

# Fair Value Accounting and Financial Stability

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Over the past decade, accounting standards for the valuation of financial instruments have evolved to better reflect the economic reality facing publicly accountable companies. An important change is the measurement of an increasing array of financial assets and liabilities at “fair value,” i.e., at the price that knowledgeable and willing parties would pay in an arm’s-length transaction at the date of the financial statement.

In principle, this allows for financial statements that are more relevant and more easily comparable across entities. However, since markets are prone to bouts of excessive optimism and pessimism, the use of fair value accounting can affect the economy and the financial system in unintended ways—for example, by reinforcing the peaks and troughs of the economic cycle. While the valuation of financial instruments according to their market value remains an accounting technique that is superior to the alternatives (e.g., historical cost), there is room for improvement in the way changes in value are measured and presented when there are challenges in assessing an instrument’s fundamental value.

This report examines some of the implications of fair value accounting for financial stability.

## THE RATIONALE FOR FAIR VALUE ACCOUNTING

Accounting information plays a fundamental role in the efficient functioning of a market economy. Financial statements facilitate the allocation of capital throughout the economy by conveying information that helps creditors and investors assess an entity’s future profitability. A sustained flow of timely and relevant information also underpins the stability of markets by enhancing transparency about an entity’s activities, thereby promoting market discipline.

Of course, if financial statements are to provide an appropriate guide for decision making, it is imperative that they portray the economic reality of an entity’s financial position and performance as accurately as possible. Traditional accounting

valuation techniques measuring financial instruments at historical cost mask changes in the fundamental economic value of financial instruments.<sup>1</sup> This can make it difficult for users of financial statements to adequately analyze an entity’s economic situation, and investors would be expected to demand increased risk premiums as remuneration for this uncertainty.

Historical cost accounting also reduces the comparability of financial statements across entities. For example, suppose that two firms are both holding a certain financial asset. Under historical cost accounting, the accounting value of this asset could be different on the balance sheets of the two firms if they acquired it at different times.

Historical cost accounting can, nonetheless, be appropriate. It is still used in certain situations—for example, for instruments with a fixed maturity that are intended to be held until maturity.

Box 1 describes accounting standards for financial instruments in greater detail.

## FAIR VALUE ACCOUNTING: APPLICATION ISSUES IN INACTIVE MARKETS

Fair value is defined as a price agreed upon by a knowledgeable, willing buyer and a knowledgeable, willing seller in an arm’s-length transaction. Underlying the concept of fair value is a presumption that an entity is a going concern without any intention or need to liquidate, to materially curtail the scale of its operations, or to undertake a transaction on adverse terms in the context of a distressed sale.

Fair value can be measured in a number of ways. U.S. Generally Accepted Accounting Principles (GAAP) established a

1. Under historical cost accounting, revaluations to align the accounting value of an asset or liability with its market price occur only in certain situations. For example, it occurs when an instrument is part of the trading book of a financial intermediary, or when the holding entity can demonstrate that its value has been altered permanently.

## BOX 1

### OVERVIEW OF ACCOUNTING STANDARDS FOR FINANCIAL INSTRUMENTS

This box provides an overview of Canadian standards for measuring the value of financial instruments and for disclosing it in financial statements. Canadian standards are broadly similar to those in effect in other jurisdictions, most notably the United States and the approximately 110 countries that have adopted International Financial Reporting Standards (IFRS), a set of global standards developed by the International Accounting Standards Board that Canada will adopt in 2011.

The Canadian Institute of Chartered Accountants (CICA) has adopted a “mixed attributes” model, in which certain instruments are measured at fair value and others at historical cost.<sup>1</sup> The treatment of a financial asset or liability largely depends on how the firm intends to close out its position. If a financial instrument has a fixed maturity, and the firm can demonstrate that it has both the ability and the intention to hold the instrument until it matures, the instrument can appear in financial statements at historical cost, adjusted for payments that have been made or received and amortization of any discount or premiums. However, instruments that the entity actively buys and sells for the purpose of making a profit, or that otherwise cannot be classified as instruments to be held to maturity (e.g., equity investments, because they do not have a fixed maturity date), need to be measured at fair value. An entity also has the option to designate any instrument for measurement at fair value when doing so results in more relevant accounting information. This would be pertinent, for example, when fair value measurement would eliminate or significantly reduce an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on a different basis. Entities can also designate an instrument for fair value measurement when its performance is evaluated on a fair value basis in internal financial reports.

Gains and losses resulting from a change in the valuation of financial instruments measured at fair value need to be recognized in the income statement, even though they are not yet realized. Net income will be affected only in the case of financial instruments held for trading, or designated as held for trading under the fair value option. Revaluation gains or losses resulting from available-for-sale instruments are reported outside of net income, in a category labelled “other comprehensive income.”

In terms of disclosure, firms need to provide in their financial statements any information that would enable users to evaluate the significance of financial instruments for the entity’s financial position and performance, as well as the extent of risks arising from them. Disclosure standards follow a principles-based approach that allows for judgment in determining the level of detail to be disclosed about a particular instrument.<sup>2</sup> That is, firms are encouraged to strike a balance between overburdening financial statements with excessive detail and obscuring significant information with insufficient disclosure. Items that are considered pertinent according to guidance provided by accounting bodies include information about the terms of the financial instruments themselves, and how fair value has been determined. Firms are encouraged to convey information about the reliability of their valuation, so that users of financial statements are better equipped to assess the quality of the reported information.

1. See CICA Handbook, Section 3855 (Financial Instruments—Recognition and Measurement). The equivalent standard in the United States can be found in Sections 157 and 159 of the Statement of Financial Accounting Standards, and, for IFRS countries, in International Accounting Standard 39.
2. The level of detail that is required differs from one jurisdiction to another. For example, U.S. standards are more prescriptive than those in Canada or in IFRS countries.

hierarchy indicating the relative reliability of these measures. Canadian GAAP and International Financial Reporting Standards (IFRS) contain similar concepts.

When a financial instrument is traded on an active market, fair value is a quote from that market—the bid price for an asset held and the offer price for a liability. The Canadian Institute of Chartered Accountants (CICA) considers a financial instrument to be traded in an active market when quoted prices that reflect recent and regularly occurring transactions are readily and regularly available from an intermediary such as an exchange, a dealer/broker, an industry group, a pricing service, or a regulatory agency. Quotes from active markets are labelled “level 1” in the U.S. GAAP hierarchy.

In the absence of reliable and observable quotes from an active market, fair value is measured with a valuation technique. Accountants are directed to employ the valuation technique that makes maximum use of inputs observed in markets, and to rely as little as possible on inputs estimated by the entity. Valuation techniques using recent arm’s-length market transactions between knowledgeable, willing parties for instruments that are similar in substance to the one for which they need to establish a value are labelled “level 2.”

If such information is not available, fair value can be estimated with a valuation model that reflects how market participants would reasonably be expected to price the instrument. Examples of such models are discounted cash-flow analysis or option-pricing models. Whichever valuation technique is used, it needs to incorporate all the factors that market participants would consider in setting a price, and the model inputs need to objectively represent market expectations of the risk-return factors inherent in pricing the instrument. Valuation techniques based on models using observable inputs are part of the “level 2” category, while those relying heavily on unobservable inputs are labelled “level 3.”

It goes without saying that the absence of reliable estimates for the value of a given financial instrument raises significant concerns with respect to the reliability of the financial statements. Fair value can, in fact, lead to informational distortions—and, hence, to suboptimal economic decisions—if the models or observable prices used for measurement are inadequate.

Measurement concerns are particularly important during periods of market stress. There are also measurement concerns in the case of complex instruments that are infrequently traded and for which there is no established valuation technique with a proven track record. Whenever models are used in lieu of observable prices, there is potential for management to introduce bias into the valuation process through judgment.

For investors and other stakeholders to have confidence in the valuation technique used, firms need to demonstrate the credibility of their valuations by disclosing information about their valuation processes and controls.

A review of the financial statements of Canadian banks for fiscal year 2007 revealed that between 27 per cent and 46 per cent of financial assets (Table 1), and between 10 per cent and 36 per cent of financial liabilities (Table 2) were carried at fair value. Differences in the overall use of fair value are related to differences in the scale of activities in capital markets, as well as the use of the fair value option.

Most financial instruments carried at fair value were measured with observable prices (level 1) or with a valuation model using observable inputs (level 2). Instruments measured with models using unobservable inputs (level 3) accounted for a relatively small portion of holdings, but notes to financial statements suggest that losses on these instruments were responsible for a large share of the overall write-downs stemming from declines in market values that were reported by financial institutions.

Tables 1 and 2 indicate that there is considerable variability across Canadian banks in the observability of valuation inputs. Banks that had a higher proportion of instruments valued with non-market observable inputs likely had larger positions in securities and derivatives linked to subprime residential mortgages.

While fair value disclosures improved following the recommendations of the Financial Stability Forum (FSF 2008), there is still room for improvement. Not all quarterly reports of Canadian financial institutions contain the information shown in Tables 1 and 2, and this prevents users of those financial statements from monitoring the use of fair value on an ongoing basis. Certain institutions do not even provide this information in their annual statements. Users of financial statements would also benefit from a more detailed description of the valuation inputs used in each category.

Accounting standard-setters in Canada and in countries that follow IFRS recently proposed improvements to disclosure about financial instruments by requiring that this information be set out in tabular format in annual statements, using the same three-level hierarchy as in the United States. According to this proposal, not only would movements between levels of the fair value hierarchy need to be identified, but the reasoning behind them would also have to be indicated. Moreover, changes in the amount of level 3 instruments will need to be explained.

**TABLE 1****Financial Assets Carried at Fair Value for Major Canadian Banks**

	BMO	BNS	CIBC	NBC	RBC	TD
Percentage of assets carried at FV	35	27	32	39	46	36
Of which: (%)						
Level 1	65	73	64	n/a	53	34
Level 2	30	27	30	n/a	47	66
Level 3	5	1	6	n/a	<1	1

Source: Estimated from 2007 annual reports

**TABLE 2****Financial Liabilities Carried at Fair Value for Major Canadian Banks**

	BMO	BNS	CIBC	NBC	RBC	TD
Percentage of liabilities carried at FV	17	10	13	19	36	28
Of which: (%)						
Level 1	n/a	39	35	n/a	20	12
Level 2	n/a	59	55	n/a	80	87
Level 3	n/a	1	11	n/a	<1	1

Source: Estimated from 2007 annual reports

**MARKET TURBULENCE OF 2007-08**

Recent events in financial markets revealed some weaknesses and inconsistencies in the application of fair value accounting at financial institutions. As the liquidity of many markets became impaired, there was some uncertainty as to how to adjust valuation techniques. A BIS survey of accounting practices at financial institutions revealed that, in some cases, banks reverted to historical cost to value certain products (Basel Committee 2008). In other cases, they used trading prices for similar instruments or generic credit spreads based on a product's assigned credit rating. Some banks assumed that primary market prices were a good indicator of conditions in secondary markets. Finally, banks also increased their use of models, but the BIS survey found evidence that they took differing views on the reliability of certain inputs.<sup>2</sup>

2. A commonly cited example of the difficulties firms face is the valuation of complex securities linked to subprime residential mortgages. Some banks reportedly adjusted their valuation models to produce valuations in line with the quoted prices on Markit ABX HE indexes. The concern with this practice is that the instruments being valued may not be strictly comparable to the ABX index, and also that the observed price of the ABX index may represent sales in a distressed market.

Policy-makers and industry participants concur, based on their assessment of the recent period of market turmoil, that the way fair value accounting is applied in times of crisis needs to be reassessed (FSF 2008; IIF 2008). Some industry participants are proposing that fair value accounting be discontinued during a crisis. This seems undesirable both because historical cost accounting suffers from more serious shortcomings, and because it would increase investors' skepticism towards financial statements. The Financial Stability Forum and other policy-makers are instead calling on accounting standard-setters to strengthen guidance for applying fair value accounting standards when measurement is challenging (FSF 2008).

In response to the FSF, The International Accounting Standards Board (IASB) formed an advisory panel made up of experts from the financial industry, accounting standard-setters, as well as prudential and securities markets regulators to enhance its guidance on valuing financial instruments when markets are no longer active. The panel, which issued a report in October (IASB 2008), offered guidance on measurement and disclosure issues. The Financial Accounting Standards Board and the Securities and Exchange Commission also gave guidance.

These organizations noted that entities sometimes place undue emphasis on the distinction between active and inactive markets when measuring fair value. They contend that even when markets are inactive, transaction prices often provide the best evidence of fair value. Distress sales and involuntary liquidations are rare, and evidence is needed before determining that a transaction has taken place at a price that is not consistent with fair value. Models may be adjusted to reflect changing market conditions, but only if doing so can better capture fair value. Adjustments that drive measurement away from fair value, for example, for conservatism, are not appropriate.

In terms of disclosure, the guidance calls for more frequent and more detailed disclosure about fair values, including valuation techniques. When non-observable inputs are used, entities should discuss how the alternative inputs would have affected valuation.

Accounting standard-setters have amended IFRS and Canadian GAAP to harmonize them with U.S. GAAP regarding the ability to reclassify financial assets. These changes allow, in rare circumstances, an entity to reclassify non-derivative financial instruments out of the categories for which fair value assessment is required if the entity has the ability and the intention to hold them for the foreseeable future. Since valuation adjustments recognized prior to the reclassification cannot be undone, the accounting value of the instrument at the time the reclassification is conducted will be its new historical cost. The risk that these changes make financial statements less transparent and less relevant for their users is mitigated by enhanced disclosure requirements for entities that reclassify instruments. These include disclosures regarding the circumstances that led to the reclassification and a discussion of the exceptional nature of these circumstances.

## **PROCYCLICALITY IN THE FINANCIAL SYSTEM: THE ROLE OF FAIR VALUE ACCOUNTING**

Financial agents naturally tend to behave cyclically, taking more risks when economic activity is trending upwards and opting for safety in an economic downturn. When a process reinforces fluctuations in markets and the economy, it is said to be procyclical.

Market participants, regulatory agencies, and central banks are concerned about the procyclical nature of fair value accounting. Their main concern is that fair value accounting may create a “feedback loop,” whereby declines in asset values reduce regulatory capital, triggering asset sales and declines in lending which, in turn, trigger further declines in asset values. This loop operates in reverse when asset prices are rising, further accentuating booms in credit and asset prices.<sup>3</sup>

3. Recent work by Adrian and Shin (2008) explores this mechanism.

The procyclical nature of fair value accounting is not a concern in normal circumstances, when changes in accounting data simply reflect underlying economic volatility. It can, however, be a concern for financial stability when accounting valuation does not reflect underlying fundamentals. To the extent that asset values reflect overly optimistic or pessimistic estimates of discounted future cash flows at different points in the economic cycle, there is the potential for these price swings to translate into excessive fluctuations in the financial system and in the real economy.

During the recent credit crisis, increased doubts about the valuation of complex products and structured vehicles brought markets in certain asset classes to a virtual halt, with transactions taking place at a discount. These depressed market conditions led to substantial writedowns at financial firms, which responded by tightening credit and liquidating assets, reinforcing the market downturn and, in turn, leading to further writedowns. Fair value accounting, or the way it has been applied, may have been exaggerating losses incurred by those financial firms, thereby exacerbating market unease, stress, and dislocation (IIF 2008).

Recent work by the IMF (2008) highlights the procyclical impact of fair value accounting on the capital ratios of banks, and identifies measures that could mitigate it. The authors demonstrate procyclicality by simulating bank balance sheets over the business cycle under different accounting regimes. When they introduce a liquidity shortage to the model, the procyclicality is amplified when financial instruments are measured at fair value. Potential measures to mitigate procyclicality include expanding the set of liabilities that are marked-to-market and limiting the impact of changes in fair value on the balance sheet via a smoothing mechanism or a circuit breaker.

Applying fair value accounting to liabilities can also offset fair value losses (gains) on the asset side with gains (losses) from changes in an entity's own creditworthiness. However, the practice also gives rise to some counterintuitive outcomes in financial statements (Box 2).

By definition, dampening the impact of changes in fair value on the balance sheet will result in reduced procyclicality of capital. However, if fair value estimates are reliable and relevant for investors, any smoothing technique will obscure valuable information. Thus, the IMF suggests further strengthening of accounting standards to ensure that fair value estimates are as reliable and relevant as possible.

Since the unintended consequences of fair value accounting described here are reinforced by certain practices and policies that tie economic decisions to accounting data, they could be mitigated by not using fair value estimates in a mechanistic fashion. Users of financial statements need to take into account the uncertainty surrounding valuation estimates

## BOX 2

### TREATMENT OF LIABILITIES

Financial liabilities are subject to the same accounting rules as assets. Liabilities held for trading, such as securities sold short and derivatives with negative replacement value, must be carried at fair value, with gains and losses recognized in net income. Other liabilities would be designated as held to maturity, unless they are designated as held-for-trading under the fair value option. The fair value of liabilities is dependent on many market factors, including the entity's own credit risk. Accounting standards require entities to take into account their own creditworthiness in fair value estimates of liabilities. This means that a financial institution whose creditworthiness has worsened would recognize an income gain as a result of the decline in the market value of its obligations. In the most dramatic case, an insolvent entity might appear solvent as a result of marking to market its own credit risk.

Some observers have questioned whether a decline in the market value of liabilities represents a true change in the entity's financial situation. Indeed, prudential regulators and many market participants remove such gains and losses when assessing an entity's financial position (Basel Committee 2006). However, other observers suggest that applying fair value to liabilities could provide a natural offset to gains and losses from changes in the fair value of assets, thus reducing the volatility of reported earnings and capital (see the main text for details).

During the recent turmoil, many financial institutions reported gains from declines in their own creditworthiness. However, these gains were small compared with the writedowns reported on mortgage-related assets and other assets affected by the market turmoil.

disclosed in the statements. Good disclosure practices can provide users of financial statements with an understanding of the assumptions underlying these estimates, as well as the uncertainty surrounding them. Such information could be just as important for decision-makers as the financial statements themselves. Caution in interpreting fair values is equally important during cyclical upturns as during downturns.

### CONCLUDING REMARKS

Fair value accounting has the potential to amplify economic cycles, both on the upside and on the downside. Recent events have illustrated that, when markets are temporarily illiquid or when a temporary decline in risk tolerance leads investors to avoid risky assets, regardless of their intrinsic quality, fair value accounting can cause financial statements to paint a picture that does not represent the underlying economic fundamentals of a firm. While the application of fair value accounting needs to be clarified for situations where it is difficult to obtain reliable estimates of market value, it remains a superior method than the alternatives.

The procyclical nature of fair value accounting is more of a consequence of how accounting data influence economic decisions than of how financial statements are prepared. Fair values on financial statements are estimates of prevailing market conditions at one point in time. Recognizing this, policy-makers and market participants alike need the skills to interpret fair value and related disclosures, to assess the uncertainty surrounding these estimates, and to adjust their decision-making frameworks in a transparent fashion.

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