

Systemic Risk in the Financial Sector

The Role of Fair Value Accounting Versus Historical Cost Accounting

Fair value accounting (FVA) refers to the practice of periodically revaluing an asset, ideally by reference to current prices in a liquid market. FVA is commonly distinguished from the competing method of historical cost accounting (HCA), in which the book value of an asset is based on the price that was originally paid for it. In the wake of the 2008 financial crisis, controversy erupted over whether FVA was a major driver of the crisis, allegedly forcing banks and financial institutions to reduce (or “write down”) the value of assets on their books in a self-perpetuating spiral of devaluation, panic selling, and loss of liquidity. That controversy amplified a much longer-running historical debate about whether FVA or HCA is the better approach to valuing financial assets, and which approach provides the most useful information to key stakeholder groups, including investors and prudential regulators.¹

RAND researchers explored the connections between FVA, HCA, and systemic risk, drawing on a combination of empirical and policy literature, an extensive set of stakeholder interviews, and historical case studies. The RAND team concluded that policymakers concerned with systemic risk in the wake of the 2008 crisis have, at times, been preoccupied with the wrong set of questions about FVA. According to the researchers, the most pressing question for policymakers is not whether FVA was the chief cause of the 2008 crisis nor whether FVA or HCA is objectively superior to the other. Instead, the more important question to address is how policy can improve the quality of valuation practice under *both* FVA and HCA, to better protect against episodes of systemic risk to the banking sector in the future.

Systemic Risk and Accounting Standards

In this research highlight, *systemic risk* refers to the contagion of financial risk across institutions, with the potential to destabilize an entire financial system or market, as opposed to the simple risk of insolvency for any single financial institution or bank within the system. The crisis of 2008 is an example of a *systemic event*, in which the insolvency of

Key findings:

- Both fair value accounting (FVA) and historical cost accounting (HCA) can be associated with systemic risk to the financial system under some circumstances.
- Available empirical evidence does not provide strong support for the claim that FVA was a primary driver of the 2008 financial crisis.
- When implemented poorly, both FVA and HCA can produce misleading information and lead to risk accumulation problems and the potential for market distortion.
- Improving both FVA and HCA information in financial statements should be a priority consideration for policy-makers.

particular banks and institutions was symptomatic of the dissolution of a broader speculative bubble and in which some individual bank failures threatened to spread the risk of insolvency and institutional failure more broadly.

Questions about systemic risk are closely tied to questions about how banks should be regulated, which, in turn, involve questions about accounting standards. Under Federal Reserve rules and in conformance with internationally agreed-upon standards, depository banks are required to maintain a defined fraction of their capital as equity in liquid assets, to ensure their solvency and the ability to pay off liabilities in the ordinary course of business. Regulatory capital requirements determine the financial “cushion” that banks have against sudden liquidity shocks and runs on assets—loosely speaking, less cushion means more vulnerability.

Bank capital requirements are also tied closely to FVA and HCA standards because the latter play directly into calculations about how much capital banks actually have on hand. One implication is that any assessment of the systemic implications of FVA and HCA will also likely affect the regulation of banks and of their capital requirements. Another implication is that accounting standard setting and bank regulation involve complementary areas of policy that

¹ Prudential regulation refers to government oversight of deposit-taking institutions to limit their risk-taking and ensure adequate capital and stability.

intertwine with each other: Modifying one set of standards or rules may have collateral effects on the other in ways that deserve careful scrutiny by policymakers.

Did FVA Cause the 2008 Financial Crisis?

Some theoretical accounts point to FVA as a potential vector for spreading risk contagion across the financial sector. A key concept here is *market illiquidity*, a circumstance that occurs when there are few liquid investors available in the market who are capable of purchasing assets at their fundamental values. In theory, an initial economic shock could force one bank to sell some of its assets, thereby exposing it to short-run market illiquidity and forcing the institution to accept a lower price than the assets' fundamental value. When FVA standards apply, other banks that hold similar assets would then be forced to make changes to their own books to reflect the lower price obtained by the first institution. That could then place the other banks under financial pressure and force them to sell assets into the illiquid market to fulfill their own regulatory capital constraints. The theoretical result is the FVA-mediated spread of risk across otherwise-independent institutions, contributing to an accelerating spiral of devaluation and culminating in a wave of institutional insolvencies that would not occur but for the influence of FVA.

Some commentators in 2008 argued that a very similar pattern was actually occurring during the height of the crisis.

RAND researchers reviewed the major empirical studies conducted since 2008 that examined the relationship between FVA and the crisis through quantitative data on banks, their assets, their financial statements, their stock values, and similar data. The RAND team found that the empirical evidence available to date does not provide compelling evidence that FVA was a primary driver of the 2008 crisis. In particular, available empirical studies analyzing bank balance sheets provide little support for the proposition that FVA-induced write-downs were strongly associated with shortfalls in regulatory capital, or with instances of bank insolvency, during 2008. Moreover, the theoretical models for how FVA might drive a catastrophic spiral of contagion and bank insolvencies tend to begin with a rigorous set of starting assumptions about FVA—assumptions that are not fully congruent with real-world FVA practice in the lead-up to the 2008 crisis.

Even though the formal conditions for an FVA-induced “death spiral” were ultimately not met in 2008, broader loss of confidence in the meaningfulness of accounting information itself (under both FVA and HCA) is another channel by which valuation practice likely did contribute to asset illiquidity, and to systemic instability, during the crisis. Of course, the 2008 crisis also involved a complex tapestry of events and antecedent conditions beyond the effects of

accounting standards, including widespread opportunism and deception in the origination of home mortgages, securitization of mortgages into a hierarchy of exotic pooled investments with poorly understood risk characteristics, and over-leveraging of the finance pipeline for residential real estate at multiple points within the system.

The Role of HCA in Two Historical Case Studies

While controversy in the wake of the 2008 crisis focused primarily on the potential links between FVA and systemic risk, HCA can also be associated with systemic risk. In particular, when HCA is erroneously applied to assets without accurate adjustment for other-than-temporary impairment, the result can be an accumulation and concealing of asset risks in a firm's financial statements. And when large numbers of firms hold similar assets and similarly account inaccurately for impairment under HCA, the resulting problems can easily become systemic. The RAND team's historical case studies of the savings and loan (S&L) crisis of the 1980s and the less-developed-country (LDC) crisis of the 1970s both illustrate this point. Both episodes involved the substantial and prolonged accumulation of undisclosed credit risks in the loan assets of large numbers of U.S. financial institutions. In the S&L case, that accumulation of risk eventually resulted in a wave of institutional insolvencies and a major U.S. government bailout; in the LDC case, the result was a more proactive government intervention and restructuring of debt.

Among the takeaways from the S&L and LDC cases are the basic facts that episodes of systemic financial risk can occur, and have occurred, in connection with HCA valuation, and not just in connection with FVA valuation; that related problems in risk accumulation are prone to arise in the context of subjective judgments about whether asset impairments are “real” or “just temporary”; and that accounting standards can influence the antecedent conditions that give rise to an episode of financial crisis, as well as the flexibility and options that government regulators have in responding post-crisis.

Implementation and Governance Issues Are Crucial to Effective Asset Valuation, and to Mitigating Systemic Risk

Beyond investigating the generic ways in which valuation approaches can be associated with systemic risk, an additional focal point of the RAND study involved the observation that both FVA and HCA approaches are capable of generating poor-quality information when implemented badly. Neither FVA nor HCA operates in a vacuum; both approaches depend on support from corporate controls and outside monitoring (such as independent audit and regulatory oversight) to achieve good implementation, and, thereby,

to generate good financial information. In turn, effective implementation of FVA and HCA may be important to effective institutional risk management, such that stronger valuation practices and related governance processes may help to safeguard institutions against risk. Both approaches to valuation notably involve their own implicit weaknesses and assumptions. Even when implementation is strong, neither approach is likely to be perfect in the financial information that it generates.

According to the RAND researchers, implementation and governance issues pertaining to FVA and HCA tie back to the problem of systemic risk in several ways. First, systemic risk frequently originates from, or is triggered by, institutional risk. Thus, it follows that weaknesses in FVA and HCA that contribute to institutional risk have the potential to contribute to or exacerbate systemic risk as well. Second, the informational quality of FVA and HCA financial statements is of great importance to prudential and systemic risk regulators, just as it is to investors. When the quality of information contained in financial statements is poor or distorted, regulators too may be impaired in assessing risk, much less in responding to it effectively. Finally, regardless of which valuation approach applies (FVA or HCA), there is an important distinction to draw between institutions that pursue that approach well and those that do so poorly or ineffectively. When institutional controls and supports are weak and the quality of accounting information generated is poor, both FVA and HCA can contribute to the accumulation of institutional risk and, thereby, to various channels for contagion and systemic risk across the financial sector.

Policy Options to Improve FVA and HCA and Reduce Systemic Risk to the Financial System

How can FVA and HCA, and the financial information that *both* methods generate, be improved to better protect against systemic risk to the banking sector in the future? The RAND study suggests the following:

Governance

- Consider new steps to strengthen institutional governance and control mechanisms that, in turn, support higher-quality FVA and HCA practices among financial firms.
- Strengthen FVA and HCA approaches to valuation by improving audit oversight in connection with both approaches.

Standard Setting

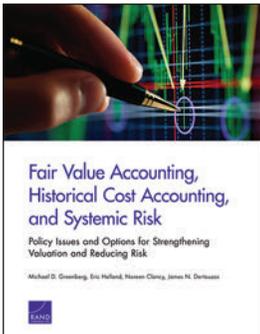
- Tighten standards for generally accepted accounting principles (GAAP) in connection with both FVA and HCA to improve the quality of information provided

about the impact of liquidity pricing on each valuation approach. Given that problems with the two approaches tend to arise in the context of liquidity pricing and in accounting for other-than-temporary impairment, it follows that more explicit guidelines for dealing with these problems under the standards might be helpful in producing more consistent financial disclosures.

- Clarify whether financial statements truly are required to disclose sufficient detail about FVA mechanics to allow users of financial statements to reconstruct and assess the details of valuation models for themselves.
- Consider developing or adding metrics of valuation robustness to augment standard financial disclosures under GAAP.
- Consider adding disclosure requirements to address situations in which market power and other forms of price endogeneity are likely to influence FVA observed market values. In particular, when the holder of an asset has concentrated ownership and faces a thin market for selling it, then the holder's own choices about whether or not to sell may substantially affect both the supply and market price of the asset.

Prudential Regulation

- When strengthening regulatory capital requirements, consider the potential for perverse asset valuation and institutional governance effects. For bank capital requirements to be effective in making banks stronger and more resilient to shocks, banks actually need to fulfill the requirements. To the extent that asset valuation practices are unreliable, opaque, or subject to distortion, it may be difficult for outsiders to know how well the requirements are truly being met.
- Evaluate whether asset risk-weighting in bank capital requirements has the potential to contribute to perverse risk effects and contagion in connection with FVA. One area of concern in systemic oversight is the possibility that risk-weighting of assets could create an incentive for banks to preferentially liquidate an asset valued with FVA over alternative categories of non-FVA assets, at a time when doing so magnifies the likelihood of procyclicality (a situation in which mutually reinforcing behaviors produce a positive feedback loop, resulting in spiraling instability and contagion), erosion in asset value, and spreading weakness to the regulatory capital of other institutions.
- Consider a more prominent role for prudential regulators in vetting asset valuation practices at large institutions.



This research highlight describes work done for the RAND Center for Corporate Ethics and Governance documented in *Fair Value Accounting, Historical Cost Accounting, and Systemic Risk: Policy Issues and Options for Strengthening Valuation and Reducing Risk*, by Michael D. Greenberg, Eric Helland, Noreen Clancy, and James N. Dertouzos, RR-370-CCEG (available at http://www.rand.org/pubs/research_reports/RR370.html), 2013. The RAND Corporation is a nonprofit research institution that helps improve policy and decision-making through research and analysis. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark. © RAND 2013

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