisms and higher profitability have higher Tobin's Q.

[3] We bold the coefficients of the models when the sum of the variables is significant for all tables.

We also test whether the relationships between corporate governance and excessive risk-taking and the performance of financial institutions are not affected by the crisis in 2008 using Models 4, 5 and 6. Excluding the recession period of 2008, Models 4 and 5 show that the summed coefficients of the CG41 index, EBTPAT and their interaction term are negative and significant at 1% on non-performing assets and on real estate related non-performing assets, respectively. Excluding 2008 from the estimation, Model 6 shows that the coefficient on CG41 is significantly positive for Tobin's Q and that the sum of the CG41 index, EBTPAT and their interaction term exerts a positive pressure on Tobin's Q.

The evidence in Table 3 suggests that profitable financial firms with better governance accrue less non-performing and real estate related non-performing assets for the entire sample period and when we exclude 2008 from the models. Additionally, some part of the enhanced performance of financial institutions can be attributed to the strength of their corporate governance structures.

Based on the results in Table 3, financial institutions with higher sales growth in the previous year have less total non-performing assets and real estate related non-performing assets in Models 1, 2, and 5. The results show that the pretax margin has a significant and negative effect in Models 1, 2, 4 and 5 and positive effect in Model 3. Examining Models 3, 5 and 6, larger financial firms have significantly greater Tobin's Q and weakly significant greater real estate related non-performing assets. Further, bigger growth in size has a negative effect on Tobin's Q because financial firms could be holding more cash if they cannot find good investment opportunities. Greater cash holdings neither increase the growth rates of financial institutions nor their market valuations. Models 1, 2, and 5 show that financial institutions with greater liquidity in the previous year own less total non-performing assets and real estate related

non-performing assets. These firms could be holding more cash because of policy changes which focus on avoiding riskier assets. Models 1, 2, 3 and 6 indicate that financial firms with higher dividend yield have more total non-performing assets and lower Tobin's Q since they may not have good investments and favorable growth prospects.

Models 1, 2, 4, and 5 indicate that higher loan/assets loss reserves in the previous year are associated with an increase in the current level of total non-performing assets and real estate related non-performing assets. An increase in lending in the previous year is related to more total non-performing assets and real estate related non-performing assets and lower Tobin's Q, and higher deposits in the current year are correlated with greater total non-performing assets and Tobin's Q. Greater lending in the prior year and higher deposits may contribute to more reserves, and risker loans can be correlated with more non-performing assets. As expected, Models 1, 2, 4 and 5 show that a greater tier 1 risk-adjusted capital ratio is associated with less total non-performing assets and real estate related non-performing assets. Lastly, Models 3 and 6 illustrate that a higher total risk-adjusted capital ratio is associated with lower Tobin's Q. It is possible that higher total risk-based capital is positively correlated with the defaults rates of financial firms and related to lower Tobin's Q.

Table 4 reports six models using the four components of corporate governance that include directors' ownership, board independence, board committee and staggered board. The first three models show the results with the first three governance components, and the last three models add staggered boards to the analysis. Model 1 shows that jointly board committee, board independence, EBTPAT and their interaction terms have negative and weakly significant coefficients on non-performing assets. Individually, directors' ownership exerts a positive pressure on non-performing assets, but when we consider the interaction term with EBTPAT, the

joint effects are not significant. Based on Model 2, board committee, EBTPAT and their interaction term have negative and significant at 1% summed coefficients on real estate owned non-performing assets. Looking at Model 3, the summed coefficients of (1) board committee, EBTPAT and their interaction term, (2) board independence, EBTPAT and their interaction term, and (3) directors ownership, EBTPAT and their interaction term are positive and significant at 5%, 10% and 10%, respectively, for Tobin's Q.

After including the staggered board variable in Models 4, 5, and 6, all the coefficients have the same signs and greater significance. In Model 4, the summed coefficients of (1) board committee, EBTPAT and their interaction term, (2) board independence, EBTPAT and their interaction term, and (3) directors ownership, EBTPAT and their interaction term are negative and significant at 1%, 1% and 10%, respectively, for non-performing assets. For Model 5, the summed coefficients of board independence, EBTPAT and their interaction term are negative and significant at 1% for real estate owned non-performing assets. Looking at Model 6, the summed coefficients of (1) board committee, EBTPAT and their interaction term, (2) board independence, EBTPAT and their interaction term, and (3) directors ownership, EBTPAT and their interaction term are positive and significant at 5%, 5% and 10%, respectively, for Tobin's Q. In the last model, the coefficient on staggered board is negative and weakly significant for Tobin's Q.

The component results indicate that better corporate governance through higher values for board committee, board independence and directors' ownership and higher EBTPAT are correlated with less non-performing assets, real estate non-performing assets and higher values for Tobin's Q. These results are in line with the findings in Weisbach (1988), Akhigbe and Martin (2006, 2008), Peni and Vähämaa (2012) and Borisova et al. (2012). We confirm the

results of Bebchuk and Cohen (2005) that firms with classified boards tend to have lower values for Tobin's Q, reinforcing the principal-agent problems in the context of financial firms.

4.2 Corporate governance and provision and reserves for loan/asset losses

The second hypothesis that we address is whether better corporate governance contributes to income smoothing for financial institutions. Table 5 reports Models 1 with loan/asset loss provisions, Model 2 with loan/assets loss reserves, and Models 3 and 4 with the same dependent variables, respectively, excluding the 2008 crisis. In addition to lagging the previously described independent variables, we use one-year lag of non-performing assets in all models to minimize endogeneity concerns. Model 1 shows that the CG41 index has a positive and significant effect on the loan/asset loss provisions. The sum of the coefficients of the CG41 index, EBTPAT and their interaction term is positive and significant for loan/asset loss provisions at the 1% level. As you can see the corporate governance coefficient dwarfs the EBTPAT coefficient. This indicates that better governed financial firms that are more profitable accrue greater provisions for loan and asset losses. In line with Yang et al. (2012), our evidence supports the income smoothing hypothesis and is considered "good news." Consistent with Beaver et al. (1989), an increase in loan/asset loss provisions carries a positive signal for the future profitability of financial institutions because strong earnings can survive additional reduction of earnings through greater loan/asset loss provisions. Additionally, Wahlen (1994) confirm that after controlling for changes in non-performing loans, an upsurge in loan/asset loss provisions is correlated with positive information.

Looking at Model 2, the coefficient of the CG41 index is positive and significant for loan/assets loss reserves at the 1% level. The sum of the coefficients of the CG41 index,

EBTPAT and their interaction term is significantly positive for loan/assets loss reserves at 1%. You can see that better governed and more profitable financial institutions amass larger reserves for loan and asset losses, supporting the income smoothing hypothesis.

As part of the second hypothesis, we test whether the relationship between corporate governance and income smoothing of financial institutions is not affected by the 2008 crisis. Excluding 2008 form the regressions, Models 3 and 4 illustrate that the summed coefficients of the CG41 index, EBTPAT and their interaction term have significant and positive effects for loan/asset loss provisions and reserves. Financial institutions with good governance and higher EBTPAT set aside provisions and reserves for loan/asset losses irrespective of the volatility of the stock market. The crisis didn't change the income smoothing behavior of the financial firms.

The results of Table 5 show that financial firms with higher sales growth in the previous year and present increase in size accumulate less provisions and reserves for loan/asset losses. These institutions may generate solid earnings from earlier investments and hoard extra cash. According to the evidence in Table 5, larger financial firms tend to have greater provisions and reserves for loan/asset losses. A plausible explanation for the greater provisions and reserves is that larger financial institutions have higher chances of being involved in delinquent loans and are more strictly monitored by regulators.

According to Models 1 and 3, an increase in non-performing assets during the previous year is related to higher current provisions for loan/asset losses. Looking at all models, the amount of non-performing assets in the previous period exerts positive effects on the current provisions and reserves for loan/asset losses. Models 1 and 3 indicate that the accumulated reserves in the previous period are positively related to the current provisions for loan/asset

losses. While an increase in lending in the previous year in Models 1 and 3 is correlated with more provisions for loan/asset losses, an increase in deposits in Models 2 and 4 is correlated with more reserves for loan/asset losses.

Table 6 reports four models using the four governance components including directors' ownership, board independence, board committee and staggered board. The first two models show the results with the first three governance components, and the last two models integrate staggered boards to the analysis. Looking at Models 1, 2 and 3, the joint coefficients of governance components, EBTPAT and their interaction terms are insignificant for provisions for loan/asset losses. Directors' ownership individually exerts significant positive effects on the provisions for loan/asset losses and weakly significant effects on reserves for loan/asset losses. Based on Model 4, the summed coefficients of (1) board committee, EBTPAT and their interaction term and (2) directors ownership, EBTPAT and their interaction term are both positive and significant at 5% for reserves.

The component results indicate that better corporate governance through higher values for board committee and directors' ownership and higher EBTPAT are correlated with more reserves for loan/asset losses. Consistent with Yang et al. (2012), the results support the income smoothing hypothesis.

4.3 Robustness Checks

In addition to the baseline regressions in subsections 4.1 and 4.2, we examine the robustness of the results employing GMM estimations, lagged independent variables, and instrumental variable analysis. We perform the robustness tests to mitigate potential endogeneity

concerns associated with some of the regressions. Table 7 shows Model 1 with total non-performing assets, Model 2 with real estate related non-performing assets, and Model 3 with Tobin's Q. The first column of Table 7 shows that the sum of the coefficients of the CG41 index, EBTPAT, and their interaction term is significantly negative for total non-performing assets at 1%. Looking at Model 2, we find that the summed coefficients of the CG41 index, EBTPAT, and their interaction term are significantly negative for real estate related non-performing assets at 1%. Model 3 shows that the sum of the coefficients of the CG41 index, EBTPAT, and their interaction term is positive and weakly significant for Tobin's Q at the 10% level. Following Hansen (1982), the Hansen J statistic is typically used to test the validity of GMM models. In all specifications of Table 7, the p-values of the Hansen tests don't reject the null hypothesis at the 5% and show that all instruments are valid. Further, the p-values for first and second order autocorrelated disturbances indicate high first order autocorrelation for the three models and insignificant second order autocorrelation for all models.

The GMM results suggest that financial institutions with better governance and higher profits can effectively reduce total non-performing assets and real estate related non-performing assets and weakly increase Tobin's Q. The evidence is consistent with the previous results that better governance suppresses excessive risk-taking of financial institutions.

Table 8 presents five models using one-year lag of the independent variables. In all models, the one-year lag coefficients of corporate governance have the same signs and are slightly smaller in magnitude, with the exception of the governance coefficients in Models 3. In Model 1, although the sum of the coefficients of corporate governance, EBTPAT and their interaction term is insignificant, the coefficient on corporate governance is significantly negative. The sum of the coefficients of corporate governance, EBTPAT and their interaction term using

one-year lag is significant in models 2, 3, 4 and 5 at least at the 10 percent level. This means that the main results with lagged independent variables are unchanged and confirm the previous findings.

Table 9 presents IV regressions using a one-year lag of EBTPAT, the interaction of the government intervention indicator and the one-year lag of EBTPAT, the interaction of the state antitakeover indicator and the one-year lag of EBTPAT, the government intervention and state antitakeover indicators, the two-year lag of sales growth, and the two- and three-year lags of sales as instrumental variables. The first stage equation regresses the CG41 index on the instrumental and other control variables. We assume that the instruments are related to corporate governance but are not affecting the future excessive risk-taking and performance of financial institutions. Since corporate governance structures tend to change gradually over the years, the independent variables measuring sales and profits for the previous two to three years are reasonably assumed to have an association with the current governance practices. Further, any exogenous shocks to governance are suitable instrumental variables. First, we utilize the state antitakeover indicator ranging from 0 to 5 as described by Bebchuk and Cohen (2003) because the state's antitakeover legislation can directly affect the governance practices of firms. Second, we employ an indicator variable accounting for capital injections in financial institutions by the government's TARP. The government intervention indicator takes a value of one if a financial institution has received a capital injection by TARP, and zero otherwise.

Looking at the results in Table 9, the corporate governance coefficients in the three models have the same signs and are larger in magnitude compared with the initially estimated coefficients. In other words, better corporate governance is associated with less non-performing assets, less real estate owned non-performing assets and higher Tobin's Q for financial

institutions. The first stage variables are bold when the summed coefficients of the one-year lag of EBTPAT, the two indicators and their interactions are significant at least at 10%. After controlling for potential endogeneity using instrumental variables, the results still support the prior conclusions. The evidence indicates that corporate governance plays an essential role for reducing different types of non-performing assets and improving firm performance.

5. Conclusion

To maximize the wealth of their shareholder, financial institutions are inclined to take extreme risks that can increase the instability of the financial system. Many negative consequences for the economy, however, could be avoided depending on the quality of the corporate governance practices of financial firms. As asserted by Kirkpatrick (2009), a substantial part of the 2008 financial turmoil can be "attributed to failures and weaknesses in corporate governance arrangements." Our study explores how corporate governance affects excessive risk-taking and performance of U.S. financial institutions from 2002 to 2009. The results not only expand the extant literature and but also enhance our understanding of the impacts of corporate governance mechanisms on financial institutions.

Most importantly, the results show that better overall corporate governance and higher values for specific governance components are associated with less total non-performing assets, less real estate related non-performing assets, and higher Tobin's Q. The evidence suggests that sound governance mechanisms are likely to diminish excessive risk-taking and positively affect the performance of financial institutions, supported by Lemmon and Lins (2003) and Akhigbe and Martin (2006, 2008). Moreover, combining firm profitability with specific corporate governance components, including higher directors' stock ownership, greater board

independence, more board committees, and reduced reliance on staggered board are associated with beneficial effects for financial institutions (Weisbach (1988), Bebchuk and Cohen (2005), Peni and Vähämaa (2012) and Borisova et al. (2012)). The findings are confirmed for the entire sample and when we exclude the period of the financial crisis. The negative consequences of the financial upheaval could have been smaller should financial institutions have implemented stronger overall governance structure and better specific governance mechanisms. If IndyMac Bank, Washington Mutual, Wachovia, Citibank, AIG and recently J.P. Morgan, to name a few, had superior governance practices in place, they would have strengthened the performance of other interconnected financial institutions and the entire U.S. financial system.

Second, the evidence shows that better governance is positively related to provisions and reserves for loan/asset losses for financial institutions. Consistent with Wahlen (1994) and Yang et al. (2012), better governance is positively related to the buildup of provisions and reserves for loan/asset losses, which supports the income smoothing hypothesis for financial institutions. Based on that, profitable financial institutions with better governance structures are more likely to engage in income smoothing through informative management of earnings and greater compliance with regulations and accounting standards. Furthermore, the findings are similar when we exclude the 2008 crisis period. Lastly, the results remain unchanged after performing various robustness checks using dynamic GMM estimations, regressions with lagged explanatory variables, and instrumental variable analysis.

To sum up, the study illustrates that the present supervision and regulation of financial institutions has to be supplemented with sound corporate governance mechanisms. The results are important for policymakers and users of accounting information. According to Laeven (2007), official supervision, monitoring and capital regulation are not the only devices that affect

financial institutions. In light of the evidence, the performance of financial institutions is highly influenced by their own governance structures. Overall, the paper suggests that corporate governance plays an essential role for the stability and progress of financial institutions.

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Appendix 1. Description of the Variables

No.	Variable	Definition
1	Board committee	Board committee takes values from 0 to 4, where one point is assigned for the existence of an audit, compensation, governance, and nomination committee.
2	Board independence	Board Independence takes a value of one when the board has a majority of independent outsiders, and zero otherwise.
3	Change in non-performing assets / Total assets	Change in non-performing assets from time t-1 to t divided by total assets at t-1.
4	Change in total assets	Change in total assets from time t-1 to t scaled by total assets at t-1.
5	Corporate governance 41 index	The corporate governance 41 index consists of 41 corporate governance components. A higher governance index indicates better corporate governance. All details of the governance index are provided in Appendix 1.
6	Directors' ownership	Directors' Ownership takes a value of one if the directors own more than 10% of the shares outstanding, and zero otherwise.
7	Dividend yield	Dividend yield is calculated as dividend per share divided by the market price per share at t.
8	EBTP / Total assets	EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage.
9	Liquid assets / Total deposits	Liquid assets / Total deposits is calculated as the financial institution's cash and short-term investments over total deposits, expressed as a percentage.
10	Log (assets)	Log (assets) is the log of total assets in millions of USD and measures firm size.
11	Non-performing assets / Total assets	Non-performing assets / Total assets is calculated as total non-performing assets divided by total assets at t-1.
12	Pretax margin	Pretax margin is the pre-tax profit margin calculated as [Earnings before taxes / Total sales]*100.
13	Provision for loan/asset losses / Total loans	Provision for loan/asset losses / Total loans is calculated as provisions for loan/asset losses divided by total loans at time t-1.
14	Real estate owned non-performing assets / Total	Real estate owned non-performing assets / Total assets is calculated as real estate owned non-performing assets divided by total assets at t-1.
15	Reserve for loan/asset losses / Total loans	Reserve for loan/asset losses / Total loans is calculated as reserves for loan/asset losses divided by total loans.
16	Sales growth	Sales growth is the growth in sales measured by the change in the sales from time t-1 to t scaled by total sales at t-1.
17	Sales	Sales are the annual net sales (turnover) in millions of USD by a firm.
18	Staggered board	Staggered Board takes a value of one if the firm has a classified board, and zero otherwise.
19	Tier 1 capital	Tier 1 risk-adjusted capital ratio.
20	Total risk-adjusted capital ratio	Total risk-adjusted capital ratio (Tier 3 capital).
21	Tobin's Q	Tobin's Q is the market value of assets divided by the book value of assets, where the market value of assets represents the sum of the book value of assets and the market value of common equity minus the sum of the common stock book value and deferred taxes on the balance sheet, and where common equity market value is the number of shares outstanding multiplied by the firm stock price at the end of time t.
22	Total deposits / Total assets	Total deposits / Total assets is the ratio of [Total deposits / Total assets].
23	Total loans / Total assets	Total loans / Total assets represents [Total loans net of allowance for loan losses / Total assets].

Appendix 2. Description of the Corporate Governance Index

This table presents the 41 components of the corporate governance index (*CG41*). The *CG41* index comprises of four subgroups: a) board, b) audit, c) anti-takeover provisions, and d) compensation and ownership. A higher CG41 index is associated with superior corporate governance practices. Risk Metrics and Aggarwal et al. (2011) are the sources of the data.

Panel A: Board	
1	All directors attended 75% of board meetings or had a valid excuse
2	CEO serves on the boards of two or fewer public companies
3	Board is controlled by more than 50% independent outside directors
4	Board size is at greater than five but less than 16
5	CEO is not listed as having a related-party transaction
6	Compensation committee composed solely of independent outsiders
7	Chairman and CEO positions are separated, or there is a lead director
8	Nominating committee composed solely of independent outsiders
9	Governance committee exists and met in the past year
10	Shareholders vote on directors selected to fill vacancies
11	Governance guidelines are publicly disclosed
12	Annually selected board (no staggered board)
13	Policy exists on outside directorships (four or fewer boards is the limit)
14	Shareholders have cumulative voting rights
15	Shareholder approval is required to increase/decrease board size
16	Majority vote requirement to amend charter/bylaws (not supermajority)
17	Board has the express authority to hire its own advisers
18	Performance of the board is reviewed regularly
19	Board-approved succession plan in place for the CEO
20	Outside directors meet without CEO and disclose number of times met
21	Directors are required to submit resignation upon a change in job
22	Board cannot amend by laws without shareholder approval or can do so only under limited circumstances
23	Does not ignore shareholder proposal
24	Qualifies for proxy contest defenses combination points
Panel B: Audit	
25	Consulting fees paid to auditors are less than audit fees paid to auditors
26	Audit committee composed solely of independent outsiders
27	Auditors ratified at most recent annual meeting
Panel C: Anti-takeover provisions	
28	Single class, common shares
29	Majority vote requirement to approve mergers (not supermajority)
30	Shareholders may call special meetings
31	Shareholders may act by written consent
32	Company either has no poison pill or a pill that is shareholder approved
33	Company is not authorized to issue blank check preferred
Panel D: Compensation and ownership	
34	Directors are subject to stock ownership requirements
35	Executives are subject to stockownership guidelines
36	No interlocks among compensation committee members
37	Directors receive all or a portion of their fees in stock
38	All stock-incentive plans adopted with shareholder approval
39	Options grants align with company performance and reasonable burn rate
40	Officers' and directors' stock ownership is at least 1% but not over 30% of total shares outstanding
41	Repricing prohibited

Table 1. Sample of Firms
This table presents the construction of the final sample of 820 US financial companies between 2002 and 2009.

Construction of the Sample

Number of firms covered in Compustat Bank Annual Data	1870
Less firms with no corresponding CG41 data and missing accounting data	(1050)
Final sample of firms	820

Number of firms by industry

	Industry	N. Firms
1	Commercial banks	539
2	State commercial banks	1
3	Federally chartered savings institutions	200
4	Not federally chartered savings institutions	79
5	Life insurance	1
	Total	820

Table 2. Summary Statistics
This table presents summary statistics of financial institutions for the US. A higher governance index indicates better corporate governance. Full descriptions of the variables are provided in Appendix 1.

Variable	N. obs.	Mean	Std. Dev.	5th percentile	95th Percentile
Board committee	3247	0.6163	1.4218	0.0000	4.0000
Board independence	521	0.7355	0.1285	0.5000	0.9091
Change in non-performing assets / Total assets	3227	0.0052	0.0137	-0.0044	0.0273
Change in total assets	3247	0.0998	0.1623	-0.0645	0.3532
Corporate governance 41 index	3247	0.5520	0.1044	0.3902	0.7317
Directors' ownership	521	0.1612	0.3681	0.0000	1.0000
Dividend yield	3247	0.0283	0.0309	0.0000	0.0657
EBTP / Total assets	3247	1.4739	1.1900	-0.3640	2.9381
(Liquid assets / Total deposits) at t-1	3247	6.2721	5.8579	1.9280	14.4990
Log (assets)	3247	7.4196	1.5272	5.5371	10.3991
Non-performing assets / Total assets	3232	0.0131	0.0196	0.0004	0.0489
Pretax margin	3247	12.7930	44.9744	-38.7036	35.4097
Provision for loan/asset losses / Total loans	3247	0.0072	0.0115	0.0000	0.0307
Real estate owned non-performing assets / Total assets	3082	0.0023	0.0048	0.0000	0.0106
(Reserve for loan/asset losses / Total loans) at t-1	3247	0.0130	0.0055	0.0058	0.0220
Sales at t-1	3247	859.17	5727.73	13.46	2010.65
Sales growth at t-1	3247	0.0925	0.1920	-0.1360	0.4182
Staggered board	346	0.8699	0.3369	0.0000	1.0000
Tier 1 capital	3247	11.3155	3.2655	7.2000	17.1000
Tobin's Q	3244	1.0508	0.0686	0.9558	1.1666
Total deposits / Total assets	3247	0.7384	0.0951	0.5703	0.8702
(Total loans / Total assets) at t-1	3247	0.6693	0.1314	0.4313	0.8514
Total risk-adjusted capital ratio	3247	14.3928	23.5476	10.3900	20.7900

Table 3. Multivariate Analysis of Corporate Governance, Non-Performing Assets and Financial Institutions Performance

This table presents financial institutions random effects and tobit regression results. The dependent variables are Non-performing assets / Total assets at t-1, Real estate owned non-performing assets / Total assets at t-1, and Tobin's Q. Tobin's Q is the market value of assets divided by the book value of assets, where the market value of assets represents the sum of the book value of assets and the market value of common equity minus the sum of the common stock book value and deferred taxes on the balance sheet, and where common equity market value is the number of shares outstanding multiplied by the firm stock price at the end of time t. The independent variables follow. The corporate governance 41 index consists of 41 corporate governance components, where a higher index indicates better corporate governance. The interaction of the Corporate governance 41 index and EBTP / Total assets. EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. All the control variables used in the models are defined in Appendix 1, and the models include year and industry dummies. The values in the parentheses are t-statistics. For the random effects regressions, the t-statistics are based on standard errors that are clustered by financial institutions. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Non-performing assets / Total assets	Real estate owned non-performing assets / Total assets	Tobin's Q	Non-performing assets / Total assets (without 2008)	Real estate owned non-performing assets / Total assets (without 2008)	Tobin's Q (without 2008)
Corporate governance 41 index	-0.02105***	-0.00730***	0.06116***	-0.02107***	-0.00750***	0.06366**
	(-4.16)	(-4.20)	(2.76)	(-3.83)	(-3.84)	(2.51)
The interaction of the Corporate governance 41 index and EBTP / Total assets	0.01247***	0.00338***	-0.03020***	0.01181***	0.00349***	-0.03164**
	(6.15)	(5.04)	(-2.80)	(5.00)	(4.24)	(-2.48)
EBTP / Total assets	-0.00955***	-0.00261***	0.02879***	-0.00982***	-0.00289***	0.03431***
	(-7.53)	(-6.12)	(4.11)	(-6.87)	(-5.74)	(4.11)
Sales growth at t-1	-0.00345**	-0.00327***	-0.00196	-0.00205	-0.00292***	-0.00358
	(-2.13)	(-5.68)	(-0.39)	(-1.32)	(-4.99)	(-0.77)
Pretax margin	-0.00007***	-0.00001***	0.00004**	-0.00005***	-0.00001***	0.00004
	(-11.65)	(-6.17)	(2.17)	(-9.66)	(-5.70)	(1.42)
Log (assets)	0.00010	0.00014	0.00541***	0.00025	0.00020*	0.00532***
	(0.31)	(1.20)	(3.40)	(0.83)	(1.79)	(2.82)
Change in total assets	-0.00006	-0.00085	-0.01374***	0.00127	-0.00024	-0.02017***
	(-0.03)	(-1.51)	(-2.58)	(0.81)	(-0.41)	(-3.16)
(Liquid assets / Total deposits) at t-1	-0.00011*	-0.00006***	0.00005	-0.00006	-0.00005**	-0.00001
	(-1.87)	(-2.60)	(0.23)	(-1.18)	(-2.14)	(-0.04)
Dividend yield	0.06817***	0.01085***	-0.23381***	0.00591	-0.00033	-0.16967***
	(7.58)	(3.77)	(-4.00)	(0.56)	(-0.09)	(-2.69)
(Reserves for loan/assets losses / Total loans) at t-1	0.84144***	0.18615***	-0.25323	0.81913***	0.17962***	-0.30472
	(14.93)	(9.71)	(-1.33)	(15.64)	(9.72)	(-1.54)
(Total loans / Total assets) at t-1	0.02071***	0.00375***	-0.07216***	0.02100***	0.00408***	-0.06725***
	(6.55)	(3.21)	(-4.10)	(7.33)	(3.72)	(-3.68)
Total deposits / Total assets	0.01745***	0.00176	0.09543***	0.01291***	0.00112	0.09812***
	(4.13)	(1.16)	(4.19)	(3.29)	(0.77)	(4.06)
Tier 1 capital	-0.00071***	-0.00029***	-0.00027	-0.00055***	-0.00024***	0.00012
	(-6.63)	(-7.28)	(-0.57)	(-5.38)	(-6.04)	(0.22)
Total risk-adjusted capital ratio	-0.00000	0.00000	-0.00001**	-0.00000	0.00000	-0.00001**
	(-0.32)	(0.88)	(-2.41)	(-0.43)	(1.05)	(-2.17)
Constant	-0.01154	0.00319	0.94332***	-0.00663	0.00285	0.94366***
	(-0.73)	(0.60)	(22.88)	(-0.47)	(0.58)	(20.31)
Observations	3,232	3,082	3,244	2,772	2,645	2,782
R-squared/Pseudo R-squared	0.457	0.278	0.519	0.483	0.311	0.519

Table 4. Multivariate Analysis of Governance Components, Non-Performing Assets and Financial Institutions Performance
This table presents financial institutions random effects and tobit regression results. The dependent variables are Non-performing assets / Total assets at t-1, Real estate owned non-performing assets / Total assets at t-1, and Tobin's Q. Tobin's Q is the market value of assets divided by the book value of assets, where the market value of assets represents the sum of the book value of assets and the market value of common equity minus the sum of the common stock book value and deferred taxes on the balance sheet, and where common equity market value is the number of shares outstanding multiplied by the firm stock price at the end of time t. The independent variables follow. Staggered Board takes a value of one if the firm has a classified board, and zero otherwise. Board committee takes values from 0 to 4, where one point is assigned for the existence of an audit, compensation, governance, and nomination committee. The interaction of Board committee and EBTP / Total assets. Directors' Ownership takes a value of one if the directors own more than 10% of the shares outstanding, and zero otherwise. The interaction of Directors' Ownership and EBTP / Total assets. Board Independence takes a value of one when the board has a majority of independent outsiders, and zero otherwise. The interaction of Board Independence and EBTP / Total assets. EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. All the control variables used in the models are defined in Appendix 1, and the models include all control variables from Table 3, year and industry dummies. The values in the parentheses are t-statistics. For the random effects regressions, the t-statistics are based on standard errors that are clustered by financial institutions. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Non-performing assets / Total assets	Real estate owned non-performing assets / Total assets	Tobin's Q	Non-performing assets / Total assets	Real estate owned non-performing assets / Total assets	Tobin's Q
Staggered Board				0.00038	0.00013	-0.02571*
				(0.23)	(0.32)	(-1.74)
Board Committee	-0.00196	-0.00011	0.02154*	-0.00797**	-0.00096	0.00902
	(-0.89)	(-0.18)	(1.94)	(-2.44)	(-1.22)	(0.48)
Interaction of Board Committees and EBTP / Total assets	0.00050	-0.00006	-0.00916	0.00328**	-0.00002	-0.01310
	(0.48)	(-0.22)	(-1.40)	(2.19)	(-0.04)	(-1.35)
Directors' Ownership	0.01292***	0.00159**	-0.00523	0.00773***	0.00073	-0.02694**
	(5.50)	(2.55)	(-0.31)	(3.39)	(1.44)	(-2.15)
Interaction of Directors' Ownership and EBTP / Total assets	-0.00425***	-0.00036	-0.00349	-0.00349***	-0.00041*	0.00604
	(-4.14)	(-1.36)	(-0.39)	(-3.20)	(-1.67)	(0.93)
Board Independence	-0.02159***	-0.00802***	0.05576	-0.01931***	-0.00677***	0.09641**
	(-3.31)	(-4.39)	(1.18)	(-3.31)	(-4.78)	(2.13)
Interaction of Board Independence and EBTP / Total assets	0.01272***	0.00346***	-0.03064	0.01139***	0.00279***	-0.05756***
	(5.25)	(5.23)	(-1.31)	(4.94)	(4.72)	(-2.65)
EBTP / Total assets	-0.00209	-0.00090	0.06369**	-0.01591**	-0.00116	0.10136**
	(-0.49)	(-0.76)	(2.11)	(-2.50)	(-0.72)	(2.39)
Observations	520	486	521	284	266	284
R-squared/Pseudo R-squared	0.732	0.545	0.570	0.747	0.567	0.672

Table 5. Multivariate Analysis of Corporate Governance and Income Smoothing of Financial Institutions

This table presents financial institutions random effects regression results. The dependent variables are Provision for loan/asset losses / Total loans at t-1 and Reserve for loan/asset losses / Total loans. The independent variables follow. The corporate governance 41 index consists of 41 corporate governance components, where a higher index indicates better corporate governance. The interaction of the Corporate governance 41 index and EBTP / Total assets. EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. All the control variables used in the models are defined in Appendix 1, and the models include year and industry dummies. The values in the parentheses are t-statistics. For the random effects regressions, the t-statistics are based on standard errors that are clustered by financial institutions. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1	Model 2	Model 3	Model 4
	Provision for loan/asset losses / Total loans	Reserve for loan/assets losses / Total loans	Provision for loan/asset losses / Total loans (without 2008)	Reserve for loan/assets losses / Total loans (without 2008)
Corporate governance 41 index	0.01311***	0.00846***	0.01796***	0.01236***
	(3.04)	(2.80)	(3.17)	(3.28)
Interaction of the Corporate governance 41 index and EBTP / Total assets	-0.00438**	-0.00166	-0.00706**	-0.00399**
	(-1.99)	(-1.22)	(-2.43)	(-2.18)
EBTP / Total assets	0.00254**	0.00089	0.00377**	0.00210**
	(2.09)	(1.10)	(2.47)	(2.02)
Sales growth at t-1	-0.00029	-0.00279***	0.00054	-0.00206***
	(-0.36)	(-4.12)	(0.67)	(-3.09)
Pretax margin	-0.00004	-0.00002	-0.00004	-0.00002
	(-1.38)	(-1.40)	(-1.38)	(-1.39)
Log (assets)	0.00088***	0.00067***	0.00069***	0.00072***
	(5.26)	(4.12)	(4.12)	(4.40)
Change in total assets	-0.00160	-0.00423***	-0.00177*	-0.00408***
	(-1.35)	(-4.84)	(-1.68)	(-4.36)
(Liquid assets / Total deposits) at t-1	0.00002	0.00005	0.00002	0.00006
	(0.75)	(1.53)	(0.55)	(1.55)
Dividend yield	0.01063	0.00656	-0.00008	-0.00833
	(1.13)	(0.73)	(-0.01)	(-1.30)
Change in non-performing assets / Total assets	0.31752***		0.26839***	
	(7.82)		(5.87)	
(Non-performing assets / Total assets) at t-1	0.25537***	0.24136***	0.27642***	0.25246***
	(6.75)	(10.40)	(7.08)	(10.81)
(Reserves for loan/assets losses / Total loans) at t-1	0.24422***		0.19017***	
	(3.26)		(2.59)	
(Total loans / Total assets) at t-1	0.00299*	0.00022	0.00279**	0.00075
	(1.92)	(0.14)	(2.02)	(0.50)
Total deposits / Total assets	-0.00068	0.00516**	-0.00053	0.00455**
	(-0.32)	(2.27)	(-0.28)	(1.98)
Tier 1 capital	-0.00008	-0.00003	-0.00008	0.00005
	(-1.41)	(-0.44)	(-1.39)	(0.72)
Total risk-adjusted capital ratio	0.00000	0.00000	-0.00000	-0.00000
	(0.09)	(0.07)	(-0.84)	(-0.64)
Constant	0.00898**	0.01233***	0.01112***	0.01070***
	(2.41)	(3.73)	(2.66)	(2.91)
Observations	3,227	3,234	2,768	2,772
R-squared	0.641	0.422	0.630	0.439

Table 6. Multivariate Analysis of Governance Components and Income Smoothing of Financial Institutions
This table presents financial institutions random effects regression results. The dependent variables are Provision for loan/asset losses / Total loans at t-1 and Reserve for loan/asset losses / Total loans. The independent variables follow. Staggered Board takes a value of one if the firm has a classified board, and zero otherwise. Board committee takes values from 0 to 4, where one point is assigned for the existence of an audit, compensation, governance, and nomination committee. The interaction of Board committee and EBTP / Total assets. Directors' Ownership takes a value of one if the directors own more than 10% of the shares outstanding, and zero otherwise. The interaction of Directors' Ownership and EBTP / Total assets. Board Independence takes a value of one when the board has a majority of independent outsiders, and zero otherwise. The interaction of Board Independence and EBTP / Total assets. EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. All the control variables used in the models are defined in Appendix 1, and the models include all control variables from Table 5, year and industry dummies. The values in the parentheses are t-statistics. For the random effects regressions, the t-statistics are based on standard errors that are clustered by financial institutions. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1	Model 2	Model 3	Model 4
	Provision for loan/asset losses / Total loans	Reserve for loan/assets losses / Total loans	Provision for loan/asset losses / Total loans	Reserve for loan/assets losses / Total loans
Staggered Board			-0.00058	0.00027
			(-0.54)	(0.21)
Board Committee	-0.00261*	0.00073	-0.00074	0.00429*
	(-1.69)	(0.33)	(-0.40)	(1.94)
Interaction of Board Committees and EBTP / Total assets	0.00113	-0.00114	0.00013	-0.00428***
	(1.38)	(-0.93)	(0.15)	(-2.74)
Directors' Ownership	0.00349***	0.00362*	0.00304**	0.00034
	(2.81)	(1.83)	(2.01)	(0.20)
Interaction of Directors' Ownership and EBTP / Total assets	-0.00159**	-0.00205**	-0.00112	-0.00133
	(-2.49)	(-2.19)	(-1.45)	(-1.27)
Board Independence	-0.00648	-0.00582	-0.00981	-0.01128**
	(-1.28)	(-1.13)	(-1.51)	(-2.24)
Interaction of Board Independence and EBTP / Total assets	0.00370	0.00448*	0.00496	0.00546**
	(1.46)	(1.91)	(1.49)	(2.26)
EBTP / Total assets	0.00068	0.00571	0.00196	0.01738***
	(0.22)	(1.37)	(0.41)	(2.69)
Observations	518	519	283	283
R-squared	0.905	0.642	0.927	0.750

Table 7. Robustness Checks for Risk-Taking, Performance, and Income Smoothing using GMM Estimations
This table presents first-differenced GMM estimation results for financial institutions. The dependent variables are Non-performing assets / Total assets, Real estate owned non-performing assets / Total assets, Tobin's Q, Provision for loan/asset losses / Total loans, and Reserve for loan/assets losses / Total loans. Tobin's Q is the market value of assets divided by the book value of assets, where the market value of assets represents the sum of the book value of assets and the market value of common equity minus the sum of the common stock book value and deferred taxes on the balance sheet, and where common equity market value is the number of shares outstanding multiplied by the firm stock price at the end of time t. The independent variables follow. One-year lag of the dependent variable. The corporate governance 41 index consists of 41 corporate governance components, where a higher index indicates better corporate governance. The interaction of the Corporate governance 41 index and EBTP / Total assets. EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. All models include the control variables from the previous tables, and the variables are defined in Appendix 1. The values in the parentheses are t-statistics. The t-statistics are based on robust standard errors. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1	Model 2	Model 3
	Non-performing assets / Total assets	Real estate owned non-performing assets / Total assets	Tobin's Q
(Non-performing assets / Total assets) at t-1	1.11995***		
	(12.94)		
(Real estate owned non-performing assets / Total assets) at t-1		0.77276***	
		(10.76)	
Tobin's Q at t-1			0.12240
			(0.71)
Corporate governance 41 index	-0.02401*	-0.00968***	1.52134*
	(-1.68)	(-3.07)	(1.87)
The interaction of the Corporate governance 41 index and EBTP / Total assets	-0.00375	0.00242*	-0.13417
	(-0.59)	(1.87)	(-1.34)
EBTP / Total assets	-0.00673*	-0.00343***	0.08489
	(-1.81)	(-4.36)	(1.36)
Observations	2,261	2,113	2,273
Hansen test (p-value)	0.06	0.128	0.454
Serial correlation tests			
First Order (p-value)	0.000	0.000	0.047
Second Order (p-value)	0.187	0.527	0.096

Table 8. Robustness Checks using Lagged Independent Variables

This table presents financial institutions random effects and tobit regression results. The dependent variables in Models 1, 2, and 3 are Non-performing assets / Total assets, Real estate owned non-performing assets / Total assets, and Tobin's Q, respectively. Tobin's Q is the market value of assets divided by the book value of assets, where the market value of assets represents the sum of the book value of assets and the market value of common equity minus the sum of the common stock book value and deferred taxes on the balance sheet, and where common equity market value is the number of shares outstanding multiplied by the firm stock price at the end of time t. The independent variables follow. The corporate governance 41 index at t-1 consists of 41 corporate governance components, where a higher index indicates better corporate governance. The interaction of the Corporate governance 41 index and EBTP / Total assets at t-1. EBTP / Total assets is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. All models include year and industry dummies and the control variables from the previous tables. All the control variables used in the models are defined in Appendix 1. The values in the parentheses are t-statistics. For the random effects regressions, the t-statistics are based on standard errors that are clustered by financial institutions. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1 Non-performing assets / Total assets	Model 2 Real estate owned non-performing assets / Total assets	Model 3 Tobin's Q
Corporate governance 41 index at t-1	-0.01556***	-0.00545***	0.09602***
	(-2.67)	(-2.76)	(4.24)
The interaction of (the Corporate governance 41 index and (EBTP / Total assets)) at t-1	0.00850***	0.00246***	-0.04932***
	(3.71)	(3.25)	(-4.80)
(EBTP / Total assets) at t-1	-0.00110	0.00007	0.03523***
	(-0.76)	(0.14)	(6.81)
Observations	2,944	2,806	2,960
R-squared	0.421	0.281	0.507

	Model 4 Provision for loan/asset losses / Total loans	Model 5 Reserve for loan/assets losses / Total loans
Corporate governance 41 index at t-1	0.00794*	0.00511
	(1.90)	(1.29)
The interaction of (the Corporate governance 41 index and (EBTP / Total assets)) at t-1	-0.00004	-0.00030
	(-0.02)	(-0.20)
(EBTP / Total assets) at t-1	0.00454***	0.00360***
	(4.63)	(4.25)
Observations	2,944	2,946
R-squared	0.528	0.465

Table 9. Instrumental Variables Analysis of Corporate Governance, Risk-Taking and Bank Performance

This table presents instrumental variable regression estimates. The dependent variables in Models 1, 2, and 3 are Non-performing assets / Total assets, Real estate owned non-performing assets / Total assets, and Tobin's Q, respectively. Tobin's Q is the market value of assets divided by the book value of assets, where the market value of assets represents the sum of the book value of assets and the market value of common equity minus the sum of the common stock book value and deferred taxes on the balance sheet, and where common equity market value is the number of shares outstanding multiplied by the firm stock price at the end of time t. The independent variables follow. The corporate governance 41 index consists of 41 corporate governance components, where a higher index indicates better corporate governance. Government intervention indicator takes a value of one if a financial institution received a capital injection by the TARP program and zero otherwise. State antitakeover indicator takes values ranging from 0 to 5 depending on the number of antitakeover provisions for the state. The interaction of the Government intervention indicator and (EBTP / Total assets) at t-1. The interaction of the State antitakeover indicator and (EBTP / Total assets) at t-1. (EBTP / Total assets) at t-1 is earnings before taxes and loan loss provisions over total assets at t-1, expressed as a percentage. Sales growth at t-2 is the growth in sales measured by the change in the sales from time t-3 to t-2 scaled by total sales at t-3. Sales at t-2 are the annual net sales (turnover) in millions of USD by a firm at t-2. Sales at t-3 are calculated the same way. The instrumental variables are the one year lag of EBTPAT, the interactions of the government intervention indicator or the state antitakeover indicator and the one year lag of EBTPAT, the government intervention indicator, the state antitakeover indicator, two year lag of sales growth, and two and three year lags of sales. Change in total assets, Tier 1 risk-adjusted capital ratio, and Total risk-adjusted capital ratio are the one-year lags of the variables. Reserves for loan/asset losses / Total loans, Total loans / Total assets, and Liquid assets / Total deposits are the two-year lags of the variables. All the control variables used in the models are defined in Appendix 1, and the models include year and industry dummies. The values in the parentheses are t-statistics based on robust standard errors. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Model 1		Model 2		Model 3	
	Non-performing assets / Total assets	First Stage of Model 1	Real estate owned non-performing assets / Total assets	First Stage of Model 2	Tobin's Q	First Stage of Model 3
Corporate governance 41 index	-0.2379**		-0.0476**		2.5005***	
	(-2.37)		(-2.17)		(4.18)	
(EBTP / Total assets) at t-1		0.008536**		0.009847***		0.008240**
		(2.42)		(2.75)		(2.36)
The interaction of the Government intervention indicator and (EBTP / Total assets) at t-1		-0.002773		-0.002616		-0.002425
		(-0.71)		(-0.66)		(-0.63)
Government intervention indicator		0.007822		0.007361		0.007050
		(1.11)		(1.02)		(1.01)
The interaction of the State antitakeover indicator and (EBTP / Total assets) at t-1		-0.001515		-0.001783		-0.001505
		(-1.06)		(-1.20)		(-1.06)
State antitakeover indicator		0.001782		0.002215		0.001639
		(0.71)		(0.84)		(0.66)
Sales growth at t-2		-0.007579		-0.006713		-0.007398
		(-0.66)		(-0.57)		(-0.65)
Sales at t-2		0.000001		-0.000000		0.000001
		(0.47)		(-0.20)		(0.49)
Sales at t-3		-0.000001		-0.000001		-0.000002
		(-1.05)		(-0.31)		(-1.07)
Log (assets)	0.0084**	0.036071***	0.0015*	0.036029***	-0.0807***	0.036176***
	(2.37)	(23.73)	(1.90)	(22.77)	(-3.75)	(23.88)
Pretax margin	-0.0001*	-0.000062	-0.0000**	-0.000067*	0.0002*	-0.000067*
	(-1.79)	(-1.51)	(-2.15)	(-1.94)	(1.90)	(-1.90)
Change in total assets at t-1	-0.0105**	-0.029660**	-0.0029**	-0.036505***	0.0486	-0.029422**
	(-2.18)	(-2.36)	(-2.20)	(-2.95)	(1.41)	(-2.34)
(Liquid assets / Total deposits) at t-2	0.0001	0.000289	0.0000	0.000230	-0.0003	0.000288
	(1.07)	(1.01)	(0.87)	(0.80)	(-0.49)	(1.01)
Dividend yield	0.1001**	-0.053306	0.0163*	-0.041465	-0.1218	-0.056343
	(2.04)	(-0.79)	(1.72)	(-0.61)	(-0.76)	(-0.84)
(Reserves for loan/assets losses / Total loans) at t-2	0.5474***	0.907197**	0.1194***	0.822481**	-2.5388**	0.947778***
	(3.50)	(2.53)	(3.61)	(2.28)	(-2.36)	(2.63)
(Total loans / Total assets) at t-2	0.0247***	-0.027676*	0.0038***	-0.031161*	0.0097	-0.026608*
	(4.77)	(-1.78)	(3.08)	(-1.95)	(0.25)	(-1.71)
Total deposits / Total assets	0.0480***	0.107802***	0.0107***	0.108701***	-0.2255**	0.107734***
	(3.11)	(4.61)	(3.08)	(4.61)	(-2.39)	(4.76)
Tier 1 capital at t-1	-0.0001	0.000416	-0.0001*	0.000365	-0.0018	0.000418
	(-0.39)	(0.46)	(-1.65)	(0.39)	(-0.79)	(0.46)
Total risk-adjusted capital ratio at t-1	0.0001	0.000071	0.0001	0.000085	0.0013	0.000041
	(0.40)	(0.10)	(1.53)	(0.12)	(0.81)	(0.06)
Constant	0.0476*	0.236077***	0.0117*	0.240756***	0.3089**	0.231397***
	(1.82)	(8.01)	(1.90)	(8.12)	(2.06)	(8.48)
Observations	2,298	2,298	2,191	2,191	2,311	2,311