

COMMENTARY

# Financial Reporting and Financial Crises: The Case for Measuring Financial Instruments at Fair Value in the Financial Statements

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**SYNOPSIS:** The Financial Accounting Standards Board (FASB) (2010) proposes that all financial instruments be measured at fair value in the financial statements. This commentary provides one Board member's reasoning for supporting this proposal, which is based on (1) evidence that the amortized cost model failed to provide timely information about the deteriorating financial condition of failed banks in the current financial crisis, (2) lessons learned from prior financial crises affecting financial institutions in the United States and Japan, and (3) research evidence indicating that fair value measures are most highly correlated with banks' exposures to interest rate and credit risk—two key risk exposures that have led to bank failures in the three most recent financial crises.

## INTRODUCTION

The key to successful bank regulation is knowing what banks are really worth.

—Charles Bowsher, U.S. Comptroller General (1991)

**G**reeley, Colorado, is a working-class, ethnically diverse town of about 100,000 on the South Platte River roughly 50 miles north of Denver. In early 2009, a pillar of its financial community, the New Frontier Bank of Greeley (“Where Agriculture Means Business!”), seemed to be weathering the global banking crisis in fine form. Throughout 2008 and into 2009,

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New Frontier was characterized as “well capitalized” by banking regulatory standards—meaning its *tier 1 risk-based capital ratio*<sup>1</sup> was theoretically a solid 6 percent plus.

On April 10, 2009—a mere three months after reporting its last clean bill of health—New Frontier collapsed into bankruptcy. It was the costliest bank failure in Colorado history, with the Federal Deposit Insurance Fund covering losses of \$668.9 million.

New Frontier was not alone in its rapid reversal of fortune. Of the 140 U.S. banks that failed in 2009, virtually all of the 120 with publicly available data in commercial bank regulatory reporting forms showed substantial positive net worth on their balance sheets. Most were considered “adequately capitalized” by their regulators (Tier 1 ratios above 4 percent), and many even “well capitalized” just four to six months before they collapsed.

The speed with which these seemingly healthy banks failed calls into question the efficacy of current measures of bank performance and financial health. The financial statements that these banks filed with their regulators—prepared according to U.S. GAAP—gave little indication of their deteriorating condition. And it is likely that the financial statements of the 860 unnamed institutions as of September 2010 on the Federal Deposit Insurance Corporation’s “problem” bank list do not look very different from their previously “healthy” but currently failed brethren.

As was the case nearly 20 years ago, when former U.S. Comptroller Charles Bowsher testified before Congress on the unfolding Savings and Loan crisis, investors and regulators still do not have adequate means in the financial statements to determine what banks are really worth. The current accounting model for loans and many other financial instruments—the amortized cost model—is broken. The model failed to reflect the declining values of assets held by banks like New Frontier and it failed to convey the rising levels of credit risk being assumed across the banking industry. It is time to consider whether a new accounting model for financial instruments can provide better signals about the performance and viability of financial institutions.

## HISTORIC COSTS AND FAIR VALUES

Currently, banks are required to record the value of some of their financial instruments, specifically derivatives and marketable securities, at fair value, or the price (or estimated price) the asset would fetch upon sale in an orderly market. They are allowed to record the value of other financial instruments, including loans and some debt securities, at amortized cost—essentially the historic cost at which they were acquired or originated. These costs are adjusted only when management determines that credit losses are probable or that the assets are otherwise impaired. As described later, in both the most recent crisis and previous crises in the banking sector, credit and impairment losses—particularly on loan portfolios—have been consistently and dramatically underestimated.

A new and better accounting model might require the reporting of fair values for all financial instruments in addition to some historical cost information. The reason: fair value information provides early warnings to investors and regulators of changes in current market expectations when asset prices are declining and risk levels for financial institutions are increasing. Historic cost accounting with impairment estimates provides insufficient warning of these changes.

Financial instruments are contracts to either receive or make payments. And banks are essentially collections of financial contracts. The values of these contracts can rise and fall rapidly with changes in prevailing interest rates and economic conditions and quickly alter a bank’s financial profile. The consequences of such fluctuations have been on display over the past three years, as the collateral backing residential and commercial real estate loans plunged in value,

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<sup>1</sup> For further explanation of *terms in italic type*, see the Appendix.

simultaneously driving down the value of the related loans and debt securities in the portfolios of U.S. and global banks.

The current reporting system for loans and debt securities provides limited information about the changing values of these instruments in the base financial statements—and indeed failed to capture the dramatic decline in value in financial assets in the run-up to the current crisis. U.S. GAAP requires that banks assess the value of the financial instruments they carry at cost, and book impairment charges against them only if they have suffered either an actual or an “other-than-temporary” loss in value. This assessment requires judgment, however, and, as detailed below, the record of bank managers in recognizing losses has been exceedingly poor, as the generally “healthy” balance sheets of New Frontier and so many other recently failed banks indicate.

The best way to ensure that regulators, investors, and the market at large have a full understanding of banks’ true financial conditions is to include changes in the value of financial instruments over time in financial statements, along with historical cost figures. If we are to guard against unsustainable lending practices that can lead to systemic crises, fair value accounting should be adopted for all financial instruments as part of the solution.

## FINANCIAL CRISES REDUX

### U.S. Savings and Loan Crisis

The limitations of historical cost accounting were glaringly apparent in the other two major global banking crises of the past 25 years—the U.S. Savings and Loan (S&L) crisis in the late 1980s and early 1990s, and the Japanese banking crisis of the 1990s and 2000s.

In the S&L crisis, a mismatch in the duration characteristics of assets and liabilities held by numerous financial institutions created a significant exposure to *interest rate risk* that ultimately affected their economic viability. As interest rates rose sharply in the late 1970s and early 80s, the longer duration fixed rate mortgage loans held by many thrifts—and, to a lesser degree, banks—experienced significant declines in asset values. At the same time, the short-term duration of demand deposits provided many customers of financial institutions with the ability to withdraw deposits to take advantage of higher-yielding opportunities created by climbing interest rates. In order to attract or retain deposits, these institutions were forced to increase the interest paid to depositors, further hindering their economic performance and financial viability.

The increase in funding costs paid to depositors induced some banks to increase their investments in risky assets, ultimately resulting in further losses. This action, along with the liquidity crunch caused by depositors leaving for higher return opportunities, created the conditions that led to the failure of more than 1,000 banks and thrifts with over \$500 billion in assets between 1986 and 1995. Approximately 600 others needed the support of the Federal Deposit Insurance Corporation (FDIC) to remain solvent. Losses totaled an estimated \$153 billion, \$124 billion of which was paid by U.S. taxpayers, according to a study co-authored by a former chief in the research section at the FDIC ([Curry and Shibut 2000](#)).

Numerous reasons are cited for the collapse of the U.S. thrift industry: the most significant of these include volatile interest rates, adverse regional economic conditions—notably in Texas and the southwest—and deregulation. However, magnifying the impact of all these factors was the lack of transparency about their effects on the financial health of these institutions. Historical cost accounting and consistent underestimation of losses on loan portfolios provided little warning of how much rising interest rates and falling real estate prices were impacting the value of assets, liabilities, and the thrifts’ overall financial positions.

In 1991, the Government Accounting Office (GAO) issued a report on 39 failed institutions that accounted for over 80 percent of the losses incurred by the bank insurance fund during 1988

and 1989. When the institutions were put in receivership, FDIC investigators determined that these institutions had suffered losses of \$8.1 billion on their loan portfolios. However, up until the point of insolvency, the banks had reported losses of just \$1.3 billion in their *call reports* to banking regulators. Thus, the [GAO \(1991\)](#) report noted:

Accounting rules are flawed in that they allow bank management considerable latitude in determining carrying amounts for problem loans and repossessed collateral. Recognizing decreases from historical cost to market value has an adverse effect on a bank's reported financial condition. This gives bank management an incentive to use the latitude in accounting rules to delay loss recognition as long as possible.

This incentive to delay recognition of losses was as strong in the recent financial crisis as it was 20 years ago in the S&L crisis. It calls into question whether an historic cost accounting model that relies on management estimates of impairment losses could ever be refined sufficiently to ensure accurate and timely reporting of credit problems.<sup>2</sup> Without such information, neither investors nor regulators can be expected to take timely action to influence banks' lending or investment practices to mitigate or prevent broad financial crises in the future. As a consequence, the [1991 GAO](#) report urged immediate adoption for both GAAP and regulatory reporting of mark-to-market accounting for all debt securities. It also suggested that a study be undertaken of the potential merits of a comprehensive market-value-based reporting system for banks.

### Japan's "Lost Decade"

The longer that losses go unrecognized, the bigger the problem becomes as ailing banks continue to take on new risks and underwrite business they cannot support. History provides another dramatic example: the Japanese banking industry crisis and that country's subsequent "lost decade" of the 1990s.

As was the case with their U.S. financial institution counterparts in the late 80s and early 90s, Japanese banks did not recognize in their financial reports the dramatic losses that were mounting on real estate-backed loans that began to fall in value in the late 1980s. Japanese banking regulation allowed the banks to delay the recognition of losses in hopes that the real estate market and Japanese economy would recover. This "delay and pray" strategy was a recipe for disaster.

The artificial strength of the Japanese banks' financial reports allowed them to continue lending—often to their own ailing customers. In a 2004 report on Japan's financial crisis, economists Takeo Hoshi and Anil Kashyap noted the "conscious policy of Japanese banks to keep extending credit to companies even when the prospects of being repaid are limited" ([Hoshi and Kashyap 2004](#)). The throwing of good money after bad had disastrous consequences for the Japanese economy. Not only did it keep money-losing "zombie" companies in business, but it crowded out more productive competitors from the market. It also led to "zombie banks," sustained only by the repeated injection of capital from the government. [Hoshi and Kashyap \(2004\)](#) suggest that the extended life of these zombie companies and banks was a major factor behind the sharp decline in productivity growth of the Japanese economy during the 1990s.

The dimensions of this crisis are enormous. According to [Hoshi and Kashyap \(2004\)](#), the ultimate price tag to Japanese taxpayers could be as much as 100 trillion yen—a staggering 20

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<sup>2</sup> In addition to proposing measuring financial instruments at fair value in the financial statements, [FASB \(2010\)](#) proposes changing the current incurred loss and other-than-temporary impairment models for financial instruments to an expected loss model that may result in earlier recognition of impairment losses. This proposed change, however, will not change bank managers' incentive to delay recognition of losses.

percent of the country's GDP and an economic calamity that continues to hobble the Japanese economy.

### Ongoing U.S. Financial Crisis

How does the current U.S. financial crisis compare to the S&L and Japanese crises? The economic circumstances and financial reporting issues are disturbingly similar. In both of the prior crises, the failure to recognize losses on loans and debt securities delayed recognition of the underlying economic problems. According to subsequent *post mortem* analyses of each event, this failure dramatically exacerbated the size and severity of the crisis for the economy and for taxpayers. As was the case with institutions in the S&L and Japanese crises, the vast majority of U.S. banks that failed the last two years, and those that are treading water this year, are in trouble because of loan portfolios and related debt securities that have deteriorated in value. The key public policy question is whether the resulting crisis could have been mitigated, or possibly even avoided, had investors and regulators been alerted to this deterioration earlier.

The severe consequences associated with the recent financial crisis and the two that preceded it demonstrate the importance of providing investors and regulators with accurate and current gauges of the capital strength and overall health of financial institutions. These consequences also demonstrate the serious shortcomings of the existing accounting model in this regard. Under the historic cost accounting model with management estimates of losses, reported shareholder equity and related calculations of capital ratios capture the deterioration in bank capital strength too slowly to be of much use to investors and regulators.

In determining the risk levels and capital adequacy of banks, the FDIC uses—among other measures—calculations of Tier 1 Risk-Based Capital Ratios and Tier 1 Leverage Capital Ratios. Banks with a Tier 1 Risk-Based Capital Ratio equal to or greater than 6 percent and a Tier 1 Leverage Capital Ratio equal to or greater than 5 percent are considered to be “well capitalized.” Banks with both ratios equal to or greater than 4 percent are considered to be “adequately capitalized.”

Among the previously described 120 U.S. banks that failed in 2009, reported Tier 1 Risk-Based Capital Ratios averaged 6.00 percent and Tier 1 Leverage Capital Ratios averaged 4.87 percent for the 12-month period prior to their failure. A look at quarterly results reveals steady deterioration in average ratios as the year progressed. However, on average, the banks continued to meet the standard of “adequately capitalized” in both Tier 1 Risk-Based Capital Ratios and Tier 1 Leverage Capital Ratios through the period just four to six months before their failures. In the second quarter prior to failure, average Tier 1 Risk-Based Capital Ratios were 5.14 percent and Tier 1 Leverage Capital Ratios were 4.05 percent.

Only in the quarter immediately prior to the failures did these ratios slip into the FDIC's “undercapitalized” category. During that period, average Tier 1 Risk-Based Capital Ratios for the group fell to 1.50 percent and Tier 1 Leverage Capital Ratios dropped to 1.23 percent. By that time, however, it was too late for the banks themselves to arrest the deterioration, for regulators to do anything to save them, and for investors, depositors, and other stakeholders to take much action to protect themselves from the then-imminent failure.

But there was another market-based economic indicator that signaled potential *credit risk* problems in the banking industry at a much earlier point in time. The *TED spread* (i.e., the difference between the interest rates on interbank loans and short-term U.S. government debt), which reflects the banks' own assessments of the credit risk exposure in loans made to each other, spiked from its historic average of approximately 30–50 basis points (bps) to nearly 200 bps in 2007, and *topped out at 465 bps* in 2008. This shift confirms that the market—and the banks themselves—were aware of significant credit risk problems in the industry long before these troubles showed up in the financial statements or regulatory reports of individual banks.

A similar spike in a market-based economic indicator also foreshadowed significant potential risk problems for financial institutions prior to the S&L crisis. In the late 1970s and early 1980s, interest rates charged by the Federal Reserve Bank increased dramatically, with the effective Federal Funds rate peaking at 19.9 percent in July, 1981—a rate among the highest ever achieved in U.S. history.

### NEW FINANCIAL REPORTING MODEL

These movements in market-based measures reveal changes in the overall exposure to credit and interest rate risk in the economy—two major risks faced by financial institutions. However, they do not show how those increases in risk affect individual businesses. The depiction of how changes in risks in the economy affect individual businesses is the role of financial reports, and it is the challenge of accounting standard setters to make the effects of these risks on financial institutions more transparent in financial reports to investors and other market participants.

Historic cost accounting is not designed to reflect the effects of changes in interest rates as they occur. In fact, it makes no recurring provision for interest rate risk at all. Furthermore, the effects of changes in credit risk are only reflected in the historic cost model through management's estimates of impairment losses on financial assets. As previously demonstrated, these credit loss estimates are chronically unreliable and often vastly understated. Given criticisms about the relevance and reliability of fair value measures, a key question for standard-setting purposes is whether fair value information on financial instruments would better reflect the key risk exposures of individual banks.<sup>3</sup> Two recent academic studies suggest that is the case.

One study (Blankespoor et al. 2010) examined the relation between bank credit risk exposures (as measured by both the TED spread and individual bank bond yield spreads) and bank leverage measured under various accounting systems (full fair value for financial instruments, the current GAAP accounting system, historic cost, and Tier 1 capital). The study found that bank leverage measured under a full fair value system is at least *six times* more highly correlated with the TED spread than is leverage measured under any other accounting model, indicating that fair value information gives a much more accurate picture of banks' financial condition. The study also found that Tier 1 Regulatory Capital leverage is least correlated with bank credit spreads, suggesting that this key measure of regulatory capital is least informative about credit conditions.

A second study (Hodder et al. 2006) explored the relation between interest rate risk and the volatility of bank income. The results indicate income volatility measured under full fair value accounting is significantly more informative about interest rate risk (and other measures of market risk) than volatility measured under the current U.S. reporting system. Again, these results suggest that fair value information provides a better depiction of economic position.

These studies indicate that fair value accounting better reflects the performance and condition of financial institutions than does either current U.S. GAAP or regulatory reporting models. The more timely and accurate valuation of assets and liabilities provided by fair value reporting may help investors and regulators better understand an entity's increasing exposure to credit and interest

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<sup>3</sup> Another concern raised by critics of fair value accounting is the impact that it could have on economic stability. In particular, these critics believe that fair value reporting—by recognizing losses on a timely basis in declining economic cycles—may induce banks to sell illiquid securities to increase regulatory capital. This could lead to further downward pressure on asset prices and further declines in reported asset values, ultimately exacerbating the financial crisis. However, three recent research studies (Securities and Exchange Commission [SEC] 2008; Shaffer 2010; Badertscher et al. 2010) provide evidence that fair value accounting in the recent financial crisis did not induce such procyclical effects. Rather, these studies find that factors other than fair value, most notably lending and risk management practices, were likely more responsible for putting stress on the financial condition of banks, leading to the marked increase in bank failures.



rate risks as they occur. In turn, this may give these parties more opportunity to influence and/or discipline lending and investment practices that led to the recent financial crisis.<sup>4</sup>

FASB (2010) is not proposing to do away with the amortized cost model for financial instruments held for collection or payment of contractual cash flows.<sup>5</sup> The amortized cost model provides useful information about the potential cash flows associated with these financial instruments. Indeed, the difference between amortized cost and fair value captures the expected impact of current economic conditions on existing financial instruments. Had this reporting model been in place prior to the S&L crisis, the difference between fair values and amortized costs arising from interest rate increases would have provided earlier warning signals about the vulnerability of individual thrifts to changing economic conditions. This knowledge likely would have permitted more timely actions to monitor the activities of troubled financial institutions and to prompt quicker and less-costly intervention by regulators.

FASB (2010), therefore, is recommending for financial instruments held for collection or payment of contractual cash flows that amortized cost and fair value information be given equal prominence on the financial statements and, thus, that both measures be made available for these financial instruments in public releases of financial reporting information. This dual presentation in financial statements—which some investors have asked for—would ensure that both relevant measures are given adequate attention by banks and their auditors. Furthermore, the Board also soon will be requiring, in its project to converge fair value measurement methodologies and disclosures with the International Accounting Standards Board, new disclosures in the footnotes to the financial statements about the methodologies and inputs used to determine fair values, as well as information relating to the measurement uncertainty in discounted cash flow fair value measurements (Level 3 in the fair value hierarchy). These disclosures will help investors understand and assess the quality of fair value information and will provide regulators with better information to make any adjustments to GAAP reporting that they deem necessary for regulatory capital purposes.

To take timely actions to help mitigate or prevent future financial crises, investors and regulators need to know what a bank is worth. It is time that accounting standard setters help them with full fair value reporting for financial instruments.

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<sup>4</sup> In exercising their prudential oversight mandate, when defining regulatory capital, bank regulators may continue to make various adjustments to fair value (and other) measures reported in U.S. GAAP financial statements. Such adjustments are intended to help ensure the safety and soundness of financial institutions (see the definition of Tier 1 Risk-Based Capital in the Appendix for detailed information on current adjustments made to U.S. GAAP in defining Tier 1 capital). However, it also is difficult for bank regulators to ignore fair value information in financial reports, given the post-S&L crisis requirement (imposed by the Federal Deposit Insurance Corporation Improvement Act of 1991) that the accounting principles used in the reports and statements filed with banking regulators by insured depository institutions be no less stringent than U.S. GAAP.

<sup>5</sup> For debt instruments held as assets, the model proposed in FASB (2010) is similar to the model proposed in Trott (2009).

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## APPENDIX

### Terms in Alphabetic Order

- *Call reports*: All regulated financial institutions in the United States are required to file periodic financial and other information with their respective regulators and other parties. For banks in the United States, one of the key reports required to be filed is the quarterly *Report of Condition and Income*, generally referred to as the Call Report. These reports, with some exceptions, are based on U.S. GAAP.
- *Credit risk*: Credit risk is the risk of a loss or default on a loan, asset, or line of credit by a borrower. A default on a loan could include a failure to make interest payments, repay the balance of the loan, or a combination of both. The greater the perceived credit risk of the borrower, the higher the interest lenders typically will demand. Other methods to compensate for credit risk include protective covenants in loan agreements which may pledge certain assets to secure the loan or limit the actions—such as paying dividends to investors—that a borrower can undertake before repaying the loan. The credit risk of a loan increases if the financial condition of the borrower deteriorates.
- *Interest rate risk*: Interest rate risk is the variability in cash flows or value that an interest-bearing asset or liability—such as a loan or a bond—can experience due to changes in prevailing interest rates. In general, as interest rates rise, the price of a fixed rate bond will fall, and *vice versa*. The interest rate risk pertaining to a financial institution equals the combined or net risk associated with the interest rate-sensitive instruments it holds.
- *TED spread*: TED is an acronym formed from *T-bill* and *ED*, the ticker symbol for the Eurodollar futures contract. The TED spread is the difference between the interest rates on loans between commercial banks (LIBOR, or the London Interbank Offer Rate) and short-term U.S. Government debt (T-bills). The spread is an indicator of perceived credit risk in the general economy because T-bills are considered risk-free while interbank loan rates reflect the risk of lending to commercial banks. When the TED spread increases, it is a sign that lenders believe the risk of default on interbank loans is increasing. Interbank lenders therefore demand a higher rate of interest or accept lower returns on safe investments such



as T-bills. When the risk of bank defaults is considered to be decreasing, the TED spread decreases.

- *Tier 1 risk-based capital:* Tier 1 capital is the core measure of a bank's financial strength from a regulator's point of view. In defining Tier 1 capital, the goal of regulators was to create a measure of the bank's capital available to absorb losses on an ongoing basis. Toward that end, Tier 1 capital is typically defined as shareholder's equity as reported under U.S. GAAP, with various adjustments to exclude certain changes in the fair value of assets and liabilities, most intangible assets, and goodwill. Fair value adjustments to regulatory capital currently are limited to certain gains or losses on cash flow hedges, unrealized gains and losses on available-for-sale debt securities, and the cumulative effects on liabilities of changes in a bank's own creditworthiness. Other items recognized in the financial statements, such as preferred stock, mortgage servicing assets, and deferred tax assets, also are treated differently for regulatory reporting purposes.
- *Zombie banks:* A zombie bank is a financial institution that has an economic net worth less than zero, but continues to operate because it has implicit or explicit government credit support. The term was first used to explain the dangers of tolerating a large number of insolvent savings and loan associations in the United States and later applied to the emerging Japanese banking crisis in 1993.

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