Commercial Bank Accounting Before, During, and After the Financial Crisis

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Overview

- Focus on accounting issues related to investments and loans, which are primary asset types held by banks.
- Consider the association between the accounting and major banking crises over the last century.
- Briefly discuss related research and recommend for an in depth discussion of empirical bank accounting research:

Beatty and Liao. 2014. Financial Accounting in the Banking Industry: A Review of the Empirical Literature. Journal of Accounting and Economics 58 (2), 339-383

Impediments to Progress
(Why does history keep repeating itself?)

Market Values

- The purpose of accounting is to inform the market. If accounting measurements are replaced by market values the role of accounting is unclear.
- Banks lend precisely because markets lack adequate information so recording loans at market values is problematic
- If different components of the accounting equation, i.e. $A = L + E$, are recorded using inconsistent methods the equation may be meaningless, so partial market value accounting may not be an improvement

Reporting Discretion

- It is difficult to create regulatory rules that cannot be gamed.

Assets and Liabilities of Commercial Banks in the United States ***billions of dollars week ending June 1, 2016***

Assets			Liabilities		
Cash	2,538.9	16%			
Securities – AFS and HTM	3,209.6	20%	Deposits	11,223.3	71%
Loans	8,879.5	56%	Borrowing	1,993.6	13%
Trading	204.7	1%	Trading	207.8	1%
Other	1,124.6	7%	Other	778.3	5%
Total	15,915.6	100%	Total	14,202.9	89%

Accounting Issues during banking crises

Period	Crisis	Accounting Issue
1930-1933	Great Depression	Market value accounting for investments lead to large losses when Treasury rates increased. In 1938, market value accounting for this type of asset was eliminated.
1982-1984	Latin American Debt Crisis	U.S. banks were slow to record LDC loan losses and continued to accrue loan interest even though payments were largely made using additional borrowings.
1988-1991	S&L Crisis	To eliminate gains trading, in which securities with gains were sold and securities with losses were retained, market value accounting for investments was reintroduced.
2007-2009	Financial Crisis	Market value accounting was accused of magnifying liquidity spirals leading to fire sales. Incurred loss model was argued to result in delayed loss recognition and reduced lending during recession when recorded losses reduced regulatory capital

A Monetary History of the United States 1857-1960
The Great Contraction Origin of Bank Failure
by Friedman and Schwartz

- "The impairment in the market value of assets held by banks, particularly in their bond portfolios, was **the most important source of impairment of capital** leading to bank suspensions, rather than the default of specific loans or of specific bond[s]."
- "Because there was an active market for bonds and continuous quotation of their prices a bank's capital was more likely to be impaired in the judgment of bank examiners when it held bonds that were expected to be and were honored in full when due than when it held bonds for which there was no good market and few quotations."
  - "So long as the latter did not come due, they were likely to be carried on the books at face value; only actual defaults or postponements of payment would reduce the examiners' evaluation."

– "Paradoxically, therefore, assets [treasuries] regarded by the banks as particularly liquid and as providing them with a secondary reserve turned out to offer the most serious threat to their solvency."

FASB No. 157 Definition of Fair Value

- The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.
- Measured using valuation techniques consistent with the market approach, income approach, and/or cost approach
  - Level 1 inputs are quoted prices in active markets for identical assets or liabilities
  - Level 2 inputs are inputs (other than Level 1 quoted prices) that are observable for the asset or liability, either directly or indirectly. Including quoted prices for:
    - similar assets or liabilities in active markets
    - identical or similar assets or liabilities in markets that are not active
  - Level 3 inputs are unobservable inputs for the asset or liability

U.S. Commercial Banks and the Developing-Country Debt Crisis

by Jeffrey Sachs and Harry Huizinga

- “The addition to reserves does not affect the cash flow of the banks. In that sense it is a cosmetic move only.”
- “In the future, if the banks write off some portion of their LDC exposure, either by selling the assets at a discount or by settling with the countries at below-market terms, they will be able to charge the losses to the loan reserves without any effect on reported income.”
- “At that point, however, the capital base of the bank would shrink, and the taxable earnings of the bank would fall in line with the write-off.”
- “Thus, by accepting large reported losses now, the banks will be better placed to report positive earnings in the future, even if the LDC loans go sour.”

Basel and the Evolution of Capital Regulation: Moving Forward, Looking Back FDIC (2003)

- "Prior to the 1980s, bank supervisors in the United States did not impose specific numerical capital adequacy standards."
- "Instead, supervisors applied informal and subjective measures tailored to the circumstances of individual institutions."
- "The convergence of macroeconomic weakness, more bank failures and diminishing bank capital triggered a regulatory response in 1981 when, for the first time, the federal banking agencies introduced explicit numerical regulatory capital requirements."

Bank Regulatory Capital Treatment of Provisions

Date	Requirement	Accounting Implication
1985	Uniform capital requirement with common definition of regulatory capital adopted by three U.S. bank regulators.	Provision increased regulatory capital ratio due to add back of pre-tax loan loss allowance
1990	Basel risk based capital adopted with additional leverage ratio requirement in the U.S.	Loan loss provision decreased Tier 1 capital but increased Tier 2 capital

Deferred Tax Accounting – Financial vs. Tax Reporting

- There are two components to tax expenses reported for financial reporting purposes
  - Current tax expense reflects the current tax payments made to taxing authorities
  - Deferred tax expense reflects the tax expense associated with differences in reportable income for financial and tax reporting purposes
    - e.g., unrealized gains and losses, loan loss provisions, and other than temporary impairments during a period are recorded net of taxes even though these item may have no affect on current taxes payable during the period

The Proper Role of Financial Reporting: Market Based Accounting

Remarks of Richard C. Breeden, Chairman SEC

September 14, 1990

- The continued use of historical cost accounting for investment securities has enabled institutions to "manage" the timing of gains and losses.
- "Gains trading", i.e., selling profitable positions and holding losing positions, also referred to as "cherry picking," had the effect of inflating the thrift's apparent short-term profitability while inevitably leading to declines in future yields.
- Commission's staff has acted to enhance the information provided in filings with the Commission.
  - Financial institutions filing with the Commission must consider the need to furnish the amount of gross unrealized gain and loss in the investment portfolio, and are required to provide a description of the accounting policies followed in reporting its investment portfolio, and an analysis of any material effect on future earnings from unrealized portfolio losses and portfolio sales.

Summary of Investment Accounting History

Period	Actively Traded	Non-Traded
Pre-1938	FV with unrealized gains/losses recorded in NI	Cost with realized gains/losses recorded in NI
1938 - 1964	Cost with realized gains/losses recorded in NI	FV averaged over 18 months with 50% of changes included in regulatory capital
1964 - 1994	Cost with realized gains/losses recorded in NI	
1992	Disclosure of the fair value of financial instruments for which it is practicable to estimate that value.	
1994 - 2016	FV with unrealized gains/losses recorded in OCI and excluded from regulatory capital	Cost with realized gains/losses recorded in NI

FASB Income Reporting Concepts

- The FASB's predecessor agency followed an all-inclusive income concept, which includes all revenues, expenses, gains, and losses recognized during the period in net income, regardless of whether they are considered to be results of operations of the period.
- The FASB has increasingly shifted to a current operating performance income concept, which excludes extraordinary and nonrecurring gains and losses from net income and includes these items in other comprehensive income, i.e.
  - "the change in equity [net assets] of a business enterprise during a period from transactions and other events and circumstances from non-owner sources."

Other-Than-Temporary Impairment (OTTI)

- An investment is impaired if its fair value is less than its amortized cost basis.
- Entities must evaluate impairment based on specific factors including the nature and extent of the decrease in fair value of the security below cost.
  - To conclude that an impairment is not other than temporary required an entity to assert that it had the intent and ability to hold the security for a period of time sufficient to allow for any anticipated recovery in fair value
- The amount of the write-down is the difference between amortized cost and the fair value of the investment on the balance sheet date.
- When impairment is recognized, the fair value of the impaired security becomes the new cost basis of the investment
- Subsequent recoveries in fair value are not recognized in earnings until the security is sold or matures.

AOCI and Partial Fair Value Accounting

- Banks hold investment securities, in part, to match maturities providing on-balance sheet hedging of interest rate exposures.
- For financial institutions the move to fair value accounting for investment securities (SFAS 115) was an important accounting change with the potential to affect their operating decisions.
- Opponents argued that the use of fair value accounting for only a single type of asset while ignoring concurrent changes in the values of other assets and liabilities could lead to unrealistic volatility in reported equity and therefore provide banks with an incentive to change investment behavior.
- Decision to record unrealized gains and losses in OCI rather than NI resulted from the controversy over this issue.

Research Findings – Fair Value Accounting for Investment Securities (FAS 115)

- Beatty (1995) compares changes in the investment behavior of banks that early adopted SFAS 115 versus those that did not at a time when regulators had not yet determined that they would exclude OCI gains and losses from regulatory capital ratios.
- Finds a decrease in both the proportion of assets held in investment securities and the maturity of the investment securities held for those that adopt early.
- Hodder et al. (2002) use the reclassification amnesty period allowed by the FASB after regulators decided to exclude OCI gains/losses from capital to validate the importance of capital considerations in the initial classifications. Their findings that banks used the amnesty to undo their initial under classification of available for sale securities confirm importance of regulatory capital considerations in the initial portfolio allocation decision.

Incurred Loan Loss Provisioning “ S.E.C. Warns Banks Against Overgenerous Reserve Levels” by Melody Petersen November 14, 1998

- When Federal regulators become concerned about how banks account for loans, most often they worry that the institutions have not set enough money aside to cover expected losses.
- But yesterday, securities regulators said that Suntrust Bank Inc. had done just the reverse. The bank had set aside too much money in its reserves, they said. In essence, the bank had said in its financial statements that it would not collect on some outstanding loans even though they would most likely be paid.
- After talking with regulators, Suntrust agreed to decrease its loan reserves by $100 million -- an adjustment that will force the bank to restate earnings for 1994, 1995 and 1996. After the corrections, earnings in those years will spring up by a total of $61 million after taxes.

Procyclicality of Loan Loss Provision

- In a 2009 report, the Financial Stability Forum identifies loan loss provisioning as one of three priorities for policy action addressing financial system procyclicality.
- In remarks made on March 2, 2009, John C. Dugan, Comptroller of the Currency, argues that:
  - the "incurred loss model" of loan loss provisioning, was a fundamental constraint that led "loan loss provisioning [to] become decidedly pro-cyclical, magnifying the impact of the [current economic] downturn."
- Backward looking loan loss provisioning will lead to an increase in the required provision during economic downturns. This will decrease banks' reported income and Tier 1 regulatory capital.
- Capital market imperfections can result in a reduced supply of bank lending during recessions.

FCAG (Financial Crisis Advisory Group)

- Formed in 2009, the primary function is to advise FASB & IASB about standard-setting implications of
  (1) the global financial crisis and
  (2) potential changes to the global regulatory environment
- Consider how improvements in financial reporting could help enhance investor confidence in financial markets.
- Help identify significant accounting issues that require urgent and immediate attention, as well as issues for longer-term consideration.

FCAG Issues

- Areas in which financial reporting could have
  - provided more transparency to help either anticipate the crisis or respond to the crisis more quickly,
  - helped identify issues of concern, or
  - created unnecessary concerns, during the credit crisis
- Whether IASB/FASB priorities should be reconsidered in light of the credit crisis
- The implications of the credit crisis for the interaction between general purpose financial reporting requirements for capital markets and regulatory reporting.
- The relationship between fair value and off-balance-sheet accounting both during and leading up to the crisis

FASB/IASB response to FCAG recommendations

- Financial instruments accounting
  - Clarify business model considerations for when fair value vs. amortized cost measurement should be used for assets held either to sell or to collect contractual cash flows
- Fair Value Measurement
  - Provided more guidance on how to apply MTM accounting when there is no active or well-functioning market.
- Loan loss provisioning.
  - Replace incurred loss with expected loss model

GAAP Incurred Loss Method of Loan Impairment

- Impairment should be recognized when a loss is probable based on past events and conditions at the financial statement date.
  - Losses should not be recognized before it is probable that they have been incurred, even though it may be probable based on past experience that losses will be incurred in the future.
  - It is inappropriate to consider possible or expected future trends that may lead to additional losses.

Incurred Loss Method Controversy

- The FASB/IASB argued that the incurred loss method requirement of "objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset" is misinterpreted to mean that the provision can only be recognized at the time of default.
- Former OCC chairman Dugan argues that historical loss rates provide the easiest evidence of "objective evidence of impairment" and that evidence of losses becomes scarcer the during prolonged periods of "benign economic conditions."

IFRS 9 – Expected Credit Losses (ECLs)

- Entities are required to recognize an allowance for either 12-month or lifetime ECLs, depending on whether there has been a significant increase in credit risk since initial recognition.
- ECL measurement reflects a probability-weighted outcome, the time value of money and the best available forward-looking information.
- Must be adopted by January 1, 2018, with early application permitted.

FASB - Current Expected Credit Loss' (CECL)

- The FASB 'CECL' model removes the 'dual measurement' approach of the [IASB] 'Credit Deterioration' model and creates a single measurement of current expected credit losses, which reflects management's best estimate of the future contractual cash flows that the entity does not expect to collect
- There is no threshold to meet prior to recognizing a credit loss, which represents a significant difference from today's 'incurred loss' model
- Interest income generally recognized on the basis of contractual terms
  - an exception for purchased credit impaired (PCI) assets, where the non- credit portion of the purchase discount/premium is recognized in income over the life of the asset

FASB CECL Proposal

- Purchased Credit Impaired Loans
  - Under the new model, an entity would recognize a CECL allowance for expected credit losses on a PCI asset it acquires and the initial cost basis of the asset would equal the sum of (1) the purchase price and (2) the estimate of expected credit losses as of the date of acquisition.
  - The subsequent accounting for PCI assets would be the same as for originated loans.

FASB CECL Proposal

- Originated Loans
  - The estimate of expected credit losses would consider all contractual cash flows over the life of the asset.
  - The estimate would be developed based on historical loss experience for similar assets as well as management's assessment of current conditions and reasonable and supportable forecasts about the future.

Research Findings – Accounting Issues during Financial

Incurred loan loss provisioning	Banks that delay loan losses cut lending and increase systemic risk during recessions
OTTI & asset sales	OTTI and asset sales had a minor effect on regulatory capital

Loan Loss Provisioning Macro Implications Examined

- Procyclical lending
  - Capital crunch (Bernanke and Lown, 1991)

- ΔCoVar (Adrian and Brunnermeier, 2011)
    - difference between the conditional value at risk (CoVaR) of the financial system conditional on an institution being in distress and the CoVaR conditional on the median state of the institution

Loan Loss Provisioning and Procyclical Lending

- Beatty and Liao (2011) find that banks that tend to delay recognition of loan losses are more likely to cut lending in the recessionary periods, leading to higher lending pro-cyclicality.
- Find that banks with smaller delays build up more equity capital during expansionary periods that serve as the buffer for losses in the crisis.
- Find that banks with larger delays in loan loss provisioning reduce lending in the crisis period more because it is harder for them to replenish equity capital during the crisis.

Loan Loss Provisioning and Systemic Risk

- Bushman and Williams (2015) find that delayed loan loss provisioning is associated with
  - stock market illiquidity risks that increase financing frictions associated with raising new equity.
  - contribute more to systemic risk during economic downturns.

Basel III - AOCI and Opt-Out Election

- Under the revised regulatory capital rules, AOCI is generally included in regulatory capital. For FDIC-supervised institutions, net unrealized gains (losses) on available-for-sale debt securities is a common component of AOCI.
- The capital rules permit an FDIC-supervised institution that is not an advanced approaches institution to make a one-time, permanent election to opt out of the requirement to include most components of AOCI in regulatory capital.

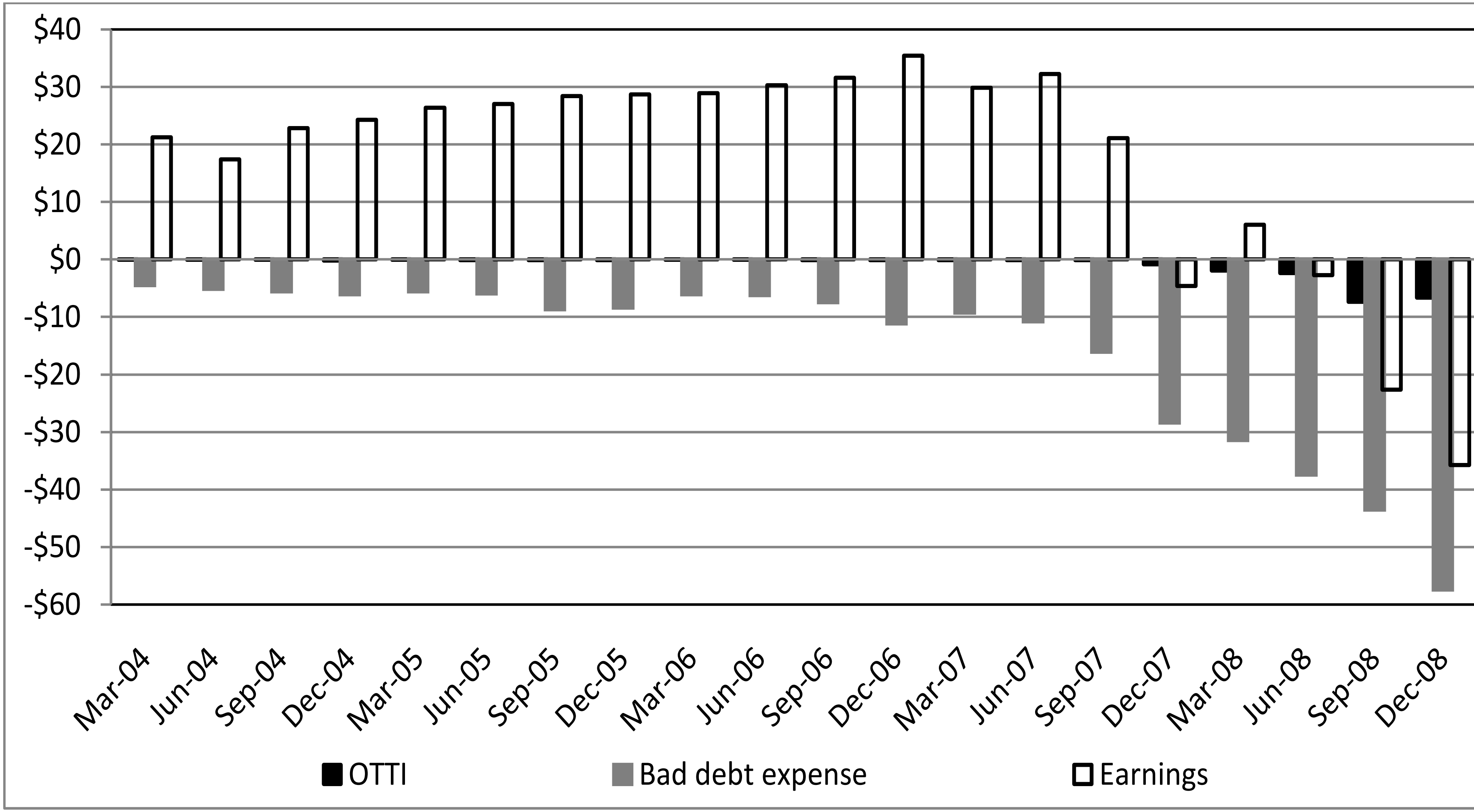
Changes to OTTI Rules for Debt Investments

- The new rule switches the presumption to no impairment making an OTTI charge unnecessary unless the firm anticipates that it will have to sell the debt securities before the price recovers.
- Previously, an OTTI loss was recorded for the difference between the fair value and amortized cost, with the entire loss recognized in net income where it affected regulatory capital.
- Under the new rule, only the "credit" portion of the loss (i.e., the portion related to expected non-recoverable cash flows) is recognized in net income.
- The non-credit portion of the loss, which reflects illiquidity discounts that the bank will avoid if it holds on to the asset, is recognized in "accumulated other comprehensive income and excluded from regulatory capital

OTTI and Asset Sales

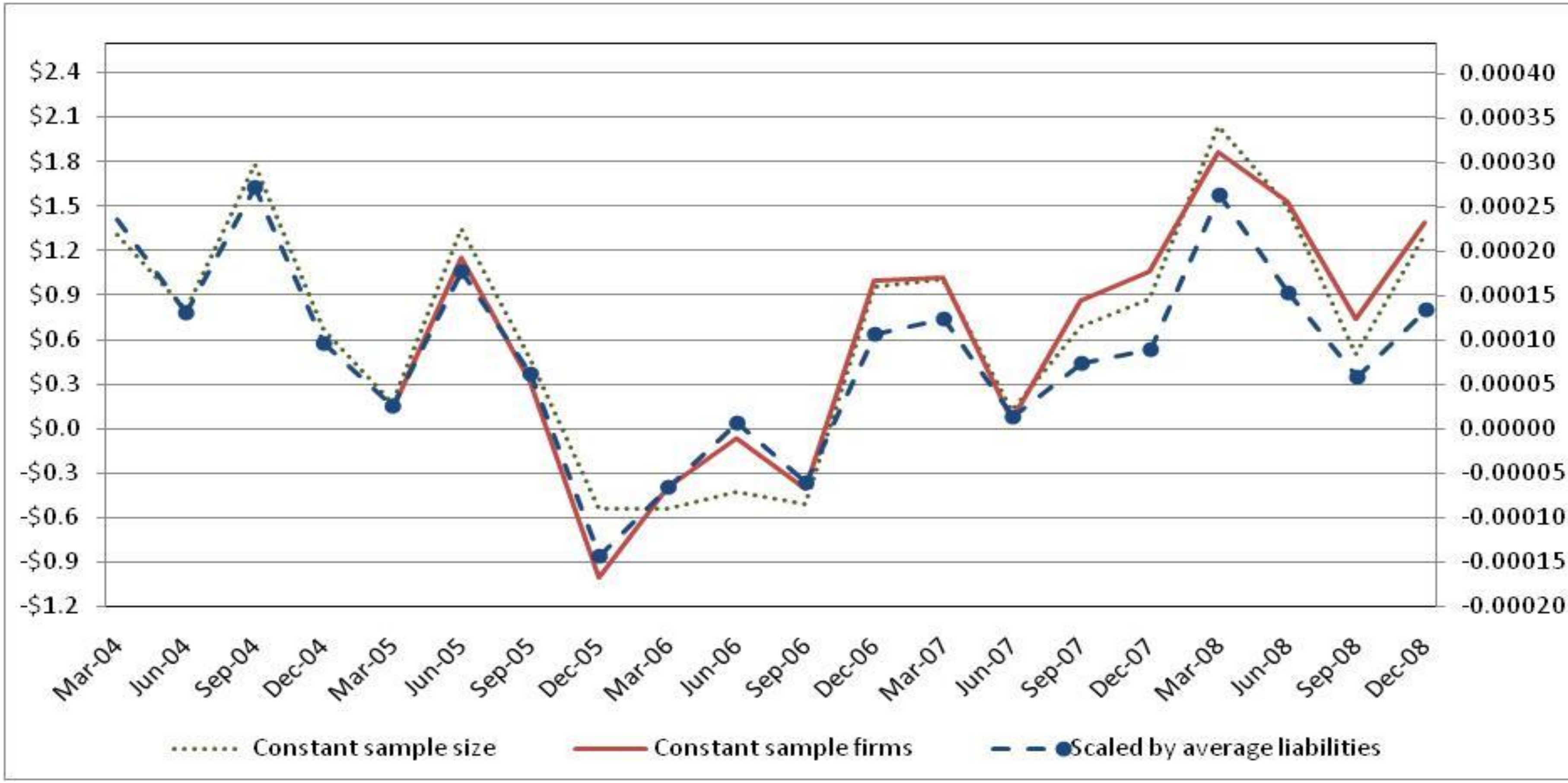
- Badertscher et al. (2012) focus on the regulatory capital effect of fair value accounting and examine whether OTTI or asset sales during the crisis years depleted regulatory capital thereby leading to a reduction in lending.
- They argue that compared to bad debt expense, OTTI represents only a small reduction in regulatory capital, therefore fair value accounting should not be blamed for accelerating the financial crisis.
- Their conclusion that fair value accounting did not exacerbate the recent financial crisis because it did not deplete bank's regulatory capital does not allow for the possibility that fair value accounting was important for reasons that do not depend on regulatory capital ratios.

Panel B: OTTI, bad debt expense, and earnings



OTTI is the amount of other-than-temporary impairments of available-for-sale and held-to-maturity securities. Bad debt expense is a charge related to management's expectations about future uncollectible loan amounts (bhck4230). Earnings is the amount of net income (loss) (bhck4340). The sample is based on the top 100 banks ranked by beginning of quarter holdings of non-Treasury held-to-maturity and available-for-sale securities. All amounts are in billions.

Figure 5. Net Realized Gains and Losses on Sales of AFS and HTM Securities by Quarter



Net realized gains and losses from the sale of held-to-maturity and available-for-sale securities are obtained from Federal Reserve Y-9C items bhck3521 and bhck3196. We add back OTTI charges to these items to compute the gains/losses realized from actual sales. The 'constant sample size' plot is based on the top 100 banks ranked by beginning of quarter holdings of non-Treasury held-to-maturity and available-for-sale securities. The 'constant sample firms' plot is based on the same 121 firms each quarter. To increase the number of firms that can be used, this plot does not start until 2005. The 'scaled by average liabilities' plot is based on 2,838 firm-quarters and is scaled by average liabilities. The left scale, in billions, applies to the 'constant sample size' and 'constant sample firms' plots while the right scale applies to 'scaled by average liabilities' plot.

Summary – Accounting Regime and Economic Behavior

Evidence	What would we like to know?
Regulatory capital effects of FV accounting for investments during the recent financial crisis were limited (due to the exclusion of unrealized AFS gains and losses from regulatory capital ratios).	What impact would FV accounting have if unrealized gains/losses were included in capital? Are there other channels through which FV accounting can lead to fire sales or pro-cyclicality?
Banks with more timely loan loss provisioning cut their lending less during recessions, have leverage that is less sensitive to changes in risk, and have less systemic risk.	Would an alternative method of loan loss provisioning (i.e., expected loss model) lead to more efficient lending and risk taking?
When accounting changes affect regulatory capital, banks change their economic behavior to mitigate the regulatory capital impact.	How is bank efficiency altered by changes in economic behavior induced by accounting changes that affect regulatory capital?