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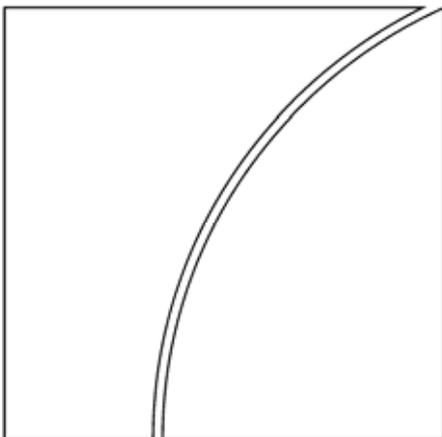
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Institution-specific value

by Ken Peasnell

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Foreword

On 11-12 November 2005, the BIS held a Workshop on “Accounting, risk management and prudential regulation”, which brought together a multi-disciplinary group of around 35 external participants including senior accounting practitioners, standard setters, finance academics, supervisors and central bank officials. The workshop programme is attached. This paper was presented at the workshop. The views expressed are those of the author(s) and not those of the BIS.

Abstract

The introduction of a new accounting standard for financial instruments, has raised a number of issues related to the application of fair value principles. This paper discusses some of these issues which are generally related to the fact that “fair values” are not always easily defined or readily available. It concludes that the application of fair value for financial liabilities might present fewer complications if it is matched by similar valuation principles for financial assets. The issue of measurement error is more complicated as it can be related to whether valuations refer to exit value, as postulated by the IASB, or deprival value, which is more closely related to firm-specific valuation. Measurement error is magnified in the income statement and so will be any biases from the application of historical accounting for derivatives. Despite any measurement issues, the problem of institution-specific dimensions of value that looms so large in the case of non-financial enterprises and makes the systematic application of fair value accounting fraud with difficulty there, would seem to be much more manageable for financial institutions because of their familiarity with risk measurement and management techniques for financial instruments.

Workshop on “Accounting, risk management and prudential regulation”

Room D, Bank for International Settlements
11-12 November 2005, Basel

Friday, 11 November 2005

Welcome by Malcolm Knight, General Manager, BIS

Session 1: Chairperson: William White, BIS

Paper 1: “Including estimates of the future in today’s financial statements”

by Mary Barth, Professor of Accounting, Stanford University

Discussants: Russell Picot, Group Chief Accounting Officer, HSBC Holdings London
Arnold Schilder, Executive Director of Supervision, Netherlands Bank

Paper 2: “Fair value accounting for financial instruments: some implications for bank regulation”

by Wayne Landsman, Professor of Accounting, University of North Carolina

Discussants: James O’Brien, Senior Economist, Division of Research and Statistics, Board of Governors of the Federal Reserve System
Thomas Daula, Chief Risk Officer, Morgan Stanley New York

Session 2: Chairperson: Sylvie Mathérat, French Banking Commission

Paper 3: “Institution-specific value”

by Ken Peasnell, Professor of Accounting and Finance, Lancaster University Management School

Discussants: Philip Lowe, Assistant Governor, Financial System, Reserve Bank of Australia
David Andrews, Director, Fitch Ratings Ltd

Paper 4: “Do accounting changes affect the economic behaviour of financial firms?”

by Anne Beatty, Professor of Accounting, Ohio State University

Discussants: Patricia Jackson, Ernst and Young, London
Gerard Gil, Group Chief Accountant, BNP Paribas

Saturday, 12 November 2005

Session 3: Chairperson: José Maria Roldán, Banco de España

Paper 5: “Implications of marking to market for market/system behaviour”

by Hyun Shin, Professor of Finance, London School of Economics

Discussants: Mauro Grande, Director, Financial Stability and Supervision,
European Central Bank
Richard Herring, Professor of Finance,
Wharton University of Pennsylvania

Paper 6: “Risk in financial reporting: status, challenges and suggested directions”

by Claudio Borio, Head of Research and Policy Analysis and
Kostas Tsatsaronis, Head of Financial Institutions and Infrastructure,
Bank for International Settlements

Discussants: Gerald Edwards, Jr, Financial Stability Forum
Philippe Jorion, Professor of Finance, University of California – Irvine

End of Conference

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Institution-specific value

Ken Peasnell¹

Introduction

Historical cost has long served as the bedrock of accounting measurement around the world. But this basis has frequently been criticised as providing outdated measures of value. The criticisms have been loudest in times of inflation, when calls have been made to replace or supplement the traditional historical cost basis of financial reporting with measurements that reflect either changes in the general level of prices or some form of current value. Disclosures along these lines were mandated by accounting standard setters in the United States and the United Kingdom as a consequence of the unprecedented high levels of inflation in the mid-1970s, but they proved unpopular with the business community and the requirements were dropped when inflation abated in those countries. Certain countries, such as the UK, Australia and the Netherlands, had always permitted (but not required) companies to revalue property, plant and equipment assets upwards and continued to do so afterwards.

The latest serious challenge to the traditional accounting model has come from a different quarter. The massive changes that have occurred in the world's financial markets in recent years have been accompanied by innovation in financial products on an unprecedented scale. Derivative securities have transformed the risk management activities of financial institutions and major companies in ways that were unimaginable a couple of decades ago. Such instruments represent highly leveraged claims on underlying assets, are often traded in highly liquid markets, and have market values which are volatile and that quickly bear no relation to the original purchase cost of such assets, which might indeed have been zero. The uneasy feeling grew in various quarters that external parties had no means of figuring out what was going on and that there was a very real possibility that such instruments were being used to "manage" earnings. The response of the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) has been twofold. The first has been to require detailed supplementary disclosures. The second has been to introduce "fair value" accounting for financial instruments.

I will focus in this paper on the way fair value is defined in International Accounting Standard (IAS) no 39, *Financial Instruments: Recognition and Measurement*. Very similar comments could be made about the equivalent US standard, Statement of Financial Accounting Standards (SFAS) no 133, *Accounting for Derivative Instruments and Hedging Activities*.² IAS 39 has had a stormy passage, and the journey might not yet be over. Much of the opposition to IAS 39 has come from European banks and insurance companies that do not want to carry their financial instruments at fair value in the balance sheet and worry that

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² The FASB and IASB have been coordinating their efforts to harmonise standards. At the time of writing, this has resulted in the issuance by the IASB of an additional standard on this subject, International Financial Reporting Standard (IFRS) no 7, *Financial Instruments: Disclosures*, and by the FASB of a proposed standard, *Exposure Draft: Fair Value Measurements*. An overview of the issues these and other official pronouncements pose for bank regulators and what might be learned from the empirical literature can be found in Landsman (2005).

their hedging arrangements might be misleadingly represented. The debate has already caused the IASB to revise IAS 39 several times.

The original 1998 version of IAS 39 set out a “mixed model” that required derivatives and available-for-sale financial assets to be valued at fair value, other financial instruments being accounted for at historical cost. For derivatives, fair value gains and losses were to be taken to profit or loss, whereas those associated with available-for-sale financial assets were to be taken directly to equity and transferred to profit or loss only on realisation. The standard attempted to improve the resultant mismatches by introducing a fair value hedge accounting option and a cash flow hedge accounting option that would align the gains and losses from both sides of a hedging transaction. In order to take advantage of these options, companies had to meet difficult and costly tests. Institutions found it particularly difficult to meet the tests for the kinds of macro hedging widely used in financial institutions involving the dynamic hedging of net positions of large portfolios of numerous and changing financial instruments. A central difficulty was the requirement that both sides of the hedge had to be separately identifiable. The IASB responded by amending IAS 39 in 2003 to include an additional option: an entity could designate any financial asset or financial liability as being “at fair value through profit or loss”.

An advantage of the revised standard is that it presented companies with a means of avoiding accounting mismatch problems that otherwise arise from the mixed model when using derivatives to hedge a portfolio of receivables, loans and held-to-maturity assets by designating all the components of the portfolio as being at fair value through profit or loss. This increased flexibility was opposed in various quarters. Not surprisingly, those who objected to the introduction of fair value accounting for derivatives and available-for-sale financial assets were very hostile to its extension to other financial instruments. Another objection raised was fair valuing liabilities could result in a financial institution reporting gains as its credit worthiness declines.³ The debate was particularly intense in Europe, with the European Commission proposing to ban the fair value option outright. The IASB issued a further revised version of IAS 39 in June 2005 that restricted the use of the fair value option to three circumstances: (1) when it eliminates or significantly reduces an accounting mismatch that would otherwise arise; (2) for a group of financial instruments which it can be shown are managed and evaluated on a fair value basis in accordance with a documented risk management or investment strategy, and (3) certain financial instruments that contain embedded derivatives.

Three sorts of concerns lay at the heart of the problems the IASB has had in developing an acceptable accounting standard for financial instruments. One has been an underlying concern that fair value accounting will involve the introduction of unacceptable measurement error into accounting. Another has been that piecemeal modification of accounting produces a mixed attribute model that creates fresh problems. The third is that fair valuing liabilities is inherently unsound because it can involve the recognition of gain as the entity’s credit-worthiness declines. The three concerns are interconnected, in that tradeoffs are involved.

Fair value is defined in IAS 39 as “... the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm’s length transaction” (paragraph 9). In the case of a financial instrument where there is an active market for which quoted prices are available, the appropriate price for an asset held will usually be the current bid price (and, for a liability held, the asking price) (paragraph AG72). This is an appealing concept, at least when applied to the assets side of the balance sheet. Not being dependent

³ There was also the added complication that an unrestricted application of fair value to all liabilities would run counter to the provisions of the 4th Directive and as such would breach the accounting regulations set out in the company laws of member states of the European Union.

on the plans and expectations of the institution, it can be meaningfully compared with that of another institution. A reliable estimate of the fair value of assets can be used by a banking regulator to assess the credit worthiness of a financial institution. However, application of the fair value option in the current version of IAS 39 is highly dependent on managerial actions and intentions, making it much more like an institution-specific value than was the original intention.

In the remainder of my paper I will discuss a number of aspects of the fair value standard in IAS 39 that involve institution-specific dimensions. I start by considering the treatment of financial liabilities because this aspect of IAS 39 is most at odds with traditional practice, followed by a discussion of financial assets. I then turn to the issue of measurement errors in the estimation of fair values.

Fair valuing liabilities

Consider first a setting where an entity's credit rating is sufficiently strong that it can collect deposits and issue notes and bonds at the same rate as equivalent risk-less government debt. Let us further suppose that its financial liabilities are all traded in an active market. A central characteristic of all financial instruments, one that distinguishes them from most non-financial assets and liabilities, is that there are two parties, the current holder and the issuer, whose positions are the mirror image of each other. It therefore seems only natural that their balance sheet representations should also mirror each other's, particularly if credit risk is absent, subject only to bid-ask spread. This may not happen if the accounting is done on an historical cost basis and the holder of the financial assets acquired them from some party other than issuer and interest rates have changed since their issuance. If the accounting is done on a market value basis, symmetry will be restored. Furthermore, if the issuer creates a perfect hedge of the interest rate exposure associated with its financial liabilities, this will only be reflected properly in reported income if both sides of the hedge are marked to market and the gains and losses included in income (ie marking-to-market the assets whilst recording the liabilities at historical cost will create a mismatch). The economic effects of macro hedging that has the goal of generating profit by taking specified risks subject to value at risk management controls will be properly reflected in income only if both the financial liabilities and the hedging assets are marked to market; any resultant gains and losses on the net position will reflect the risk-return trade-off the entity has made. This is the strong case to be made for fair valuing financial liabilities.

To a prudential regulator, the results of fair valuing financial liabilities might still be disturbing, even when credit risk is absent. Interest rate changes will make the fair value of deposits of a bank change in the opposite direction, even when the amount it has to pay to its customers has remained constant. However, the same will happen on the other side of the balance sheet; when interest rates change, the fair value of loans granted to its customers will change as well. From an accounting perspective at least, the objection to fair valuing both kinds of financial instruments seems weak.

Now let us relax the assumption of zero credit risk. The dual nature of financial instruments is unchanged. Credit risk poses no challenge to the logic of holders of such securities writing them down in their balance sheets; indeed, even under historical cost, provisions have always been made for possible bad debts. Fair valuing risky financial assets transfers the task of determining the credit risk from the entity to the market. The market does the same job when the enterprise borrows money. An entity with a strong credit standing will obtain more cash in return to the same promise to pay a fixed amount to the borrower than will an entity with a weak credit standing. In other words, credit risk enters into the measurement of a financial liability at time of initial recognition, under both historical cost and fair value accounting. The issue is whether it is appropriate to change the carrying value of a liability as

the market changes its assessment of the risk the enterprise will not meet its obligations subsequent to initial recognition. The rationale for fair valuing liabilities is that credit risk and interest rate risk are not in principle fundamentally different. A lender faces the risk that interest rates will rise or that the money will not be returned in full; both are bad news. The lender will be better off, of course, if interest rates fall and the entity's credit position improves. Fair value accounting captures these changes.

Nevertheless, it is easy to see that regulators could be disturbed by the possibility of failing banks appearing to have vanishing liabilities simply because the claims they represent are worth less in the marketplace. If financial assets were carried at historical cost and financial liabilities were valued on a current fair value basis, balance sheets would indeed be ineffective tools for monitoring financial viability. However, if financial assets were also fair valued then the vanishing liabilities of a credit-impaired enterprise would presumably be accompanied by vanishing assets; otherwise it is difficult to see how credit impairment can be deemed to have taken place. An alternative procedure that might be considered is to partition the fair value of a liability into a risk-less liability less a put option that the issuing institution has to hand over its assets instead of paying the promised amount. The measurement problems would appear to be formidable, and the benefits slight. Few enterprises would be happy publishing monetary estimates of their impending doom.

The fair valuation of financial liabilities will always be institution-specific to some degree, as long as there is any likelihood of the enterprise not being able to meet some or all of its contractual promises to borrowers in full. This applies both at the time of initial recognition and thereafter. An advantage of fair valuing financial liabilities is that it would preserve the symmetry of reporting by debtors and creditors.

The above analysis assumes that financial liabilities can be "separated" from the ongoing operations of the entity. This might not be true of bank deposit accounts which typically pay a rate of interest below the market rate to compensate the bank for the liquidity and payment services supplied to depositors. Contractually, such deposits are redeemable on demand. It could therefore be argued that the fair value of such deposits should be equal to the amount payable on demand, regardless of the rate of interest paid to depositors, on the ground that their values must be interest rate insensitive because they have a zero (contractual) term to maturity. However, in practice, such deposits do not turn over quickly and their effective time to maturity can be substantial. The valuation and risk management of such liabilities involves complex issues in practice.⁴ If the deposits were to be valued by reference to an appropriate term structure of market interest rates and related factors, the fair value estimates arrived at might be substantially lower than the amount repayable to the depositors. The difference is the "deposit premium" obtained by the bank as reward for the services provided to depositors and as such is a form of prepaid income. There is no market for such deposit premiums and any attempt to fair value must involve consideration of entity-specific factors. A case can therefore be made for "unbundling" the deposit premium element and treating it as an operating item rather than as a component of a financial instrument. The appropriate method of accounting might be to amortise the deposit premiums across the periods when the services are provided.

⁴ See Dewachter, Lyrio and Maes (2005) for further discussion of the economic issues involved and econometric estimates.

Fair valuing assets

IAS 39 stipulates that when an active market exists where quotes are available for the asset, the appropriate measure of fair value is its current bid price (exit value). The last occasion when there was a major debate in accounting about the appropriate choice of a current value basis for valuing assets followed in the wake of the 1973 oil crisis and finally led to the issuance of SFAS 33, *Financial Reporting and Changing Prices*, in the US in 1979 and Statement of Standard Accounting Practice (SSAP) no 16, *Current Cost Accounting*, in the UK in 1980, and similar standards in other countries.⁵ A central feature of both standards was the requirement to value non-monetary assets on a “current cost” basis, defined as the lower of replacement cost and recoverable amount. Current cost is thus markedly different to exit value.

The relative merits of current cost versus exit value were extensively debated in the 1970s. This was in no small measure because the late Professor Raymond Chambers vigorously (and almost single-handedly) promoted the case for exit values in numerous articles and books.⁶ In many ways, the debate at that time was a mirror image of the current one. The valuation aspect of the inflation accounting debate was concerned with how best to measure the non-financial assets held by industrial and commercial companies; the current debate is about the valuation of financial assets, particularly those of financial institutions. A problem for non-financial enterprises is they have assets such as work in progress, specialised plant and equipment, and other assets that can only be realised by transformation into other saleable assets through the production process or when bundled up with other assets. Such assets have negligible separable realisable values. Chambers recommended that such assets be assigned a value of zero because that is their current market value. The current cost alternative that was actually adopted is an entity-specific valuation model.

The IASB has mandated or accepted the use of current cost or other entity-specific valuation bases in other areas of accounting. Current cost is identified as an acceptable basis in IAS 29, *Financial Reporting in Hyperinflationary Economies*. In IAS 16, *Property, Plant and Equipment*, it is stated that if assets are revalued, they should be on a fair value basis, but the standard goes on to say: “If there is no market-based evidence of fair value because of the specialised nature of the item of property, plant and equipment and the item is rarely sold, except as part of a continuing business, an entity may need to estimate fair value using an income or a depreciated replacement cost approach” (paragraph 33).⁷ Though not labelled as such, this would appear to be current cost. IAS 36, *Impairment of Assets*, requires the entity to estimate whether an “impairment loss” has occurred, defined as when “... the amount by which the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount”, the recoverable amount being the higher of its net realisable value and its value in use (paragraph 6). Both current cost and recoverable amount are entity-specific measures of value.

The logic of recoverable amount as a measure of economic value is clear enough; that of current cost less so. The basis of current cost is deprival value. I will briefly summarise the

⁵ The most thorough discussion of the history of inflation accounting is Tweedie and Whittington (1984), the authors of which are respectively currently chairman and a board member of the IASB.

⁶ His seminal book, Chambers (1966), sets out as complete a case as has ever been made for making exit price the valuation basis for accounting by all enterprises.

⁷ IAS 16 points out in paragraph BC26 that the IASB is working with national standard setters to identify a preferred measurement attribute for revaluations of property, plant and equipment, warning that this research could lead to proposals to amend the standard.

logic involved as doing so provides a useful means of contrasting entity-specific value and exit value.

Deprival value has a long history in economics and can be defined as the amount you would need to be compensated if you did not have (were deprived of) the asset in question. It is the benefit you expect to get with continued ownership of the asset, arrived at after deducting any benefits that might arise if denied possession of the asset. If the enterprise could simply replace the asset in question without any disturbance to its operations, the difference would simply be the cost of replacement: while the revenue from operations would be the same, ownership would obviate the need to acquire the asset. If value in use did not warrant replacement, the deprival value would be equal to the recoverable amount. The valuation exercise could get complicated in the case of long-lived operating assets as it might be necessary to consider knock-on effects into the distant future (Baxter (1971); Bell and Peasnell (1997)). However, the problem is more straightforward when applied to financial assets – or at least to those traded in active markets.

In financial markets, the possibility of arbitrage ensures that the replacement cost (asking price plus brokerage fees) will exceed the asset's net realisable value (bid price less brokerage fees). In this situation, it is easy to deduce that the deprival value of a financial asset must be lower-bounded by its net realisable value and not more than its replacement cost. The difference between replacement cost and realisable value can be enormous in real-asset markets. However, in many financial markets the bid-ask spread is small and other transaction costs are also very small (at least for financial institutions); in which case, the deprival value will be very close to the fair value of the asset. Fair value will provide a good approximation of entity-specific value, and vice versa.

However, even in the financial world there are assets where bid-ask spreads can be large and transaction costs non-trivial. Indeed, one of the primary functions of financial intermediaries such as banks is to bridge gaps in financial markets. IAS 39 states that if the market is not active, fair value is to be established by “using a valuation technique ... [that] (a) incorporates all factors that market participants would consider in setting a price and (b) is consistent with accepted economic methodologies for pricing financial instruments” (paras AG74 and AG76). Examples of such valuation techniques include the current fair value of substantially the same kind of financial instrument, option pricing models and discounted present value analysis. Though it is no longer clear what is being measured, the intent would appear to be to approximate what the asset might fetch if sold, even if sale would be a rare occurrence. But the distinction between institution-specific value and the ideal of an arms-length market value is difficult to draw in such circumstances, if only because then the latter doesn't really exist. Fair value accounting provides temptations to management to “manage” earnings in such circumstances.

This risk has to be weighed against the temptations that historical cost accounting provides to engage in transactions that will also “manage” earnings. Financial institutions have created clever ways of “selling” financial assets which present such opportunities. The volume and monetary value of securitised transactions involving the transfer of mortgage debts, leases, loans and credit card balances to special purpose vehicles have grown enormously in recent decades. The economic purpose of such transactions is to enable the institutions to issue low-risk asset-backed securities. The transactions have to be carefully packaged to protect the investors from the credit risks and prepayment risks associated with the underlying assets. The problem for accountants is that what purport to be asset sales often look more like secured borrowing transactions; but if the transactions meet stringent risk-transfer requirements they are permitted to be treated as sales. An advantage of valuing all financial assets at exit value is that doing so would limit the scope of enterprises to “manufacture” accounting profits at times that suit them through securitisation and other sales. If a key reason for departing from historical cost is to reduce the scope for earnings manipulations, then this is more likely to be achieved when valuation is done on an exit price basis than a current cost one.

Measurement accuracy

A criticism that has always been advanced against the use of current value methods in accounting is that doing so will reduce the reliability of financial statements. This has not stopped the IASB mandating the use of fair values in IFRS 3, *Business Combinations*, in IFRS 5, *Non-current Assets Held for Sale and Discontinued Operations*, in IFRS 5, *Non-current Assets Held for Sale and Discontinued Operations*, and permitting its use in other areas. It is not obvious that the problems of arriving at reliable estimates of value in these other areas are inherently easier than with financial instruments. Indeed, while evidence on the matter is scarce, it seems likely that financial instruments will generally be able to be valued with greater accuracy.

A critical issue is whether revaluation gains and losses are to be included in reported income. It is easy to demonstrate that errors in re-measurement of balance sheet amounts can be magnified in profit or loss.

Let us denote BV_0 and BV_1 as the beginning-of-period and end-of-period book value of the asset, respectively, with the difference, $Y_1 = BV_1 - BV_0$, being the gain or loss on revaluation. Measurement error can be defined as the variance of the estimate of value around its true (but unobservable) true value. Suppose we assume that management does its best and does not bias its estimates; in which case, on average, the reported estimate will be equal to the true fair value of the asset. Let us characterise the resultant measurement errors of opening and closing assets and the gain or loss in terms of their mathematical variances, denoted as $\text{var}(BV_0)$, $\text{var}(BV_1)$ and $\text{var}(Y_1)$, respectively. We know from statistical theory that the variance of the revaluation gain or loss can be expressed in terms of the following mathematical formula:

$$\text{var}(Y_1) = \text{var}(BV_0) + \text{var}(BV_1) - 2\text{cov}(BV_0, BV_1),$$

where $\text{cov}(BV_0, BV_1)$ is the covariation between the opening and closing book value estimates. If our measurement errors are random, we can assume that the valuation error at one date does not affect the error at the next, and so $\text{cov}(BV_0, BV_1) = 0$.⁸ This implies that

$$\text{var}(Y_1) = \text{var}(BV_0) + \text{var}(BV_1).$$

If we assume that measurement accuracy stays pretty much the same through time, such that $\text{var}(BV_1) = \text{var}(BV_0)$, the variance in the error of the revaluation gain or loss will be twice that of the variance of the carrying value estimates!

The intuition behind this result can perhaps best be conveyed in the phrase, “income is the difference between two large numbers”. The following simple numerical example illustrates the logic involved.

Consider an asset with a true fair value of €100 at the beginning of the year and a true value at the end of the year of €120. Further suppose that the estimates of fair value fall into one of three equally likely states: equal to true value; true value plus 10% error; and true value minus 10% error. Table 1 summarises the outcomes. The numbers in the first column of the table are the three different possible opening book value estimates; the numbers in the first row of the table are the end-of-period book values. The other figures are the gains and

⁸ This is a reasonable assumption with market valuations, but it might not be reasonable for accounting estimates such as loan loss provisions, where the correction of a previous accounting estimate might induce a negative correlation between estimates.

losses associated with particular opening and closing book values.⁹ Nine possible profit or loss outcomes are possible; all are equally likely. The expected (true) gain is €20. The variances of the opening and closing estimates of true value are €66⅔ and €96, respectively. But the variance of the estimated revaluation profit or loss is €262⅔, ie, equal to the sum of the two asset value variances.¹⁰ If we compute the standard deviation by taking the square root of this variance, we have a measure that can be directly compared to the mean or expected gain or loss, ie, the income effect is equal to €20 plus or minus a standard deviation of €16.2. In other words, a balance sheet error of plus or minus 10% has magnified into a profit or loss error of 81%.

Accountants tend to deal with balance sheet estimation errors in one of two ways. The first is to avoid making such estimates. The practice of measuring assets at historical cost can be thought of as an application of this approach. Bias is introduced as a result. If the bias remains constant through time, the errors cancel in the measurement of income. Suppose in our numerical example the asset was originally purchased for €90 and is carried in the balance sheet throughout the period with no income being recorded for the asset. The carrying value is 10% less than its true value at the beginning of the period, but this understatement of fair value has increased to 25% by the end of the period. The carrying value bias is increasing. There is no measurement error in the measurement of income, but in this example none of the true gain has been recognised; the bias is therefore 100%. It is possible to construct examples where the income recognition bias from one measurement method is less than the income recognition measurement error of an unbiased measurement method (Ijiri and Noel, 1984).¹¹

The other approach to dealing with balance sheet estimation errors is to break the link between the balance sheet and the income statement. Gains and losses arising from the revaluation of assets are transferred directly to an “asset revaluation reserve” or “other comprehensive income” section of equity. This might be a temporary holding place, from whence the accumulated gains and losses are later transferred to profit or loss when the asset is finally sold or otherwise derecognised.¹² This is the treatment required in IAS 39 for gains and losses on available-for-sale financial assets. Similarly for property, plant and equipment accounted for under the revaluation model, IAS 16 requires that revaluation surpluses be credited to equity and permits their subsequent transfer directly to retained earnings when the asset is derecognised.

The rationale for deferring the recognition of revaluation gains and losses is therefore primarily one of “waiting until one knows for sure the gain or loss”. It is easy to understand why this stance might be taken with assets such as property, plant and equipment, where the markets are incomplete and transaction costs loom large, making firm-specific assumptions an essential part of valuation estimates. Many financial instruments are traded in highly liquid

⁹ Each element is the difference between the number at the top of the column and the number at the left of the row.

¹⁰ The calculations can be verified as follows. The opening and closing book value variances are $\frac{1}{3}[(110-100)^2 + (100-100)^2 + (90-100)^2] = 66\frac{2}{3}$ and $\frac{1}{3}[(132-120)^2 + (120-120)^2 + (108-120)^2] = 96$, respectively. The variance of the revaluation difference can be computed directly by taking the squared differences of all the revaluation gains and losses in the table: $\frac{1}{9}[(-2-20)^2 + (10-20)^2 + (22-20)^2 + (8-20)^2 + (20-20)^2 + (32-20)^2 + (18-20)^2 + 30-20)^2 + (42-20)^2] = 262\frac{2}{3}$.

¹¹ An example might be a drug company that spends a similar amount each year on research and development and expenses such expenditure immediately. If the true (unknown) value of its R&D assets remains constant through time, the non-recognition of those assets will have no effect on income, whereas attempting to value such assets might result in very noisy estimates of income.

¹² An exception is often made for impairment losses, which might be charged to profit or loss. This is an example of accounting conservatism rather than a response to possible measurement errors.

secondary markets where market values can be unambiguously determined. Arbitrage will tend to drive prevent such market prices from diverging from consensus views of fundamental value. In such settings, little or no improvement in income measurement accuracy would seem to be gained by deferring profit recognition until time of sale. An unsatisfactory aspect of IAS 39 is that the treatment of fair value gains and losses is determined by the class of financial instrument rather than by measurement principles. In particular, if the gains and losses on available-for-sale financial assets can be reliably determined, then the case for including them immediately in income would seem to be compelling.

The picture is different when market prices are not available for these or similar assets and fair values have to be determined by recourse to present value estimates or option pricing models. In such circumstances, fair value estimates must depend heavily on the entity's judgments and knowledge about how the instrument will be used. A similar situation can arise even when market prices are available, but the enterprise has greater knowledge about the true worth of the assets than do other market participants. Banks have detailed knowledge of their customers' credit worthiness, for example, that cannot always be conveyed and communicated to outsiders. In this situation, market price will not generally approximate the fair value ideal of the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction. When a party known or suspected to be in possession of superior information offers to sell an asset, other market participants will wonder why and tend to fear the worse. Market price will be at a discount to what the enterprise knows is its true value. As a result, when enterprises sell such assets, they often provide guarantees to make good losses or provide other forms of credit enhancement in order to obtain a price which corresponds to their inside knowledge of what the assets are really worth.¹³ Asset securitisations can be thought of as mechanisms for achieving such an end.

Revaluations of assets where market prices are either absent or are unsatisfactory measures of value will have to incorporate institution-specific information that cannot easily be attested by auditors and other third parties.¹⁴ A case can be made for deferring final recognition of profit or loss until such time as the asset is derecognised and the true picture can be unambiguously determined. How many financial instruments fall into this category is unclear. The danger is that the fact that some do might be used as a blanket excuse to avoid the inclusion of reliably measured estimates of fair value gains and losses in profit and loss.

As noted previously, demand deposits pose a special challenge. No ready market exists for such claims, but that does not rule out the possibility of arriving at reliable estimates of the values of such liabilities. However, the fair valuation of demand deposits will give rise to the recognition of demand premiums, and these premiums do not really warrant being treated as financial instruments. A case can be made for separating out deposit premiums and allocating them in a systematic manner over the period in which the bank provides services to the depositors.

Sight should not be lost of the key attraction of the fair value through profit or loss option. The option enables companies to avoid the accounting mismatch problems that otherwise arise from the mixed model when using derivative to macro hedge a portfolio of assets not

¹³ Problems caused by informational differences among market participants are pervasive, but they received relatively little attention in the economics and finance literatures until the seminal paper by Akerlof (1970). He pointed out that such information asymmetries can lead to a "market for lemons" whereby poor products drive out good ones, possibly resulting in the collapse of the market.

¹⁴ For further discussion of this issue, see Barth and Landsman (1995).

accounted for on a fair value basis.¹⁵ Little research is available about the effects of trying to combine fair value with other measurement bases, but one interesting study is that by Gebhardt, Reichardt and Wittenbrink (2004) who developed a simulation model to investigate the effects of a bank using different accounting rules for financial instruments. They demonstrate that when all sides of a hedge are fair valued, the true economic picture will be correctly presented. Complete hedges result in zero net gains. Partially hedged positions report gains or losses related to the unhedged position. A problem with historical cost-based hedge accounting is that it obscures the different economic exposures of complete hedges and partial hedges, whereas a comprehensive fair value accounting system reports the true position in a timely manner. The Gebhardt et al. analysis does not take into account the effects of possible errors in the measurement of fair values. What we now need are studies of the likely magnitudes of fair value measurement errors, so that we can compare them to the biases that would likely result from not using fair values. The difficulties the researcher faces in getting access to the necessary data are formidable.

Concluding remarks

I have addressed a number of issues that lay at the heart of the problems that the IASB has had in developing an acceptable accounting standard for financial instruments. One has been an underlying concern that fair value accounting will involve the introduction of unacceptable measurement error into accounting. Another has been that piecemeal modification of accounting produces a mixed attribute model that creates fresh problems. The third is that fair valuing liabilities is inherently unsound because it can involve the recognition of gain as the entity's credit-worthiness declines. A unifying theme to these concerns has been that fair values are not just "out there" waiting to be picked up and used but entail consideration of complex institution-specific issues. I have offered some views on these issues, which I will attempt to summarise here as follows:

- The application of fair value principles to financial liabilities is perhaps the most revolutionary aspect of IAS 39, but the concerns that have been raised should not be realised as long as financial assets are also shown at fair value.
- I contrast the exit value perspective of the fair value of financial assets postulated in IAS 39 with the deprival value model of firm-specific value that figured in inflation accounting models and appears in some other IASB standards. I point out that the differences between the two bases depend on bid-ask spreads and other transaction costs. When these are small, the differences between exit value and fair value will be narrow too. I argue that the circumstances when recourse has to be made to option pricing models and discounted present value analysis are when fair value will look more like deprival value than exit value.
- I show how errors in the valuation of assets can be magnified in the income statements. But this applies whatever way the accounting is done. I conjecture that whereas historical cost will likely have lower measurement error, it will introduce biases that can be just as large.

The opposition to fair value accounting is understandable. Historical cost accounting has several virtues. First and foremost, it is cheap and relatively quick and easy to do (even the

¹⁵ This point is developed further in the letter dated 17 July 2004 submitted by the European Accounting Association's Financial Reporting Standards Committee to the IASB as a comment on the ED amendments to the fair value option.

smallest business keeps information about what it spent for its assets, how much it is owed and how much it owes). Second, the difference between what was spent and what was received will always be the most readily understood definition of gain or loss. Third, the concept of current value becomes complex when markets are incomplete or don't exist. However, if there is an area of accounting where current value is likely to be more informative than historical cost then it must be financial instruments.

Hedge accounting is essentially a "fix" to avoid mismatch problems in historical cost accounting. The fix involves not recognizing gains and losses on different sides of a hedge until some future date when they can be brought into alignment. This presents no great difficulties in many so-called "natural hedges", but the problems multiply when derivatives are involved. Derivatives are highly leveraged financial instruments the value of which can change sharply in short intervals of time. Traditional hedge accounting rules allowed such gains and losses to be hidden. The rationale for using historical cost to value derivatives is particularly weak, given the availability of good market data and the development of modern financial modeling techniques for application when the derivatives are not traded in active markets. But once the case for fair valuing derivatives is accepted, the case becomes strong for extending it to other kinds of financial instruments. There are complex measurement issues that have to be addressed, and I have discussed some of them in the present paper. The problem of the choice of fair value concept, whether exit value or some kind of institution-specific value, must be addressed when the instrument in question does not have a ready market value.

For many businesses, financial instruments can be readily distinguished from operating assets and liabilities. Financial instruments make good candidates for fair value accounting when they can be separated and traded in financial markets. This is not always the case. For example, demand deposits often contain a premium element that is really a return for liquidity and transaction services provided by banks to their depositors. They might best be regarded as part of the net operating assets of the business and as such less suitable for fair value accounting.

IAS 39 doubtless came as a shock to the banking community in many countries. In some jurisdictions, banks were permitted to smooth profits from hidden reserves long after such practices had been made illegal for industrial and commercial companies.¹⁶ The concern about the need to avoid banking panics and possible resultant systemic failures is understandable, but the world has moved on. Financial institutions apply and regulators oversee complex risk management strategies using value at risk techniques. In this new world, the application of fair value accounting to financial instruments presents a huge opportunity to advance the quality of financial reporting by financial institutions. The measurement problems are formidable. However, the problem of institution-specific dimensions of value that looms so large in non-financial enterprises and makes the systematic application of fair value accounting so fraught with difficulty there, would seem to be much more manageable for financial institutions.

¹⁶ In the UK, banks were permitted not to publish any accounting data for many years after ordinary commercial enterprises had been required to do so.

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Table 1

Measurement error example

Gains and losses arising from different beginning and ending fair value estimates

	Fair value estimate at end of year			
Fair value		108	120	132
Estimate	110	-2	10	22
At beginning	100	8	20	32
Of year	90	18	30	42

Institution-specific value¹⁷

David Andrews¹⁸

Institution-specific value

In his presentation, “Institution-specific value”, Professor Peasnell has added considerably to the case for fair value accounting. It may possibly be assumed by some of those present that I as an analyst in a rating agency would not share his enthusiasm for this fairly new concept. This is not the case. I have just been involved as co-author in the publication of a paper titled “IFRS and Their Implications for Bank Analysis and Analytical Spreadsheets”. This starts as follows: “Fitch Ratings welcomes the introduction of IFRS for a large number of banks in 2005, even though the agency realises that this complicates life for financial analysts, especially in the short term.”

Needless to say, the introduction of IFRS has not, however, led to wholesale adoption of fair value accounting, and in particular not for banks. As Professor Peasnell surmises, IAS 39 did come as a shock to the banking community in many countries, but, as he also concludes, “the application of fair value accounting to financial instruments presents a huge opportunity to advance the quality of financial reporting by financial institutions”.

Professor Peasnell’s allusion in his paper to the CCA (Current Cost Accounting) controversy of the 1970s is interesting. Others have drawn an analogy with fair value accounting, predicting that it too will eventually go the way of the dodo. As the Professor says, however, there has been a massive, fairly recent, increase in the use of innovative financial instruments, which, although they carry the seeds of potential systemic risk, have until now usually lurked off balance sheet. Fair value accounting is part (but not all) of the key to disclosure of this overhang. I certainly consider it a much more resilient species than CCA: as Professor Peasnell says, the need for CCA vanished when Western governments finally got inflation under control. Nothing short of a worldwide financial meltdown seems likely to put a brake on (even less, bring an end to) financial innovation. Also, fair value accounting appears to have a much more solid base in theoretical economics than CCA ever did. I remember the CCA valuation of, for example, bank lending as being almost entirely based on the whim of banks’ managements.

Returning to the paper, I particularly like Professor Peasnell’s characterization of hedge accounting as “essentially a ‘fix’ to avoid mismatch problems in historical cost accounting”. As he says, “The fix involves not recognizing gains and losses on different sides of a hedge until some future date when they can be brought into alignment”. He is also probably correct in stating that the problem posed by the institution-specific application of fair value accounting is more manageable for financial institutions. But, until we do achieve full fair value accounting on both sides of the balance sheet, difficulties will remain.

Another major bone of contention that Professor Peasnell identifies is the fair value accounting of liabilities. Apart from the measurement difficulties, which he deals with in detail, this certainly poses problems for regulators and, by association, rating agencies. It is entirely

¹⁷ Comments by David Andrews, Fitch Ratings, on a paper presented by Ken Peasnell, Lancaster University Management School, at the BIS Workshop on Accounting, Risk Management and Prudential Regulation, Basel, Switzerland, 11–12 November 2005.

¹⁸ Managing Director of Fitch Ratings Ltd, Eldon House, 2 Eldon Street, EC2M 7UA, London, UK.

sensible for the fair value of banks' liabilities to drop after a ratings downgrade. The snag, however, is that this leads to an increase in equity, which does not possess any solidity in a sudden-collapse "scenario". Thus, in an emergency dissolution of the bank in question this extra equity would prove to be non-existent. The compromise we have arrived at is to show as a liability on our spreadsheet the amount the bank is contractually obliged to pay but to record any deduction (or addition) made in order to report the liability at fair value as a credit (ie a negative) balance in "Other Liabilities" rather than in "Equity". As part of our so-called "soft factor" analysis, ie that reported outside our analytical spreadsheet, we discuss in the narrative of our rating report just how much reliance may be placed on this quasi-equity in the analysis of the loss-absorbing capital we consider to be available to protect third-party creditors.

Professor Peasnell makes the point that, if both financial assets and liabilities are fair valued, then any increase in equity resulting from the fair valuation of liabilities will be countered by the loss resulting from the opposite fair valuation of assets. As he says, "However, if financial assets were also fair valued, then the vanishing liabilities of a credit-impaired enterprise would presumably be accompanied by vanishing assets; otherwise it is difficult to see how credit impairment can be deemed to have taken place." Unfortunately, however, this is not what is happening at present: most banking assets continue to be held at historic cost less what are still effectively loan loss reserves, and we do not have great faith in the ability of these to achieve a convincing fair value for bank lending.

Nevertheless, I agree with Professor Peasnell that: "The economic effects of macro hedging that has the goal of generating profit by taking specified risks subject to value at risk management controls will be properly reflected in income only if both the financial liabilities and the hedging assets are marked to market; any resultant gains and losses on the net position will reflect the risk-return trade-off the entity has made."

Professor Peasnell refers in his paper to the phenomenon of "securitization", which in recent years banks have liberally exploited in order, among other more commendable things, to pull the wool over the eyes of investors, regulators, auditors and rating agencies. He suggests that securitized assets should leave the sponsor bank's balance sheet at "exit" price, which is to all intents and purposes a fair value. However, I consider that fair valuation should be extended to cover the recording in the sponsoring bank's books of the credit risk it retains in a securitization in the shape of a remaining stake in any so-called "first loss piece". A beneficial consequence of IFRS is the requirement that banks should consolidate their securitizations, thereby forcing them to recognize this risk.

Professor Peasnell refers to banks' long-established reliance on the comfort blanket of various kinds of hidden reserves. Even the US banks with their longer tradition of "full disclosure" have on occasions in effect resorted to this. One of the principal purposes of such reserves is to smooth out "volatility". A fear expressed by banks in anticipation of IFRS was that, since rating agencies do not like volatility and volatility is an inevitable consequence of IFRS, their ratings would be lowered. However, in its analysis of banks Fitch imposes a measure of recurring, core, operating profit. This takes care of much of the profit volatility likely to arise, enabling analysts to adjust for non-core operating items identified from IFRS' fuller disclosure. Remaining volatility may be largely attributable to any fair-valued derivatives that are hedging assets or liabilities accounted for at amortised value. Any such volatility is a spur to analysts to investigate the purpose and execution of banks' hedging policy and procedures.

Fitch Ratings also has a long-standing concept of core, loss-absorbing capital for banks, which complements IFRS. It excludes much of the volatility in reported equity, which originates in the net revaluation of "available for sale" investments and loans, fixed asset revaluations and the foreign currency translation reserve. IFRS' great boon is more information, and to downgrade a bank effectively on the grounds that it was too generous in its provision of data would be crass in the extreme.

I should perhaps explain here that despite the widespread view held in the banking sector and among financial journalists, we do not measure capital in terms of the Basel Committee's Tier 1, Tier 2 and Total Capital. Rather we have a concept of "loss-absorbing capital". This consists of two elements. The first is CORE CAPITAL. This is common equity plus loss-absorbing minorities, less goodwill, deferred tax assets/receivables and deferred acquisition costs (ie "DAC", an accounting practice in insurance business intended to delay recognition of the costs of acquiring new business). The second element is ELIGIBLE CAPITAL. In our 27th July 2005 Criteria Report, "Bank Hybrid and Preferred Securities: Evaluating Their Role in Capital Analysis" Fitch introduced the concept of qualifying loss-absorbing capital, which we refer to as "eligible capital". Hybrid debt is eligible for inclusion in this measure of a bank's capital base up to a limit of 25% of that base, but with the proviso that cumulative hybrids should be discounted to 80% of their nominal value. In addition, "Class A" hybrids (defined as non-cumulative instruments with no step-up or call features) may account for a further 10% of total eligible capital, so that, in aggregate, Class A plus other eligible hybrids may account for 35% of eligible capital. The rest of eligible capital is core capital, which I have already explained.

Fitch also has a concept of "comprehensive income", which differs from the current IFRS net income concept. It excludes movements in cash flow hedges but includes all the other movements in the so-called "Statement of Recognised Income and Expense" (SORIE), ie changes in the value of AFS investments, currency translation differences and other gains/losses not included in published net income and the movement in the balance sheet account, "Revaluation Reserves". Fitch excludes amounts recorded in the SORIE and revaluations otherwise taken directly to equity from eligible capital – except for changes in actuarial pension fund obligations, which are taken into account and usually constitute a deduction from eligible capital.

I realize that we may be accused of contradicting ourselves in so far as, having welcomed the introduction of IFRS, we then take steps ourselves to smooth out much of the resulting "volatility". Some of this would go if full fair value accounting were adopted; the rest is grist to our analytical mill. For example, as Professor Peasnell says, "traditional hedge accounting rules allowed such gains and losses (ie unmatched gains and losses on different sides of a hedge) to be hidden." Now we can at least see some of these and ask management for explanations.

I also realize that I have not yet done justice to Professor Peasnell's concept of institution-specific value. As he says, a large proportion of financial assets and liabilities is now dealt in in some form of market and this should establish a fair value. At present the greatest lack of any market valuation pertains to bank lending. To deal with this IFRS use the concept of "impairment", which differs from the previously established procedure of loan loss provisioning. Unfortunately, the new concept involves just as much subjectivity as the old, and we, as a rating agency, are not normally privy to all the information the banks have to hand when making the necessary calculations. However, there are occasions when a bad credit has borrowed from a wide range of banks, and we can compare the varying levels of risk reserve set up by them and thereby reach our own view of fair value. Nevertheless, I consider that the day when we can obtain institution-specific fair values for individual banks' lending is still a long way off.