Deprival Value and Fair Value:

A Reinterpretation and a Reconciliation

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Abstract

Two alternative measurement bases that have appeared in accounting standards, Deprival Value (sometimes called Value to the Business) and Fair Value, are explained and compared. They are then reconciled by making the following three adjustments to their conventional definitions.

(1) In the case of Deprival Value, situations in which net realisable value exceeds replacement cost imply that there is a profitable redevelopment or redeployment opportunity, so that net realisable value is regarded as the appropriate measure of Deprival Value.

(2) In the case of Fair Value, transactions costs (including installation and removal costs) are added to acquisition values and deducted from disposal values.

(3) In the case of Fair Value, it is assumed that net realisable value represents the "highest and best use", except when it is exceeded by both replacement cost and value in use. In the latter case, "highest and best use" (and therefore Fair Value) is inferred by assuming profit-maximising behaviour by the owner.

It is suggested that the resulting synthesis represents a method of current valuation which is consistent with the objective of measuring the asset in terms of the economic opportunities that are available to its current owner in the condition and location in which it is currently to be found.

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1. Introduction

The use of current values in accounting has a long history in both academic debate and practice (see for example, Boer, 1966 and Tweedie and Whittington, 1984). The topic was central to the debates on inflation accounting that took place in the period between the late 1960s and the early 1980s and the form of current value that found its way into actual or proposed accounting standards at that time was current cost derived from the deprival value model.[1]

Deprival value was supported by an extensive academic literature, originating in several different countries and dating from the early part of the Twentieth Century.[2] By the early 1980s it seemed to be emerging as the current value measurement methodology favoured by standard-setters. However, the "current cost revolution" collapsed in the mid-1980s as a result of declining inflation rates and the scepticism of preparers of accounts about the efficacy of current cost accounting (Tweedie and Whittington, 1997). Deprival value, which was a central component of current cost accounting, therefore fell out of favour with standard-setters, although (in the guise of

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[1] The most explicit example is the Report of the Sandilands Committee (1975), which precipitated the current cost debate in the UK and influenced it elsewhere. The Report of the Byatt Committee (1986) also adopted an explicit deprival value model and was influential in the adoption of current cost accounting by certain public sector enterprises and regulated entities.

[2] Whittington (1983, pp 131-6) provides a brief survey of the early deprival value literature (described there as "value to the owner") up to about 1980. Since then, the literature has extended further, notable contributions being the Byatt Report (1986) (see footnote 1), the book by Edwards, Kay and Mayer (1987) which demonstrates the relevance of deprival value to the detection of monopoly profits, and a paper by Stark (1997) which demonstrates how deprival value needs to be modified when real options (arising from the irreversibility of investments) are present.

Value to the Business) it remains a feature of the *Statement of Principles* of the UK Accounting Standards Board (ASB, 1999, Chapter 6).

In more recent times, demands have again surfaced for financial statements to portray current values, when they seem to be particularly relevant and can be measured reliably. The form of current value advocated in these developments has usually been described as fair value. Fair value has been used within a mixed measurement system, more traditional methods, such as historical cost, being retained for those items for which fair value is considered to be unreliable or costly to measure, or is not considered to be especially informative. An important example of these developments is reporting for certain financial instruments, such as derivative securities, where the existence of deep and liquid markets and the obvious irrelevance of using historical cost to measure instruments traded on such markets (derivatives such as swaps may have a historical cost of zero, but may have large market values as a result of changes in market conditions since their inception) has led to the promulgation of accounting standards permitting current value measurement on a "fair value" basis (FAS 115 and 133 in the USA and IAS 39 in international standards). Thus, fair value has entered certain accounting standards as a response to needs, on a standard-by-standard basis rather than as a result of a formal amendment to conceptual frameworks, and without extensive academic discussion such as that which preceded the introduction of deprival value. The change is therefore potentially confusing, and deprival value and fair value are often regarded as competing alternatives, without any consideration as to why this should be the case. In this paper, we attempt to identify the common roots of these two approaches to current value, as well as the differences between them. In reconciling the two, we

propose a synthesis which, we believe, combines the best features of both models. The purpose of this paper is therefore to bridge the apparent gap between the concepts of deprival value and fair value, and in doing so, to contribute to understanding the properties of both concepts.

Deprival value (alternatively, and possibly more appropriately, described as Value to the Business) asks the question: what would the owner of an asset lose if it were deprived of this asset? In other words, it is a measurement of the additional value accruing to the business as a result of owning the asset. This is the answer to Professor Baxter's question "What difference does it make?"(Baxter, 2003, p3). Deprival value is usually interpreted as implying measurement at replacement cost for an asset whose recoverable amount (the highest value obtainable from use or disposal) exceeds replacement cost. The reason for restricting the value of the asset to replacement cost, in these circumstances, is that the loss resulting from losing the asst should not be greater than the cost of replacing it: equally, the value attributed to owing the asset should not exceed the cost of acquiring an equivalent asset in the market because any excess returns generated by the present owner are attributed to other assets, such as goodwill. Where recoverable amount is less than replacement cost, replacement of the asset would not be justified (that is, in replacement cost terms, it is impaired) and the asset is valued at its recoverable amount (which is, in this instance, lower than replacement cost). Thus, deprival value can be looked upon as being a modified replacement cost valuation, that is, replacement cost but subject to a recoverable amount test (Gee and Peasnell, 1976).

As indicated earlier, deprival value has, in recent years, been replaced by fair value, as the current value measure favoured by accounting standards. This has been the case particularly in the standards of the United States' Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB). In the IASB's *Framework* (IASC, 1989), fair value is referred to but not defined.[3] However, it is defined in the later standards such as *Property, Plant and Equipment* (IAS16, 1998) as "the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction." This is substantially consistent with the definition that emerged earlier in the literature of the United States FASB.[4] The FASB interpretation of fair value has been explained and clarified in a series of articles in its *Understanding the Issues* series (particularly, Foster and Upton, May and June 2001) and more recently in the FASB Exposure Draft *Fair Value Measurements* (FASB, 2004). The FASB's interpretation is consistent with the guidance in IASB standards such as *Financial Instruments: Recognition and Measurements* (IAS 39, 2004) and *Business Combinations* (IFRS 3, 2004). The essential idea of fair value is that it is an arm's length market price. This requires that the assumptions as to how the asset can be used are those adopted by the market, rather than the "entity specific" beliefs of the current owner. Also, it is a price rather

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[3] IASC (1989), paragraphs 51 and 100(a).

[4] In the past, fair value was typically seen as a feature of the historical cost model and applied, for example, to initial recognition of a delayed payment transaction, or as the basis for allocation of cost between identifiable net assets and goodwill in the context of a business combination accounted for as an acquisition. See, for example, paragraphs 15 and 81 of SFAS 15 (1977) *Accounting by Debtors and Creditors for Troubled Debt Restructurings*, which explain fair value and refer to use of the concept in APB Opinions 16 (1970), 21 (1971), and 29(1973), and APB Statement 4 (1970). The concept was not referred to in the FASB's Concepts Statement 5 *Recognition and Measurement in Financial statements of Business Enterprises* issued in December 1984. However, the FASB has now identified fair value as the appropriate attribute for most measurements at initial recognition and for subsequent fresh start measurements. The FASB 1980 Exposure Draft on specialised assets provides an early example of a proposal to use fair value as a measure of current value.

than a realisable value or cost of acquisition, so that it does not make any allowance for transactions costs. In both of these respects, it differs from deprival value. Moreover the report of the IASC Steering Committee on Financial Instruments (IASC, 1997 chapter 7, 5.6) defined fair value as a selling price (the bid price) rather than a buying price. This was probably an arbitrary means of resolving the problem of how to treat the dealer's spread in financial markets, rather than an observation as to the fundamental properties of fair value, but it reinforced a trend by some advocates of fair value to regard it as a selling price. Since deprival value can, as we have seen, be regarded as modified replacement cost, the interpretation of fair value as a selling price opens up another potential gap between the two concepts.

As stated above, the purpose of this paper is to bridge the apparent gap between the two concepts. They are both approaches to obtaining an economically meaningful current value, and the deprival value approach can be used to resolve a problem that arises in the application of the fair value principle: the choice of market in which to assess fair value and, in particular, whether that should be the market for acquisition (entry) or disposal (exit). In order to achieve this reconciliation, we first examine deprival value, the concept with the longer history in the accounting literature, and suggest an amendment to its traditional interpretation. We then examine the more recent concept, fair value, and suggest a particular interpretation of it. We then show how the concepts, as we interpret them, can be applied jointly to produce consistent results that are also a meaningful representation of the current economic position of the reporting entity. We shall consider specifically the case of fixed assets, such as property, plant and equipment, although our arguments could be extended to cover other assets and liabilities.

2. Deprival Value

As indicated earlier, the objective of deprival value is to assess the value added to a business as a result of owning the asset. This is why value to the business is an equally appropriate and possibly more intuitively appealing description. However, deprival is an alternative characterisation: the answer to "how much better off am I as a result of owning this asset?" is the same as that to the question "how much worse off would I be if I did not own this asset?".[5] This may seem to be a pedantic point, but it answers the commonly made criticism that deprival value is of interest only for insurance purposes.

In answering the above question, however it is put, we have to make appropriate assumptions about the economic opportunities available and which ones are relevant. Since the valuation is being done in relation to the entity that currently controls the asset, these must be the opportunities that are actually available to that specific entity. Thus, if an entity is unable to access a particular market or use the asset in a particular way, these are not relevant opportunities for the assessment of deprival value. However, within the opportunities that are available to the reporting entity, we assess deprival value by assuming that the asset is put to the use that maximises its value. In other words, we assume economic rationality in selecting the economic opportunity upon which the measurement is based. [6]

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[5] This result does rest on the assumption of economic rationality in terms of the entity selecting the combination of projects with maximum added value (for a given level of risk).

[6] Economic rationality is assumed for the purposes of assessing deprival value, but that does not mean that we assume that the entity actually follows the rational course of action.

Thus, there are two stages in the assessment of deprival value. First, we select the relevant opportunities. Second, we chose between these opportunities.

The selection of the relevant opportunities is based upon the fact that there are three possible courses of action in relation to an asset held by an entity: it can be disposed of, or used in the business, and it can be replaced by acquisition in the market, if it is used up, disposed of, or otherwise lost. This leads to three types of value: disposal proceeds, present value of future benefits obtainable from use, and replacement cost.

In assessing replacement cost (subsequently abbreviated as RC), we include all of the necessary costs of acquiring the asset: not merely the price, but also transactions, transportation and installation costs. However, economic rationality requires that we assess the minimum replacement cost of the services the entity derives from the asset, that is, the cheapest means of "making good" the entity if it were deprived of the asset. Thus, if the asset incorporates a redundant technology, we would measure the cost of a cheaper modern equivalent asset as the appropriate replacement cost. Equally, if the existing asset incorporates excess capacity, the replacement cost should be based upon the capacity that is used.

In assessing disposal proceeds, net realisable value (subsequently abbreviated to NRV) we look to the market available to the entity that offers the maximum return for an asset in that particular location and condition. We deduct the necessary costs of selling, transportation and de-installation, so that we assess the net proceeds rather than the disposal price. When disposal is likely to take a significant time, it will be necessary to discount the proceeds to obtain the present value of NRV.

In assessing value in use (subsequently abbreviated to VIU), we assume that the entity controlling the asset uses it in the most profitable manner that is available to the entity. Thus, the value is entity-specific, insofar as it respects the realistic limitations on present use, but it does not allow for management choice (insofar as management may arbitrarily choose a less profitable use than might be possible). Because use will necessarily take place in the future, VIU is usually a discounted measure, discounting being necessary to reduce the future returns to a present value. The discount rate used should be asset-specific, that is, it should reflect the systematic risks inherent in the use made of the specific asset, rather than the average cost of capital of the entity owning it. However, if the entity were subject to capital rationing, the discount rate would include an additional premium to reflect that situation: it may be economically rational for a capital-rationed entity to dispose of assets (or not replace them) even when their yield would satisfy the market's required rate of return on those assets (because that rate is not accessible to the entity). In assessing the returns from use, all future cash inflows and outflows resulting from continued use (including subsequent disposal) will be included. These should be measured by assessing opportunities, that is, the difference in cash flows that results from the continued use of the asset.

Having selected the economically relevant opportunities open to the entity, the deprival value approach uses a simple algorithm to select which one is appropriate. The algorithm uses a concept of recoverable amount (subsequently abbreviated as RA), which is the higher of NRV and VIU, that is, it is the maximum amount realisable by sale or use of the asset. This is compared with RC, which puts an upper ceiling on the deprival because the loss resulting from deprival cannot exceed the cost

of making good the loss. Equally, the additional value attributed to owning an asset cannot exceed the cost of buying a similar asset in the market: a firm that owns such an asset can be better off than an otherwise similar firm that does not own the asset only to the extent of the cost (RC) that the second firm would incur in making itself identical to the first.[7]

The deprival value (DV or value to the business) algorithm is therefore:

If RA>RC, select RC

If RA<RC, select RA

This has an obvious consistency with the traditional valuation rule of selecting cost (in this case RC) or market value (in this case RA, which includes NRV) whichever is the lower.

Table 1 sets out the possible permutations of NRV, VIU and RC (in the second column headed "Relationship") and the value selected by the deprival value algorithm. This follows the exposition due to Solomons (1966) and Parker and Harcourt (1969). Of the six possible permutations, the first four lead to the selection of RC as deprival value under the conventional interpretation (column 3, headed "Traditional" DV). This is because, in each of these cases, replacement would be justified if the asset were lost by use or disposal because there exists a use (NRV or VIU) that is greater.

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[7] Of course, this does not mean that VIU cannot exceed RC. It would be expected that VIU>RC for intra-marginal investments, but the ability to achieve a return in excess of that required to justify replacement can be attributed to the goodwill (or possibly another asset) of the owning entity.

Case	Relationship	"Traditional DV"	"Re-stated DV"
1	NRV>VIU>RC	RC	NRV
2	NRV>RC >VIU	RC	NRV
3	VIU>RC >NRV	RC	RC
4	VIU>NRV>RC	RC	NRV
5	RC >VIU>NRV	VIU	VIU
6	RC >NRV>VIU	NRV	NRV

Table 1: Selection of alternative values under different measurement systems

than the cost of replacement (RC). The fifth case yields VIU as deprival value. This is a situation in which VIU lies between RC and NRV, with NRV being the lower. Thus, the asset is not worth replacing (RC>RA), but continued use is more profitable than sale. It might arise in the case of plant and equipment which has a low NRV because of high costs of sale and de-installation but has a high RC due to high costs of purchase and installation. In such a case, a decline in the profitability of the activity since the original investment could lead to the "use but do not replace" situation which implies that VIU would be lost if the entity were deprived of the asset. The final case yields NRV as the deprival value. This is a case in which neither replacement nor continued use is economically justified (RC>RA and NRV>VIU), so that immediate disposal is the most valuable course of action, representing the best return available from the asset.

It should be noted that Table 1 merely displays the theoretical possibilities and makes no attempt to rank the cases in order of likelihood of occurrence. Two observations

should be made about this. First, Case 3 represents the typical investment in property plant and equipment, if the expectations held at the time of the original investment are fulfilled. In this case, it is profitable to continue to use (RA=VIU>RC) and it is not profitable to sell (RC>NRV). The deprival value is the cost of making good the loss, RC. Second, cases 1, 2 and 4 all assume that NRV>RC: in other words, irrespective of whether the asset can be used profitably in the business of the present owner, it would seem profitable for the entity to sell the asset and replace it, on a continuing basis. These cases all lead, under the deprival value rules, to valuation at RC. This seems to be counter-intuitive and possibly to lead to an under-valuation of the asset under the deprival value system. This is considered further in our re-interpretation of deprival value.

3. A Re-interpretation of Deprival Value

The situation in which NRV>RC, which is assumed in cases 1, 2 and 4 seems, at first sight, to be incompatible with market equilibrium: it would imply that an entity should continuously sell and replace the asset in question. This seems to be implausible in the case of property, plant and equipment held as fixed assets. It seems unlikely that the entity holding such assets would be able to access a selling market which even after transaction costs, yielded a net return greater than the full cost of replacement. Even in the case of trading stocks, we would not expect, under competitive conditions, that the entity could achieve more than a normal rate of return after recovering its selling and replacement costs: for this reason, it is not usual to record stocks at a higher value than their cost.

The explanation for the apparent anomaly, in which NRV>RC, must be the fact that NRV relates to the asset actually held, whereas RC is based upon the optimal replacement of the productive capacity utilised by the entity. Thus, if a business occupies land and buildings in an attractive location which is not necessary for its own purposes, RC will reflect the lower optimal replacement cost for use by the present owner, whereas NRV will reflect the higher value realisable in an alternative use and reflected in the market price. Alternatively, in the case of plant and machinery, as well as property, the entity may own excess capacity. In such a case also, RC will be based on necessary capacity, whereas NRV will be based upon the actual capacity owned which might attract a higher value. When, as result of such a situation, NRV>RC, we can describe the difference (NRV-RC) as the value of a redevelopment or redeployment opportunity. The process of redevelopment or redeployment through the market (measured by NRV) would involve what advocates of fair value would describe as an assumption of "highest and best use" of the asset, as reflected in its market price.

In these cases, in which NRV>RC, setting deprival value to RC provides a current valuation of the services currently used by the business but ignores the potential benefits obtainable by exercising the redevelopment or redeployment opportunity, captured by the higher NRV. The value of such opportunities (NRV-RC) could be reported separately for each class of assets, but it would be simpler and less costly to include them in the DV of the assets to which they related.[8] This would lead to the

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[8] Strictly, if we take an option pricing perspective, the value of the option to realise this opportunity is not (NRV-RC): that is merely the gain to be had by exercising the option immediately (its intrinsic value). More generally, if we assume (realistically) that there is uncertainty and irreversibility in the investment process, we have to introduce the value of real options into the deprival value analysis (Stark, 1997).

"Re-stated DV" measure shown in the fourth column of Table 1. It can reasonably be argued that this is a more appropriate measure of the consequences of deprival. If an asset had NRV>RC, then the entity, if deprived of the asset, would not be fully compensated by being awarded RC: it would also require compensation for the redevelopment or redeployment opportunity.[9] It should be noted that these are market opportunities actually available to the entity and measured in NRV.[10] They do not include the cost of excess capacity which could not be recouped, either because others had no use for it (that is, there was only a scrap market) or because the costs of de-installation and sale reduced NRV to RC or lower.

The effect of this re-statement of DV is to bring it much closer to the concept of fair value (FV), because the re-statement, like FV, is based upon valuing the assets in terms of the prices at which they would exchange between willing buyers and willing sellers in the market place. Clearly, a market transaction would be influenced by the possible benefits of redevelopment or redeployment.

4. Fair Value

If fair value is estimated by market price obtained from an active, well-informed and competitive market it will provide an objective measure which is free from subjective intentions and beliefs of the current owner of the asset. This will reflect the "highest

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[9] Indeed, it could be argued that the Traditional DV actually measures the loss from deprival only if RC refers to the capacity of the asset valued by the market and not just the capacity utilised by the entity. However, that would still leave cases 1, 2 and 4 as being plausible for property, plant and equipment assets in temporary market disequilibria.

[10] The reasons why such opportunities might arise are varied. For example, in the case of land the land on which the business premises are located might have increased dramatically in value because of favourable demographic changes in the locality. The opportunity would be non separable from the asset and therefore exercise of the opportunity to redeploy would require sale of the asset and (presumably) replacement of it by another asset (at the amount RC) which could provide the services currently used by the business.

and best use" available to market participants, that is, the return available by the marginal purchaser in the market place. It should be noted that this is not the best return available to any owner of the asset because the returns to intra-marginal purchasers or present owners will include producer or consumer surplus.

The IASB definition of fair value, quoted earlier, is similar to the definitions given by the FASB in Concepts Statement 7 and in the recent Exposure Draft:

> "The amount for which that asset (or liability) could be bought (or incurred) or sold (or settled) in a current transaction between willing parties, that is, other than in a forced or liquidation sale." (Concepts Statement 7, FASB, 2000).

> "The price at which an asset or liability could be exchanged in a current transaction between knowledgeable, unrelated parties." (Exposure Draft, FASB, 2004).

The only significant difference between these definitions and the IASB definition is the reference to the transaction being between knowledgeable parties, thus implying the absence of information asymmetry. [11] However, Foster and Upton (2001b), in their clarification of the FASB interpretation of fair value, state that it assumes that there are "no significant information asymmetries". Thus, we can assume that the objective of both definitions is identical, and the interpretation of fair value given here is based on that of Foster and Upton.

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[11] In normal recording of transactions it is implicitly assumed that the parties are unrelated and therefore the reference to this aspect in the Exposure Draft definition would not seem to be significant.

Fair value is thus based on the concept of exchange value between willing parties in a well-informed open market. It measures the consideration exchanged and therefore does not consider transactions costs. Furthermore, it does not address the question of which market to choose where more than one is accessible (eg a wholesale market and a retail market).

The fair value objective assumes that there is, or might be, a single price at which the asset should be exchanged. In order to identify that price, a measurement hierarchy is used. This consists, first, of seeking a quoted price in an active market. If such a price is unavailable, prices of similar assets should be sought. If these are unavailable, valuation techniques should be used to infer the price at which the asset would exchange if an active market were available. The most common of these for property, plant and equipment will be the calculation of a present value by discounting the cash flows obtainable from future use. If this is done, the cash flows and the discount rate should be based on notional market based assumptions, not the "entity specific" assumptions that would be used by the present owners. The latter might include the effects of specific advantages available to the present owners which would not be reflected in the market price. The market assumptions should exclude such excess returns (which are, in effect, separate intangible assets due to management skills, special knowledge or other specific advantages over other participants in the market), and should be based on the "highest and best use" accessible to the market, that is, the assumptions that would apply to the marginal purchaser.

The notional market based assumptions should reflect the information that would be expected to be used by market participants and obviously should not contradict any

information known to be used by market participants. Foster and Upton (2001b) suggest the following assumptions about how the notional market would work:

(i) the buyer has use for the asset in its current state;

(ii) the buyer will put the asset to its highest and best use;

(iii) the buyer can obtain reasonable information about the asset's condition and uncertainties in use (there are no significant information asymmetries);

(iv) the buyer is interested in the specific asset in question; and

(v) the buyer and seller will transact in the market that is most advantageous to them (especially important in terms of assets trading both in sets and individually).

This approach clearly shows that where there is no market, as would be the case for highly specialised assets, fair value does not necessarily reflect the selling price for scrap purposes as it is assumed that the buyer of an asset has a use for it in its current state. In such circumstances, fair value is therefore not an actual price but rather a notional market price - the price that would be expected to apply if there were a market operating under the specifications stated above. Thus an actual selling price for scrap purposes could be significantly less than fair value even when there was no actual sale at fair value.

5. An Extension of Fair Value

Fair value, as described above, is an attractive method of measurement, combining up-to-date valuation with the objectivity of relying on market value and assumptions, rather than the subjective estimates of management. Two problems that FV does not address are transactions costs and the choice of market. Here we propose extensions of the FV concept to deal with them.

Transactions costs can be significant, particularly for items of property, plant and equipment, which may involve high costs of conversion, installation and transportation, as well as high dealing costs (relative to those of financial instruments) due to the specific nature of the asset.[12] Thus, if fair value is based upon buying price, the value (as opposed to the price) must include acquisition costs if it is to reflect the full economic burden of buying. Equally, if fair value is based on selling price, we must deduct selling costs if we are to reflect the economic benefit obtainable by selling. It is these burdens and benefits that reflect the economic opportunities offered by the market place. The price (as opposed to the value after adjustment for transaction costs) is often essentially arbitrary, depending upon the extent to which transactions costs such as dealing commissions or delivery charges are bundled into it. In some cases, dealers will quote two prices, a bid price and an offer price, the turn between them being the dealer's return from dealing, which could equally well be described as a commission. In such cases, the transaction cost is inevitably included in the price.

Thus, an economically meaningful measure of value as either outlay on acquisition or proceeds of disposal must include the effects of transactions costs. If we wish to define FV as a price, rather than a value in exchange, we may find that some transactions costs are included in the price and others are excluded. Consistent economic measurement requires that we add in all acquisition costs when FV is based on an entry (acquisition) value and deduct all disposal costs when it is based on an exit (disposal) value. It does not matter whether we describe such measures as FV or

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[12] We treat installation and dismantlement costs as part of the transactions costs because they are essential costs of acquisition or disposal of property, plant and equipment assets.

as "FV plus acquisition costs" and "FV less disposal costs" so long as we have a clear objective of measuring the asset at an amount that reflects the relevant transaction costs.

This brings us to the important question of choice of market, and, in particular, whether that should be the market for acquisition (entry) or disposal (exit). Once we have resolved the entry/exit problem, the appropriate method of dealing with transactions costs is decided (add to entry price and deduct from exit price), and the choice between different markets is straightforward, being determined by the assumption that a profit-maximising entity will choose the market that offers the lowest total acquisition cost or the highest net disposal proceeds.

The hierarchy of fair value measurement described earlier, does not resolve the "which market?" problem. Rather, it deals with the more practical question of finding information of suitable reliability. We need, additionally, guidance on which price to use when reliable prices are available for both acquisition and disposal and these prices differ. A possible source of guidance here is the concept of the highest and best use. One interpretation of this might be to regard net selling price less cost of selling (NRV) as that reflecting the highest and best use obtainable through the market for an asset owned by the entity. This would be consistent with the interpretation of fair value for financial instruments as a bid price (selling price), adopted by the Financial Instruments Joint Working Group of Standard Setters (2000). However, for property, plant and equipment assets, which might be highly specific as to design and location and have high relocation costs, the present use might be the highest and best use and NRV might be very low. In the extreme, NRV

night be a scrap value, which is inconsistent with the definition of fair value, as interpreted by Foster and Upton.

This situation arises in cases 3 and 5 of Table 1. In both cases, NRV is lower than both VIU and RC. In case 3, VIU is the highest value and RC is the next highest. We earlier characterised this as the case of the typical property, plant and equipment asset which is profitably used by the business, would justify replacement, and would attract a relatively low value on disposal. In such a case, it might be acceptable to measure FV as RC, which is the higher of the two observable market values, on the ground that the market transaction that an economically rational entity would conduct in relation to this asset would be to replace it when its present use expired. It would be replaced by the most efficient means, so that the "modern equivalent asset" approach to measuring RC, used earlier in the measurement of DV, is still appropriate. The higher VIU is inappropriate as a measure of FV because it exceeds both market valuations (RC and NRV), so there is no evidence that it represents a "highest and best use" obtainable through the market, rather than some entity-specific advantage enjoyed by the current owner.

In case 5, NRV is again lower than both VIU and RC, but RC is now greater than VIU, so that the entity's economically rational course of action is to continue to use the asset (VIU>NRV) but not to replace it when it has been used up (RC>VIU). In this case, NRV is not the highest and best use: continuing use yields a higher value. RC may be an indication of the highest and best use available in the market, if there are currently transactions to buy at that price. However, it is difficult to argue that RC represents the highest and best use of the asset currently held, because that can be

placed in the market only at the lower NRV. Thus, VIU may be taken, in this instance, as fair value.[13] Admittedly, VIU will be (as was the case of deprival value) estimated by current management, using entity-specific assumptions, but advocates of fair value do concede that this may be necessary when there is no alternative evidence available from the market place. In the present case, VIU is bounded above by RC (and below by NRV), so that the scope for the entity's own assumptions to give rise to a misleading higher value (eg due to the effects of adding in otherwise unrecognised intangible assets) is severely constrained.

6. A Reconciliation

Given the above re-interpretations of DV and FV, it can be seen that fair value leads to identical results to those ascribed in Table 1 to Re-stated DV. Case 3 leads to RC, Case 5 to VIU and the other cases all lead to NRV.

The changes to the conventional interpretations of DV and FV that were necessary to achieve this reconciliation were as follows:

> (1) In the case of DV, it was assumed that any instance of NRV>RC implied a redevelopment or redeployment opportunity, which should make NRV a more appropriate value of the asset than RC.
>
> (2) In the case of FV, it was assumed that transactions costs should be allowed for in assessing acquisition and disposal values.

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[13] A number of approaches have been suggested for avoiding DV being measured by VIU. Stamp (1971) suggested that RA should be estimated only as NRV, which would then be DV in case 5. Gee and Peasnell (1976) suggested that RC would be the best estimate of VIU in case 5. Baxter (1994) argues that Case 5 is unlikely to arise. Baxter's view is that when an asset reaches the phase in its life where RC apparently exceeds VIU, this probably reflects an over-estimation of RC (possibly due to basing RC on an arbitrary calculation of depreciated replacement cost rather than an assessment of what the assets services are currently worth to a rational purchaser in the second hand market).

(3) In the case of FV, it was assumed that NRV represents the "highest and best use" of an asset already held, except when it is exceeded by both RC and VIU. In the latter cases, "highest and best use" is inferred by assuming profit-maximising behaviour.

The fact that DV and FV can be reconciled in this way should not be surprising.[14] They both seek current valuations and they are both based on the assumption of economic rationality: DV through the idea of profit-maximisation and FV through the concept of "highest and best use". Entrenched advocates of either DV or FV may object to the three changes made to the concepts, but they seem to be consistent with the objective of measuring the current value of the asset in terms of the economic opportunities that are available to its current owner in the condition and location in which it is currently to be found. This is asset-specific valuation, but it avoids the use of entity-specific assumptions except when they cannot be avoided. This is the stance usually adopted by advocates of fair value and is consistent with the proper application of deprival value thinking.

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[14] The result that current value is either RC or NRV has strong similarity to the "essential to continuance of operations" approach to valuation proposed in the AARF 1975 Preliminary Exposure Draft *A Method of Current Value Accounting.*

References

AARF (1975), *A Method of Current Value Accounting*, Preliminary Exposure Draft, Melbourne, Australian Society of Accountants and The Institute of Chartered Accountants in Australia: Australian Accounting Research Foundation.

ASB (1999), *Statement of principles for financial reporting*, London, Accounting Standards Board.

Baxter, W (1994), 'Asset and Liability Values', *Accountancy*, April: 135-7.

_____ (2003), *The case for Deprival Value, Edinburgh*, The Institute of Chartered Accountants of Scotland.

Boer, G. (1966), 'Replacement Cost: A Historical Look', *Accounting Review,* January: 92-97.

Byatt Report (1986), *Accounting for Economic Costs and Changing Prices*, London, HMSO.

Edwards, J., Kay, J. and Mayer, C. (1987), *The Economic Analysis of Accounting Profitability*, Oxford, Oxford University Press.

FASB (1977), *Accounting by Debtors and Creditors for Troubled Debt Restructurings,* Statement of Financial Accounting Standards No 15, June.

_____ (1984), *Recognition and Measurement in Financial Statements of Business Enterprises*, Concepts Statement 5, December.

_____ (1993), *Accounting for Certain Investments in Debt and Equity Securities*, Statement of Financial Accounting Standards No 115, May.

_____ (1998), *Accounting for Derivative Instruments and Hedging Activities*, Statement of Financial Accounting Standards No 133, June.

_____ (2000), *Using Cash Flow Information and Present Value in Accounting Measurements*, Statement of Financial Accounting Concepts No 7, February.

_____ (2004), *Fair Value Measurements*, Exposure Draft.

Financial Instruments Joint Working Group of Standard Setters (2000), *Draft Standard and Basis for Conclusions: Accounting for Financial Instruments and Similar Items*, December.

Foster, J. and Upton, W. (2001a), *The Case for Initially Measuring Liabilities at Fair Value*, Financial Accounting Standards Board: Understanding the Issues, Vol 2, Series 1, May, 4 pp.

_____(2001b), *Measuring Fair Value*, Financial Accounting Standards Board: Understanding the Issues, Vol 3, Series 1, June, 6 pp.

Gee, K. and Peasnell, K. V. (1976), 'A Pragmatic Defence of Replacement Cost', *Accounting and Business Research*, Autumn: 242-249.

IASB (2004), *Financial Instruments: Recognition and Measurement*, International Accounting Standard 39.

IASB (2004), *Business Combinations*, International Financial Reporting Standard 3.

IASC (1989), *Framework for the Preparation and Presentation of Financial Statements,* April.

IASC Steering Committee on Financial Instruments (1997), *Accounting for Financial Assets and Financial Liabilities*, March.

Parker, R. H. and Harcourt, G. C. (1969), *Readings in the Concept and Measurement of Income*, Cambridge: Cambridge University Press.

Sandilands Committee (1975), *Inflation Accounting: Report of the Inflation Accounting Committee*, London, HMSO.

Solomons, D. (1966), 'Economic and Accounting Concepts of Value', in Backer, M. (ed), *Modern Accounting Theory*, Englewood Cliffs NJ: Perentice-Hall, pp. 117-140.

Stamp, E (1971), 'Income and Value Determination and Changing Price Levels: an Essay Towards a Theory'. *The Accountant Magazine*, June: 277-92.

Stark, A.W (1997), The Impact of Irreversibility, Uncertainty and Timing Options on Deprival Valuations, *Accounting and Business Research*, Winter: 40-52.

Tweedie, D. P. and Whittington, G. (1984), *The debate on inflation accounting*, Cambridge: Cambridge University Press.

_____(1997), 'The End of the Current Cost Revolution', in Nobes, C.W. and Cooke, T. (eds.), *The Development of Accounting in an International Context*, London: Routledge, pp. 149-176.

Whittington, G. (1983), *Inflation accounting: An introduction to the debate*, Cambridge, Cambridge University Press.