

A note for ASB Academic Panel, Fri 12th October 2007

'Deprival value and fair value: a reinterpretation and a reconciliation': A Comment

Richard Macve¹

INTRODUCTION

Having noticed various *obiter dicta* on 'deprival value / relief value' in recent papers of mine and others, Andrew Lennard asked me to pull together this brief comment to provoke discussion at the Panel meeting.

After some brief introductory comments on 'fair value' and 'deprival / relief value', it focuses first on the paper by van Zijl and Whittington (2006), and then adds some brief further observations related to current debates.

FAIR VALUE ('FV') AND DEPRIVAL / RELIEF VALUE ('DV' / 'RlfV')

The ASB's *Statement of Principles* (ASB, 1999, chapter 6) adopts DV (with corresponding RlfV for liabilities) as the conceptual basis of current value measurement. This is in line with the discussion of 'the value to the entity of assets' in chapter 3, and of 'the value to the entity of liabilities' in chapter 4 of ATM10 (AARF, 1998).

DV has a long history but is little known in North America. Reflecting its derivation from Bonbright's (1937) 'value to the owner', it is also known in the UK as 'value to

¹CONTACT DETAILS:

Professor Richard Macve, FCA, Hon FIA
Department of Accounting (E306)

London School of Economics

Houghton Street, Aldwych, London WC2A 2AE UK

Telephone: (020) 7955 6138 (from abroad: +44 20 7955 6138)

personal homepage: <http://www.lse.ac.uk/collections/accounting/facultyAndStaff/profiles/macve.htm>

the business' (ASB, 1999, 6.7) and is consistent with the basis that was adopted by FASB in SFAS133 (cf. Zeff, 2007). However, in its promotion of FV as *exit* price FASB (2006), now taken up by IASB in its current consultation (Barth, 2007; cf. Dealy & Singleton-Green, 2007), consideration of DV has been largely ignored.²

FV appears generally to imply some 'market value' (albeit often *hypothetical* market value), and the arguments are usually couched in terms of deciding which of the candidate values to adopt as the standard measurement basis (which may—at least temporarily—have to incorporate different bases in a 'mixed measurement model'). But DV is of course not itself just another one of these candidates: it is a 'rule' that offers a logic for determining which of the other candidates—'entry value', 'exit value', and 'entity-specific measurement' (or 'value in use')—may provide the *relevant* value in different situations.³ In some circumstances therefore DV of assets could be a current market price, whether entry or exit (and will *always* be bounded by these where they are available: e.g. Baxter, 1975, Ch12; AARF, 1998, 3.52), while in others it could be a 'quasi-price' as determined in imperfect markets by the owner, given optimal decisions as to replacement timing over the planning horizon or as to remaining use before disposal.

A RECONCILIATION?

van Zijl and Whittington (2006) usefully attempt to provide a reconciliation between FV and DV by arguing that, in order to be consistent with rational decision taking, current value must, like DV, include the impact of related transactions costs (unlike FASB's definition of FV which is really 'fair price' rather than 'fair value'). However, they go on to argue that for long-term assets, in the case where net realizable value ('NRV') is greater than replacement cost ('RC'), then the relevant measurement base is NRV instead of DV's normal RC, with the difference between the two representing, for example, the value of a 'redevelopment opportunity'. This

² Barth (2007), pp.12-13, albeit acknowledging that '[t]here could be other alternatives that standard setters could consider', specifically discusses only historical cost and 'value in use' (or 'entity specific value') as alternatives to FV. Penman (2007) p.36 fn.7 introduces an unusual basis for distinguishing FV from 'value in use', of which he regards DV as 'variant'—but DV is equally as 'shareholder focused' as FV. IASB (2005) and ICAEW (2006) briefly discuss, but do not support DV. Academic critics of DV include Ashton (1987).

³ Following the discussion of her presentation (which was the basis for Barth (2007)), at the ICAEW Information for Better Markets Conference in December 2006, Barth acknowledged that DV offers a 'rule', but did not explain why IASB would not follow the rule.

would bring DV closer in line with FV's exit price, leaving only the 'transaction cost' adjustment to FV to complete the reconciliation.

Peasnell (2007) gives a tabulated presentation of their analysis, also commenting that the adjustments proposed by Stark (1997) to allow for the various real options associated with deciding if and when to purchase (or dispose of or replace) an asset can readily be incorporated into 'mainstream' DV reasoning

van Zijl and Whittington note that, while it initially appears that in this situation the entity should continuously sell and replace the asset in question (as it would for inventory), this possibility would seem to be inconsistent with market equilibrium for the prices of long-term assets, so presumably they regard the 'redevelopment opportunity' as a 'one-off', such that if deprived of the asset the company would be deprived of the opportunity.

But if the company cannot restore the original opportunity on deprival, then there is no relevant RC⁴ and 'normal' DV reasoning would itself arrive at NRV. After allowing for the transaction cost adjustment that van Zijl and Whittington propose, this DV equals FV without any need for further adjustment.

The equivalent situation for a liability would be where $RC > NRV$. van Zijl and Whittington do not discuss liabilities, but the implication of their argument would be that 'relief' value here should also be NRV. However, by contrast with assets, this situation should not be considered to be unusual for long-term liabilities. For example insurance companies have long faced such market conditions where they have found it to be preferable that the policyholders cancel their policy instead of continuing to pay premiums, due to the penalty imposed on those who surrender early. This penalty lowers NRV and therefore gives rise to a situation where RC (i.e. what can be charged to a new policyholder) is higher. However, as demonstrated by Macve & Serafeim (2007)⁵, the economic logic of optimal action on 'relief' leads to valuation at RC (the opportunity to take on an additional profitable contract, given for example normal

⁴ Here RC is effectively ∞ so cannot be lower than 'recoverable amount'. The higher of these (NRV in the example) must therefore be DV by the standard reasoning.

⁵ An early version of that paper was presented at the ASB Academic Panel meeting in 2002.

capacity or regulatory constraints) and there is no need to modify the normal RlfV logic. This approach is also consistent with Lennard (2002): however Lennard argues for entry value for liabilities primarily on the basis of the related income measurement effects, whereas this present note focuses directly on the valuation issues.

OTHER COMMENTS

It is conventional to explain DV/RlfV logic using the ‘decision tree’ made familiar by Baxter, and/or the tabulations of possible relative rankings of RC, PV and NRV, set out for example in Sandilands (1975) and, as adapted, in Peasnell (2007). However, this is really only a pedagogical device for simple situations (e.g. Baxter, 2003). The ‘full’ version (e.g. for depreciating assets, and correspondingly for liabilities that are ‘mid-life’) requires an analysis to be undertaken of the marginal impact on net present value of all the firm’s expected future cash flows before and after deprival, *à la* Baxter 1971/1975. This reveals that for a depreciating asset the DV is normally not simply either the RC of a new asset less arbitrary depreciation (as proposed by Sandilands) or even the RC of a second-hand asset of the same age and condition. The cost of replacement on deprival is normally the cost of having to advance the replacement date from that originally planned, with knock-on consequences for all future replacement dates.

Standard setters and practitioners have perhaps been deterred by the apparently unlimited difficulty and subjectivity of arriving at any such number (perhaps forgetting that the answer cannot lie outside the bounds of current market prices). Bell and Peasnell (1997) have recently attempted to show how the practical advantages from using deprival value could be strengthened by utilising a pricing methodology for used-assets that they develop, dealing with only a single replacement cycle, and without the need for assumptions about all future replacement conditions that have generally been argued, in principle, to underlie the estimate of the incremental cash flow effect of deprival (e.g. Baxter, 1975, pp.157-63). However, as argued in Macve, 1998, their approach still requires calculation of the optimal life of the replacement asset, so in general this will, in principle, still require consideration of what will in turn replace it, and so on *ad infinitum* (Baxter, 1971). Nevertheless, if some ‘standard’ measurement basis is to be mandated it will be clearly advantageous to find ways of

adapting the ‘pure’ DV ‘optimising’ economic logic for real-world ‘bounded rationality’ and limited information, preferably on a ‘comply or explain’ basis.

VALUE AND INCOME

The underlying objective of the standard setters’ asset/liability approach is not to produce better balance sheets but to pin down ‘comprehensive income’ (e.g. FASB/IASB, 2005; cf. Bromwich *et al.* 2005). van Zijl and Whittington (2006) do not discuss the related income measurement issues that complement their proposed revisions to DV and FV⁶; and the most recent example of IASB proposing what appears to amount to FV (in its Discussion Paper on ‘insurance contracts’—IASB, 2007) leaves most of the related income reporting issues for future development within an Exposure Draft.⁷ As noted above, Lennard (2002) argues for liability RIfV primarily from the perspective of the income reporting consequences, and therefore rejects revaluing when prices change. Macve & Serafeim (2007) however argue that *a)* while accounts incorporating DV/RIfV can be presented with income statements of the ‘traditional’ kind, *b)* the asset/liability basis adopted itself carries no necessary implications for income measurement, which essentially comes down to deciding at what point to recognize the ‘realization’ of unrecognised intangibles such as internally generated goodwill. Walton (2006) argues that the tendency of recent developments by standard setters is to recognise income earlier in the ‘life cycle’ than has traditionally been the case: and this would be the implication of one of the (still controversial) approaches to setting ‘risk margins’ on insurance contracts put forward in IASB (2007), which could give rise to ‘Day 1’ profits on inception of the contracts.⁸

CONCLUDING COMMENTS

One of the frustrations of dealing with the output of standard setters is that they rarely give references to the sources of their arguments and conclusions, beyond ‘Some

⁶ Nor does Peasnell (2007).

⁷ cf. Horton *et al.* (2007) to be discussed at this Academic Panel meeting. Rayman (2007) raises the conundrum of value changes due to changes in interest rates: but this has been discussed by many previous authors (including e.g. Horton & Macve, 2000).

⁸ Walton (2006) p. 339 also argues that IAS37’s notion in 1998 of an ‘onerous contract’ (requiring provision for any anticipated loss as soon as signed) ‘represents a first step towards bringing executory contracts within the boundaries of financial reporting’. But such provision had been part of ‘unwritten’ UK GAAP from long before the beginning of UK accounting standards in 1971.

argue that....'. One does not know what literature they have read (but rejected) and what they simply have not read.⁹

Despite the international pedigree of the DV concept in relevant literatures, there are however a number of well-known conceptual difficulties with valuing assets at DV (and even more with valuing liabilities at RlfV), all of which are essentially related to the degree of imperfection or incompleteness of markets that is assumed to prevail. Indeed, one of the main arguments for revaluing assets such as marketable securities, commodities and many (other) financial instruments in accounts is that the depth of the active markets in which they are traded suggests that there will normally be no significant difference between 'buying' and 'selling' price, so that these unambiguously measure, almost precisely, the DV/RLfV, whatever the subjective expectations and plans of the asset's owner (e.g. ASB, 1999, Appendix III, para.59).

However, other measures, such as FV, or simple 'current entry price', also face these 'market imperfection' problems. So they are not necessarily arguments against choosing DV/RLfV over those alternatives.

The four main problems of 'market imperfections' that are generally recognised to arise are:¹⁰

- a) even in deep markets like investment and commodity exchanges, some participants—such as financial institutions—may have large enough holdings that they are 'price makers' not 'price takers', so that any attempt to sell [replicate] their entire holding of securities (or even of a particular security) would drive the price down [up] against them. However, FAS157 does not permit any adjustment to market prices for either 'blockage' or 'control' factors.
- b) even where the entity owning the asset is a 'price-taker', there may be segmentation between the market for buying (e.g. 'wholesale') and the market for selling (e.g. 'retail'), so that 'replacement cost' and 'selling price' diverge. Of course,

⁹ e.g. 'There could be other alternatives that standard setters should consider. They are open to ideas. However, before adopting one of those ideas, standard setters need to understand the conceptual basis for the idea, and how it could be applied comprehensively in financial reporting' (Barth, 2007, p. 13). As she has only discussed historical cost and 'value in use' (in addition to her preferred FV) it is simply not clear how far she and her IASB colleagues, or the FASB, are familiar with the extensive literature on RC, let alone on DV.

¹⁰ This section closely follows Horton & Macve (2000).

if markets are otherwise fully competitive and fully informed, the difference will represent no more than the ‘cost’ (including cost of capital, reward for risk-bearing etc., i.e. required ‘profit’) of the retailer’s service to customers through holding, dividing, recording, insuring, distributing, pricing, displaying, marketing, delivering, invoicing etc. the goods. However, it will generally be necessary to identify the appropriate market as the reference point for obtaining relevant values for the assets. Here SFAS157’s ‘best’ market for FV is also consistent with DV reasoning.

c) In accordance with the basic theorems of microeconomics, if markets were complete and perfect in equilibrium, and goods and services infinitely divisible, it would not be possible to earn more than the competitive rate of return on investment at the margin, and industry competition would, in the long run, force optimal economies of scale so that all investment projects just cover their cost (including cost of capital, reward for risk-bearing etc., i.e. required ‘profit’). In other words projects would have an NPV of 0, so that there would, at least at time of initial purchase of assets, be no difference between ‘recoverable amount’¹¹ and ‘replacement cost’. DV has the advantage of providing a valuation framework that accommodates this special case but can also handle the real-world observable differences between these asset values, while it can still be reconciled to more fundamental propositions about the capital market valuation of firms as a whole.

Nevertheless for the measurement of such DVs, and the recognition of changes in them, to be meaningful (i.e. for ‘realisation’ to be irrelevant), there must remain an underlying assumption that the market setting is one where information is rapidly impounded in prices, and where asset values are ‘objective’ (i.e. inter-subjective) measures because all market participants have free access to a reasonably ‘perfect’ (arbitrage-free) capital market in which to finance asset acquisitions or reinvest asset proceeds at the going prices.¹²

¹¹ i.e. the higher of ‘value in use’ and NRV

¹² In such a capital market finding similar significant differences between ‘entry’ and ‘exit’ values for traded *liabilities* is therefore unlikely: but yet they are observed, and thereby the underlying assumption becomes problematic, which in turn implies that the question of the appropriate level of discount rate or rates to use in valuing both assets and liabilities also becomes problematic (see e.g. Horton & Macve, 2000; Horton, Macve & Serafeim, 2006 for further discussion). More general issues about the assumptions about the nature of the (often hypothetical) markets in which FVs are asserted by standard setters to be valid for accounting purposes are explored e.g. in Bromwich, 2007; Hitz, 2007.

d) The relevant aggregation of assets for determining relevant values may be problematic, as different combinations may offer different patterns of cost saving or revenue generation. This is the ‘unit of account problem’ to be addressed in the current revision of the FASB/IASB Conceptual Frameworks (FASB/IASB, 2005)—but it has long been known that it applies as much to all of the ‘current value’ bases (not just DV, e.g. as explored in Edey, 1974) as to the arbitrary allocations of historical cost determination.

Given the spreading unease with ‘FV as exit price’ being expressed by commentators on the IASB’s exposure of SFAS157 (e.g. Dealy & Singleton-Green, 2007), it seems clear that ASB, which itself adopted DV in its own framework (ASB, 1999) should press for the case for DV—not as an alternative to other measures, but as an appropriate ‘rule’ for choosing the relevant measure—to be properly considered in the international debate. The point of this note has been to argue that DV is ‘OK as it is’ and does not need a ‘reinterpretation’ of the kind proposed by van Zijl and Whittington (2006).

REFERENCES

AARF [Australian Accounting Research Foundation] (1998), *Accounting Theory Monograph No.10: Measurement in Financial Accounting*

ASB (1999), *Statement of Principles for Financial Reporting*, December

ASB (2007), Briefing Paper, *IASB Proposals on Insurance Contracts—Implications for Other Business Sectors* (July).

Ashton, R.K. (1987) ‘Value to the Owner: A Review and Critique’ *Abacus*, Vol. 23 (1) (March), pp.1-9.

Barth, M. (2007), ‘Standard-setting measurement issues and the relevance of research’, *Accounting & Business Research* Special Issue: International Accounting Policy Forum. pp 7-15.

Baxter W.T. (1971) *Depreciation*. London: Sweet & Maxwell

Baxter, W.T. 1975. *Accounting Values and Inflation*. London: McGraw-Hill.

Baxter, W.T. 2003. *The Case for Deprival Value*. Edinburgh: ICAS

Bell, P.W. and Peasnell, K.V.P. (1997), ‘Another look at the deprival value approach to depreciation’, in Cooke and Nobes (1997), pp. 122-48.

Bonbright, J.C. (1937), *Valuation of Property*. Reprinted 1965, Michie.

Bronwich, M., Macve, R.H. and Sunder, S. (2005), [FASB/IASB Revisiting the Concepts: a comment on Hicks and the concept of 'income' in the conceptual framework](http://www.lse.ac.uk/collections/accounting/facultyAndStaff/profiles/macve.htm), working paper available at <http://www.lse.ac.uk/collections/accounting/facultyAndStaff/profiles/macve.htm>¹³

Bromwich, M. (2007), 'Fair Values: Imaginary Prices and Mystical Markets: A Clarificatory Review', in Walton (2007), pp. 46-68.

Cooke, T.E. and Nobes, C.W. (eds.) (1997), *The Development of Accounting in an International Context: a Festschrift in honour of R.H.Parker*, London: Routledge International Studies in Business History.

Dealy, N. and Singleton-Green, B. (2007), What's fair? *Accountancy* (June): 77.

Edey, H.C., (1974), 'Deprival value and financial accounting', in Edey and Yamey (1974).

Edey, Harold, and Yamey, B.S. (eds.) (1974), *Debits, Credits, Finance and Profits*, London: Sweet & Maxwell.

FASB (2006), SFAS157, *Fair Value Measurements*, September.

FASB/IASB (2005), 'Revisiting the concepts' (May) at: http://www.fasb.org/project/communications_paper.pdf

Hitz, J-M. (2007), 'The Decision Usefulness of Fair Value Accounting—A Theoretical Perspective', *European Accounting Review*, Vol.16, No.2: 323-362.

Horton, J. and Macve, R. (2000), '“Fair value” for financial instruments: how erasing theory is leading to unworkable global accounting standards for performance reporting', *Australian Accounting Review* (July), pp.26-39 (available at <http://www.lse.ac.uk/collections/accounting/facultyAndStaff/profiles/macve.htm>).

Horton, J., Macve, R., and Serafeim, G. (2006), 'Market Consistent Embedded Values as 'Fair Value' Measurements for Life Insurance Accounting: a Step Too Far with Finance Theory?' (LSE working paper available at: <http://www.serafeim.net>).

Horton, J., Macve, R., and Serafeim, G. (2007), *An Experiment in 'Fair Value' Accounting? The State of the Art in Research and Thought Leadership on Accounting for Life Assurance in the UK and Continental Europe*, ICAEW (forthcoming): ISBN: 978-1-84152-516-7.

IASB (2005). *Measurement Bases for Financial Accounting—Measurement on Initial Recognition*. Canadian Discussion Paper (November).

¹³ An early version was discussed at the ASB Academic Panel meeting in 2005.

ICAEW (2006), *Information for Better Markets: Measurement in Financial Reporting* (October).

IASB (2007). *Preliminary Views on Insurance Contracts* (issued 3 May 2007 for comment by 16 November 2007).

Lennard, A. 2002. *Liabilities and how to account for them: an exploratory essay*. London, ASB.

Macve, R.H. (1983), 'The Conceptual Framework and Oil and Gas Accounting', reprinted in Macve (1997), pp.219-231.

Macve, R.H. (1997), *A Conceptual Framework for Financial Accounting and Reporting: Vision Tool or Threat?*, New York: Garland.

Macve, R.H. (1998), Book review of Cooke and Nobes (1997), *International Journal of Accounting*, Vol.33, No.3, 1998, pp.396-9

Macve, R.H. (2004), Comment on FASB Exposure Draft, *Fair Value Measurements* (25th August) [available online at <http://www.fasb.org/ocl/fasb-getletters.php?project=1201-100> (letter #6) or at <http://www.lse.ac.uk/collections/accounting/facultyAndStaff/profiles/macve.htm>].

Macve, R.H. and Serafeim, G. (2007), 'Deprival value vs. Fair Value Measurement for Contract Liabilities in Resolving the Revenue Recognition Conundrum: Towards a General Solution' (LSE working paper, available online at: <http://www.lse.ac.uk/collections/accounting/facultyAndStaff/profiles/macve.htm>).

Peasnell, K. (2007), 'Deprival value today' in Weetman (2007).

Penman, S. 2007. 'Financial reporting quality: is fair value a plus or a minus?', *Accounting and Business Research* Special Issue: International Accounting Policy Forum, pp.33-44.

Rayman, R.A. (2007), 'Fair Value Accounting and the Present Value Fallacy: the Need for an Alternative Conceptual Framework', *British Accounting Review*, Vol.39, No.3 (September), pp.211-225.

Sandilands, F.E.P. (chairman) (1975), *Inflation Accounting: report of the Inflation Accounting Committee*, Cmnd. 6225, London: HMSO. Off Pubns. 42 (5881).

Stark, A.W. (1997). The impact of irreversibility, uncertainty and timing options on deprival valuations. *Accounting and Business Research*, Winter: 40-52.

van Zijl, T. and Whittington, G. (2006). 'Deprival value and fair value: a reinterpretation and a reconciliation.' *Accounting and Business Research*, 36(2): 121-130.

Walton, P. (2006). 'Fair value and executory contracts: moving the boundaries in international financial reporting: a research note'. *Accounting and Business Research*, 36(4): 337–343.

Walton, P. (ed.) (2007), *The Routledge Companion to Fair Value in Financial Reporting*, Routledge.

Weetman, P. (ed.). 2007. 'Comments on deprival value and standard setting in measurement: From a symposium to celebrate the work of Professor William T. Baxter'. *Accounting and Business Research* 37 (3) (forthcoming).

Zeff, S.A. (2007), 'The SEC rules historical cost accounting: 1934 to the 1970s', *Accounting & Business Research* Special Issue: International Accounting Policy Forum. pp 49-62.