Fair Value Accounting and the Financial Crisis: Messenger or Contributor?

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ABSTRACT

The commentary discusses how fair value accounting (FVA) affects the nature of financial reporting, especially for financial institutions that were deeply affected by the 2007-2009 financial crisis. Toward that end, I address four questions. First, I review FVA's role in financial reporting, emphasizing its development over time. While the commentary's focus is on the interface between financial instruments and FVA, its reach extends well beyond financial instruments. Thereafter, I discuss the measurement and valuation challenges that arise from the use of FVA in financial reporting. Then, I analyze the evidence, analytical and empirical, on the role that FVA may have played in the financial crisis of 2007-2009. Since, to some extent, the crisis is still unfolding, there is limited yet very insightful empirical evidence on this issue. The evidence does suggest that FVA, in combination with its use by regulators, may have severely undermined the financial condition of some institutions. The effect was amplified for institutions holding assets in markets that saw their liquidity dry up during the crisis. In other words, FVA may have amplified the crisis. Finally, I discuss some implications that we can draw from the crisis about the merits and risks underlying FVA. For instance, I conclude that, in a search for relevance, the use of FVA in financial reporting may accelerate its disconnection from a firm's business reality.

Key words: fair value accounting, financial crisis, liquidity, conservatism, relevance, reliability

Despite its almost universal adoption by accounting standard setters, the merits of fair value accounting (FVA) continue to generate intense and passionate debates among academics, businesspeople, regulators and investors. A surprising element underlying these debates are the apparent irreconcilable positions adopted by some participants in favour or against FVA. The recent financial crisis has exacerbated the debate further. For instance, at the request of the U.S. Congress, the Securities and Exchange Commission (SEC) conducted an enquiry into fair value accounting's contribution to the Fall 2008 financial crisis (Securities & Exchange Commission, 2008). In its report, the SEC endorses the use of fair value accounting and concludes that mark-to-market accounting did not cause or contribute to the crisis. However, the SEC recommends that the Financial Accounting Standards Board (FASB) provide more implementation guidance to financial statements' auditors and preparers. In addition, earlier in 2008, key standard setters such as the Canada's Accounting Standards Board (ASB), the FASB and the International Accounting Standard Board (IASB) introduced temporary provisions waiving some aspects of fair value accounting for financial institutions. In the Spring of 2009, the FASB and other standard setters issued additional guidance regarding how to account for securities in illiquid, distressed or disrupted markets. Still, despite these changes, several issues surrounding the measurement and recognition of fair values into financial statements remain unsettled. The recent financial crisis actually provides a unique context to gain insights into the implementation of FVA and to assess the broader consequences deriving from its adoption.

The purpose of the paper is fourfold. First, I briefly describe the reach and foundations of FVA in financial reporting, underlining that it goes well beyond financial instruments. However, I will focus on its application to financial instruments and financial institutions. My review

encompasses the conceptual and empirical underpinnings of FVA. Second, I analyze the measurement and valuation challenges that arise from the use of FVA in financial reporting. Third, I review the evidence, analytical and empirical, regarding the role that FVA may have played in the financial crisis of 2008-2009. Since, to some extent, the crisis is still ongoing, empirical evidence on this issue is still limited. Fourth, I raise other issues that standard-setters, regulators and investors should consider when using or promoting the use of FVA in financial reporting. For example, I conclude that, in a search for relevance, financial reporting may become disconnected from business reality. I discuss FVA's role as either a messenger or contributor to the crisis.

An analysis of the theoretical and empirical foundations of FVA suggests four observations about its potential role in the crisis. First, despite its unifying label, FVA actually encompasses different measurement modes. The validity of these alternatives is conditional upon market efficiency. Second, demonstrations that FVA-based figures are value relevant do not necessarily imply that they are optimal from a societal perspective. As such, FVA accelerates a standard-setting trend away from a broad societal viewpoint toward an exclusive focus on shareholders. Third, the implementation of FVA challenges many traditional accounting concepts such as verifiability, reliability and conservatism. However, the rationale for these concepts, i.e., to restrain managerial opportunism and facilitate contracting, is still with us. Finally, the widespread adoption of FVA potentially increases volatility in reported earnings and accentuates the disconnect between financial statements and the real economy.

Overall, despite its conceptual appeal, I conclude that the implementation of FVA is fraught with many difficulties that severely undermine its potential advantages. Moreover, while its role in the financial crisis may have been exaggerated, there is emerging evidence that the use of mark-to-market may have contributed to a failure contagion effect among financial institutions. Hence, accounting may have been more than just a messenger. Paradoxically, there are also reasons to believe that the use of fair value accounting (mark-to-model) may have allowed some financial institutions to delay the recognition of underlying problems as the crisis was building up. In addition, the move towards fair value accounting has the potential to further detach financial reporting from the true and fair view of reflecting underlying business reality, making financial markets and financial reporting self-reflecting mirrors. Finally, the use of fair value accounting by bank regulators raises several questions about the mapping between the accounting standard-setting process, which focuses exclusively on investors' needs, and regulators' objectives, which include the stability of the banking system and the well-being of society as a whole.

FAIR VALUE ACCOUNTING: AN OVERVIEW

Historical Background

Fair value accounting is neither a novel concept nor a new practice. In late 19th century and early 20th century, it was common for firms to value their capital assets using appraised values, i.e., estimates of the net realizable values that the assets would bring in the market. Many early economists also believed that the exit value, or the amount a firm would realize by selling an asset in the market, was the only appropriate basis to construct financial statements (see, among others, Diewart, 2005). However, by the 1930s, abusive valuation practices by some managers

led to the enactment of more formal accounting standards by the accounting profession. As a result, historical cost emerged as the dominant practice for reporting most assets and liabilities. Nevertheless, fair value accounting remained an attractive concept to many accounting theorists who formalized its appeal and form over the years. For instance, Staubus (1961), Chambers (1965) and Sterling (1970) argue for the use of exit values in financial reporting, i.e., the net realizable value for the asset.

While FVA was kept as a default option in accounting for some assets (i.e., lower of cost of market), it effectively re-entered U.S. firms' financial statements only in 1993 through SFAS 115 *Accounting for Certain Investments in Debt and Equity Securities*. Going beyond prior fair value disclosure requirements, SFAS 115 mandates that some securities be accounted for at their fair value, thus directly affecting a firm's balance sheet and income statement. The main rationale underlying SFAS 115 is the reduction of gains trading by financial institutions' managers, i.e., the ability to choose how and when unrealized securities portfolio gains are recognized into the income statement. Other accounting pronouncements followed, reinforcing fair value accounting's reach within financial statements, culminating with the enactment of SFAS 157 *Fair Value Measurements*. SFAS 157 formally defines fair value and frames its measurement and disclosure. The evolution of standards in Canada closely parallels the U.S. with the enactment of Canadian Institute of Chartered Accountants' Handbook Sections 3860 and more recently, 3855.

Measurement

Fair value is broadly defined as "...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..." (SFAS 157.5) (FASB 2006a). The parties to the transaction are assumed to be willing and knowledgeable. Under FVA, assets and liabilities are categorized according to the level of judgment (subjectivity) associated with the inputs to measure their fair value, with three (3) levels being considered. At level 1, financial instruments are measured and reported on a firm's balance sheet and income statement at their market value, which typically reflects the quoted prices for identical assets or liabilities in active markets. It is assumed that the quoted price for an identical asset or liability in an active market provides the most reliable basis for fair value measurement because it is directly observable to market participants and represents the best proxy for the price that would be received assuming a decision to sell the asset. However, in some cases, an asset will not trade or will not have an active market. For these particular cases, if valuation inputs are observable, either directly or indirectly, but do not qualify as Level 1 inputs, the Level 2 fair value assessment of a financial instrument will reflect a) quoted prices for similar financial instruments in active markets, b) quoted prices for identical or similar financial instruments in markets that are not active, c) inputs other than quoted prices but which are observable (e.g., yield curve) or d) correlated prices. For example, a bond issued by Exxon may not trade but, if there is an active market for a Royal Dutch Shell bond with similar terms and maturity, then the market price of the Royal Dutch Shell bond will serve as a Level 2 input to value the Exxon bond. Finally, certain financial instruments which, for example, are customized or have no market, will be valued by a reporting entity on the basis of assumptions that presumably reflect market participants' views and assessments (e.g., private placement investments, unique derivative products, etc.). Such valuation is deemed to be derived from

Level 3 inputs and is commonly referred as "mark-to-model" since it is often the outcome of a mathematical modelling exercise with various assumptions about economic, market or firm-specific conditions (FASB, 2006a, b): the objective in level 3 is to infer what the price of the asset would be, if the market existed. In all cases, any unrealized gain (or loss) on financial instruments held by an institution translates into an increase (decrease) in its stockholders' equity and, consequently, an improvement (deterioration) in its capitalization ratios.

Applications

The initial implementation of FVA focused on financial instruments such as debt and equity securities (SFAS 115) as well as derivatives (SFAS 133). For the purpose of SFAS 115, the appropriate measurement method depends upon management's intention, which leads to the identification of three types of securities.[1] However, while accounting treatments between the three types of securities differ, fair value accounting directly or indirectly underlies the measurement of all three. First, debt securities that an enterprise has the positive intent and ability to hold to maturity are classified as *held-to-maturity securities* and reported at amortized cost. However, if these securities suffer a decline in fair value below the amortized cost basis that is other than temporary, their accounting cost must be written down to that value and the write-down included in net earnings as a realized loss. Once written down, held-to-maturity securities cannot be written up. Second, debt and equity securities that are bought and held principally for the purpose of selling them in the near term are classified as *trading securities* and reported at fair value, with unrealized gains and losses included in earnings. Finally, debt and equity securities not classified as either held-to-maturity securities or trading securities are classified as

available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported in a separate component of shareholders' equity (other comprehensive income).

However, it is important to mention that while FVA for financial instruments has attracted considerable attention, with specific standards being devoted to its application, it now reaches most aspects of financial reporting. For instance, the goodwill impairment test (FASB 2001: SFAS 142; CICA Handbook Section 3062) essentially relies on a fair value assessment of business units. The new approach for consolidation following an acquisition also relies on FVA as it assigns to the non-controlling interests liability a value from a transaction in which they were not involved, i.e., the purchase price paid for the controlling interest is assumed to provide an indication of the value of non-controlling interests (e.g., IASB 2008: IFRS 27; FASB 2008: SFAS 160; CICA Section 1602). A similar argument can be made regarding the proposed standard on lease accounting, which would capitalize all lease payments to arrive at a fair value of discounted future cash flows (joint IASB/FASB discussion paper, 2009). Moreover, since not all changes in fair market value flow directly into net income, most notably because of timing differences (e.g., hedge accounting) or prescribed accounting treatment (e.g., unrealized gains or losses on available-for-sale securities), other comprehensive income has emerged as a way to temporarily soak up such transitory fluctuations until the full transaction cycle is completed.

Theoretical and Empirical Foundations Underlying FVA

Conceptual Perspective

The premises for the current application of FVA can be traced back to accounting-based academic research. From a conceptual perspective, Milburn (2008) analyzes how relevant market efficiency is in defining fair value for financial reporting purposes. In a comprehensive commentary, and after reviewing prior empirical evidence, he concludes that active, well-regulated, capital markets typically exhibit a reasonable level of efficiency. In his view, a presumption of reasonable market efficiency underlies IASB and FASB positions for fair value relevance in financial reporting. However, the relation between market efficiency and fair value breaks down when considering assets measured using level 3 inputs, which are not based on real or observable market prices. For these types of assets, the use of FVA is less conceptually grounded. Hence, contrary to its stated purpose, SFAS 157 does not provide an integrated perspective on the measurement of fair value accounting as it encompasses different measurement bases. Milburn (2008) concludes that further work is needed to assess how to use FVA when conditions of market efficiency are unlikely to be present: such work in finding adequate measurement substitutes should be guided conceptually by market efficiency considerations. In that regard, through an analytical model, Plantin, Sapra and Shin (2008) show that fair value accounting is most likely the best estimator of underlying values when the assets being held have short term maturities, are traded in liquid markets that are well-normalized and represent intermediate or junior claims on an entity's underlying cash flows.

Empirical Perspective

From an empirical perspective, there is consistent evidence, accumulated over the past 20 years, that a firm's stock price is more closely associated with the market value of its underlying

financial or real assets than with their historical cost, i.e., their purchase price plus related expenses (e.g., Barth, Beaver and Landsman, 2001; Landsman, 2006). The superior relevance of market-derived values is even more obvious in the case of financial derivatives which historical cost is often close to zero but which market value can fluctuate widely (e.g., Venkatachalam, 1996; Ahmed, Kilic and Lobo, 2009). In other words, fair values, or marked to market values, have been found to be more relevant indicators of firm value than traditional historical cost-based figures.[2] An early study on the relevance and implications from FVA is performed by Bernard, Merton and Palepu (1995). Prior to the adoption of IFRS or the advent of Basle II banking regulations, Denmark's accounting standard-setting and banking regulatory authorities relied on mark-to-market valuation for the assets of their commercial banks. Bernard, Merton and Palepu (1995) find that Danish banks' book values, which reflect mark-to-market valuations, provide more reliable information to investors than historical cost-based figures which were then provided by U.S. banks. Moreover, they do not find evidence that Danish bank executives manipulate mark-to-market numbers to circumvent regulatory capital ratios. However, they also point out that that the Danish and U.S. capital markets exhibit significant differences and so their findings may not hold in a U.S. setting.

On the basis of these and other empirical findings, many accounting professors have actively lobbied standard setters such as the Financial Accounting Standards Board to 1) introduce FVA into financial statements, initially through footnote disclosure, 2) gradually reduce the relative scope of historical cost-derived assets and liabilities in financial reporting and, 3) modify the conceptual framework underlying standard setting to state more clearly that the primary goal of financial reporting is to provide information that is relevant to investors (presumably, stock market investors) and that, as such, FVA should be emphasized over historical cost.[3] Academic

research's influence over the standard setting process has been greatly enhanced by the involvement of many leading accounting professors promoting FVA into the decision-making process of standard setters or regulators such as the FASB or the SEC.[4] There is currently a joint project between FASB and the IASB to adopt a unified conceptual framework for accounting standard-setting. The draft framework, which should be adopted within the next year, clearly states that the main purpose of financial reporting is to provide information that is relevant for investors, with emphasis on market values and cash flow forecasts as the most critical drivers underlying financial reporting.

Overall, from the above review, we can draw some conclusions. First, FVA has deep roots in accounting thinking and practice. Second, there is widespread empirical evidence suggesting that FVA provides relevant and useful information to investors as they attempt to value firms. Third, standard-setters worldwide have a clear and defined agenda with respect to FVA, which is likely to result in financial statements further reflecting FVA-derived information. However, the move toward FVA constitutes a major shift in the basic tenets of financial reporting and raises many implementation issues as it changes how managers and other stakeholders view the firm. Such changes are likely to affect their decisions and actions. We discuss these challenges in the next section.

MEASUREMENT AND VALUATION CHALLENGES SURROUNDING FVA IMPLEMENTATION

Undermining of Critical Foundations of Financial Reporting

Despite its many tangible or perceived benefits to investors, the adoption and use of FVA undermine several critical foundations of extant financial reporting.

Verifiability and Reliability

Watts (2003, p. 219) argues that accounting standard setters should focus on accountants' core competence, i.e., "...providing verifiable conservative information that market participants can use both as inputs in their own valuation and as calibration for their own and others' unverifiable information". In his view, FVA falls short in this regard as it is often not verifiable or not conservative. He argues that FVA, especially for non-financial assets, invites excessive managerial discretion. In further work, Watts and Ramanna (2007) argue and find that, for firms subject to SFAS 142, the magnitude of goodwill impairments decreases as the proportion of unverifiable fair values increases.

Watts' argument can also be extended to financial instruments that are valued according to mark-to-model, as these models essentially rely on projections that are unverifiable. Benston (2008) asserts that the definition of fair value contained in SFAS 157 (5) raises many implementation problems, especially if fair value is not based on actual market prices. He also considers, consistent with Watts' argument, that FVA, especially level 2 and 3 values, facilitates manipulation by managers. Some of the firms involved in the scandals that arose early in the 21st century were using variants of FVA (e.g., see Flesher and Flesher, 1986; Cudahy and Henderson, 2005). The Enron case illustrates the potential negative consequences from using either mark-to-market or mark-to-model accounting, with management strategically selecting bid or ask prices to value its energy contracts and using mark-to-model values for many real asset transactions.

Enron was a key market-maker or, sometimes, the only market-maker, in some markets, thus facilitating managerial discretion (Weil, 2001).

Some recent studies also show that FVA can undermine the reliability of financial statements. For instance, focusing on accounting for stock options, Aboody, Barth, and Kasznik (2004) find that managers select valuation model parameters to strategically manage estimates of disclosed employee stock option fair values. Their finding raises the broader question of whether managers will behave similarly when selecting model parameters for fair value estimates of other financial instruments. Such a situation provides a striking contrast to historical cost, for which it is possible to verify exactly what is an asset's purchase price, as well as related acquisition costs, using reliable sources. Furthermore, in the case of financial instruments that are not traded on an organized market, their valuation for financial reporting purposes relies on numerous assertions by management, assumptions about the appropriate benchmarks or markets, or the reasonableness of a valuation model inputs, all of which are of varying reliability and verifiability.

Benston's (2008) views are generally consistent with those of Aboody et al. (2004) and Watts (2003). Focusing on SFAS 157 and 159, he argues that both standards provide a potential boon to manipulative managers and extend fair value to all aspects of financial reporting since "The Board also believes that, with the passage of time, historical prices become irrelevant in assessing an entity's current financial position" (excerpt from SFAS 159).

Conservatism

Within a conservatism perspective, financial statements anticipate bad news, i.e., before a transaction is actually done or concluded: hence, an asset is written down if it is deemed that it has suffered a permanent impairment or if expected economic conditions suggest that the firm will not be able to recover its value. Moreover, such write-down is permanent, i.e., the asset will not be re-evaluated upward in the future even if economic conditions change in the meantime. Still within a conservatism perspective, financial statements will only reflect good news if there is an arms' length transaction that validates the value of such news: the impact of any appreciation in the value of an asset or of the signature of a new contract will be reflected on a firm's financial statements only if the asset is actually sold or converted into revenues from operations. In contrast, within a FVA perspective, both realized and unrealized losses and gains are recognized on financial statements. Moreover, assets that have been marked down can be re-evaluated upward. IFRS extends this practice into a new realm as they allow fair value write-ups for operating assets.

Watts (2003) observes that FVA induces severe cost asymmetry whereby it is much costlier to make an excessive payout (based on earnings that contain unrealized FVA-estimates), which cannot be recovered, than to retain earnings and other resources one period too long. So mark downs should require less verification than mark ups. Seemingly unbiased FVA is open to an excessive degree of moral hazard when it serves as a benchmark for dividend payouts and regulatory ratios like bank capital. In contrast, Barth (2007, p. 12) argues that "Although opponents of more comprehensive use of fair value have some legitimate concerns, standard

setters are unaware of a plausible alternative." The debate is at two levels. On one hand, Barth is talking about the measurement of a final output. On the other hand, Watts refers to the validity of the various measurement inputs under moral hazard, the output being of some importance but mostly in terms of providing financial statement users and other stakeholders with the ability to adapt, modify or "test-drive" the resulting output. Beyond fair values, measurement assumptions and hypotheses are probably more critical since they allow users to reconstruct the reality according to their own priors.[5]

Revisiting Accounting's Position within Society

Financial Reporting as a Social Good

The implementation of FVA explicitly confirms the primacy of financial markets and investors in the determination of accounting standards. The broader social issues and implications arising from accounting standards for stakeholders beyond investors are assumed away. The potential danger of relying on capital markets-based findings to directly prescribe accounting standard has been highlighted more than 30 years ago by Gonedes and Dopuch (1974). Following a first wave of capital markets-based studies that mapped their findings directly into standard-setting issues, Gonedes and Dopuch (1974) explain that observing an empirical relation between accounting amounts and equity prices or returns does not provide sufficient evidence about the desirability or effects of a particular standard, even if markets are informational efficient. Their conclusion rests on the fact that accounting standards are essentially a public good. Therefore, standard setters' mandate and responsibility is to develop standards after making the appropriate social welfare trade-offs, which involve more parties than just investors such as creditors, governments, regulators, employees, etc. Hence, deciding about a particular accounting standard requires that

social preferences be specified. From a different angle, Holthausen and Watts (2001) put forward the argument that the value-relevance literature has little to say about standard-setting issues. In their view, without an underlying theory that explains, predicts and links accounting, standard setting, and valuation, value-relevance studies simply report statistical associations.

Increased Volatility in Earnings

Most prior research shows that the adoption of FVA translates into more volatile financial results (earnings).[6] One reason underlying this finding is that not all assets and liabilities are marked to market (Ryan 2008a). For instance, assuming a rise in market interest rates, FVA may translate into somewhat artificial volatility if one side of the balance sheet is valued at mark-to-market (e.g., investments that would presumably go down in value) while the other side relies on another method (e.g., actuarial reserves for an insurance company which are estimated using specified long term rates or deposits for a bank). However, if both sides are valued at market, the decrease in the value of investments would be offset by a corresponding decrease in the value of liabilities being discounted at higher rates, as long as the durations of assets and liabilities are matched.

In that sense, FVA may induce pro-cyclicality in reported earnings as it adds unrealized gains to earnings in an up market, thus making the subsequent drop in reported earnings in the down period even more dramatic (Laux and Leuz, 2009). One example illustrates the potential impact of FVA on the volatility of reported earnings.

Crédit Suisse: On February 12, 2008, Crédit Suisse, one of the world`s leading commercial banks, reports record income from continuous operations of 8.5 billion Swiss Francs. Seven days later, on February 19, 2008, Crédit Suisse announces that some additional control processes have

led to the repricing of certain asset-backed positions in its Structured Credit Trading business, with the current total fair value reduction of these positions being reduced by an estimated $U.S. 2.85 billion. A month later, on March 20, 2008, Crédit Suisse reports that its 2007 operating income has been revised downward by 1.18 billion Swiss Francs (789 million Swiss Francs after tax), reducing initially reported 2007 earnings by around 10%.

The Crédit Suisse case illustrates the difficulty of pinning down the fair value of many assets when the underlying valuation methodology is complex and subject to shifting hypotheses and assumptions about the future. Crédit Suisse`s experience also shows that reported results for a given period may be subject to a wide margin of error, or discretion, or even restated.

The volatility potentially induced by FVA implies that the reported values of financial institutions' assets can fluctuate more than business fundamentals would suggest: a financial institution's value goes beyond the separate market values of its different assets and liabilities and incorporates reputation, client networks, fee-producing services, etc. If there are downward market trends, which translate into a severe shrinking of their capital ratios, financial institutions may be forced to deleverage and sell further assets at distressed prices, thus feeding a downward spiral. But fundamental values may not be going down as fast or as deeply. In that scenario, the issue is not necessarily the accounting itself but how financial regulators use such accounting information. First, firm value is quite different than the sum value of its assets and liabilities. Second, FVA-based financial reporting is only the messenger that a firm's solvency is undermined by its financial strategies or lending practices. It is up to regulators to figure out how to use such information.[7]

Control

By emphasizing market- or model-based measurement, the use of FVA also affects the relative role of accountants in the preparation of financial statements. While historical cost-based financial statements are squarely under the control of accountants, FVA-derived assets and liabilities often require the expertise of other professionals such as actuaries, valuation experts or financial engineers, with accountants being more likely to play a secondary role, e.g., verifying underlying assumptions, hypotheses, etc. This raises questions as to the education and training that accountants now need in this new financial reporting reality. Moreover, the advent of FVA requires accountants to have a better understanding of markets, how they work and when they do not work. Allen and Carletti (2008a) provide some useful insights in that regard. They argue that markets work when market prices reflect future payoffs. However, in times of financial crisis (they refer to the Russian crisis of 1998 which saw the demise of Long Term Capital Management), prices diverge from the asset's underlying value and instead reflect the amount of cash or liquidity that is available to buyers who are active in the market. They argue that such conditions may lead to contagion and force banks into insolvency despite the fact they would be able to fully pay up their obligations if they were able to operate until the assets mature. Under such a context, the question arises as to what accountants should be measuring and reporting, especially if the assumption of going concern is maintained.

Summary

Several conceptual and practical arguments have been raised against the use of FVA in financial reporting. There is also some evidence that it may facilitate managerial discretion. However, one

of the most serious and intense attacks against the use of FVA in financial reporting has occurred during the last few months as the world's financial system teetered on the brink of the abyss. The next section reviews the arguments suggesting that FVA may have contributed to the financial crisis and analyzes the emerging academic evidence in this regard.

FVA AND THE FINANCIAL CRISIS

The Debate Surrounding FVA's Role in the Financial Crisis

Viewpoints from the Financial and Regulatory Communities

2008 was characterized by extreme volatility in financial markets as well as by the failure or quasi-failure of many financial institutions such as Bear Stearns, Lehman Brothers, AIG, Merrill Lynch, Citicorp, Royal Bank of Scotland, Dexia, etc. Fair value detractors, among them David Dodge, the former Governor of the Bank of Canada, argue vehemently that FVA has accelerated and amplified the current financial crisis (e.g., McFarland and Partridge, 2008). Their argument can be summarized as follows. Starting in 2007, the drop in the price of many types of financial instruments led financial institutions to mark down the asset values reported on their balance sheets, thus weakening their capitalization ratios. To improve their financial profile and to enhance their safety zone with respect to regulatory capital requirements, these institutions started to sell securities or close down positions on some financial instruments in markets that were increasingly illiquid as a result of the emergence of a liquidity crisis. These sales magnified the downdraft in quoted prices, thus bringing additional devaluations, etc. Along these lines, William Isaac, former Chairman of the U.S. Federal Deposit Insurance Corporation, argues that "mark-to-market accounting has been extremely and needlessly destructive of bank capital in the

past year and is a major cause of the current credit crisis and economic downturn"(Jeffrey, 2008).

However, FVA can count on broad support from the accounting profession, standard setters and regulators. For instance, in a recent speech, Nick Le Pan, Canada's former Superintendent of Financial Institutions, argued that FVA is only a messenger and should not be criticized for merely reflecting the poor underlying economic outlook (McFarland and Partridge, 2008). Barbara Roper, from the Consumer Federation of America, argues that sound accounting principles, such as FVA, led to the exposure of underlying problem assets. In her view, FVA provides more accurate, timely and comparable information to investors than any other accounting alternative. The CFA Institute, representing the financial analysts' community, has also vigorously supported FVA, with open letters to the SEC and various position papers.[8]

Viewpoints from the Academic Community

Two comprehensive commentaries provide a nuanced interpretation of the role of FVA in the 2008 financial crisis and are consistent in their conclusions with the findings reported by the SEC in December 2008. Ryan (2008) concludes that fair value accounting did not contribute to the crisis as it provided investors with needed accurate and complete information about subprime positions. However, he concedes that there is a need for additional guidance as to what is an orderly transaction, as the use of inputs for fair value accounting is driven by conditions at the measurement date.

Laux and Leuz (2009) conclude that FVA probably did not contribute to the crisis to such a large extent but was also not merely a messenger. In their opinion, the FVA debate is a new version of

the relevance vs. reliability argument. Moreover, there are legitimate concerns about marking asset values to market prices in times of financial crises as they are tied to various contracts and regulations (e.g., capital ratio regulations for banks). However, the standards do allow for some flexibility and deviations from market prices under these conditions. They consider that the implementation of FVA may lead to some disruptions from the standards' initial intent. For instance, SEC enforcement actions can imply that auditors and firms abide by certain rules or practices, not using the judgment initially envisioned in the standards. In contrast, too much managerial discretion in the determination of fair values may translate into manipulations. The challenge for standard-setters is to find an appropriate balance between the potential contagion effects from using fair value accounting and investors' needs to receive timely information about impairments. Overall, FVA may be procyclical, accentuating the magnitude of earnings in booms and of losses in busts. Hence, the use of fair value accounting information needs to be adapted, but the underlying accounting standards need not change. They also observe that historical cost accounting is unlikely to solve problems of market inefficiency and that its use for loans did contribute to the securitization rush that led to the crisis.

Fair Value Accounting and the Financial Crisis: The Evidence

Analytical Insights

Two analytical papers model how reliance on fair value accounting affects managerial decision-making and financial markets. Their conclusions raise some concerns over the use of FVA in financial institutions, especially by regulators, and provide useful insights into the 2008 crisis.

Allen and Carletti (2008b) analyze the impact of FVA through a two-industry model (insurance and banking). They put forward two contrasting views. On the one hand, FVA provides the relevant and true value of underlying assets. On the other hand, FVA induces excessive and artificial volatility that does not reflect underlying value. They conclude that the use of market prices to value assets may not be beneficial when financial markets are illiquid. More specifically, during a liquidity crisis, prices do not reflect the appropriately discounted value of future expected cash flows but are instead determined by the cash available in the market at that moment. However, through FVA, these market conditions affect bank asset values as well as portfolio contract choices and induce default contagion across financial institutions, especially for those with long term assets (vs. a situation where historical cost is used). Hence, according to Allen and Carletti (2008b), market prices under conditions of market illiquidity should be ignored as they understate fundamental values and distort portfolio and contract choices.

Plantin, Sapra and Shin (2008) start with the premise that most banks' assets, especially loans, are traded Over-The-Counter (OTC). In their view, OTC markets do not have the same depth as normalized regulated markets. Relying on an analytical model, they conclude that mark-to-market accounting injects excessive volatility into transaction prices, i.e., that accounting standards are an endogenous source of volatility. In other words, prices drive accounting measurement but measurement has an effect on pricing. More specifically, mark-to-market accounting injects artificial risk into the market that degrades the information value of prices, thus inducing sub-optimal real decisions such as asset allocations or investment horizons. In their view, the value distortion is greatest when assets are 1) long-lived, 2) illiquid and/or 3) senior, leading to a shortening of managers' time horizons. More specifically, the use of mark-to-market

leads to a shortening of decision horizons among firms, mostly because of agency problems. Thus, firms become more sensitive to short-term price movements, which are magnified for long-lived assets with their cash flows extending far into the future. In addition, illiquidity implies that the price of an asset responds to the decisions of other financial institutions, thus creating an endogenous risk. In this regard, their argument differs from Allen and Carletti (2008b) who posit that illiquidity leads to asset prices being a function of liquidity available in the market. Finally, senior securities will be most affected as there is typically not much upside potential with respect to their value. In these cases, for reporting purposes, historical cost accounting may actually dominate fair value accounting as it induces less distortion into asset values. However, historical cost accounting is typically inefficient as it ignores price signals.

The findings from Allen and Carletti (2008b) and Plantin, Sapra and Shin (2008) suggest that the reliance on FVA for long-lived senior assets induces suboptimal decisions by managers when markets are illiquid. Moreover, in illiquid markets, price information is itself affected by the use of FVA and may become an unreliable value measure. Finally, under conditions of illiquidity, the use of FVA facilitates the propagation of distorted values into financial institutions' balance sheets, potentially inducing failure contagion. Both studies suggest that the use of historical cost accounting alleviates some of these problems and may be a better measurement tool under some conditions.

Empirical Evidence

Early empirical evidence in the aftermath of the crisis supports some of the analytical findings presented above. Moreover, they suggest that FVA may have played more than just a messenger

role and justify some of the concerns raised about the implementation of FVA and its lack of internal consistency regarding measurement.

Kolev (2008) examines the value relevance of the three levels of assets reported under fair value accounting by U.S. commercial banks in the first two quarters of 2008. His sample comprises 177 banks in the first quarter and 172 banks in the second quarter. His basic valuation regression is the following:

$$\text{Share price}_{it} = \beta_0 + \beta_1 \text{Net Equity Book Value}_{it} + \beta_2 \text{ Level 1 Net Assets}_{it} + \beta_3 \text{ Level 2 Net Assets}_{it} + \beta_4 \text{ Level 3 Net Assets}_{it} + \text{Other control variables}$$

(i indicates a given firm; t indicates a given quarter; Fair value is defined in terms of net assets, i.e., assets less liabilities).

He finds that, in the first quarter, investors perceive reported values under all three levels to be value relevant, with minor differences between β_2 (0.811), β_3 (0.772) and β_4 (0.709) (see his table 4). In other words, one dollar of Level 1 net assets is valued at \$0.81 by stock market investors. However, the valuation coefficients decline between the first quarter and the second quarter, reflecting greater uncertainty about underlying asset values: all levels of FVA net assets now sell at significantly less than their book value. Moreover, there is now a valuation gap between the valuation of Level 1 net assets ($\beta_2 = 0.604$), level 2 net assets $\beta_3 = 0.582$) and level 3 net assets ($\beta_4 = 0.419$), the latter being valued at a significant discount by investors. The extent of the valuation gap is reduced if the expertise of audit committee members is enhanced.

Goh, Ng and Yong (2009) conduct a similar investigation for the first three quarters of 2008. After removing observations without stock market data or with missing financial data, their

sample comprises 516 banks. Their basic valuation regression is similar to Kolev's but includes a more comprehensive set of control variables:

$$\text{Share price}_{it} = \beta_0 + \beta_1 \text{Net Equity Book Value}_{it} + \beta_2 \text{ Level 1 Net Assets}_{it} + \beta_3 \text{ Level 2 Net Assets}_{it} + \beta_4 \text{ Level 3 Net Assets}_{it} + \text{Other control variables}$$

(i indicates a given firm; t indicates a given quarter; Fair value is defined in terms of net assets, i.e., assets less liabilities).

They find that, in the first quarter, investors perceive reported values under all three levels to be value relevant, with minor differences between β_2 (0.743), β_3 (0.650) and β_4 (0.583) (see their table 8). In other words, one dollar of Level 1 net assets is valued at \$0.743 by stock market investors, a significant discount to book value. However, by the second quarter, there is a significant shift in the valuation of FVA assets. On one hand, the valuation of Level 1 net assets now matches their book value ($\beta_2 = 1.086$), a significant increase from the first quarter. On the other hand, investors significantly downgrade the valuation of level 3 net assets, which are now valued at a deep discount to their book value ($\beta_4 = 0.296$). The valuation of level 2 assets remains more or less the same between the two quarters. The situation does not evolve much in the third quarter, with level 1 net assets still being valued at close to book value ($\beta_2 = 1.153$), while level 2 net assets ($\beta_3 = 0.512$) and level 3 net assets ($\beta_4 = 0.254$) remain valued at a discount. A higher capital ratio and a higher quality auditor do allow a bank to enhance the value relevance of its level 2 and 3 assets close to their book values, i.e., coefficients close to 1.00.

Song , Thomas and Li (2009) look at the valuation relevance of both assets and liabilities reported by a sample of 431 banks during the first 3 quarters of 2008. In contrast to Kolev (2008) and Goh et al. (2009), they do not report distinct valuation figures by quarter and do not combine

fair value assets and liabilities together for regression purposes. Otherwise, their basic valuation regression resembles the following:

$$\text{Share price}_{it} = \beta_0 + \beta_1 \text{Net Equity Book Value}_{it} + \beta_2 \text{ Level 1 Assets}_{it} + \beta_3 \text{ Level 2 Assets}_{it} + \beta_4 \text{ Level 3 Assets}_{it} + \beta_5 \text{ Level 1 Liabilities}_{it} + \beta_6 \text{ Level 2 Liabilities}_{it} + \beta_7 \text{ Level 3 Liabilities}_{it} + \text{Other control variables}$$

(i indicates a given firm; t indicates a given quarter; Fair value is defined in terms of net assets, i.e., assets less liabilities).

They find that, on average, level 1 ($\beta_2 = 0.968$) and level 2 assets ($\beta_3 = 0.972$) are valued by investors at close to their reported book (i.e., fair market) values (see their table 3). While value relevant, level 3 assets are priced at a significant discount (($\beta_4 = 0.683$). Moreover, both level 1 ($\beta_5 = -0.818$) and 2 ($\beta_6 = -1.006$) liabilities are also valued also at close to their book (i.e., market) values. However, level 3 liabilities are priced at double their reported fair market values ($\beta_7 = -2.185$), thus implying that investors severely doubt the reliability of FVA-based liabilities. They also observe that strong (weak) governance enhances (reduces) the value relevance of fair value measures reported by banks, especially for level 2 and 3 assets and liabilities. Governance encompasses board independence, audit committee activity, ownership, internal controls and auditor size.

The key conclusion to draw from these findings is that, in the eyes of investors, level 3 asset (liabilities) fair values are manipulated upward (downward). Moreover, under crisis conditions (i.e., second or third quarters of 2008), it appears that investors revise downward the valuation of level 2 and, especially, level 3 assets as there is more uncertainty and potentially more

managerial discretion underlying their measurement. However, the evolution in the valuation of level 1 assets is more difficult to pin down, with Kolev (2008) reporting a fall in their valuation and Goh et al. (2009) reporting an upward reevaluation. Potential explanations for this discrepancy include different samples (Goh et al.'s being more comprehensive) as well as different empirical models. Further work is needed to reconcile both sets of findings.

Khan (2009) looks into how the use of fair value accounting may translate into failure contagion within the banking system. His sample period encompasses the 1988-2007 period and includes all U.S. bank holding companies with available stock market data (for up to 98,162 bank-month observations). His variable of interest is banks achieving extremely poor stock market returns in a particular month (bottom decile of the sample). He observes that the banking system's proportion of assets recorded at fair market value reached around 70% in the Summer of 2007. He reports three key findings. First, he shows that the extent of a bank's use of fair value accounting increases its propensity to achieve poor stock market performance, i.e., to exhibit failure contagion attributes. Second, he finds that the less liquid the market, the greater the failure contagion effect. Third, the illiquidity condition and the extent of a bank's reliance on FVA reinforce each other in exacerbating the failure contagion effect. However, well-capitalized banks were less likely to be affected by the contagion effect than banks with weak capital ratios. His findings are consistent with the analytical predictions derived by Allen and Carletti (2008b) and Plantin et al. (2009) in showing how the use of FVA in contexts of illiquid markets such as 2008 facilitates the propagation of distorted values into financial institutions' balance sheets, thus inducing failure contagion.

It is still too early to conclude on FVA's role in the current financial crisis: not all data are available, additional analyses must be completed and all its consequences cannot be observed.

However, relying on prior research findings and on available data, it is possible to draw some inferences about the contribution of FVA to the financial crisis. Overall, findings reported by Kolev (2008), Goh et al. (2009) and Song et al. (2009) suggest that 1) FVA-derived information is value relevant, consistent with extensive prior research, 2) Investors perceive level 3 FVA asset and liability values to be measured less reliably and, accordingly, price them at substantially less than 100%, 3) strong governance and capital ratios enhance confidence in reported figures and, 4) by the end of Summer 2008, investors were significantly discounting level 3 input values, consistent with a perception that management was exerting significant discretion in its measurement. The implicit prices assigned by investors to level 1 assets rose over the year, suggesting that investors perceived market prices to be depressed. To some extent, Khan (2009) complements these findings by showing that the pre-crisis period, the use of FVA and situations of market illiquidity did induce a failure contagion effect.

FAIR VALUE ACCOUNTING, THE MARKETS AND INVESTORS: CONSIDERATIONS FOR THE CRISIS AND BEYOND

FVA and Option Compensation

Many financial institutions involved in the current crisis made extensive use of stock options or other equity-based awards to reward their senior executives, allowing unrealized gains on assets to be converted into hard cold cash. For example, the compensation packages of Richard Fuld (Lehman's CEO), Stanley O'Neal (Merrill Lynch's CEO) and Charles Prince (Citicorp's CEO) were laden with equity-based instruments. The increased volatility brought forward by FVA is

conducive to the use of equity-based compensation, especially stock options, as their value is then enhanced. According to the Black-Scholes model, volatility is positively associated with option values. Prior research suggests that there is a strong association between performance volatility and the use of stock options (e.g., Magnan, 2006). Through FVA, the outcomes from aggressive risk-taking in investment and financing strategies will directly flow into reported earnings, thus further leveraging the potential gains to be derived from stock options and other incentives, and making these compensation strategies even more attractive to management.[9]

Does FVA Reflect Underlying Business Performance or Allow Financial Institutions to Delay the Day of Reckoning?

Some of the fiercest critics of FVA argue that, far from enhancing transparency and relevant financial reporting, it actually provides corporate managements with ways to avoid the day of recognition and to delay asset impairments. For instance, Watts (2003) argues that the elimination of conservatism brought by FVA leads to the capitalization of unverifiable future cash flows unto the balance sheet.[10] Such unverifiability and managerial opportunities to make strategic valuation choices introduce significant noise into the financial reporting process that may be costly to investors. Moreover, by moving firms away from transaction-based accounting, FVA is contradicting SEC efforts to tighten revenue measurement and recognition standards to ensure that only completed sales transactions are reported in earnings. For instance, in 1999, the Securities and Exchange Commission released Staff Accounting Bulletin 101 - Revenue Recognition in Financial Statements (SAB 101) which prescribes specific criteria to indicate when a transaction has been concluded, thus considerably reducing managerial discretion in the

recognition of revenues. In contrast, fair value accounting does not rely on the conclusion of a transaction to estimate the value of a financial asset or contract. Experience shows that, until the advent of SAB 101, several firms had applied aggressive revenue recognition criteria that dramatically boosted reported earnings and growth rates. Earnings restatements following the enactment of SAB 101 were often sizable and led to significant stock price falls, even if reported cash flows were not affected. In other words, conservative accounting provides information that is useful beyond the estimated cash flows from a particular contract and protects investors and creditors from managerial opportunism. However, from a strict FVA perspective, were the accounts receivable reported by these firms unwarranted or unjustified as they did reflect future payoffs? The economic asset certainly existed: the issue was to what extent it had been earned.

The case of Lehman Brothers is consistent with Watts' argument. As of November 30, 2007, 75.1% of fair value assets were measured according to Level 2 or Level 3 inputs. In other words, the majority of assets supposedly valued at fair value were not valued on the basis of directly observable quoted prices. By May 31, 2008, that proportion had increased to 81.7% of assets measured at fair value, suggesting that barely 18% of assets supposedly valued according to FVA were marked to market. Further empirical work as well as the liquidation of Lehman Brothers will eventually provide additional evidence regarding the extent to which its assets may have been overstated or purposely shifted into Levels 2 or 3 to hide developing losses and give management more discretion. At the very least, it suggests that FVA reporting may work well for investors when assets trade in deep and efficient markets but may become less transparent when market conditions become more difficult or less liquid. It is telling that Lehman Brothers was an early adopter of both SFAS 157 (Fair Value Measurements) and SFAS 159 (Option for Fair

Value Measurement), deciding to implement their provisions in the first quarter of its 2007 fiscal year.

The Lehman case, as well as many others, raises the issue of FVA's applicability as it is being extended from instruments traded in liquid and organized markets to credit-type instruments that are often securitized and which are not transparent about their underlying assets. The valuation of these credit-type instruments is made difficult by the lack of direct information. Moreover, the market for these instruments is not as deep and liquid than as that for traditional instruments such as bonds, equities or foreign currencies. Apparently, markets were not efficient in assessing the value of these structured investment vehicles or securitized pools of assets, and investors may have relied too much on the judgment of parties such as credit rating agencies which had partial information and were facing some potential conflicts of interests since they charged fees to render opinions on specific securities.

Accounting and the Market: Mirrors Facing Each Other

The mapping of market values on corporate balance sheets mandated by accounting standard setters contrasts with the trend by many analysts and sophisticated investors to use financial statement data to gauge whether a firm's stock market value has moved away from its fundamental or intrinsic value. In that regard, Lee, Myers, and Swaminathan (1999) show that value and price are co-integrated but can diverge from each other when information acquisition is costly, i.e., prices can veer away from fundamentals. Moreover, they also show that value relevance has two dimensions. When price is a noisy measure of value, value-relevance may be

assessed according to the ability of an information signal to contribute to return prediction (instead of current value). This suggests that accounting standard-setters' mapping between value relevance and FVA may be defined too narrowly and that both dimensions could potentially be considered.

These divergent trends raise a fundamental question as to the grounding of financial statements. Macintosh, Shearer, Thornton and Welker (2000) argue that the market uses accounting earnings, along with other information, to value firms' stock and other securities. However, the prices of many of these securities underlie derivatives' prices, which then find their way into financial statements through FVA, thus completing a circular sequence! As Macintosh et al. (2000) say: "Companies' earnings determine security prices, which determine derivative prices, which determine companies' earnings. In short, neither the accounting sign nor the financial market sign appear to be grounded in any external reality. Instead, each model appeals to the other model for the only "reality check" available."

According to Mcintosh et al. (2000), financial reporting becomes a self-referential simulacrum, potentially detached from reality, or an hyper-reality. Lehman Brothers' experience in the months leading to the crisis provides a recent illustration of that trend. During its last complete fiscal year before its bankruptcy (2007), Lehman Brothers reported earnings of around $4.3 billion. Investors presumably relied on Lehman's reported earnings to assess its prospects and value its shares. The chain of decisions exactly matches the above quote from Macintosh et al. A significant proportion of Lehman Brothers' assets were actually shares and share-based derivatives (more than a third of its assets measured according to FVA). Shares traded on a stock market are all affected to a varying degree by the same secular trends and fluctuations (e.g.,

systematic risk). Hence, one can argue that Lehman Brothers earnings and its stock price were mutual reflections of one another, possibly detached from underlying real operations. Such a conclusion can probably be extended to many financial institutions deeply involved in the current crisis or engulfed by it.

Lehman Brothers' equity-based compensation provides another illustration of the self-referential sequence that FVA introduces into financial reporting and stock market prices. In 2007, Lehman granted close to 39,000,000 deferred share units to its executives and employees. On the basis of the firm's quoted stock price on the dates at which these grants were made, the overall value of the grant was around $2.7 billion. Since 2006, SFAS 123 has mandated the measurement and recognition of equity-based compensation at fair value, using an amortization method for grants that have a long-term vesting period. Thus, in 2007, Lehman Brothers reported an expense for equity-based compensation of $1.8 billion, close to 25% of earnings before income taxes and equity-based compensation expenses. Hence, the amount reflected as an expense by Lehman on its financial statements reflects the current quoted price of its stock at grant date. Moreover, as its stock price fluctuates, Lehman's reported expense will fluctuate as well since the amortization of the deferred equity compensation grants is re-evaluated according to current market prices (in contrast to stock options, which are valued only at the grant date). Therefore, a significant portion of Lehman's reported earnings in the period leading to the Fall 2008 crisis were actually driven by Lehman's own stock price. One can further assume, if financial statements had been available, that compensation expense would have shown a significant drop in the last quarter of 2008 as Lehman's stock price went down.

MESSENGER OR CONTRIBUTOR: A DISCUSSION

The above discussion suggests that assigning a messenger role to accounting potentially downplays its importance and relevance to the current crisis since the message is not neutral but conditioned by accounting standards. However, two issues arise from the use of FVA-derived information in regulatory oversight. First, FVA information is highly volatile and sensitive to market prices, which can enhance or distort investors' perception of value during market bubbles or crises. For example, under FVA, the wild fluctuations of the stock market during the last quarter of 2008 and the first quarter of 2009, with some daily closings showing gains or losses from the preceding day of 5-10%, imply similar fluctuations in any stock market-based assets. Hence, a firm may be solvent one day (assuming a large stock market gain), insolvent the next two days (assuming large stock market losses), and solvent again on the fourth day. While informative, is FVA-based financial reporting useful to regulators in planning and timing their interventions? The answer is that FVA information alone is probably necessary but is not sufficient. Other performance and risk metrics are needed to identify the targets of regulatory actions. A similar argument can be used to justify that FVA information is not sufficient for long term governance purposes as it is not stable enough and difficult to verify. The reliance on FVA-based information may have two opposite implications regarding the length and severity of the current crisis. On one hand, the discretion underlying FVA figures may have allowed managers to delay the day of reckoning, when underlying subprime assets started to unravel. Moreover, the sensitivity to market prices that it introduces into financial statements may have amplified the impression of financial performance and solid capitalization in the bubble period. On the other hand, once the values of underlying assets started crashing, FVA induced balance sheet realignments and recapitalizations may have further magnified the crisis.

Second, some argue that FVA values are not the issue. Rather, the issue is the quality of the accompanying disclosure (Leone, 2008). For example, Susan Schmidt, a former governor of the Federal Reserve Board and bank CFO argues that the focus should be on disclosure so that everyone, regulators and investors alike, understand the drivers behind fair value estimates. FVA information can be deceptive: until close to the crisis, both Lehman Brothers and AIG appeared solvent and sufficiently capitalized, with significant portions of their balance sheet relying on FVA. However, both firms' FVA point estimate values did not tell the extent of the downside risk they were facing if events did not evolve according to expectations, Lehman because of its exposure to the increasingly illiquid collateralized debt obligations market and AIG because of its exposure to rapidly deteriorating credit-default swaps.

Looking at both firms' financial statements, it would have been difficult to assess the potential magnitude of losses to be incurred because of these exposures. For example, in the Management Discussion & Analysis section of its 2007 Annual Report, Lehman Brothers reports that average daily trading revenue volatility increased from $35 million in 2006 to $48 million in 2007 (these figures are inferred from Lehman's Value-at-Risk computations based upon the previous rolling 250 days). Lehman also reports that its largest daily trading loss was $137 million in 2007 (vs. $59 million). While both sets of figures suggest a more volatile environment in 2007 than in 2006, they pale besides Lehman's total FVA asset exposure of $291 billion at the end of 2007 (FVA liability exposure was $149 billion): the uncertainty underlying the measurement of FVA assets and liabilities is likely to be several times the VAR figures reported in the MD&A. Hence, it can be ventured that FVA without adequate additional disclosure is neither fair nor a good reflection of value that is at risk.

CONCLUSION

The purpose of the paper was to briefly present FVA, its origins, application and implications for financial reporting as well as its potential role during the current financial crisis. While no definite conclusion can be reached at this early stage, there is reason to believe that fair value accounting is more than just a messenger carrying bad news and, therefore, may have contributed to the acceleration of the crisis, especially in the financial sector. While the relevance of FVA for investors cannot be questioned, its other qualities (or weaknesses) may have been overlooked by standard setters and regulators.

FVA for financial instruments is part of a broader trend in accounting standard setting to move away from "accounting" toward estimating expected future cash flows and incorporating into financial statements, i.e., "forecounting" (Magnan and Cormier, 2005). The trend undermines decades if not centuries of accounting practices and concepts such as conservatism and verifiability and requires a completely set of valuation skills and knowledge from accountants. The current crisis constitutes the first serious challenge to this trend, and to FVA in particular, and is likely to generate abundant empirical research over the next few years which will allow us to better assess the pros and cons of fair value accounting.

However, if not FVA, what else? Standard-setters and accounting academics argue that there is no alternative measurement or reporting model (Barth, 2007). However, various financial and economic interests are at play, such as additional powers for standard setters, additional business for providers of accounting and valuation services and increased uncertainty about bonuses for managers and executives. Hence, viewpoints and arguments from interested parties must be reframed accordingly. The debate goes further than accounting and financial reporting and deals

with the essence of what accountants are expected to contribute to society and, implicitly, what competences and skills they must possess to deliver in that regard. One may surmise that current accounting standards, such as those relating to fair value, overstretch accountants' current capabilities and prior learning and obscure other informational needs by investors and other interested stakeholders.

The IASB is revisiting the issue once again and has recently issued exposure drafts on fair value measurement and financial instruments' classification: IASB 2009a provides additional guidance on the measurement of fair value while IASB 2009b overhauls and replaces IAS 39, which is the current standard for financial instruments. With respect to classification of financial instruments, the IASB proposes two measurement categories: amortised cost and fair value (IASB 2009b). The classification into amortised cost is criterion-based: 1) Does the financial instrument have basic loan features? 2) Is the instrument managed on a contractual yield basis? Both criteria imply contractual and determinable cash flows, which typically can be estimated and verified. Financial assets measured at amortised cost would be subject to a single impairment model. All equity instruments would be reported at fair value.

On the surface, the IASB's approach appears consistent with theoretical and empirical findings that suggest we need to rethink our blanket assumption that FVA works well under any context or conditions. Nevertheless, the assignment of financial instruments into two distinct categories with different measurement bases may be a deceptively simple solution as financial innovations over the past 30 years have clearly told us that financial instruments can be designed to fit specific purposes, even pass a particular criteria-based test. In addition, equity instruments have

also the right to share cash flows, albeit on a residual basis, and are certainly exposed to the same market turbulences as contractual-type instruments (e.g., illiquidity). Hence, it remains to be seen if these measures will address the core issues raised by many commentators.

In a commentary in the Financial Post (2009), Thornton argues that, as accountants, *"We need to start with a clean sheet of paper in revising the accounting so that it clearly and credibly distinguishes lemons from cream puffs".* In reviewing the market conditions during the crisis, he notes that auditors ought to drill down into bank assets to assess their underlying value, more specifically by verifying expected future cash flow projections. If market prices diverge from underlying or intrinsic values for lack of liquidity reasons, then such an audit would validate management's claim. Otherwise, the securities being held are probably "lemons", similar to used cars sold by unscrupulous car salespeople and should be marked to market in the absence of audited verification of level 3 inputs. Thornton's perspective on fair value is a call for accountants to regain control over the financial reporting process instead of passively relaying market-induced values. His views are also consistent with Allen and Carletti's (2008b) that knowledge of underlying markets is critical for reporting purposes. Moreover, his suggestion is also consistent with empirical findings that the valuation of fair value assets is enhanced when higher quality auditors or expert audit committees are involved (See Kolev, 2008; Goh et al, 2009; Song et al, 2009). The intervention of external parties such as auditors to drill down into the parameters underlying fair value figures also breaks the endogeneity loop referred to by Macintosh et al. (2000). However, he offers a major challenge to our profession to retool itself and rethink how auditors work, especially when markets are experiencing liquidity or other crises. Thus, the market crisis has provided the accounting and auditing profession with a rate

opportunity to take a leadership role in managing the transition of financial statements toward FVA. The future of the profession rests on its success in managing such a transition.

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Notes

1. For specialized firms (pension funds, investment banks, etc.), fair market value may apply to all assets and/or liabilities. Moreover, while SFAS 115 does not apply to unsecuritized loans, it does apply after their securitization.
2. While studies take many different forms, the most widely used approach closely resembles the following (simplified version of a regression):

   $$Price_{it} = \beta_0 + \beta_1 Assets_{it} + \beta_2 Liabilities_{it} + \beta_3 Unrealized\ Gain(Loss)_{it}$$

   where i represents a specific firm, and t, a given year-end. Variables are measured in $, in $ per share, or standardized by proxies for firm size. Price equals a firm's stock market price while both Assets and Liabilities are as on the balance sheet (consistent with Generally Accepted Accounting Principles). Unrealized Gains(Losses) reflect the difference between an asset market value (according to FVA) and its book value (according to GAAP). FVA-measured information is deemed to be relevant for investors if results from the regression model show that β_3 is positive and statistically significant.
3. For instance, as early as 2000, the Financial Accounting Standards Committee of the American Accounting Association stated that "..The Committee generally supports the FASB position that financial instruments be reported in the financial statements at fair value..."(Wahlen, Boatsman, Herz, Jonas, Palepu, Ryan, Schipper, Schrand and Skinner, 2000).
4. For example, a leading proponent of FVA, Katherine Schipper was a member of the FASB between 2001 and 2006. One of the researchers who pioneered empirical work on FVA, Mary Barth, is currently a member of the International Accounting Standards Board and was previously involved with the American Institute of Certified Public Accountants and the FASB.
5. There is an alternate position that fair value accounting may be too conservative under some conditions, contradicting the going concern assumption. For instance, Benston (2008) actualy argues that fair value accounting-based information may be useful to some creditors and shareholders of firms facing liquidation, but not for investors in other firms with no going concern uncertainty. Since the fair value of an asset is defined as "...the price that would be received to sell an asset ... at the measurement date..."(SFAS 157.5), it

implicitly assumes that, at the end of each reporting period, an entity sells its assets at market or model-estimated prices at that same time. A liquidation balance sheet is not prepared very differently.

6. For example, Barth, Landsman and Wahlen (1995) show that fair value-based measures of net income are more volatile than historical cost-based measures.
7. For instance, Irene Wiecek argues that "...the credit crisis is not the fault of accounting. It is the fault of overly lenient lending practices". On top of that, she says there was a lack of oversight and regulation in this area" (G. Jeffrey, 2008).
8. For example, CFA Institute. 2008. Investors Overwhelmingly Agree: Fair Value Should Not be Suspended and the Bailout Plan Will Help the U.S. Economy. September 26 (www.cfainstitute.org).
9. It is relevant to note that, prior to the change in Canada's Bank Act in 1992, Canadian banks were forbidden to offer stock options to their executives.
10. There is empirical evidence that effective auditing of FVA derived numbers requires very specialized valuation knowledge which may be difficult for auditors to gain and maintain (Martin, Rich, and Wilks. 2006).