

INCOME SMOOTHING PRACTICES OF US BANKS AROUND THE 2008 FINANCIAL CRISIS

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ABSTRACT

The financial crisis of 2008 had a profound effect on the US banking industry, causing financial distress and the failure of a large number of banks. In this paper, we investigate whether or not banking institutions smoothed their reported earnings upward through the utilization of loan loss provisions during the financially challenging times of the Great Recession. Using a large dataset of commercial banks and thrifts, our empirical results provide support for the income smoothing hypothesis that banking institutions underestimated their provision for loan losses in order to offset their declining earnings in the period after the financial crisis.

JEL: G21, M41

KEYWORDS: Financial Crisis, Income Smoothing, Provision for Loan Losses, Commercial Banks, Thrifts

INTRODUCTION

any consider the financial crisis of 2008 the worst economic downturn since the Great Depression of the 1930s. The financial crisis, which originated in the US financial sector, quickly spread to the global financial markets and economy. In the United States, the crisis had a severe impact on the workings of the banking system leading to financial distress and the failure of a large number of banking institutions. Given the critical role the banking sector plays in the nation's economy, the effects of the sector's declining position were felt in all aspects of the economic system. Statement of Financial Accounting Standards (SFAS) No. 5 (FASB 1975), Accounting for Contingencies, establishes the general financial accounting standards for the recognition of loan losses. SFAS No. 5 requires that creditors record an expense (called provision for loan losses) for an estimated loan loss if it is probable that a loan is impaired and its amount can be reasonably estimated. SFAS No. 114 (FASB 1993), Accounting by Creditors for Impairment of a Loan, provides additional and more detailed guidance on loan loss provisioning. Provision for loan losses is a large non-cash expense, and therefore has a significant downward effect on an institution's net income. Ahmed et al. (1999) report that the median ratio of provision for loan losses to earnings before provisions and taxes is 19% in their sample (in our sample, the median ratio is 14.67%). Banks record loan loss provisions in order to maintain a certain balance in their allowance for loan losses, the corresponding contra-asset account used to reserve for estimated loan losses during a given period (throughout this paper, the terms "bank" and "banking institution" refer to commercial banks, savings and loan associations, and savings banks [the latter two are also called "thrifts"] which accept deposits and make loans).

Under generally accepted accounting principles (GAAP), bank managers are allowed considerable subjective judgment in their loan loss provisioning. According to Wall and Koch (2000, p. 2), "although investors and regulators may prefer an accounting philosophy tailored to their needs, ultimately a bank's reported loan-loss allowance is largely under its managers' control, and managers are likely to use any available discretion to attain their own goals". The flexibility employed by banks in determining provisions for loan losses enables them to manage their accounting earnings in an attempt to obscure their true financial

performance (e.g., make it appear more or less favorable) and to achieve particular financial goals. Bank managers have a number of motivations to manage their reported earnings. According to the incomesmoothing hypothesis, so as to stabilize earnings and reduce their volatility over the business cycle, banks would have incentives to overstate loan loss provisions under favorable economic conditions (e.g., during an expansion period) when their incomes are generally increasing, and understate loan loss provisions during difficult economic times (e.g., in a downturn) when they experience declining earnings. In addition, Greenawalt and Sinkey Jr. (1988) argue that bank managers have other motives to smooth income. They may use income smoothing to reduce earnings variability (therefore, lower risk perception of their firms) and to manage regulatory capital constraints imposed by regulators. Managers may also avoid dividend cuts and maintain desired dividend levels through income smoothing. Finally, management compensation packages and bonus plans provide incentives for managers to smooth income (see Lambert, 1984 and Healy, 1985 who analyze motivations for income smoothing behavior based on the agency and compensation theories, respectively). Accordingly, motivated by the aforementioned factors, banks are well suited to smooth accounting earnings through the managerial discretion over provisions for loan losses.

The goal of this paper is to examine whether or not US banking institutions managed their earnings in the aftermath of the financial crisis of 2008. In this income-smoothing hypothesis, banks, mainly those which faced more financial distress, had incentives to smooth their income upward by using loan loss provisions amid the financial turmoil of the post-crisis period. The data on institutions included in this study come from the Reports of Condition and Income (Call Reports) and Thrift Financial Reports (TFRs) which are filed quarterly by all commercial banks and thrifts insured by the Federal Deposit Insurance Corporation (FDIC). The dataset consists of over 25,000 observations and covers the period of 2007 to 2010, inclusively. Holding other factors constant, our findings lend support to the income-smoothing hypothesis. The empirical results indicate that banks managed their reported earnings upward by underestimating their provision for loan losses in the post-crisis period. We also find that the nondiscretionary factors played a significant role in the determination of a bank's loan loss provisions for the same period. The remainder of this paper is organized as follows. Section 2 contains a review of the literature and develops our hypothesis. Section 3 describes the dataset and research design; and presents the empirical results. Finally, Section 4 summarizes and concludes the paper.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

A general definition of income smoothing is provided by Fudenberg and Tirole (1995, p. 75) who write that "income smoothing is the process of manipulating the time profile of earnings or earnings reports to make the reported income stream less variable, while not increasing reported earnings over the long run." In the banking industry, provision for loan losses, a substantial expense item (with no cash flow effects) for most banks, provides managers with an effective tool which they can use to smooth income. According to Greenawalt and Sinkey Jr. (1988), income smoothing activity is more likely in the banking industry since bank manager are able to exert a high level of discretion in estimating loan loss reserves. Accounting rules allow a high level of flexibility in establishing an adequate balance for the allowance for loan losses account through loan loss provisions. However, managers may use this discretion to manage reported income downward by overestimating provisions or manage it upward by underestimating provisions in accordance with their potential motives for smoothing income.

There are a number of incentives that motivate managers to engage in earnings management (see Healy and Wahlen, 1999 for a detailed review of earnings management literature and discussion of incentives for earnings management). One of these managerial incentives is the smoothing of reported income with the purpose of diminishing earnings fluctuations of the firm. Holding other factors constant, an increase in earnings volatility of a firm has a negative effect on its market value since uncertainty of future earnings increases the risk perception as well as the cost of capital and borrowing. Accordingly, managers may aim to smooth reported income through discretion allowed by accounting rules in order to achieve income

stability and enhance the value of their firms (Gordon, 1964 and Beidleman, 1973). In regards to the banking industry, the income-smoothing hypothesis argues that bank managers tend to build up surplus loan loss reserves in good years when earnings are high by overstating provisions for loan losses. On the other hand, they tend to understate loan losses provisions in bad years and draw down the excess reserves accumulated in good year in order to offset the effects of declining earnings. Consequently, smoothing income over this cycle allows banks to avoid large variations in reported earnings which would otherwise be perceived as a negative sign.

The existing literature provides considerable empirical evidence that banks manage their earnings by using loan loss provisions. In a recent study, El Sood (2012) compares the pre-crisis period of 2002–2006 with the 2007–2009 period, seeking evidence for income smoothing activities of US bank holding companies in the aftermath of the financial crisis. Her findings suggest that bank holding companies accelerated their provision for loan losses during the profitable years of 2002–2006 in order to smooth their income downward. On the other hand, they smoothed their income upward by delaying provisions in the post-crisis era. The findings of Liu and Ryan (2006) show that profitable banking institutions managed their income downward by accelerating loan loss provisions on homogenous loans (which they define as consumer loans) over the boom period of the 1990s. Liu and Ryan also argue that banks obscured their income smoothing by accelerating loan charge-offs and by recording more gross charge-offs in order to offset the previous recoveries. A number of other prior studies also suggest that banks tend to engage in income smoothing. Greenawalt and Sinkey Jr. (1988) show that large bank holding companies smoothed their reported income over the period of 1976–1984 through utilizing loan loss provisions. According to Ma (1988), the risk level of a bank's loan portfolio is not a strong determinant of provisions for loans losses. Based on a sample of the largest US banks, the findings of Ma indicate that bank managers tend to overestimate loan loss provisions during times of high operating income and underestimate them when operating income is low. Likewise, Kanagaretnam et al. (2003) provide evidence that in good times, bank managers save income for the future by increasing provisions for loan losses, and in bad times, they decrease provisions and draw on previously built reserves in order to prevent a decrease in current income (see, among others, Collins et al., 1995, Lobo and Yang, 2001, and Kanagaretnam et al., 2004 who show that banks smooth reported income via provisions for loan losses). The findings of Ahmed et al. (1999) and Scheiner (1981), on the other hand, do not suggest that banks use loan loss provisions to manage earnings.

When examined in the context of the financial crisis of 2008, income smoothing may have enabled bank managers to avoid sharp declines in reported earnings in the aftermath of the crisis. The discretion used by managers in determining provisions and allowances for loan losses received the attention of the Securities and Exchange Commission (SEC) in the post-crisis period. In August 2009, the SEC sent a letter to certain publicly traded banks providing disclosure suggestions regarding their allowance for loan losses and loan loss provisions accounts (Securities and Exchange Commission, 2009). The letter specified that banks may have to reevaluate their financial reporting procedures for loan loss provisioning in the post-crisis economic environment. In April 2013, the SEC charged Capital One Financial Corporation (as well as two senior executives of the bank) for understating loan losses expense in the second and third quarters of 2007 (Securities and Exchange Commission, 2013). According to the SEC investigation, Capital One failed to account for loan losses incurred amid the deteriorating financial market conditions that ultimately evolved into the 2008 crisis. As a result, the bank agreed to pay a \$3.5 million penalty to settle the SEC's charges. In light of the previous research findings and above arguments, banks, particularly those in a weakened financial position, may have engaged in income smoothing using provisions for loan losses in the aftermath of the 2008 financial crisis. Financial markets tend to hold a negative view of earnings volatility which increases the risk profile of a bank and, as a result, discounts the value of its future cash flows. Therefore, managers had strong incentives to smooth income upward through the recent economic downturn in order to lower risk perceptions and preserve the value of their institutions.

Income smoothing through underestimation (and/or delaying) of loan loss provisions may have also enabled managers to lower the cost of external funding since institutions having a better earnings performance and perceived to be less-risky were likely to borrow at lower costs after the crisis. The finding of Dechow et al. (1996) and Kanagaretnam et al. (2003) show that lowering the cost of external financing is an important incentive for income smoothing. More importantly, in the tightened capital and money markets of the post-crisis period, banks with more stable and higher earnings were likely to have easier access to external financing, particularly from non-deposit sources. Consequently, lower financing costs as well as increased availability of external funds may have provided important incentives for income smoothing in the aftermath of the crisis. Finally, another motivation for smoothing reported earnings may have come from the managerial efforts to avoid regulatory scrutiny over capital adequacy and solvency of their organizations. The financial crisis of 2008 caused financial stress in the entire banking industry leading to significant losses for a large number of institutions. As expected, deteriorating financial health of banks created difficulties in meeting capital and solvency requirements. By smoothing income upward, managers may have presented a better (yet distorted) financial picture of their banks and, hence, attracted less attention from regulators.

DATA AND METHODOLOGY

We utilize the Call Reports and TFRs which report demographic and financial information on all FDICinsured US banking institutions. Our dataset consists of 25,586 observations gathered from 6,405 institutions and covers the period from 2007 to 2010, inclusively. Our dataset has both cross-sectional and time-series properties since it pools observations on individual banks over a period of four years however, it is not a balanced panel. A number of data points are missing for some of the institutions throughout the four-year period since they were excluded as outliers. In order to identify potential outliers, we calculated the studentized residuals after regressing (using ordinary least squares) the dependent variable (PLL) on our key independent variable (NETINC), and eliminated a total of 34 observations so as to limit the impact of extreme outliers. In order to detect possible earnings management practices by banks in the aftermath of the financial crisis of 2008, we focus on the 2007–2010 period when the banking industry experienced a significant decline in profitability. Figure 1 shows year-end aggregate pretax return on assets for all US banking institutions from 2002 through 2013. Overall, the figure shows that pretax return on assets decreased sharply from 2007 to 2009. Even though the profitability remained below the pre-crisis levels, it, for the most part, stabilized after 2010.

Table 1 describes the variables used in this study. Descriptive statistics are provided in Table 2. The data are annual (as of December 31) and all continuous variables are scaled by total loans and leases. The dependent variables PLL is defined as the percentage of provision for loan and lease losses to total loans and leases. Our primary focus is to test the income-smoothing hypothesis that banks, particularly those in a declining financial position, may have used their loan loss provisions as a tool for earnings management in the period after the financial crisis. In order to do so, we employ our key independent variable NETINC, defined as the percentage of net income before taxes and provision for loan and lease losses to



Figure 1: Pretax Return on Assets (%) 2002-2013

This figure shows year-end aggregate pretax return on assets for all US banking institutions from 2002 through 2013. Source: Federal Deposit Insurance Corporation.

Variable name	Description
PLL	Percentage of provision for loan and lease losses to total loans and leases
NETINC	Percentage of net income before taxes and provision for loan and lease losses to total loans and leases
CHARGE	Percentage of net loan charge-offs to total loans and leases
ALLOW	Lagged percentage of allowance for loan and lease losses to total loans and leases
NONCUR	Lagged percentage of other real estate owned plus noncurrent loans and leases to total loans and leases
BANK	Dummy variable for commercial banks
METRO	Dummy variable for institutions headquartered in a metropolitan area
AGRI	Dummy variable for institutions specialized in agricultural lending
COMM	Dummy variable for institutions specialized in commercial lending
MORT	Dummy variable for institutions specialized in mortgage lending
REGFDIC	Dummy variable for institutions whose federal regulator is the FDIC
REGFED	Dummy variable for institutions whose federal regulator is the Federal Reserve System
Y2008	Dummy variable for observations from the year 2008
Y2009	Dummy variable for observations from the year 2009
Y2010	Dummy variable for observations from the year 2010

This table shows the description of variables used in three different specifications of a fixed effects model testing whether or not US banking institutions engaged in income smoothing using provisions for loan losses in the period after the financial crisis of 2008.

total loans and leases, and hypothesize a positive relationship between NETINC and the dependent variable. In this respect, a positive and significant coefficient on NETINC would support the hypothesis that, in the aftermath of the financial crisis, banks underestimated their provision for loan losses when they expected to post lower earnings. Following the approach by Kanagaretnam et al. (2004), the variables CHARGE, ALLOW, and NONCUR are entered to control for the nondiscretionary component of the response variable LLP. According to Kanagaretnam et al., these variables have been employed in a number of prior studies on banks, including Wahlen (1994); Beaver and Engel (1996); and Kim and Kross (1998). CHARGE is

defined as the percentage of net loan charge-offs to total loans and leases. The coefficient on CHARGE would be expected to be positive, assuming that an increase in net loan charge-offs requires recording a higher provision for loan losses, *ceteris paribus*. ALLOW denotes the lagged (i.e., beginning-of-year) percentage of allowance for loan and lease losses to total loans and leases. Holding other factors constant, the sign on the coefficient of ALLOW is likely to be less than zero since a bank would require a smaller loan loss provision for the current year if it starts the year with a higher loan loss allowance. NONCUR denotes the lagged (i.e., beginning-of-year) percentage of other real estate owned plus noncurrent loans and leases to total loans and leases. The sign on the coefficient of NONCUR is likely to be positive, on the assumption that holding a larger portfolio of noncurrent loans is likely to require a higher provision for loan losses, *ceteris paribus*. We also include a number of other control variables (in one of our empirical specifications) which are likely to influence loan loss provisioning practices of banks. BANK is a dummy variable which takes the value of 1 for commercial banks and 0 for thrifts.

Table 2: Descriptive Statistic

	Mean	Std. Dev.	Minimum	Maximum
PLL	0.7442	1.192	-9.988	11.471
NETINC	9.505	453.19	-2,808.3	40,924
CHARGE	0.6030	1.580	-6.083	186.61
ALLOW	1.382	0.9774	0	57.120
NONCUR	2.069	2.920	0	88.043
BANK	0.8488	0.3583	0	1
METRO	0.5058	0.5000	0	1
AGRI	0.2244	0.4172	0	1
COMM	0.5075	0.5000	0	1
MORT	0.1009	0.3012	0	1
REGFDIC	0.6069	0.4885	0	1
REGFED	0.1081	0.3106	0	1
Y2008	0.2499	0.4330	0	1
Y2009	0.2497	0.4328	0	1
Y2010	0.2503	0.4332	0	1
n	25.586			

This table shows the descriptive statistics of our dataset that consists of 25,586 observations gathered from 6,405 institutions and covers the period from 2007 to 2010, inclusively.

The dummy variable METRO takes the value of 1 when the headquarters of an institution is located in a metropolitan area. The base group includes institutions whose headquarters are not located in a metropolitan area. These variables are included in an attempt to capture the significant characteristic differences between commercial banks versus thrifts, and between rural versus metropolitan institutions. The expected signs of the coefficient of BANK and METRO are unclear, *a priori*.AGRI, COMM, and MORT are dummy variables that denote lending specializations in agricultural, commercial, and mortgage loans, respectively. They are included in order to control for some of the major lending specialization categories. These variables take the value of 1 when the observed institution falls into the appropriate category and 0 otherwise. The omitted base group consists of institutions with other lending specializations. The coefficient on AGRI should be negative, on the assumption that banks specializing in agricultural lending were less likely to experience loan losses than other institutions in the post-crisis period, *ceteris paribus*. On the other hand, we do not have *a priori* expectations for COMM and MORT.

REGFDIC and REGFED denote the FDIC and the Federal Reserve System (Fed), respectively, and are entered as dummy variables controlling for federal regulators of banks. They take the value of 1 when the federal regulator of the observed banking institution falls into the appropriate category and 0 otherwise. The base group includes institutions whose primary federal regulators are the Office of the Comptroller of the Currency (OCC) and the Office of Thrift Supervision (OTS). We have no *a priori* expectations for the signs on the estimated coefficients of REGFDIC and REGFED. Finally, we include time dummy variables Y2008, Y2009, and Y2010 (for years 2008, 2009, and 2010, respectively) to capture year-specific fixed effects. The excluded group includes observations from the year 2007. We use three different specifications

of a fixed effects model to test whether or not US banking institutions engaged in income smoothing using provisions for loan losses in the period after the financial crisis of 2008. The regression model has the following general form:

$$Y = b_0 + b_1 NETINC + b_2 CHARGE + b_3 ALLOW + b_4 NONCUR + b_5 BANK + b_6 METRO + b_7 AGRI + b_8 COMM + b_9 MORT + b_{10} REDFDIC + b_{11} REGFED + b_{12} Y2008 + b_{13} Y2009 + b_{14} Y2010 + \alpha + \varepsilon$$
(1)

where α is the bank fixed effect which contains all time invariant factors and ϵ is the idiosyncratic error term.

EMPIRICAL RESULTS

The estimated fixed effects specifications generate the regression results reported in Table 3. All estimated models are statistically significant at the 1% level. They explain 14.16%, 36.66% and 36.68% of the variation in the dependent variable, respectively.

Table 3: Regression of Loan Loss Provisions on Reported Earnings

	(I)		(Ii)		(Iii)	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
NETINC	0.0002**	0.0001	0.0003***	0.0001	0.0003***	0.0001
CHARGE			0.3019***	0.0041	0.3019***	0.0041
ALLOW			-0.1823***	0.0107	-0.1823***	0.0107
NONCUR			0.0787***	0.0032	0.0788***	0.0032
BANK					-0.1169	0.2158
METRO					0.0613	0.1543
AGRI					-0.0293	0.0519
COMM					0.0543	0.0346
MORT					0.0007	0.0477
REGFDIC					-0.0923	0.1107
REGFED					-0.1985	0.1256
Y2008	0.3510***	0.0161	0.2479***	0.0139	0.2481***	0.0139
Y2009	0.8257***	0.0161	0.5507***	0.0144	0.5522***	0.0145
Y2010	0.6901***	0.0161	0.3701***	0.0154	0.3730***	0.0155
Intercept	0.2763***	0.0114	0.3563***	0.0158	0.4795***	0.2017
F-statistic	790.61		1,585.2		793.17	
p-value	< 0.01***		< 0.01***		<0.01***	
R ² (with-in)	0.1416		0.3666		0.3668	
n	25,586		25,586		25,586	
# of groups	6,405		6,405		6,405	

This table shows the regression results generated by three different specifications of a fixed effects model. Column (i) reports the results from the simplest specification that consists of the key variable NETINC. Column (ii) displays the results based on the specification that includes variables controlling for the nondiscretionary element of a bank's loan loss provisions. Column (iii) shows the findings from the specification employing additional control variables that may impact the loan loss provisioning practices of banking institutions. ***, **, and * denote 1%, 5%, and 10% significance, respectively.

The results from the simplest specification that consists of the key variable NETINC and time dummy variables are presented in Table 3 column (i). The coefficient on NETINC is positive and statistically significant at the 5% level. This finding provides evidence supporting the income-smoothing hypothesis that banks used their loan loss provisions to manage their income upward in the post-crisis period. Table 3 column (ii) presents results based on the specification that includes variables (CHARGE, ALLOW, and NONCUR) controlling for the nondiscretionary element of a bank's loan loss provisions. The coefficient on NETINC is again positive and, this time, it is statistically significant at the 1% level, providing additional support for the income-smoothing hypothesis. Also, the coefficients on variables CHARGE, ALLOW, and NONCUR have the expected signs and they are all statistically significant at the 1% level, suggesting that these variables play an important role in determining loan loss provisions of a banking institution, *ceteris paribus*. We next test the robustness of our previous findings by employing additional control variables

(BANK, METRO, AGRI, COMM, MORT, REGFDIC, and REGFED) that may impact the loan loss provisioning practices of banking institutions. The main findings presented in Table 3 column (iii) are similar to the previous columns, indicating that banks tended to decrease loan losses provisions during the crisis years in order to offset the effects of declining earnings, *ceteris paribus*. On the other hand, none of the coefficients on the additional explanatory variables are statistically significant.

In order to examine the sensitivity of our main findings, we also estimated the same specifications of our fixed effects model with robust standard errors (the results are not shown in tables). The coefficients on all the variables remained the same. Even though the statistical significance of the coefficients on NETINC declined slightly in case of the second and third specifications, they were still significant at the 5% level. We then estimated the specification employing additional control variables by using three different data samples. Appendix A columns (i) and (ii) show results based on samples covering the period of 2008 through 2010, and the period of 2007 through 2009, respectively. The findings based on a sample of observations from years 2008 and 2009 are provided in Appendix A column (iii). The coefficients on NETINC are positive and statistically significant at the 1% level in all three cases. Overall, these additional results support our main findings.

CONCLUDING REMARKS

The financial crisis of 2008 had a long-lasting impact on the US banking industry causing the failure of a large number of financial institutions. Accounting rules allow bank managers to exercise considerable subjective judgment in determining an adequate balance for the allowance for loan losses account through loan loss provisions. Managers may use this discretion to manage accounting earnings downward by overestimating provisions or manage it upward by underestimating provisions in order to achieve specific financial goals. Possessing this effective tool at their disposal and faced with significantly declining earnings, managers were likely to have strong incentives to smooth income upward under the unfavorable conditions of the post-crisis period.

In this study, we develop and estimate an econometric model to investigate potential earnings management practices of banking institutions in the aftermath of the financial crisis. We use a large dataset comprising over 25,000 observations on commercial banks and thrifts from 2007 to 2010, inclusively. Our paper is one of the few analyses studying the income-smoothing hypothesis in the banking industry that focuses on individual banking institutions rather than bank holding companies. Our study has important policy implications. We find evidence indicating that banking institutions managed their reported earnings upward through loan loss provisioning in the period after the financial crisis. The empirical results suggest that banks understated their provisions in order to artificially boost their declining earnings during the financially difficult times of the Great Recession. In addition, our findings indicate that the nondiscretionary factors also played an important role in determining banks' loan loss provisions in the post-crisis period. In this respect, the SEC's concerns over bank disclosures regarding allowance for loan losses and loan loss provisions accounts seem to be valid, especially during the post-crisis economic environment.

Our study has certain limitations that should be taken into consideration when interpreting the findings; however, these limitations also offer opportunities for further research. First, our analysis may be extended by including observations from pre-crisis years in order to compare the income smoothing practices of banking institutions before and after the financial crisis. Second, the current study does not differentiate between earnings management practices of institutions of different sizes. Further research may aim to separately analyze the income smoothing behavior of large and small banks in the aftermath of the financial crisis, given their significantly different organizational and operational characteristics. Finally, future research may extend this work by studying the relationship between loan loss provisioning practices of banks and their financial profitability through a logistic regression model.

APPENDIX

	(I)		(Ii)		(Iii)	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
NETINC	0.0003***	0.0001	0.0003***	0.0001	0.0003**	0.0001
CHARGE	0.2505***	0.0047	0.2296***	0.0044	0.1633***	0.0056
ALLOW	-0.3066***	0.0151	-0.1553***	0.0137	-0.2053***	0.0316
NONCUR	0.0606***	0.0041	0.1328***	0.0050	0.1221***	0.0073
BANK	-0.2470	0.4006	-0.4020	0.2543	-0.4683	0.5938
METRO	-0.1200	0.2269	0.2007	0.2005	-0.0703	0.3409
AGRI	-0.0044	0.0705	-0.0289	0.0643	0.0161	0.1025
COMM	0.0776	0.0482	0.0326	0.0434	0.0728	0.0726
MORT	0.0562	0.0659	-0.0083	0.0592	0.1221	0.0969
REGFDIC	-0.1308	0.1750	-0.1453	0.1359	-0.2079	0.2600
REGFED	-0.1887	0.1994	-0.1987	0.1564	-0.1918	0.3063
Y2008			0.2491***	0.0136		
Y2009	0.3561***	0.0151	0.5303***	0.0147	0.3256***	0.0155
Y2010	0.2286***	0.0166				
Intercept	1.133***	0.3493	0.6180**	0.2445	1.159**	0.5160
F-statistic	348.56		602.47		207.71	
p-value	< 0.01***		<0.01***		< 0.01***	
R ² (with-in)	0.2619		0.3803		0.2813	
n	19,186		19,182		12,782	
# of groups	6,405		6,404		6,402	

This table shows regression results from three different data samples. Columns (i) and (ii) display results based on samples covering the period of 2008 through 2010, and the period of 2007 through 2009, respectively. The findings based on a sample of observations from years 2008 and 2009 are provided in column (iii). ***, **, and * denote 1%, 5%, and 10% significance, respectively.

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