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Fair Value Accounting, Earnings Management and the use of Available-for-Sale Instruments by Bank Managers

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Fair value accounting in banking has been criticized for the increased volatility that it generates in some accounting variables. One of its advantages, however, is that it reduces the possibility of discretionary earnings management, given that all gains and losses are immediately recognized. In this paper we qualify both considerations. The accounting regime of *available-for-sale* (AFS) securities allows for some degree of earnings and capital management: an AFS asset is reported at fair value but gains and losses over historical cost go into net income and measures of regulatory capital only when the asset is sold and the gain or loss realized. We use comprehensive data from US commercial banks and bank holding companies and provide evidence that fair value gains in AFS assets have consistently been used for earnings and capital management and that the holdings of AFS assets are related to the intensity of this activity. Our results show that the earnings management behavior is present both in listed and non-listed banks, suggesting that the motivations go beyond the incentives provided by capital markets. We also uncover significant differences in earnings management behavior over the years of the financial crisis.

Keywords: fair value accounting, bank earnings, earnings management, income smoothing, available-for-sale assets, capital requirements, SFAS 159.

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1. INTRODUCTION

Fair-value accounting (FVA) involves reporting assets and liabilities on the balance sheet at a market or model-determined value and recognizing changes in said value as gains or losses in the income statement or through equity. Banks, and other financial institutions, are especially subject to FVA, since the assets most affected by fair value standards, financial instruments, represent a significant share of their balance sheets. The debate on the appropriateness and effects of FVA in banks has, therefore, been heated. FVA has been blamed, among other effects, for the increased volatility of earnings and of other balance sheet variables such as capital ratios. This increased volatility may affect the market's perception of risk or lead to increased uncertainty in other variables that may depend on earnings such as capital ratios or, more indirectly, managers' compensation. Thus, bank managers may have motivations for a misrepresentation of earnings (earnings management): managers may smooth earnings –reduce their volatility- and thus signal lower risk to the market, achieve stable compensation and/or manage the regulatory capital. The existence in the balance-sheet of items that are valued at historical cost leaves room for some degree of earnings management and it has been suggested that further application of FVA would moderate this discretionary behavior, so the value relevance of the accounting numbers would be enhanced and the malincentive induced by the increased volatility would be eliminated.

In this paper we argue that current FVA standards for the valuation of financial securities still allow for the managing of earnings: SFAS 115 requires financial securities to be classified into Trading assets (TA, intended to be actively traded and reported at fair value), Held-to-maturity (HTM, intended to be retained until maturity, and valued at amortized cost) and Available-for-Sale (AFS). AFS assets have a peculiar accounting regime: they are reported at fair value, but fair value gains/losses in AFS are not included in net income –or in equity computed for capital requirements- until the asset is sold. Thus, there is some discretion as to when the gains or losses

in AFS assets will appear in earnings and regulatory capital, so AFS assets give some flexibility to bank managers: indirect evidence of this is the fact that after implementation of SFAS 115, AFS assets became the largest class in banks' balance-sheets. We attempt to show evidence that AFS have indeed been actively used for this *transaction-based* earnings management by banks. We assembled what we believe is the most comprehensive and longest database of post-FVA (1994-2010) accounting data of US banks used so far in the literature. The database covers both commercial banks and bank holding companies (BHCs) and contains data from listed and non-listed banks. Our baseline analysis focuses on the relationship between earnings and capital in banks and the realization of fair value gains in AFS securities (through the sale of said assets). We show very robust evidence that realizations of fair value gains in AFS securities have been significantly related to income smoothing and to capital management. Income smoothing appears to be related to signaling (including some evidence of loss avoidance) but the result is robust to subsamples of listed vs. non-listed banks, thus suggesting that the motivations go beyond those provided by capital markets and could be consistent with managerial compensation motivations. The results also hold when we distinguish between BHCs and commercial banks, between different subperiods and when we look only at the years of the recent financial crisis. Furthermore, our results suggest that the amount of AFS securities held by the bank and of the cumulative fair value gains in said securities is positively related to the income smoothing practices, suggesting that banks consciously accumulate AFS securities. Finally, we posit that this discretionary use for AFS assets may be the reason why SFAS 159, which gave the flexibility to reclassify AFS assets into TA, did not have a major impact on bank behavior and holdings of securities, other than generating some extraordinary realization of gains in the quarter of application: banks had large proportions of AFS assets before SFAS 159, and holdings of these assets even increased significantly after banks were given the "fair value option", contrary to what was expected.

The rest of the paper proceeds as follows. In Section 2 we comment on some relevant literature on FVA in the banking sector and earnings management. We review the differential accounting treatment of the categories of banks' assets and the implications for bank earnings management. We then present the hypotheses of our analysis. In Section 3 we describe the data, empirical specifications and results. In Section 4 we conclude.

2. FVA AND EARNINGS MANAGEMENT IN THE BANKING SECTOR

2.1 FVA in banks: relevant standards and the asset categories

FVA involves reporting assets and liabilities on the balance sheet at fair value and recognizing changes in fair value as gains and losses in the income statement or directly through equity. Gvien that the assets most affected by FVA are financial securities, and these figure prominently in banks' balance sheets, the debate about the effects and convenience of the use of FVA in banking is ongoing.[1]

Proponents of FVA use have suggested several benefits. First, FVA better reflects the bank's exposure towards risk, especially in volatile times, by capturing elements of risk not captured by non-fair value measures of income (see Hodder et al., 2006, and Blankespoor et al., 2010, for recent evidence). Thus, market discipline enhances efficiency and leads to a prompt detection of insolvent banks. Second, income smoothing and earnings management are possible under historical cost (if corporate results worsen, management can influence reported income by selling revalued assets) whereas under FVA the possibility of income smoothing is reduced: the asset is already at fair value and the gain/loss from its revaluation was reflected in the income statement in the moment it was generated. Opponents of FVA claim, first, that fair value increases the volatility of bank's earnings and reduces their predictability. This incremental volatility, however, seems not

[1] According to the American Bankers Association (2009), FVA is appropriate for assets that are held for trading purposes or if an entity's business model is based and managed on fair value, but for traditional commercial banks and for loans, leases, and securities that are held to maturity, FVA can be inappropriate and misleading.

to have been reflected in bank share prices (Barth et al., 1996, Eccher et al., 1996, and Nelson, 1996). Second, the transparency in valuation and performance measurement may be dubious in illiquid markets or when several valuation techniques are used in a single financial report (Allen and Carletti, 2008). Third, market discipline may penalize a bank affected by a sudden liquidity shock or bank managers who expect such a shock may act conservatively and make inefficient portfolio choices (Freixas and Tsomocos, 2004). Fourth, in illiquid markets there arise unintended effects such as sham transactions used to increase prices or the exacerbation of illiquidity -banks being unwilling to sell securities at prices that force other assets to be marked-down (Heaton et al., 2010). Finally, the use of FVA may lead to excessive leverage in booms and write-downs in busts, thus generating procyclicality (Laux and Leuz, 2009, 2010).[2]

FVA affects banks mostly through the valuation of financial instruments as developed in SFAS 115 and 133, issued in 1993 and 2001, respectively. SFAS115 required the use of fair value for a significant amount of debt and equity securities, which SFAS 133 extended to derivative instruments. SFAS 115 introduced a classification of asset categories that, we believe, had important implications.[3] "Loans and leases" (around half of a bank's total assets), and "Time deposits and debt" (34% of total liabilities: Nissim and Penman, 2007), are valued at historical cost, and thus not subject to FVA.[4] The other large part of banks' assets, "Securities," can be classified as TA or "Other securities." TA are bought and held for the purpose of selling them in the near term. They are reported at fair value and fair value changes are recognized in the income

[2] More comprehensive accounts of the pros and cons of FVA and further references can be found in Landsman (2007), Penman (2007), Benston (2008) and Laux and Leuz (2009).

[3] SFAS 157, issued in 2006, clarified the definition of fair value and established a framework for measurement and disclosure by requiring the distinction between Level 1 assets (fair value is estimated through quoted prices in active markets for identical assets: *mark-to-market*), Level 2 assets (models based on observable inputs are used: *mark-to-model*) and Level 3 assets (models based on unobservable inputs are used). Distinguishing among these is beyond the scope of this paper, but it could offer further insights: see Song et al. (2010). Fiechter and Meyer (2011) examined whether banks used discretion in fair value to manage earnings during the 2008 financial crisis and found evidence that banks with low earnings before fair value recognized higher Level 3 of fair value income during 2008.

[4] L&L can be classified as "held-for-investment" or "held-for-sale". Held-for-sale L&L are carried at the lower of historical cost or fair value, but the fraction of L&L in this category is typically small.

statement. "Other securities" not held for trading are classified either as HTM or AFS. Debt securities are classified as HTM if the bank has the intent and ability to hold them till maturity and they are reported at amortized cost.[5] AFS securities have a peculiar accounting treatment: they are carried at fair value but unrealized fair value gains/losses are not recognized in the income statement but rather in a separate component of shareholders' equity called "accumulated other comprehensive income" which is not included in the calculation of measures of regulatory capital (Tier 1, especially).[6] Only when the asset is sold the realized gain or loss is brought to net income and is computed in regulatory capital.[7] If a bank has the intent and ability to retain some AFS asset for a period sufficient to allow for a recovery of market prices, it can treat losses on the asset as temporary and avoid the effect on income and regulatory capital. Thus, the manager has discretion to decide when to sell the asset and when the gain/loss in the asset's fair value will appear in net income or regulatory capital (although the accumulated gains are already included in shareholders' equity). This strategy is not costless, since the assets must be sold to realize the gain, but it is also not subject to ex-post scrutiny, as some accrual-based operations may be.

Most of the literature has focused on the asset categories and on the use of AFS gains in rather descriptive ways or in limited contexts such as the application of SFAS 159 (Song, 2008; Dong et al., 2011). Nissim and Penman (2007) and Laux and Leuz (2010) show BHC data on the proportion of banks' securities in each category.[8] TA are only a significant fraction (a maximum of 12% of assets) of the balance sheets of the largest BHCs, but are unimportant –basically zero- for the majority of BHCs and commercial banks.[9] Given this proportion of assets that are strictly

[5] HTM securities are subject to other-than-temporary impairment testing. Also, banks have to disclose the aggregate fair value of HTM securities in the notes to the financial statements.
[6] 45% of these unrealized gains may be included in calculations of Tier II capital, but subject to an adjustment in risk-weighted assets.
[7] If the change in valuation is deemed "other-than-temporary," the asset has to be written-down to its fair value and the loss is recognized in the income statement.
[8] We show some more comprehensive and recent data in Section 3.
[9] Almost all derivatives are classified as trading (96% of notional value, 97% of fair value) and are reported on the balance sheet at fair value (2% of total assets, 2% of total liabilities).

reported at fair value (TA), one might conclude that for BHCs the impact of fair value on income and regulatory capital has been more limited than often claimed and for commercial banks it has been probably negligible (Laux and Leuz, 2009). Of the "Other securities", 95% (16% of total assets) are classified as AFS, whereas the remaining 5% (1% of assets) are HTM. This is a bit surprising, given that AFS was a residual category for debt securities and most equity securities are classified as trading assets. In other words, banks seem to have had an incentive to classify securities as AFS. Further evidence comes from application of SFAS 159, which gave banks the possibility to reclassify AFS and HTM securities into TA (under the "fair value option", FVO) in order to reduce asset-liability accounting mismatches. Song (2008), Hsu (2009) and Chiang et al. (2011) provide evidence that banks used the FVO for earnings management, especially to remove AFS securities with loss positions and to report higher earnings but, as Laux and Leuz (2009) show, the fraction of non-trading securities that banks reported under the FVO was not large. In fact, banks chose to accumulate AFS assets again during 2008 (see also Figure 1 below).

2.2 Earnings management in banks

The literature on earnings management by banks is quite extensive.[10] Several motivations have been suggested for bank managers to affect or misrepresent earnings data. First, explicit management of earnings figures may be a way for banks to *signal* the good quality of their business and balance-sheets (Burgstahler and Dichev, 1997, Ahmed et al., 1999). Second, accounting rules allow for discretion in certain items, such as loss provisions, which affect the book value of capital. Hence, earnings management could result from accounting practices intended to meet *minimum capital requirements* set by the monetary authority (Beatty et al., 1995, Wall and Koch, 2000). Third, an inter-temporal averaging of reported economic earnings could

[10] Goel and Thakor (2003) distinguish between *real* and *artificial* earnings management. The latter is achieved through the reporting flexibility provided by some accounting principles and it is negative for firm value since it undermines the credibility of financial statements and misleads investors and other stakeholders. Here, we are concerned with this type of earnings management, allowed by –or a consequence of- accounting standards.

make net income look less volatile. In the banking industry, managers would have incentives for this explicit *income smoothing* in order to signal low exposure to risk or to attain stable compensation objectives (Healy and Wahlen, 1999; Dechow et al, 2010, for recent evidence).[11]

The usual instrument associated with earnings management is the use of some discretionary accrual (*accrual-based* earnings management). In the banking sector, analyses have focused on the manipulation of reserves and, more specifically, of the loan loss provision (LLP): bank managers can use the LLP to reduce the volatility of the reported earnings –earnings smoothing- or to affect regulatory capital measures, among other objectives. The basic strategy to smooth earnings is to understate (overstate) the provisions when earnings are low (high) in order to mitigate the adverse (positive) effects of other factors on earnings. The use of LLP dynamics to smooth net income has been tested in a number of empirical studies (Nelson et al., 2003) but the results have varied with the samples and methodologies used. Wetmore and Brick (1994) and Ahmed et al. (1999) did not find significant evidence of the use of LLP for income smoothing. On the other hand, Ma (1988), Beatty et al. (1995), Collins et al. (1995) and Pérez et al. (2008) showed evidence consistent with smoothing practices. In the case of earnings management aimed at affecting regulatory capital, the evidence has been slightly more consistent: Beatty et al. (1995), Ahmed et al. (1999) and Pérez et al. (2008) all found support for the use of LLP for capital management.

Banks can, alternatively, do earnings management through *transactions* or *real activities*. Indeed, Graham et al. (2005) find that most earnings management results from manipulating real operating activities such as R&D expenditures and asset sales. These other tools for earnings management may, in fact, be less subject to scrutiny and, therefore, may be more desirable despite the higher

[11] A reduction of taxes paid has also been suggested as a motivation for earnings management, but empirical evidence in this regard has been scarce (Scholes et al., 1990; Collins et al., 1995; Beatty et al., 1995).

cost involved.[12] The PCAOB states that "Some earnings management activities involve legitimate discretionary choices of when to enter into transactions that require accounting recognition, not unlike legitimate year-end tax planning decisions made to accelerate deductions or defer taxable income''(PCAOB, 2000, paragraph 3.18). In the case of banks, strategic timing of asset sales and, more specifically, of financial securities become the obvious choice for transaction based earnings management: loan transfers (Karaoglu, 2005), contingent convertible bonds (Marquardt and Wiedman, 2005), credit swaps (Song and Linsmeier, 2010) and securitized assets (Dechow and Shakespeare, 2009, Dechow et al., 2010) have all been found to be used for earnings management practices.[13] Moyer (1990) showed early evidence that gains and losses in securities were related to capital adequacy. Scholes et al. (1990) also showed evidence that tax considerations and low capital ratios led to sales of appreciated assets. Beatty et al. (1995) carried out a more comprehensive analysis on five earnings management tools (both accrual-based and transaction-based) and found that a composite measure of gains in sales of assets –that included securities but also physical assets and other miscellanous terms- was related to capital targets and to a smoothing of earnings. In a similar analysis, Collins et al. (1995) found no consistent relation between capital ratios and realized security gains, but found some support to earnings smoothing through security sales. More recently, Lifschutz (2002), in an analysis related to ours but of much more limited scope, looked at the earnings smoothing effects of SFAS 115, and showed a negative relation between "gains trading" (selling appreciated securities to recognize gains while securities with unrealized losses are held to avoid recognizing those losses) and earnings levels before tax and securities net gains.

[12] In a recent review of earnings quality research Defond (2010) stresses that, in view of the frequency of the use of transactions-based earnings management, the research on such activities is surprisingly scarce compared to that on accruals-based earnings management.

[13] See Nelson et al., 2003, for a general review of cases where auditors believe their clients selectively timed recognition of realized gains or losses on investments.

As we mentioned before, one of the suggested advantages of FVA is that it reduces the possibility for earnings management. None of the analyses we have cited, however, explicitly incorporated considerations of the effect of FVA standards. The special accounting treatment of realized fair value gains/losses in AFS securities makes such securities the most likely candidates for strategic timing of asset sales. Indeed, Hunton et al. (2006) and Van Beest (2009) provide experimental evidence that managers believe AFS assets to be a tool that can be used for reporting flexibility. To our knowledge, however, consistent empirical evidence on generalized use of this strategy by banks –or by other sectors- has not been uncovered so far.

2.3 FVA and earnings management in banks: hypotheses

Our discussion suggests that AFS securities are potentially valuable earnings management tools. This possibility has been recognized (Hunton et al., 2006, Van Beest, 2009) but little evidence has been uncovered of whether (and how) AFS gains/losses have effectively been used for this practice. We derive now several testable hypotheses that constitute the roadmap of our analysis.

First, if bank managers use fair value gains in AFS as a tool for earnings management, we should observe that these gains are realized when net income is low (earnings smoothing) or when capital ratios are low or close to the minimum (management of capital requirements). Given our previous discussion of the reasons behind this activity, this use of gains in AFS assets is not necessarily limited to banks subject to capital market discipline (listed banks) or to large Bank Holding Companies (BHCs) with trading portfolios. Second, both the level of AFS assets in the balance sheet (AFS assets intended to be "used" by the bank) and the total amount of cumulative gains in AFS assets ("opportunity" to use the fair value gains) should be related to the intensity of the management of earnings. Third, signaling arguments suggest that gains in AFS assets could be used, in particular, to avoid having to announce negative earnings. "Loss avoiding" banks might

then realize enough fair value gains to yield positive before-tax earnings. Fourth, previous research has shown that earnings management transactions occur with greater frequency in the last few days of the quarter (see, e.g., Dechow and Shakespeare, 2009). Similar arguments lead us to expect to observe a different behavior in the 4th quarter of the year since, for example, compensation packages are examined in the 4th quarter. Fifth, the introduction of the FVO in 2007Q4 should not have led to major reclassifications of AFS assets into Trading assets, and the use –and holdings- of AFS assets should have continued even after the FVO. Finally, we expect accrual-based earnings management in banks (via the loan loss provision) to have been subject to increased scrutiny during the financial crisis, so we would expect banks to resort more intensely to the earnings management tools that are less "contestable" by the authorities: these are probably transaction-based tools, among which the sale of AFS securities may have been readily available for banks that had large amounts of such assets.

3. EMPIRICAL ANALYSIS

3.1 Data

Our empirical analysis is based on the most comprehensive and longest database of bank information available (see Lifschutz, 2002, Poitras et al., 2002, Song, 2008, Dong et al., 2011, for more limited samples and scopes). The Federal Reserve Bank of Chicago Bank Regulatory Database contains quarterly accounting data from the required regulatory forms filed for supervising purposes by regulated depository financial institutions (BHCs, commercial banks, savings banks, and S&L institutions). We collected balance sheet, income statement and regulatory capital data for all commercial banks and BHCs in the database –these banks are all required to prepare their Financial Statements in accordance with US GAAP-. The Appendix provides a list of the specific variables we use, which we describe below, and the database codes. The final sample ranges from 1994Q1 to 2010Q4. The initial period is determined by application of SFAS 115,

which first required the classification of securities into TA, AFS and HTM. Capital ratios are available from 1996Q1, so analyses with regulatory capital data are done on a slightly smaller sample period. We include controls for macroeconomic conditions, which we collected from the Federal Reserve.

3.2 Baseline specification

Our first baseline hypothesis postulates that bank managers use the amount of realized fair value gains in AFS discretionarily to affect the reported value of earnings or regulatory capital measures. An income smoothing strategy would imply realizing gains (losses) by selling AFS assets when earnings are low (high): if bank managers follow this behavior systematically we should observe a negative relationship between realized AFS gains and *net income before realized AFS gains or losses (and before taxes)* (income smoothing). Regarding capital management, we would expect a negative relationship between realized AFS gains and the value of the regulatory ratio (capital management). As our baseline model we estimate the following:

$$RAFS_{it} = \beta_0 + \beta_1 RAFS_{it-1} + \beta_2 NIBR_{it} + \beta_3 T1_{it-1} + controls + \varepsilon_{it} \quad (1)$$

where ε_{it} is an error term, and:

- $RAFS_{it}$ measures the amount of gains or losses in AFS assets realized by bank i in period t, relative to total assets of the bank. Note that (1) includes the lagged value as a regressor in order to control for persistence.

- $NIBR_{it}$ denotes net income before taxes in period t (and before $RAFS_{it}$) relative to total assets: this term allows us to capture income smoothing practices: we expect a negative sign of β_2.

- $T1_{it-1}$ is the level of bank i's Tier 1 capital ratio (Tier 1 capital over risk weighted assets) at the beginning of the period (end of period $t-1$). This variable aims to detect earnings management related to regulatory capital requirements: we expect β_3 to be negative.

We control for observable bank characteristics –the composition of the balance-sheet- and for macroeconomic factors. We include the following *controls* in all regressions:

- $Size_{it}$ is the logarithm of total assets of the bank. Larger banks tend to be listed BHCs with more active trading activities for which we expect more frequent sales of financial assets.

- Dep_{it} is the amount of deposits as a fraction of total assets. The deposit component of leverage is less expensive than other financing and may therefore affect earnings and the amount of RAFS necessary for earnings management.

- $Liquid_{it}$: liquid assets as a fraction of total assets. This variable controls for the possibility of sales of AFS assets aimed at obtaining a certain level of liquidity.

- Sec_{it}: securities as a fraction of total assets. This variable proxies for the intensity of the bank's trading –non-traditional– activities. We expect it to be positively related to sales of AFS assets.

- $Loans_{it}$: net loans and leases as a fraction of total assets. This ratio is considered a measure of the specialization of the bank in –and of exposure of earnings to- traditional activities. This variable works in the opposite direction to Sec_{it}.

- $Fixed_{it}$: fixed assets as a fraction of total assets. Higher levels of fixed –illiquid- assets could influence AFS selling strategies.

- $Nondep_{it}$: *Liabilities* (total assets minus book value of equity) minus deposits, as a fraction of total assets. This variable measures the non-deposit component of leverage which is a more unstable and costly source of financing and is, therefore, related to the volatility of earnings.

- $Unemp_t$: the macroeconomic variable that we use to proxy for the economic cycle is the change in unemployment rates (so a positive value means a worsening economy). The use of other indicators led to similar results.

On top of this baseline specification (which allows for a direct test of the first hypothesis in Section 2.3) we later add terms that parallel the hypotheses in Section 2.3 and/or qualify the results

by doing the analysis on subsamples of the data. We explain those alternative specifications as we comment on the results.

3.3 Results

3.3.1 Some descriptive statistics of bank's balance sheets

The data in Table 1 show the proportions of each type of securities in the balance-sheets of the banks in our complete sample (all BHCs and commercial banks that file with the Federal Reserve) and also for the subsamples of listed and non-listed banks. The distributions of asset proportions across subsamples are similar and quite skewed for HTM and TA: note the difference between medians and means. The main fact is that AFS assets represent the largest proportion of securities in *all* types of banks. HTM assets appear in relatively small amounts and significant proportions of TA are only a large (listed) BHC phenomenon.[14] These statistics are based on all firm-quarter observations. Figure 1 shows the *evolution* over time of the median proportion of assets in the AFS and HTM class (median proportion of TA is zero in all periods) for all banks, listed banks and BHCs.[15] Note that two years after introduction of the security classification, the median bank had basically relinquished HTM securities and held only AFS assets. This asset class "rebalancing" was done through a very sharp reclassification in one single quarter: a Special Q&A Report on SFAS 115 (FASB, 1995, issued on November 15) allowed for a month-and-a-half "window of opportunity" before the end of 1995 through which HTM assets could be reclassified as AFS. Most banks took advantage of this option and reclassified large proportions of their HTM assets in 1995Q4.[16] The behavior in 2007Q4 is also remarkable: the FVO given by SFAS 159 did not

[14] The fact that holdings of TA and –in results not shown- the sales of such assets are quite low compared to AFS assets is evidence in favor of our arguments: the main difference between the two types of assets is the special accounting treatment of the fair value gains.

[15] Note that the ups and downs in Figure 1 reflect changes in *both* price and quantity of the assets although the denominator of the ratio (total assets) is also subject to price fluctuations, which in part alleviates the problem. We have no simple way of isolating the evolution of quantities, so the graph must be interpreted with caution.

[16] The notes to the 1995 annual financial statements had to mention this reclassification. For example, Citicorp explicitly describes that "On November 30, 1995, Citicorp transferred $4,749 million of debt securities from the held-to-maturity category to the available-for-sale category at fair value ($4,334 million), as permitted under guidelines

generate a major reclassification of AFS securities into TA. Instead, holdings of AFS securities increased after issuance of SFAS 159, following some quarters of downward trend: in the years immediately before SFAS 159 gains/losses in AFS assets were realized, but after 2008 banks accumulated AFS assets again.

3.3.2 Baseline Analysis: Income smoothing and capital requirements

Table 2 contains descriptive statistics of the variables used in the regressions. Note that realized gains/losses in AFS assets are a small part of net income (a maximum of 10% in the largest banks, much less for smaller banks): this will affect the magnitude of the estimated coefficients, so in the tables we show coefficient estimates –other than the persistence- which have been multiplied by one hundred (this is equivalent to expressing RAFS in percentage terms). All equations have been estimated by OLS with 2-way cluster errors (using bank and time period as clusters; see Petersen, 2009, and Gow *et al.*, 2011). Results coming from other methodologies –including panel data methods-, which lead to similar conclusions, are available upon request.

Table 3a shows the full sample results of baseline equation (1).[17] The persistence parameter of RAFS is significant but small, a result which was to be expected. There is strong evidence for income smoothing: the parameter on $NIBR_{it}$ has the expected negative sign and it is significant even at the 1% level. Thus, RAFS are larger when net income before taxes and RAFS is low. The direct effect of the capital ratio ($T1_{it-1}$) is also significant at conventional levels, so earnings management seems to be related both to income smoothing and to capital ratios.[18] The effect of the

issued by the FASB. As a result, stockholders' equity was reduced $260 million (net of tax).” This reclassification left Citicorp with zero holdings of HTM securities at the end of December 1995 (Citicorp, 1996).

[17] Note that in some of our analyses we show the results of specifications with and without the T1 variable. This is due to the fact that T1 is available from 1996 on, so analyses that utilize this variable have two fewer years of data.

[18] A nonlinear effect of capital requirements may be observed if earnings management only occurs when the ratio is at or below the minimum required value. We have estimated models with a dummy which takes value one if $T1_{it-1}$ is equal to or lower than 4% (the required value of Tier 1 capital) at the end of period t-1 and zero otherwise. We also interacted this “threshold” dummy with $NIBR_{it}$ to allow for income smoothing triggered by a low capital ratio. No significant nonlinear effects were found.

control variables, when significant, is generally aligned with prior intuition, so we will only comment on the controls when some result of special interest arises.

Table 3b shows the results of splitting the sample into listed and non-listed banks. Interestingly, income smoothing and capital management are significant for non-listed banks. This suggests motivations for earnings management beyond those related to signalling to investors or to incentives provided by the capital markets. On the other hand, the fact that we do not find significant income smoothing for listed banks is a bit more surprising. We show later that this result is due to listed banks with negative earnings (which are a small part of the sample), and that when we distinguish between listed banks with positive and negative earnings a more reasonable picture appears. The results we show in Tables 3a-b do not stem from the behavior of a few extreme banks: Table 3c shows the average value of RAFS for portfolios of banks constructed using the deciles of the distribution of NIBR. As it can be seen, there is a clear decreasing pattern of mean RAFS over the decile portfolios for the overall sample and for both listed and non-listed banks (with the exception of the first two deciles: see below). Also, the proportion of negative instances of RAFS is quite similar across deciles, suggesting that the negative relationship between NIBR and RAFS is not coming from a few negative realizations of RAFS by banks with large profits.

The onset of the financial crisis makes 2007Q3 a quarter where we could observe significant changes in bank behavior. [19] Indeed, in Section 2.3 we hypothesized that the use of RAFS during the crisis would probably be more intense, whereas we would expect accrual-based tools to be less used. Tables 3d and 3e show the results of splitting the sample into two subperiods, using 2007Q3 as the breakpoint. Table 3d includes a dummy variable D_{it} which identifies the crisis quarters. This

[19] We have run all our regressions using as an alternative breakpoint the introduction of SFAS 159. This break, however, leads to subsamples that only differ in one quarter from the "financial crisis break", so the results are basically equivalent: they are available upon request, but they do not offer any additional insight.

variable is interacted with the main regressors of interest (persistence, NIBR and T1) in order to facilitate significance testing of the differences in parameters during the crisis. Indeed we observe quite significant differences in behavior: first, RAFS are significantly less persistent during the crisis; second, more intense income smoothing is carried out –by nonlisted banks- during the crisis. This result is in line with the last of the hypotheses developed in Section 2.3 (we carry out some further analyses on this hypothesis in Section 3.3.5). Given the differences uncovered across periods, Table 3e shows the results of splitting the samples into pre-crisis (1996Q1 to 2007Q2) and post-crisis (2007Q3 to 2010Q4), a strategy we use in the rest of the paper. Apart from the two main results mentioned, some of the control variables also seem to have a different impact on RAFS in the two subperiods. Of special interest is the cyclical variable $Unemp_{it}$: in the pre-crisis RAFS behave countercyclically, so banks realize more gains in AFS assets in bad economic periods.

The results in Table 3b suggested that listed banks have not carried out income smoothing via RAFS. However, the behavior of mean RAFS in Table 3c for listed banks is quite similar to that of non-listed banks. In particular, mean RAFS in the first decile (banks with lowest NIBR) are much smaller than in the second decile. From this second decile on, the decreasing pattern implied by income smoothing arises in both subsamples of banks and in the global sample. In other words, the behaviour of banks with low values of NIBR (pre-tax losses) seems to differ from the rest of the banks in the sample in a kind of nonlinearity or "kink" in the smoothing behaviour. We examine this issue in Tables 3f and 3g, where we report the results obtained for samples split on the basis of the sign of NIBR. Table 3f contains the results for the full sample. Banks with positive NIBR carry out income smoothing and capital management in both subperiods (income smoothing is again more intense during the crisis). However, banks with negative NIBR (approximately 6% of the total observations before the crisis and 23% during the crisis) seem not to do either one, and their

behaviour reflects probably more of a "bad news" story: bad times (low NIBR) go hand in hand with low gains in AFS securities and low realized gains.[20] When we split the sample into listed and nonlisted banks the results nicely align: both groups do significant income smoothing when NIBR is positive (and listed banks do so more intensely) and both are subject to the "bad news" story when NIBR is negative (listed banks also showing a higher "bad news" coefficient). This "nonlinearity" for negative NIBR is in line with the results shown in Table 3c, and it explains the apparent lack of income smoothing found for listed banks in Table 3b. Capital management is done by listed banks with losses in the pre-crisis period and by non-listed banks in both periods.[21]

Given the differences in terms of regulation, size and activities between Bank Holding Companies (BHC) and commercial banks (Com) –the data are stored in different sub-databases within the Bank Regulatory Database- it seems convenient to check that there are no significant differences between the two types of banks.[22] In Table 3h we show the results of the baseline specification for BHC and Com. The results are quite comparable: in particular, income smoothing appears both for BHCs and commercial banks (although this effect is less strong for commercial banks during pre-crisis period) and there is evidence of capital management for both types of banks before the crisis and for commercial banks during the financial crisis. We have replicated all subsequent analyses for the BHC/Com subsamples, but no further insights were obtained, so we do not show further results for these subsamples.

[20] A similar nonlinearity has been uncoverd for nonfinancial firms in the context of managerial compensation: in a context of losses, by anticipating future accruals current losses increase –which implies no managerial cost at present- but the chances of future bonuses improve (Degeorge et al., 1999). This "big bath" strategy predicts a non-linear relationship in which the smoothing instrument is used in the opposite direction for particularly low earnings (see, e.g., Kirschenheiter and Melumad, 2002, for how big-bath and smoothing strategies can coexist). We believe that the result we obtain here does not come from the use of big-bath strategies by banks, which are quite difficult to rationalize. Indeed, the percentage of negative realizations of RAFS is the smallest for the group of banks with losses –see Table 3c-, thus suggesting that the effect we uncover is indeed a "bad news" story.

[21] The only subsample of non-listed banks that does not carry out significant capital management is the group that has higher capital ratios: note the median values of $T1_{it-1}$ shown in the last row of each panel.

[22] There is no strict parallel between the two classifications (listed/non-listed and BHCs/commercial), although it is the case that most listed banks are BHCs and most commercial banks are non-listed.

Our second hypothesis related the intensity of income smoothing to holdings of AFS assets ("use" of AFS assets) and to the total amount of unrealized gains/losses in said assets in the balance sheet ("opportunity"). Tables 4a and 4b show the results of augmenting the baseline equation with two terms that control for the proportion of AFS holdings at the beginning of the quarter, AFS_{it-1}, and its interaction with NIBR (Table 4a) and for the accumulated unrealized gains at the beginning of the quarter, $UNRAFS_{it-1}$, and its interaction with NIBR (Table 4b).[23] If AFS are held for smoothing purposes, the coefficient on the interaction term in Table 4a should be negative and significant, denoting increased smoothing beyond a "level" effect (from having large proportions of AFS assets). The results show that this is the case both for the complete sample and for the subsample of non-listed banks (during the crisis: before the crisis the coefficient is not significant for non-listed banks). Incidentally, the control variable Sec_{it} stops being significant, suggesting that the level of AFS is enough to account for the higher use of RAFS. Listed banks also show a negative estimate of the effect of the interaction term, but the coefficient is never significant. One of the reasons for this lack of significance may be that the cross-sectional variation of both AFS holdings and NIBR in the listed banks sample is significantly smaller than for the non-listed sample (results not shown, but available upon request) thus leading to a coefficient estimate with a larger standard error. Table 4b shows the results of controlling, instead, for the level of unrealized gains/losses in AFS assets. The income smoothing effect now is significant, and it appears for the whole sample and non-listed banks (both periods) and for listed banks (pre-crisis). Summing up, both the amount of AFS assets but, more importantly, the accumulated unrealized gains in those assets are important determinants of income smoothing practices.

Avoiding a loss, if enough revalued AFS assets are available, can be an important motivation for income smoothing related to signalling. We show some indirect evidence for this motivation by

[23] For the sake of interpretation of the coefficients, in the analyses in Tables 4a and 4b the values of AFS_{it-1} and $UNRAFS_{it-1}$ have been divided by the maximum value in the sample, so the highest value they can take is one.

carryng out an analysis on a special subsample of banks. Table 5a shows the results of the baseline equation estimated using data only from banks that had negative NIBR, but positive RAFS enough to yield positive net income before taxes and "post RAFS". The negative coefficient on the smoothing term is always slightly above one hundred in absolute value: the magnitude of realized gains in AFS was just *sufficient* to bring net income to slightly positive. Standard errors of these parameter estimates are quite low, so the coefficients are very robustly estimated. This, admittedly ad hoc, analysis suggests that when banks use AFS gains to turn negative net income into positive the amount of gains realized is intended to cover the loss (maybe accounting for taxes to be paid) but the quantity of AFS assets sold is limited so that the rest of the stock of "unrealized gains in AFS" is kept for the future. In order to ensure that this special subsample is not driving the overall results in Tables 3a-3f, we run the baseline regressions omitting this subsample of "loss avoiding" banks. Table 5b shows that indeed the income smoothing behaviour found in the baseline analyses is generally present and it is not just a consequence of loss avoidance by a small set of banks.

3.3.3 The 4th quarter effect

Dechow and Shakespeare (2009) show that earnings management transactions occur with greater frequency in the last few days of the quarter. We do not have daily data, so we cannot observe a fine timing of AFS transactions. However, similar arguments lead us to expect to observe a different behavior in the 4th quarter of the year since, for example, compensation packages are examined in the 4th quarter. In order to obtain evidence of differences in behavior in the last quarters of the year, we follow two routes. Table 6a shows the results of including in the baseline equation a control for end-of-year effects. We estimate the following regression:

$$RAFS_{it} = \beta_0 + \beta_1 RAFS_{it-1} + \beta_2 NIBR_{it} + \beta_3 T1_{it-1} + \beta_4 D4_{it} + \beta_5 D4_{it} \cdot YNIBR_{it} + controls + \varepsilon_{it} \qquad (2)$$

where $D4_{it}$ is a dummy that takes value one if period t is the fourth quarter of the year and zero otherwise. $YNIBR_{it}$ is the *cumulative end-of-year income before taxes and fourth quarter RAFS.* If

banks smooth yearly earnings we should find a significant negative sign of the coefficient of the interaction $D4_{it} \cdot YNIBR_{it}$. No significant results appear for the whole sample (and, hence, for non-listed banks). Listed banks, on the other hand, seem to have used fourth quarter RAFS to increase annual earnings during the pre-crisis period, but used the last quarter RAFS to smooth earnings during the crisis. We carry out one more analysis in this regard. Table 6b shows the results of focusing on large realizations of RAFS. The dependent variable in the table, $bigRAFS_{it}$, takes value one if RAFS is one standard deviation away from the bank-specific average. In other words, we examine values of RAFS that are "large" in size by the standards of each bank. Results of the logit estimation show that the probability of observing large RAFS is higher if NIBR is smaller (smoothing) and in the fourth quarter of the year. In other words, large sales of AFS assets are undertaken more frequently at the end of the year, although there is no evidence that smoothing of yearly earnings is behind this practice.

3.3.4 SFAS 159 and the FVO

In most of our previous analyses we have distinguished the pre and post-crisis behavior. An alternative subsampling using the quarter of introduction of SFAS 159 was also carried out. Recent studies have suggested that firms used the transitional adjustment provision allowed by SFAS 159 to manipulate earnings. Song (2008) and Hsu (2009) found that banks used the FVO in its quarter of application (2007Q4) to remove available-for-sale securities with loss positions without reporting the losses in earnings. The data we showed in Figure 1 are consistent with this finding, but they also suggest that holdings of AFS assets increased after introduction of the FVO. We investigate possible effects of the *specific quarter* of application of SFAS 159 by including the possibility that smoothing behaviour (or average values of RAFS) may have been different in the two quarters around the FVO (2007Q4 and 2008Q1). For that purpose we include in the baseline analysis two dummies ($07Q4_{it}$ and $08Q1_{it}$) that identify those two quarters, and their interactions

with NIBR. The results –shown in Table 7- suggest that banks sold AFS securities with loss positions in 2007Q4 (negative significant estimate of $07Q4_{it}$), but not for income smoothing purposes. On the other hand, listed banks seemed to use 2008Q1 for some extraordinary income smoothing (negative significant estimate of the interaction of $08Q1_{it}$ with $NIBR_{it}$).[24]

3.3.5 RAFS and the Loan Loss Provision

The Loan Loss Provision (LLP) has been analyzed in the banking literature as probably the most important accrual-based tool for earnings management. We provide now a final analysis of whether LLP-based smoothing behaviour is present in our sample of banks (Table 8) in the pre- and post-crisis (see our last hypotheses in Section 2.3) and of how the smoothing behavior through the realization of gains/losses on AFS securities interacts with the LLP (Table 9).

Table 8 shows estimates of a regression similar to our baseline model, but with the loan loss provision LLP_{it}[25] as the dependent variable and *net income before taxes, LLP and RAFS* (NIBRLLP) as the income smoothing term. In other words, we are assuming that the LLP is decided "before RAFS" (more on this below). The results in Table 8 suggest that in our sample income smoothing through the use LLP has occurred during the pre-crisis period for non-listed banks but not (significantly) for listed banks. On the other hand, during the crisis we find a "bad news" story for both sets of banks: the LLP is positively related to NIBRLLP. Evidence for capital management through the LLP is more robust across periods, although the coefficient for listed banks in the pre-crisis is again not significant. The LLP_{it} is, as expected, cyclical and related to the levels of loans in the balance sheet.

[24] Chang et al. (2011) show that some banks adopted the FVO as early as 2007Q1, so the results we show may be influenced by these "early adopters". We included an additional 2007Q1 dummy to account for early adopters but found no additional smoothing during that quarter, although there was again evidence of higher RAFS.

[25] In order to facilitate the interpretation of the coefficients in the regression analysis, the sign of LLP is negative when it is an expense and positive when it represents a reversion.

In Table 9 we repeat the baseline equations for RAFS but splitting NIBR into NIBRLLP and the LLP, and include in the baseline equations for LLP the value of RAFS as an explanatory variable. These regressions are intended to see if both instruments are used together to achieve a target value of earnings, in which case we'd expect the coefficients of NIBRLLP and LLP to be the same in the equation for RAFS, and the coefficients of NIBRLLP and RAFS to be the same in the equation for LLP. The table includes in the last line the results of significance tests for equality of the two coefficients of interest in each of the specifications. Only in the case of LLP during the crisis the two coefficients differ. This suggests that before the crisis both instruments were used together to achieve a target value of earnings. However, during the crisis the LLP behaved differently (we saw in Table 8 that it was not used for smoothing). RAFS then became the instrument for income smoothing. We suggest two tentative explanations for this effect: first, intuitively, RAFS may have been used also for "smoothing" the LLP, whose value was probably more determined by the effects of the financial crisis (the "bad news" story mentioned above). Second, regulators may have placed increased attention on accruals in general and on the LLP in particular (during the financial crisis this term became especially "relevant"). Thus, a shift from accrual-based earnings management (LLP) to transaction-based earnings management (an increased use of RAFS, which we showed in Tables 3d and 3e) may have been a rational bank response to increased scrutiny by the regulators.

3.4 Robustness analyses

We have performed a battery of robustness analyses, some of which we have commented on. We outline now the full extent of these analyses and make the results available upon request. In none of these the conclusions were significantly affected. Indeed, the earnings management behavior we have uncovered is very robust to subsamples, subperiods and methodologies.

1) The main income smoothing regressions have been estimated for listed BHCs and Commercial banks (not shown) and for BHCs and commercial banks (only one of these is shown in Table 3h).

2) All specifications have been done including the interaction between AFS_{it} and $NIBR_{it}$. Also, we have performed a set of regressions where we split the sample banks into quartiles defined by the level of AFS assets and we estimate separate regressions for the banks in the first and fourth quartiles. More intense smoothing is observed for the 4^{th} quartile group, consistent with the evidence in Table 4.

3) The "4^{th} quarter analysis" has also been done with a dummy that accounted for third quarters. We included these dummies in nonlinear models, but still we did not obtain significant results.

4) Different estimation methodologies (panel data with firm and time effects) have been used.

5) Several cyclical indicators have been used in the regressions (real GDP, stock market indexes) but the choice of the cyclical variable had no effect on the final results.

6) The subperiod analysis has been carried out using SFAS 159 (2007Q4) as the breakpoint. The results are identical to those that use 2007Q3.

7) The SFAS 159 analysis included also a dummy Q107 and its interaction with NIBR (to account for early adopters: see Chang et al, 2011). No significant differences in behavior were found for these early adopters other than a positive and significant coefficient for Q107.

4. CONCLUSIONS

We have taken a step towards understanding the effects of FVA standards for AFS securities in banking behavior and, more specifically, in the extent of transactions-based earnings management by banks. AFS securities are reported at fair value, but the fair value gains or losses in these securities are only included in net income and in regulatory capital when the assets are sold in the market, which allows for some degree of management of regulatory capital and for intertemporal

smoothing of earnings. In the case of banks, this smoothing may be intended to signal stable income or to affect executive compensation.

We performed a thorough analysis of earnings for listed and non-listed banks, and for BHCs and commercial banks, where emphasis was placed on the behavior of the discretionary part of income –realized fair value gains or losses from AFS assets- and on its relationship to net income and regulatory capital ratios. The conclusions of our analysis are robust to subsamples (BHCs vs. commercial; listed vs. non-listed), subperiods, data frequency and empirical specifications. We have shown behavior consistent with income smoothing through the timing of the sales of AFS securities (realization of fair value gains in said securities) for banks with positive earnings. To some extent, this smoothing is related to signaling, since we showed that a subset of banks behaved consistent with loss avoidance. We also found evidence of earnings management related to regulatory capital requirements. Taken as a whole, our results hint at the value of AFS assets for bank managers, who use realized gains in AFS assets for different purposes. It is, then, understandable why these assets became the main category in bank's balance sheets even after SFAS 159 gave the possibility to turn them into TA. Indeed, we also showed evidence which suggested that the most traditional accrual-based tool for earnings management, the LLP, was less used during the financial crisis and AFS assets became a readily available alternative.

We point out limitations of our analysis. First, data on executive compensation would help fine-tune the reasons behind the smoothing, since our results suggest that compensation may indeed be a motivation (but not the only one). Empirical analysis of this issue would have to be limited, though, to the sample of listed BHCs. Second, we have not looked at the category of TA, since only large BHCs with active trading portfolios have significant amounts of such assets. The analysis of banks with significant TA holdings could complement our results but, given that these

are strictly the "fair value" assets, the category does not provide flexibility for earnings management. Third, we have not placed emphasis on macroeconomic variables, other than including some rough cyclical indicators in our regressions. A finer control for macro conditions could qualify our conclusions but we believe that the evidence we have uncovered is independent of the cycle. Finally, procyclicality is, of course, an issue, but an analysis of the possible feedback from FVA to the economy is definitely beyond the scope of this paper. We leave all these unresolved issues for future research.

7. REFERENCES

Allen, F. and E. Carletti (2008) "Mark-to-Market Accounting and Liquidity Pricing," *Journal of Accounting and Economics* 45, 358–378.

Ahmed, A.S., Takeda, C. and S. Thomas (1999) "Bank Loan Loss Provisions: a re-examination of Capital Management, Earnings Management and Signalling Effects," *Journal of Accounting and Economics* 28, 1-25.

American Bankers Association (2009) "Fair Value and Mark to Market Accounting," http://www.aba.com/Issues/Issues_FairValue.htm.

Barth, M. E., Beaver, W.H. and W.R. Landsman (1996) "Value-relevance of banks' fair value disclosures under SFAS no 107," *The Accounting Review* 71, 513–537.

Beatty, A., Chamberlain, S. and J. Magliolo (1995) "Managing Financial Reports of Commercial Banks: the Influence of Taxes, Regulatory Capital and Earnings," *Journal of Accounting Research* 33, 231-262.

Benston, G. J. (2008) "The Shortcomings of Fair-Value Accounting described in SFAS 157," *Journal of Accounting and Public Policy* 27, 101–114.

Blankespoor, E., Linsmeier, T.J., Petroni, K.R. and C. Shakespeare (2010) "Fair Value Accounting for Financial Instruments: does it improve the Association between Bank Leverage and Credit Risk?" Available at SSRN: http://ssrn.com/abstract=1565653.

Burgstahler, D. and I. Dichev (1997) "Earnings Management to Avoid Earnings Decreases and Losses," *Journal of Accounting and Economics* 24, 99-126.

Chang, Y.L., Liu, C.C and S. Ryan (2011) "Why Banks elected SFAS No. 159's Fair Value Option: Opportunism versus Compliance with the Standard's Intent", mimeo.

Citicorp (1996). *Form 10-K: Annual Report Pursuant to Section 13 of the Securities Exchange Act of 1934*, available at the SEC.

Collins, J., Shackelford, D. and J. Wahlen (1995) "Bank Differences in the Coordination of Regulatory Capital, Earnings and Taxes," *Journal of Accounting Research* 33, 263-291.

Dechow, P. and C. Shakespeare (2009) "Do Managers Time Securitizations to Obtain Accounting Benefits?" *The Accounting Review* 84, 99-132.

Dechow, P., Myers, L. and C. Shakespeare (2010) "Fair Value Accounting and Gains from Asset Securitizations: A Convenient Earnings Management Tool with Compensation Side- Benefits," *Journal of Accounting and Economics* 49, 2-25.

Defond, M.L. (2010) "Earnings quality research: Advances, challenges and future research," *Journal of Accounting and Economics* 50, 402-409.

Degeorge, F., Patel, J. and R. F. Zechhauser (1999) "Earnings Management to Exceed Thresholds," *Journal of Business* 72, 1-34.

Dong, M., Ryan, S.G. and X-J. Zhang (2011) "Preserving Amortized Costs within a Fair-Value-Accounting Framework: Reclassification of Gains and Losses on Available-for-Sale Securities upon realization," mimeo.

Eccher, E, Ramesh, K. and S. Thiagarajan (1996) "Fair value disclosures by bank holding companies," *Journal of Accounting and Economics* 22, 79–117.

Fiechter, P. and Meyer C. (2011) "Discretion in Fair Value Measurement of Banks during the 2008 Financial Crisis", *SSRN Working Paper Series*, No. 1522122.

Freixas, X. and D.P. Tsomocos (2004) "Book vs. Fair Value Accounting in Banking and Intertemporal Smoothing," mimeo.

Financial Accounting Standards Board (1995) *Special Report, A Guide to Implementation of Statement 115 on Accounting for Certain Investments in Debt and Equity Securities, Questions and Answers*. FASB: Norwalk CT.

Goel, A.M. and A. Thakor (2003) "Why do Firms Smooth Earnings?" *Journal of Business* 76, 151–192.

Gow, I.D., Ormazabal, G. and Taylor, D.J. (2011) "Correcting for Cross-Sectional and Time Series Dependence in Accounting Research," *The Accounting Review* 85(2), 483-512.

Graham, J., Harvey, C. and Rajgopal, S. (2005) "The economic implications of corporate financial reporting," *Journal of Accounting and Economics* 40, 3–73.

Heaton, J., D. Lucas and R. McDonald (2010) "Is Mark-to-Market Accounting Destabilizing? Analysis and Implications for Policy," *Journal of Monetary Economics* 57, 64-75.

Healy, P.M. and J.M. Wahlen (1999) "A Review of the Earnings Management Literature and its Implications for Standard Setting," *Accounting Horizons* 13, 365-383.

Hodder, L. D., P. E. Hopkins, and J. M. Wahlen (2006) "Risk-Relevance of Fair-Value Income Measures for Commercial Banks," *The Accounting Review* 81, 337-375.

Hsu, P.H. (2009) "The FVO and Firms' Earnings Management Incentives", University of Oregon.

Hunton, J.E., Libby, R. and C.R. Mazza (2006) "Financial reporting transparency and earnings management," *The Accounting Review* 81, 135-158.

Karaoglu, E. (2005) "Regulatory capital and earnings management in banks: The case of loan sales and securitizations," Working paper, Columbia University.

Kirschenheiter, M. and N.D. Melumad (2002) "Can "Big Bath" and Earnings Smoothing co-exist as Equilibrium Financial Reporting Strategies?" *Journal of Accounting Research* 40, 761-796.

Landsman, W.R. (2007) "Is fair value accounting information relevant and reliable? Evidence from capital market research," *Accounting and Business Research*, Special Issue, 19–30.

Laux, C. and C. Leuz (2009) "The Crisis of Fair-Value Accounting: Making Sense of the Recent Debate," *Accounting, Organizations and Society* 34, 826–834.

Laux, C. and C. Leuz (2010) "Did Fair Value Accounting contribute to the Financial Crisis?" *Journal of Economic Perspectives* 24, 93-118.

Lifschutz, S. (2002) "The Effect of SFAS 115 On Earnings Management in the Banking Industry", *Journal of Applied Business Research* 18 (4), 1-11.

Ma, C.K. (1988). "Loan Loss Reserves and Income Smoothing: the experience in the U.S. Banking Industry," *Journal of Business, Finance and Accouting* 15, 487-497.

Marquardt, C. and C. Wiedman (2005) "Earnings management through transaction structuring: contingent convertible debt and diluted earnings per share," *Journal of Accounting Research* 43, 205-243.

Moyer, S. (1990) "Capital Adequacy Ratio Regulations and Accounting Choices in Commercial Banks," *Journal of Accounting and Economics* 13, 123–154

Nelson, K. (1996) "Fair value accounting for commercial banks: an empirical analysis of SFAS 107," *The Accounting Review* 71, 161–182.

Nelson, M.W., Elliot, J.A. and R.L. Tarpley (2003). "How are Earnings Managed? Examples from Auditors," *Accounting Horizons* 17, 17-35.

Nissim, D. and S.H. Penman (2007) "Fair Value Accounting in the Banking Industry," *Center for Excellence in Accounting and Security Analysis Occasional Paper*.

PCAOB (Public Company Accounting Oversight Board), (2000). Panel on Audit Effectiveness, Report and Recommendations. Washington, DC.

Penman, S. H. (2007) "Financial Reporting Quality: Is Fair Value a Plus or a Minus?" *Accounting and Business Research*, Special Issue, 33–44.

Pérez, D., Salas-Fumás, V. and J. Saurina (2008) "Earnings and Capital Management in alternative Loan Loss Provision Regulatory Regimes," *European Accounting Review* 17, 423-445.

Petersen, M. (2009) "Estimating standard errors in finance panel data sets: Comparing approaches" *Review of Financial Studies* 22, 435-480.

Poitras, G., Wilkins, T. and Y.S. Kwan (2002) "Earnings Management and the Timing of Asset Sales," *Journal of Business Finance and Accounting* 29, 903-34.

Scholes, M., Wilson, G.P. and M. Wolfson (1990) "Tax Planning, Regulatory Capital Planning and Financial Reporting Strategy for Commercial Banks," *Review of Financial Studies* 3, 625-650.

Song, C.J. (2008) "An Evaluation of FAS 159 Fair Value Option: Evidence from the Banking Industry," mimeo.

Song, C.J. and T. Linsmeier (2010) "Are Interest Rate Swaps Used to Manage Banks' Earnings?" mimeo.

Song, C.J., Thomas, W.B. and H. Yi (2010) "Value relevance of FAS 157 Fair Value Hierarchy Information and the Impact of Corporate Governance Mechanisms," *The Accounting Review* 85, 1375-1410.

Van Beest, F. (2009) "Rules-Based and Principles-Based Accounting Standards and Earnings Management" *NICE Working Paper* 09-114.

Wall, L.D and T.W. Koch (2000) "Bank Loan-Loss Accounting: a review of theoretical and empirical evidence," *Federal Reserve Bank of Atlanta, Economic Review* 85, 1-19.

Appendix A: Codes for accounting data

The Bank Regulatory Database from the Federal Reserve Bank of Chicago contains five databases with accounting data for regulated depository financial institutions (bank holding companies, commercial banks, savings banks, and savings and loans institutions). Data come from the required regulatory forms filed for supervising purposes. The *Commercial Bank Database* contains data from all banks filing the Report of Condition and Income that are regulated by the Federal Reserve System, Federal Deposit Insurance Corporation (FDIC), and the Comptroller of the Currency. These reports include balance sheet, income statements, risk-based capital measures and off-balance sheet data. It includes commercial banks and savings banks, but not savings institutions that file the Thrift Financial Report (TFR) with the Office of Thrift Supervision (OTS). The *Bank Holding Companies Database* collects financial data from bank holding companies included in the FRY-9 reports. These reports contain balance sheet, income information, risk-based capital measures and additional supporting schedules.

The codes of the variables that we have used in our analysis are:

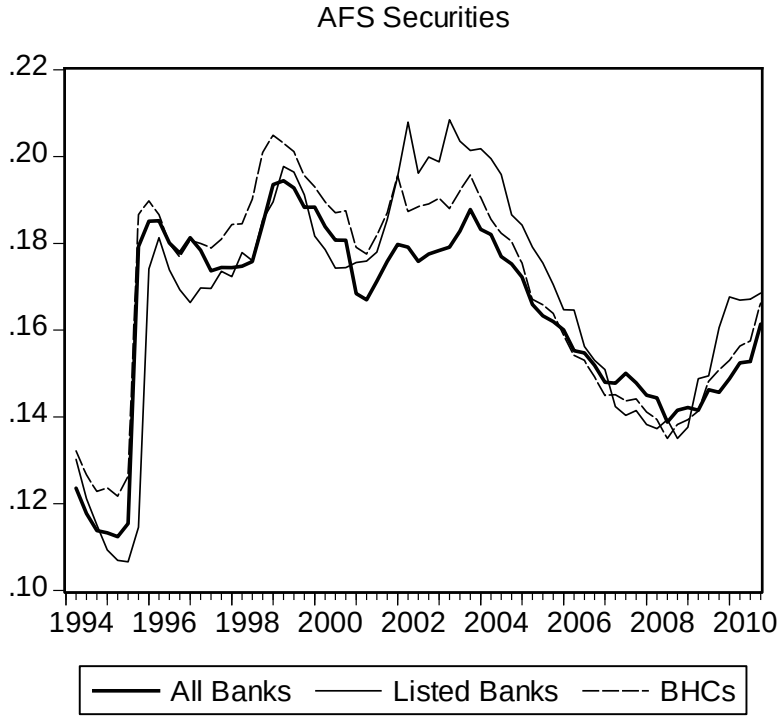
Variables	Code for Commercial Banks	Code for Bank Holding Companies
Applicable Income Taxes	RIAD4302	BHCK4302
Available-for-sale securities	RCFD1773	BHCK1773
Deposits	RCFD2200	BHDM6631+BHDM6636+BHFN6631+BHFN6636
Equity	RCFD3210	BHCK3210
Fixed assets	RCFD2145	BHCK2145
Held-to-maturity securities	RCFD1754	BHCK1754
Liquid assets	RCFD0010	BHCK0010
Loan Loss Provision	RIAD4230	BHCK4230
Net income*	RIAD4340	BHCK4340
Net loans and leases	RCFD1600+RCFD1766	BHCK2122+BHCK2165
Net unrealized holding gains (losses) on available-for-sale securities	RCFD8434	BHCK8434
Realized gains (losses) on available-for-sale securities*	RIAD3196	BHCK3196
Securities	RCFD1754+RCFD1773+RCFD3545	Before 1995: BHCK1754+BHCK1773+BHCK2146 From 1995: BHCK1754+BHCK1773+BHCK3545
Tier I capital	RCFD8274	BHCK8274
Total Assets	RCFD2170	BHCK2170
Trading securities	RCFD3545	Before 1995: BHCK2146 From 1995: BHCK3545
Risk-Weighted Assets	RCFDA223	BHCKA223

Source: Federal Reserve Bank of Chicago

* Variables measured as cumulative year-to-date value.

Figure1
Evolution of the median proportion of AFS and HTM securities

The graphs show the evolution over time of the median value of AFS/Total Assets and HTM/Total Assets in the cross-section of all banks, Listed Banks and BHCs.



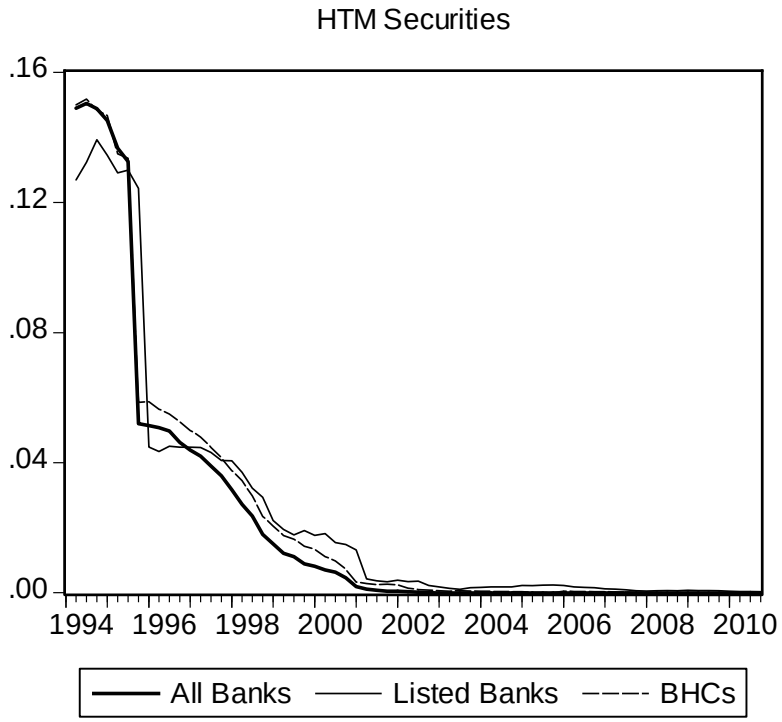


Table 1. Descriptive statistics - Financial Instruments in Banks' Balance Sheets

	Mean	Median	Standard Deviation
Panel A: ALL			
AFS/Total Assets	0.184	0.164	0.139
HTM/ Total Assets	0.065	0.005	0.114
TA/Total Assets	0.000	0.001	0.011
Panel B: Listed			
AFS/Total Assets	0.177	0.165	0.102
HTM/ Total Assets	0.047	0.008	0.081
TA/Total Assets	0.005	0.000	0.028
Panel C: Non-listed			
AFS/Total Assets	0.184	0.164	0.140
HTM/ Total Assets	0.066	0.004	0.115
TA/Total Assets	0.001	0.000	0.010

All variables are available from 1994Q1 until 2010Q4. AFS/Total Assets: Available-for-Sale instruments over Total Assets; HTM/Total Assets: Held-to-Maturity over Total Assets; TA/Total Assets: Trading securities over Total Assets. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks. The number of observations is N=666,889 (Panel A), N=26,093 (Panel B) and N= 640,796 (Panel C).

Table 2. Descriptive statistics of the variables in the analysis – Whole Sample

	Mean	Median	Standard Deviation
Panel A: ALL			
RAFS	2.7E-5	0.0000	3.9E-4
NIBR	0.0033	0.0036	0.0045
T1	0.1693	0.1345	0.1719
LLP	-0.0008	-0.0003	0.0025
Size	11.823	11.658	1.4759
Deposits	0.8287	0.8523	0.0972
Liquid	0.0479	0.0361	0.0485
Loans	0.6237	0.6434	0.1555
Securities	0.2497	0.2311	0.1473
Fixed	0.0180	0.0156	0.0128
Nondep	0.0652	0.0357	0.0834
Panel B: Listed			
RAFS	4.84E-5	0.0000	4.6E-4
NIBR	0.0034	0.0039	0.0041
T1	0.1237	0.1155	0.0485
LLP	-0.0010	-0.0005	0.0022
Size	14.362	13.980	1.6620
Deposits	0.7662	0.7870	0.1081
Liquid	0.0177	0.0120	0.0197
Loans	0.6633	0.6787	0.1259
Securities	0.2289	0.2159	0.1161
Fixed	0.0168	0.0155	0.0089
Nondep	0.1431	0.1219	0.1074
Panel C: Non-listed			
RAFS	2.6E-5	0.0000	3.9E-4
NIBR	0.0033	0.0036	0.0046
T1	0.1712	0.1358	0.1749
LLP	-0.0008	-0.0003	0.0025
Size	11.719	11.591	1.3720
Deposits	0.8313	0.8542	0.0959
Liquid	0.0491	0.0370	0.0489
Loans	0.6220	0.6415	0.1564
Securities	0.2506	0.2318	0.1484
Fixed	0.0181	0.0156	0.0129
Nondep	0.0620	0.0332	0.0808

This table displays statistics of all the variables included in the regression analyses. All variables are defined in section 3. Variables are available from 1994Q1 until 2010Q4 except for *T1*, available from 1996Q1 until 2010Q4. Variables are normalized by total assets, except for *T1*, already a ratio, and *Size*, measured as log(total assets). ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks. Panel A: N=666,889, except for Tier 1, N=571,685; Panel B: N=26,093, except for Tier 1, N=23,050; Panel C: N=640,796, except for Tier 1, N=548,635.

Table 3a. Baseline model – All Banks

Dependent variable: $RAFS_{it}$		
	1994Q1-2010Q4	**1996Q1-2010Q4**
Constant	-0.004	0.004
$RAFS_{it-1}$	0.039**	0.039**
$NIBR_{it}$	**-0.294*** **	**-0.307*** **
$T1_{it-1}$	**–**	**-0.005*** **
$Size_{it}$	8.8E-4***	7.9E-4***
Dep_{it}	-0.008**	-0.014***
$Liquid_{it}$	0.003	0.007
$Loans_{it}$	0.001	-2.5E-4
Sec_{it}	0.009***	0.012***
$Fixed_{it}$	0.043***	0.040***
$Nondep_{it}$	-0.003	-0.010*
$Unemp_t$	0.003	2.9E-4
N	666,889	571,685
R^2 (%)	1.34	1.46

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 3b. Baseline model – Listed vs Non-listed Banks

Dependent variable: $RAFS_{it}$				
	Listed		**Non-listed**	
	1994Q1-2010Q4	**1996Q1-2010Q4**	**1994Q1-2010Q4**	**1996Q1-2010Q4**
Constant	0.011	0.009	-0.005	0.004
$RAFS_{it-1}$	0.057*	0.056*	0.038**	0.038**
$NIBR_{it}$	**0.021**	**-0.044**	**-0.302*** **	**-0.313*** **
$T1_{it-1}$	**–**	**-0.002**	**–**	**-0.005*** **
$Size_{it}$	-3.4E-4	-2.8E-4	9.5E-4***	8.5E-4***
Dep_{it}	-0.014	-0.010	-0.008**	-0.014***
$Liquid_{it}$	0.088***	0.100***	0.002	0.005
$Loans_{it}$	4.9E-4	-0.001	0.001	-2.6E-4
Sec_{it}	0.025***	0.030***	0.008***	0.012***
$Fixed_{it}$	0.025	0.026	0.041***	0.038***
$Nondep_{it}$	0.004	-0.003	-0.004	-0.011*
$Unemp_t$	-0.001	-0.004	0.003	5.5E-4
N	25,927	22,891	640,886	548,715
R^2 (%)	2.15	2.41	1.33	1.44

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 3c. Baseline model – Are "extreme" banks driving the results?

	Decile Variable: NIBR					
	All Banks		Listed		Non-listed	
Decile	Mean RAFS	negative RAFS	Mean RAFS	negative RAFS	Mean RAFS	negative RAFS
1	0.00461	8.59%	0.00219	20.45%	0.00467	8.26%
2	0.00630	9.40%	0.01122	16.36%	0.00617	9.19%
3	0.00503	10.13%	0.00862	14.81%	0.00489	9.96%
4	0.00362	10.62%	0.00663	15.18%	0.00351	10.43%
5	0.00268	10.88%	0.00569	14.79%	0.00253	10.71%
6	0.00202	10.69%	0.00364	17.92%	0.00193	10.37%
7	0.00158	10.71%	0.00435	17.37%	0.00146	10.39%
8	0.00085	10.60%	0.00229	17.43%	0.00078	10.27%
9	0.00063	10.12%	0.00306	19.04%	0.00052	9.73%
10	-0.00039	9.45%	0.00102	18.63%	-0.00045	9.09%

The table shows the means of RAFS and the % of negative RAFS by deciles of the distribution of NIBR. RAFS and NIBR have been multiplied by 100 in order to aid interpretation of the numbers.

Table 3d. Baseline model – Pre-crisis and crisis period

Dependent variable: $RAFS_{it}$			
	ALL	**Listed**	**Non-listed**
Constant	0.004	0.010	0.004
D_{it}	0.001	-0.017*	0.002
$RAFS_{it-1}$	0.081***	0.061*	0.082***
$D_{it} \cdot RAFS_{it-1}$	-0.052***	-0.008	-0.054**
$NIBR_{it}$	**-0.204*** **	**0.047**	**-0.205*** **
$T1_{it-1}$	**-0.005*** **	**-0.012**	**-0.005*** **
$D_{it} \cdot NIBR_{it}$	**-0.229****	**-0.498**	**-0.237****
$D_{it} \cdot T1_{it-1}$	**0.002**	**0.123***	**0.002**
$Size_{it}$	7.0E-4***	-2.3E-4	7.4E-4***
Dep_{it}	-0.013***	-0.011	-0.013***
$Liquid_{it}$	0.004	0.106***	0.003
$Loans_{it}$	-5.4E-4	-0.001	-5.8E-4
Sec_{it}	0.012***	0.028***	0.011***
$Fixed_{it}$	0.041***	0.024	0.039***
$Nondep_{it}$	-0.009	0.002	-0.009
$Unemp_t$	-5.5E-4	-0.002	-4.0E-4
N	571,685	22,891	548,715
R^2 (%)	1.77	2.57	1.78

D_{it} is a dummy variable that takes value one for the quarters 2007Q3-2010Q4. All other variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 3e. Baseline model – Pre-crisis and crisis period

Dependent variable: $RAFS_{it}$						
	ALL		**Listed**		**Non-listed**	
	1996Q1-2007Q2	**2007Q3-2010Q4**	**1996Q1-2007Q2**	**2007Q3-2010Q4**	**1996Q1-2007Q2**	**2007Q3-2010Q4**
Constant	0.002	0.014	0.070*	-0.203*	0.001	0.014
$RAFS_{it-1}$	0.080***	0.028*	0.059*	0.049*	0.081***	0.027
$NIBR_{it}$	**-0.209*** **	**-0.478*** **	**-0.094**	**-0.307**	**-0.208*** **	**-0.484*** **
$T1_{it-1}$	**-0.004*** **	**-0.006*** **	**-0.030**	**0.137**	**-0.004*** **	**-0.006*** **
$Size_{it}$	8.6E-4***	-6.4E-5	-4.3E-4	8.4E-4	9.0E-4***	4.6E-5
Dep_{it}	-0.014***	-0.012	-8.8E-4	0.157	-0.013***	-0.012
$Liquid_{it}$	-7.8E-4	0.010	0.026	0.161***	-4.3E-4	0.008
$Loans_{it}$	0.001	-2.4E-4	-8.8E-4	0.029	0.001	-6.9E-4
Sec_{it}	0.011***	0.022***	0.028***	0.076*	0.011***	0.021***
$Fixed_{it}$	0.026***	0.094***	-0.033	0.232	0.025***	0.089***
$Nondep_{it}$	-0.007	-0.018	-0.067*	0.136	-0.013***	-0.019
$Unemp_t$	0.010***	-0.008	0.015***	-0.014	0.009***	-0.007
N	456,767	114,918	18,660	4,231	438,038	110,677
R^2 (%)	2.56	1.78	2.31	4.63	2.58	1.71

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 3f. Baseline model –Banks with negative vs. positive NIBR

Dependent variable: $RAFS_{it}$				
	Positive NIBR		**Negative NIBR**	
	1996Q1-2007Q2	**2007Q2-2010Q4**	**1996Q1-2007Q2**	**2007Q2-2010Q4**
Constant	0.015***	0.031*	-0.013	-0.013
$RAFS_{it-1}$	0.078***	0.021	0.100***	0.074***
$NIBR_{it}$	**-0.396*** **	**-0.634*** **	**0.234*** **	**0.235*** **
$T1_{it-1}$	**-0.005*** **	**-0.006** **	**8.6E-4**	**-0.007***
$Size_{it}$	9.4E-4***	-3.3E-4	1.4E-4	6.7E-4
Dep_{it}	-0.026***	-0.026**	0.007	0.005
$Liquid_{it}$	-0.003	0.006	0.007	0.018
$Loans_{it}$	-4.2E-4	-0.001	0.006*	0.010
Sec_{it}	0.009***	0.016**	0.021***	0.068***
$Fixed_{it}$	0.026***	0.092***	0.029*	0.060**
$Nondep_{it}$	-0.018***	-0.033	0.012	-0.009
$Unemp_t$	0.009***	-0.007	0.018***	-0.009
N	429,453	88,520	27,314	26,398
R^2 (%)	2.73	1.51	2.57	3.86
Mean values of RAFS and NIBR				
$RAFS_{it}$	0.00326	0.00226	0.00457	0.01255
$NIBR_{it}$	0.41079	0.30759	-0.41051	-0.59147

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively. The mean values of RAFSit and NIBRit in the lower panel are expressed as percentages.

Table 3g. Baseline model –Banks with negative vs. positive NIBR listed vs non-listed

Dependent variable: $RAFS_{it}$				
Listed Banks				
	Positive NIBR		**Negative NIBR**	
	1996Q1-2007Q2	**2007Q2-2010Q4**	**1996Q1-2007Q2**	**2007Q2-2010Q4**
$RAFS_{it-1}$	0.057	0.129***	0.075	0.035
$\boldsymbol{NIBR_{it}}$	**-1.444*** **	**-3.262*** **	**1.267***	**0.715*** **
$\boldsymbol{T1_{it-1}}$	**-0.015**	**0.220*** **	**-0.407** **	**0.019**
N	18,114	3,000	546	1,231
R^2 (%)	3.11	7.46	4.16	5.77
Median values of T1				
$\boldsymbol{T1_{it-1}}$	0.1160	0.1149	0.1149	0.1050
Non-listed Banks				
	Positive NIBR		**Negative NIBR**	
	1996Q1-2007Q2	**2007Q2-2010Q4**	**1996Q1-2007Q2**	**2007Q2-2010Q4**
$RAFS_{it-1}$	0.079***	0.020	0.100***	0.083***
$\boldsymbol{NIBR_{it}}$	**-0.377*** **	**-0.604*** **	**0.221*** **	**0.213*** **
$\boldsymbol{T1_{it-1}}$	**-0.005*** **	**-0.006** **	**0.001**	**-0.006***
N	411,274	85,506	26,764	25,171
R^2 (%)	2.71	1.44	2.74	3.99
Median values of T1				
$\boldsymbol{T1_{it-1}}$	0.1363	0.1325	0.1625	0.1214

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively. The last row of each panel contains the median values of $T1_{it-1}$ for each subsample.

Table 3h. Baseline model – Bank Holding Companies vs. Commercial Banks

Dependent variable: $RAFS_{it}$				
	BHC		**Com**	
	1996Q1-2007Q2	**2007Q3-20010Q4**	**1996Q1-2007Q2**	**2007Q3-20010Q4**
Constant	0.076***	0.018	-7.8E-4	0.012
$RAFS_{it-1}$	0.094***	0.084**	0.075***	0.024
$NIBR_{it}$	**-0.427*** **	**-0.459** **	**-0.195*** **	**-0.485*** **
$T1_{it-1}$	**-0.028*** **	**-0.008**	**-0.003*** **	**-0.006*** **
$Size_{it}$	1.6E-4	-1.6E-4	8.0E-4***	-2.2E-5
Dep_{it}	-0.089***	-0.006	-0.010***	-0.011
$Liquid_{it}$	0.022	0.036	0.001	0.008
$Loans_{it}$	0.006	-0.014	0.001	-3.9E-4
Sec_{it}	0.024***	0.013	0.010***	0.022***
$Fixed_{it}$	0.051*	0.298***	0.022***	0.078***
$Nondep_{it}$	-0.070***	-0.019	-0.005	-0.015
$Unemp_t$	0.011***	0.018	0.009***	-0.007
N	70,205	13,302	386,562	101,616
R^2 (%)	3.65	4.68	2.26	1.57

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. BHC: Bank Holding Companies; Com: Commercial Banks. N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 4a
"Use of AFS assets": Income smoothing as a function of the level of AFS assets in the balance sheet

	1996Q1-2007Q2			2007Q3-2010Q4		
	ALL	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**
Constant	0.003	0.061*	7.6E-4	0.010	-0.199*	0.013
$RAFS_{it-1}$	0.166***	0.057*	0.080***	0.171***	0.050*	0.027
$\boldsymbol{NIBR_{it}}$	**-0.104*** **	**0.550**	**-0.121*** **	**-0.183** **	**0.279**	**-0.241*** **
$\boldsymbol{T1_{t-1}}$	**-0.003*** **	**-0.022**	**-0.003*** **	**-0.003**	**0.127**	**-0.004***
$\boldsymbol{AFS_{it-1}}$	**0.012*** **	**0.030** **	**0.014*** **	**0.039*** **	**0.053** **	**0.047*** **
$\boldsymbol{AFS_{it-1} \cdot NIBR_{it}}$	**-0.599** **	**-2.748**	**-0.510**	**-1.643*** **	**-3.941**	**-1.690*** **
$Size_{it}$	7.9E-4***	-3.2E-4	8.8E-4***	6.4E-5	8.8E-4	6.6E-5
Dep_{it}	-0.013***	-0.062	-0.012***	-0.013	0.157	-0.015
$Liquid_{it}$	2.1E-4	0.028	4.2E-4	0.012	0.155***	0.012*
$Loans_{it}$	5.0E-4	-0.003	8.6E-4	0.002	0.024	0.002
Sec_{it}	0.002	0.008	0.002	-0.010*	0.023	-0.011**
$Fixed_{it}$	0.021***	-0.027	0.020***	0.080***	0.194	0.084***
$Nondep_{it}$	-0.008*	-0.046	-0.008*	-0.022	0.139	-0.023
$Unemp_t$	0.009***	0.014***	0.009***	-0.006	-0.014	-0.007
N	451,062	18,660	438,038	113,529	4,231	110,677
R^2 (%)	3.83	2.60	2.74	4.01	4.96	2.11

AFS_{it-1} denotes the proportion of AFS assets in the bank's balance sheet *at quarter t-1*: for the sake of interpretation, its range has been normalized to [0,1] by dividing over the maximum value in each sample (0.903, 0.760, 0.988). All other variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 4b
"Opportunity": Income smoothing as a function of the level of unrealized gains in AFS assets

	1996Q1-2007Q2			2007Q3-2010Q4		
	ALL	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**
Constant	-0.010***	0.042	-0.011***	0.001	-0.250**	0.013
$RAFS_{it-1}$	0.068***	0.045*	0.069***	0.023*	0.026	0.023
$NIBR_{it}$	**-0.197*** **	**-0.250**	**-0.195*** **	**-0.448*** **	**-0.198**	**-0.453*** **
$T1_{t-1}$	**-3.8E-4**	**-0.008**	**-2.4E-4**	**-7.9E-4**	**0.111**	**-7.3E-4**
$UNRAFS_{it-1}$	**0.207*** **	**0.195*** **	**0.201*** **	**0.498*** **	**0.207*** **	**0.492*** **
$UNRAFS_{it-1} \cdot NIBR_{it}$	**-4.212****	**-20.44*** **	**-4.010****	**-17.48*** **	**-6.046**	**-17.51*** **
$Size_{it}$	6.0E-4***	-7.4E-4*	6.1E-4***	8.2E-5	6.2E-4	2.0E-4
Dep_{it}	0.004	-0.031	0.004	0.007	0.241**	0.005
$Liquid_{it}$	-0.003	0.023	-0.003	-0.005	0.136***	-0.006
$Loans_{it}$	1.2E-4	-0.005	3.3E-4	-0.009***	-0.002	-0.008**
Sec_{it}	0.009***	0.021**	0.009***	0.002	0.051	0.002
$Fixed_{it}$	0.035***	-0.022	0.034***	0.089***	0.201	0.083***
$Nondep_{it}$	0.013***	-0.009	0.013***	0.015	0.235**	0.014
$Unemp_{t}$	0.006***	0.007*	0.005***	-0.004	-0.008	-0.004
N	456,748	18,659	438,020	114,918	4,231	110,677
R^2 (%)	5.04	7.22	5.04	5.89	9.12	5.82

$UNRAFS_{it-1}$ denotes the amount of unrealized gains/losses in AFS assets in the bank's balance sheet *at quarter t-1*: for the sake of interpretation, its range has been normalized to [-0.65,1] by dividing over the maximum value in each sample (0.159, 0.043, 0.159).. All other variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 5a
"Loss Avoidance": Banks that reversed negative profits through RAFS

	1996Q1-2010Q4	**1996Q1-2007Q2**	**2007Q3-2010Q4**
Constant	0.223***	0.178**	0.304***
$RAFS_{it-1}$	0.025*	0.071*	0.017
$NIBR_{it}$	**-105.35*** **	**-115.91*** **	**-100.03*** **
$T1_{it-1}$	**-0.048****	**-0.024**	**-0.086***
$Size_{it}$	-0.001	0.003	-0.003**
Dep_{it}	-0.125**	-0.137*	-0.138**
$Liquid_{it}$	0.028	-0.057	0.049
$Loans_{it}$	-0.051*	-0.021	-0.105**
Sec_{it}	0.037	0.011	0.020
$Fixed_{it}$	-0.056	-0.015	-0.086
$Nondep_{it}$	-0.149***	-0.203**	-0.129*
$Unemp_t$	-0.003	-0.013	-0.003
N	2,286	811	1,475
R^2 (%)	48.01	47.24	49.99
p-value	0.06	0.00	0.99

All variables are defined in section 3. This table contains the results of the estimation of the baseline model only for banks with negative $NIBR_{it}$ and a positive value of $RAFS_{it}$ sufficient to make net income before taxes nonnegative. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. P-value: p-value of the test of the null hypothesis that the coefficient associated to $NIBRi_t$ is equal to -100. N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 5b
Full sample omitting the loss avoiding banks

	Dependent variable: $RAFS_{it}$		
	1996Q1-2010Q4	**1996Q1-2007Q2**	**2007Q3-2010Q4**
Constant	0.004	0.001	0.015
$RAFS_{it-1}$	0.037**	0.076***	0.027
***NIBR*$_{it}$**	**-0.223*** **	**-0.148*** **	**-0.395*** **
***T1*$_{it-1}$**	**-0.005*** **	**-0.004*** **	**-0.005** **
$Size_{it}$	7.3E-4***	8.8E-4***	-2.2E-4
Dep_{it}	-0.014***	-0.013***	-0.013
$Liquid_{it}$	0.004	-9.5E-4	0.009
$Loans_{it}$	5.9E-4	0.002	0.002
Sec_{it}	0.012***	0.011***	0.020***
$Fixed_{it}$	0.035***	0.023***	0.082***
$Nondep_{it}$	-0.011*	-0.007	-0.024
$Unemp_t$	-5.7E-4	0.009***	-0.007
N	569,399	455,956	113,443
R^2 (%)	1.33	2.42	1.68

All variables are defined in section 3. This table contains the results of the estimation of the baseline model excluding data for banks with negative $NIBR_{it}$ and a positive value of $RAFS_{it}$ sufficient to make net income before taxes nonnegative. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 6a. The 4th quarter effect: cumulative end-of-year income

	Dependent variable: $RAFS_{it}$								
	1996Q1-2010Q4			**1996Q1-2007Q2**			**2007Q3-2010Q4**		
	ALL	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**
$RAFS_{it-1}$	0.039**	0.056*	0.038**	0.080***	0.059*	0.082***	0.028*	0.049*	0.027
$\boldsymbol{NIBR_{it}}$	**-0.297*** **	**-0.071**	**-0.303*** **	**-0.189*** **	**-0.416**	**-0.185*** **	**-0.446*** **	**-0.158**	**-0.463*** **
$\boldsymbol{T1_{it-1}}$	**-0.005*** **	**-0.002**	**-0.005*** **	**-0.004*** **	**-0.031***	**-0.004*** **	**-0.006*** **	**0.141**	**-0.006*** **
$\boldsymbol{D4_{it}}$	**-9.4E-4**	**-0.003**	**-8.8E-4**	**-2.5E-4**	**-0.009***	**-1.1E-4**	**-0.003**	**-0.004**	**-0.003**
$\boldsymbol{D4_{it} \cdot YNIBR_{it}}$	**-0.025**	**0.005**	**-0.023**	**-0.039**	**0.408** **	**-0.042**	**-0.059***	**-0.251*** **	**-0.046**
N	571,685	22,891	548,715	456,767	18,660	438,038	114,918	4,231	110,677
R^2 (%)	1.48	2.50	1.46	2.59	2.54	2.60	1.84	4.81	1.76

$YNIBR_{it}$ denotes the cumulative end-of-year income before taxes and fourth quarter $RAFS_{it}$. $D4_{it}$ is a dummy that takes value one if t is the fourth quarter of the year. Coefficients on control variables and on the intercept have not been tabulated. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of ; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 6b. The 4th quarter effect: "large" realizations

Dependent variable: $bigRAFS_{it}$									
	1996Q1-2010Q4			**1996Q1-2007Q2**			**2007Q3-2010Q4**		
	ALL	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**
$bigRAFS_{it-1}$	2.956***	1.448***	3.012***	3.138***	1.523***	3.198***	2.387***	1.120***	2.432***
$\boldsymbol{NIBR_{it}}$	**-10.28*** **	**-34.55*** **	**-9.191*** **	**-2.138**	**-59.28*** **	**-1.139**	**-15.01*** **	**-19.81*** **	**-14.00*** **
$\boldsymbol{T1_{it-1}}$	**0.215*** **	**-1.704** **	**0.220** **	**0.206** **	**-2.339** **	**0.213** **	**0.395*** **	**-0.173**	**0.385*** **
$\boldsymbol{D4_{it}}$	**0.123** **	**0.221***	**0.120** **	**0.200*** **	**0.271** **	**0.197*** **	**-0.043**	**0.035**	**-0.048**
$\boldsymbol{D4_{it} \cdot YNIBR_{it}}$	**0.426**	**-1.200**	**0.470**	**0.071**	**-0.493**	**0.135**	**0.200**	**-5.754**	**0.312**
N	571,685	22,891	548,715	456,767	18,660	438,038	114,918	4,231	110,677
pseudoR^2 (%)	27.62	8.00	28.57	30.00	7.30	31.07	20.01	7.05	20.07

$bigRAFS_{it}$ is a variable that takes value one if $RAFS_{it}$ is one standard deviation away from the bank-specific average. $YNIBR_{it}$ denotes the cumulative end-of-year income before taxes and fourth quarter $RAFS_{it}$. $D4_{it}$ is a dummy that takes value one if t is the fourth quarter of the year. Coefficients on control variables and on the intercept have not been tabulated. Numbers in the table are logit coefficient estimates obtained via maximum likelihood with two-way cluster standard errors using the bank and the time period as clusters. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of ; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 7. Adoption of SFAS 159: 2007Q4 and 2008Q1

Dependent variable: $RAFS_{it}$						
	1996Q1-2010Q4 Dummy 2007Q4			1996Q1-2010Q4 Dummy 2007Q4 and 2008Q1		
	ALL	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**
Constant	0.005	0.012	0.004	0.004	0.010	0.004
D_{it}	0.002	-0.016*	0.002	0.001	-0.018*	0.002
$RAFS_{it-1}$	0.081***	0.061*	0.083***	0.081***	0.061*	0.082***
$D_{it} \cdot RAFS_{it-1}$	-0.052**	-0.008	-0.055**	-0.052**	-0.008	-0.054**
$NIBR_{it}$	**-0.204*** **	**0.047**	**-0.206*** **	**-0.204*** **	**0.047**	**-0.205*** **
$T1_{it-1}$	**-0.005*** **	**-0.013**	**-0.005*** **	**-0.005*** **	**-0.012**	**-0.005*** **
$D_{it} \cdot NIBR_{it}$	**-0.238****	**-0.378**	**-0.246****	**-0.257****	**-0.412**	**-0.265*** **
$D_{it} \cdot T1_{it-1}$	**0.002**	**0.117***	**0.002**	**0.002**	**0.129***	**0.002**
$07Q4_{it}$	**-0.006****	**-0.010****	**-0.006****	**-0.006****	**-0.009****	**-0.005****
$07Q4_{it} \cdot NIBR_{it}$	**0.259*** **	**-0.018**	**0.268*** **	**0.278*** **	**0.009**	**0.287*** **
$08Q1_{it}$	**–**	**–**	**–**	**0.004**	**0.012*** **	**0.003**
$08Q1_{it} \cdot NIBR_{it}$	**–**	**–**	**–**	**0.232****	**-0.842*** **	**0.259*** **
$Size_{it}$	6.8E-4**	-2.6E-4	7.3E-4***	6.8E-4**	-2.3E-4	7.4E-4***
Dep_{it}	-0.013***	-0.012	-0.013***	-0.013***	-0.011	-0.013***
$Liquid_{it}$	0.003	0.101***	0.003	0.003	0.108***	0.003
$Loans_{it}$	-6.5E-4	-0.001	-6.9E-4	-6.5E-4	-8.2E-4	-4.7E-4
Sec_{it}	0.012***	0.028***	0.011***	0.012***	0.028***	0.011***
$Fixed_{it}$	0.041***	0.025	0.039***	0.041***	0.024	0.039***
$Nondep_{it}$	-0.009	0.002	-0.009	-0.009	0.002	-0.010*
$Unemp_t$	-8.0E-4	-0.003	-6.4E-4	-8.0E-4	-0.002	-4.5E-4
N	571,685	22,891	548,715	571,685	22,891	548,715
R^2 (%)	1.79	2.62	1.80	1.81	2.69	1.82

All variables are defined in section 3. $07Q4_{it}$ is a dummy variable that takes value one in 2007Q4. $08Q1_{it}$ is a dummy variable that takes value one in 2008Q1. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for $RAFS_{it-1}$) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 8. The Loan Loss Provision as a smoothing tool

Dependent variable: LLP_{it}						
	1996Q1-2007Q2			2007Q3-2010Q4		
	ALL	**Listed**	**Non-listed**	**ALL**	**Listed**	**Non-listed**
Constant	0.005	0.239**	0.001	0.495***	3.380***	0.482***
LLP_{it-1}	0.194***	0.394***	0.196***	0.366***	0.370***	0.362***
NIBRLLP$_{it}$	**-8.249*** **	**-1.350**	**-8.532*** **	**7.093*** **	**23.43*** **	**6.485*** **
T1$_{it-1}$	**-0.036*** **	**-0.060**	**-0.034** **	**-0.126*** **	**-2.369*** **	**-0.116*** **
$Size_{it}$	0.003***	-0.002	0.003***	-0.028***	-0.050***	-0.028***
Dep_{it}	0.002	-0.258***	0.010	-0.297**	-2.838***	-0.183*
$Liquid_{it}$	0.014	-0.241	0.017	-0.131***	-0.177	-0.132***
$Loans_{it}$	-0.080***	-0.021	-0.082***	-0.159***	-0.268	-0.156***
Sec_{it}	0.058***	0.075*	0.057***	0.184***	0.519	0.180***
$Fixed_{it}$	-0.460***	-0.195	-0.477***	0.234	1.634	0.185
$Nondep_{it}$	-0.075	-0.288***	-0.067	-0.240**	-2.566***	-0.237**
$Unemp_{t}$	-0.034**	-0.028**	-0.034**	-0.050	-0.091**	-0.049
N	456,747	18,658	438,020	114,918	4,231	110,677
R^2 (%)	11.76	17.64	12.15	17.58	31.06	16.91

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except that for LLP_{it-1}) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling LLP_{it} by expressing it in percentage points. ALL: All banks; Listed: banks for which the quarterly return can be computed from the CRSP data; Non-listed: all other banks; N: number of observations; *, ** and ***: significant at 10%, 5%, 1%, respectively.

Table 9. RAFS vs the LLP

	Dependent variable: $RAFS_{it}$			**Dependent variable:** LLP_{it}	
	1996Q1-2007Q2	**2007Q3-2010Q4**		**1996Q1-2007Q2**	**2007Q3-2010Q4**
Constant	0.003	0.014	Constant	0.006	0.496***
$RAFS_{it-1}$	0.080***	0.028*	LLP_{it-1}	0.194***	0.365***
$NIBRLLP_{it}$	**-0.225*** **	**-0.467*** **	***$NIBRLLP_{it}$***	**-8.261*** **	**7.030*** **
LLP_{it}	**-0.143** **	**-0.491*** **	***$RAFS_{it}$***	**-5.572** **	**-13.12*** **
$T1_{it-1}$	**-0.004*** **	**-0.006*** **	***$T1_{it-1}$***	**-0.036** **	**-0.127*** **
$Size_{it}$	8.7E-4***	-7.3E-5	$Size_{it}$	0.003***	-0.028***
Dep_{it}	-0.014***	-0.012	Dep_{it}	0.001	-0.198**
$Liquid_{it}$	-7.6E-4	0.010	$Liquid_{it}$	0.014	-0.130***
$Loans_{it}$	0.001	-2.9E-4	$Loans_{it}$	-0.080***	-0.159***
Sec_{it}	0.011***	0.022***	Sec_{it}	0.059***	0.187***
$Fixed_{it}$	0.026***	0.095***	$Fixed_{it}$	-0.459***	0.247
$Nondep_{it}$	-0.007	-0.018	$Nondep_{it}$	-0.075	-0.242**
$Unemp_t$	0.010***	-0.008	$Unemp_t$	-0.034**	-0.051
N	456,767	114,918	N	456,747	114,918
R^2 (%)	2.56	1.78	R^2 (%)	11.77	17.61
p-value	0.17	0.86	p-value	0.39	0.00

All variables are defined in section 3. Numbers in the table are coefficient estimates obtained via OLS with two-way cluster standard errors using the bank and the time period as clusters. All coefficients (except those for $RAFS_{it-1}$ and LLP_{it-1}) have been multiplied by 100, for cleanness of exposition: this is equivalent to rescaling $RAFS_{it}$ and LLP_{it} by expressing them in percentage points. N: number of observations; p-value: p-value of the test for equality of the coefficients of $NIBRLLP_{it}$ and LLP_{it} (left panel) and of the test for equality of the coefficients of $NIBRLLP_{it}$ and $RAFS_{it}$ (right panel); *, ** and ***: significant at 10%, 5%, 1%, respectively.