Measurement Objectives

Summary of Analysis — Measurement Bases for Financial Accounting

1. This agenda paper summarizes the key points from the consolidated draft discussion paper, “Measurement Bases for Financial Accounting”, dated October 3, 2003. It sets out the major points that have arisen to date in the preliminary investigation of measurement on initial recognition of assets and liabilities.¹

2. This project addresses measurement bases for assets and liabilities that are recognized in financial statements. The question of what is an appropriate measurement basis is considered to arise when accounting standards require initial recognition or re-measurement.

3. The research project is intended to provide the basis for the IASB and its national standard-setting partners to initiate active projects to:
   • revise and expand the measurement aspects of their conceptual frameworks; and
   • improve the measurement requirements of their financial reporting standards by grounding those requirements on a coherent conceptual basis.

   The project may also provide insights on related disclosure matters.

4. The project has been undertaken because existing measurement standards and practices are inconsistent, and a number of significant measurement issues remain unsettled or have been dealt with unsatisfactorily. In particular:

   (a) Certain standards permit a choice between fundamentally different measurement bases.

   (b) Some items are accorded inconsistent measurement treatments in accounting standards globally.

   (c) Some standards reflect more or less arbitrary mixed measurement compromises pending resolution of conflicting views on appropriate measurement bases.

¹ The material in this agenda paper is not intended to modify or override the October 3, 2003 consolidated draft paper. In case of any apparent difference of meaning, the discussion and conclusions in the consolidated draft paper prevail.
5. The lack of an agreed, coherent set of measurement bases and supporting theory has
seriously impeded progress on convergence of accounting standards. The measurement
provisions in existing conceptual frameworks are limited and out of date. The IASB
Framework lists four possible bases: historical cost, current cost, realizable (settlement)
value, and present value. Fair value is not included in this list, although it is used in
several IASB standards. Present value is listed as if it were a separate measurement
basis in itself, rather than a methodology that can be used to estimate measurements
under several different bases. The IASB Framework provides no conceptual basis for
determining when or under what circumstances a particular measurement basis should
be used. Conceptual frameworks in other jurisdictions have similar limitations, except
that some are further developed in certain respects.

6. The analysis done to date in the project has focused on measurement on initial
recognition of assets and liabilities. Some may believe that there are few substantive
issues in this regard. They may expect that different measurement bases, for example,
historical cost and fair value, are likely to yield the same or very similar values,
particularly on initial recognition. In fact, there are significant circumstances in which
material differences can arise. Significant questions arise in theory and practice
concerning the various bases of measurement that could be applied on initial
recognition.

7. The focus of this preliminary investigation is on essential primary issues, with deferral
of what are considered to be second order issues to later stages of analysis or for
consideration in other projects. With this in mind, this preliminary investigation does
not deal with:

(a) changes in the purchasing power of the monetary unit;

(b) the implications of different measurement bases for reporting financial
performance;

(c) foreign currency translation issues;

(d) income tax issues;

(e) issues unique to particular industries; or

(f) assets and liabilities arising from non-arm’s length transactions.
8. A deductive (top down) approach has been used in developing conceptual theories and hypotheses concerning the various alternative measurement bases. Inductive analysis is used primarily as a “reality check” on the conceptual analysis and tentative working conclusions derived from it.

9. While there has been much debate and disagreement on the merits of different measurement bases, there seems to be general agreement on what the broad alternatives are. Different terms have been used in various jurisdictions to describe the same measurement bases, and similar terms have been defined in somewhat different ways. Working definitions, using existing IASB terminology as a starting reference point, have been established for the purposes of this project.

10. The analysis is proceeding on the basis that, for the purposes of measurement on initial recognition, the alternatives and their definitions are as follows:
   - Historical cost – Assets are recorded at the fair value of the consideration given to acquire them at the time of their acquisition. Liabilities are recorded at the fair value of the consideration received in exchange for the obligation.
   - Replacement cost – The most economic current acquisition cost of replacing an existing asset with an asset of equivalent productive capacity or service potential. On a current cost basis, a liability is recorded at the fair value of the consideration that an entity would receive if the liability had been incurred on the measurement date.
   - Reproduction cost – The current acquisition cost of replacing an existing asset with an identical one. On a current cost basis, a liability is recorded at the fair value of the consideration that an entity would receive if the liability had been incurred on the measurement date.
   - Net realizable value – The estimated selling price of an asset in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. The equivalent for a liability is the estimated settlement amount in the ordinary course of business plus estimated costs of settlement on the measurement date.
   - Value in use – The present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life.
A liability equivalent is the present value of the estimated cash outflows expected to be incurred in satisfying the contractual provisions of a liability.

- Fair value – The amount for which an asset or liability could be exchanged between knowledgeable, willing parties in an arm’s length transaction.

- Deprival value – The loss that an entity would suffer if it were deprived of an asset, determined as the lower of replacement cost and recoverable amount on the measurement date, with recoverable amount being the higher of value in use and net realizable value. The liability equivalent, known as relief value, is the lowest amount at which an entity could divest itself of the obligation involved.

Present value is an important valuation tool that can be applied to estimate a number of the above measurements in certain circumstances.

11. The criteria for evaluating alternative measurement bases, derived from the conceptual frameworks, are:

   i. Decision usefulness

   ii. Qualitative characteristics of useful information
      - Understandability
      - Relevance – predictive value, feedback value, timeliness
      - Reliability – representational faithfulness, neutrality, verifiability
      - Comparability

   iii. Concepts of assets and liabilities
      - How the expected cash-equivalent flow attribute of assets and liabilities, which is the primary economic purpose of business activities, provides a focus for measurement

   iv. Cost/benefit considerations

These criteria are interpreted and applied in light of recent developments in finance theory and practice related to asset and liability pricing (including risk analysis), the application of present value and statistical probability principles, fair value measurement practices, and computer and information technology.

12. Two important dimensions underlie the differences between the alternative measurement bases identified above: (i) market versus entity specific measurement objectives; and (ii) entry value versus exit value.
13. Under the market measurement objective, an entity looks to market prices of assets and liabilities, which are based on market expectations and assumptions about the amount, timing and uncertainty of future cash flows. An entity specific measurement objective takes into account the expectations and assumptions of the management of the reporting entity. Some of these expectations or assumptions may differ from those of the market. A measurement basis may be purely market based or purely entity specific. Alternatively, some aspects of a particular measurement basis could be founded on entity specific expectations and other aspects on market expectations (for example, a present value estimation of the value of an asset might reflect entity management’s estimates of the timing and amounts of future cash flows discounted at market interest rates).

14. When an entity measures an asset or liability on initial recognition at its market price, any entity specific advantage or disadvantage relative to the market price will be reported in net income as value added or lost in subsequent periods. Marketplace recognition will be reflected in subsequent periods as gains or losses are realized, or possibly as unrealized gains or losses if reflected in subsequently recognized market values. In contrast, when an entity measures an asset or liability on initial recognition using an entity specific measurement, the entity’s anticipated advantages or disadvantages will be embedded in the initial measurement of the asset or liability. In that case, future income effects will be reported to the extent that amounts realized or settled on the asset or liability prove to be different from its entity specific value.

15. When capable of reliable determination, a market measurement objective has important qualities that make it superior to an entity specific measurement objective, at least on initial recognition. Primary among these qualities is that competitive market forces work to resolve diverse expectations of various entities’ managements to a single price that impartially reflects all publicly available information on any given measurement date. As a result, market values of all assets and liabilities are measured on the basis of a common market expectation, all reflecting the present value of future expected cash flows to yield the normal current rate of return for commensurate risk. This gives measurements a quality of comparability over time and as between entities. A pure entity specific measurement does not reflect the effects of market forces, but rather is subject to the vagaries of individual entity expectations, intentions, and assumptions.
The view is taken that, assuming reliable measurability of agreed upon assets and liabilities, it is more useful for all entities to use market values on initial recognition and thereby be subjected to the discipline of the marketplace, than to be measured against entities’ individual expectations.

16. The a priori expectation reasoned from the market value objective is that there can be only one market (fair) value for an asset or liability on any measurement date. For this to be valid, apparent differences between exit value (the amount for which an asset could be realized or a liability could be settled) and entry values (the amount for which an asset could be bought or a liability could be incurred) of assets and liabilities must be attributable to:

(a) Differences between the assets and liabilities traded in different markets. Apparently different entry and exit prices for an asset or liability may be due to, sometimes subtle, differences between the asset or liability that is traded in an “entry” market and the asset or liability that is traded in an “exit” market.

or

(b) Entity specific charges or credits. Some differences between exit and entry values of assets and liabilities are due to entity specific charges or credits. Under the market value measurement objective, these would be treated as expenses or income (or perhaps in some cases as direct charges or credits to equity) on initial recognition. Under an entity specific measurement objective, they might qualify for inclusion in the measurement of the asset or liability depending on management’s expectations, intentions, and assumptions.

17. The perspective provided by this a priori expectation underlines the importance of clearly defining the asset or liability to be measured and its value-affecting properties. Defining the market value objective in relation to alternative measurement bases requires attention to several market-related issues, including: defining and understanding the implications of information asymmetry, market accessibility, and transaction costs.

18. Information asymmetry can arise in markets that are not fully efficient. Information asymmetry exists when some market participants have, or are thought to have, information about certain value-affecting properties of an asset or liability that is not
available to other market participants. The concept of “knowledgeable” in the definition of fair value is presumed to mean that all market participants have a basic level of knowledge consisting of reasonable access to, and understanding of, publicly available information. This does not preclude the possibility that some participants may have additional private information which, had it been known to other participants, could have affected the price that they would have been willing to pay or receive. There may be uncertainties as to what the market knows and what have been the effects of private information on observed market prices.

19. A commonly expressed view is that it is inappropriate to measure the fair value of an asset or liability on the basis of a market that is not accessible to the entity owning the asset or owing the liability. Some have associated market accessibility with the ability of an entity to realize the asset or settle the liability on the measurement date. In other words, some reason that the fair value objective should be to reflect the amount at which the asset or liability could actually be realized or settled on the measurement date. There is no implication in the market measurement objective with respect to expectations or intentions for realizing, settling, holding or using any asset or liability, beyond the general market expectation of highest and best use. The time period for realization or settlement does not matter to this objective because time and attendant risks are adjusted for in the marketplace in terms of present value equivalents.

20. Transaction costs, defined to include only costs that market participants would not be expected to be compensated for, do not affect market values. However, under an entity specific measurement objective such costs might be added to the measure of an asset, or deducted from the measure of a liability, on initial recognition when the entity is considered to have a supportable basis for expecting that the costs will be recovered from future activities involving the asset or liability.

21. The reliability of accounting measurements is based on three attributes: representational faithfulness, neutrality, and verifiability. Of these, the basic underpinning is provided by representational faithfulness. The appropriate starting point for an analysis of the reliability of a measurement basis is to examine what it purports to represent – its measurement objective. The attribute of neutrality then relates to freedom from bias in representing what is purported to be measured, and verifiability relates to the degree of consensus amongst knowledgeable measurers in applying a measurement basis.
22. Limitations on measurement reliability result from some form of measurement uncertainty, which exists when the measure of an asset or liability could be a variety or range of different reasonably possible or justifiable amounts. Two sources of measurement uncertainty may be identified:

(a) Estimation uncertainty, arising from judgments about an uncertain existing condition or future outcome.

(b) Economic indeterminacy, arising when the economic phenomenon to be measured cannot be defined in sufficiently concrete terms to permit valid quantification (that is, some value-affecting quality or property of an asset or liability may be unknown and unknowable).

23. It is well recognized and accepted that accounting cannot avoid some degree of estimation uncertainty. The reliability of a measurement estimation should be judged on the basis of the facts and the validity of assumptions at the measurement date, and not necessarily by the subsequent outcome. It is important to distinguish between estimation uncertainty and volatility resulting from taking risks.

24. Some confuse the volatility of a measurement that purports to reflect the effects of certain potentially volatile changes in economic conditions with its reliability. Those who may object to volatility being measured and presented in financial statements are presumably taking issue with its decision usefulness or relevance. However, concern about how well a particular measure of an asset or liability represents what it purports to measure is a reliability concern. Thus, it is important to distinguish reliability from volatility arising from changes in conditions that are captured by a measurement basis.

25. A basic economic indeterminacy in accounting involves arbitrary allocations or attributions. The problem arises when a measurement basis requires that the cost or value of an item be allocated among two or more assets or liabilities – the “one-to-many” attribution problem. It has been well demonstrated that there can be no unique non-arbitrary solution to a one-to-many or a many-to-many allocation. Accounting standards may specify the allocation methods to be followed in these situations, or narrow the range of choice. Such accounting prescriptions may improve the verifiability of measurements, but cannot improve their representational faithfulness, and are subject to measurement bias in the sense that the arbitrary adoption of a
particular allocation method necessarily precludes equally justifiable alternatives that yield different results.

26. The fundamental objective of fair value is to reflect the market price of an asset or liability on the measurement date. When there is no observable market price for assets or liabilities with the same value affecting properties as the asset or liability to be measured, the objective is to estimate what the market price would be if a market existed. The difficult question is how to make a reliable estimate of this price when there is no directly observable single market price. A follow-on question is whether there are circumstances in which a sufficiently reliable estimate of fair value is not possible with reasonable cost and effort and, if a reliable estimate is not considered possible, what can be done? Perhaps certain conditions underlying a pure fair value objective could be relaxed, or an alternative measurement basis that is capable of reliable estimation could be substituted for fair value, or as a last resort, no recognition could be given to the asset or liability.

27. The IASB and FASB have adopted a fair value measurement hierarchy in connection with their joint project on business combinations. This hierarchy proposes general guidance on what should be considered to be best evidence of fair value at three basic levels of reliability. It is instructive to examine this hierarchy because it provides a starting point for considering (i) the nature and possible seriousness of fair value measurement uncertainties at each level, and (ii) the approaches and assumptions that have been used to resolve these measurement uncertainties to single amount fair value estimates.

28. Significant problems of fair value indeterminacy can arise at all three levels in the fair value hierarchy. These problems have been resolved, in the sense of resolution to a single amount, in a variety of ways, all of which compromise the fair value measurement objective in some degree – that is, they reduce the representational faithfulness of measurements purporting to represent fair value.

29. Based on the analysis presented therein, the October 3 draft discussion paper tentatively concludes, amongst other things, the following:

(a) A market measurement has important qualities that give it more relevance than an entity specific measurement, at least on initial recognition.
(b) There can be only one market (fair) value for an asset or liability on any measurement date.

(c) In many cases, the best market source for fair value measurement on initial recognition will be the market in which the asset or liability to be measured was acquired or incurred.

(d) The appropriate individual item or portfolio unit of account on initial recognition is generally the unit of account in which an entity acquires an asset or incurs a liability. That unit of account can generally be expected to reflect the value-affecting properties of that asset or liability on its initial recognition.

(e) The appropriate unit of account for non-contractual assets on initial recognition is the lowest level of aggregation at which an identifiable asset is ready for use.

(f) When there is a market, or markets, for assets or liabilities similar to an asset or liability that is to be measured on initial recognition, it is necessary to identify and adjust for any differences in the fair value affecting properties of the market-traded assets or liabilities (for example, there may be a difference in quantity or condition).

(g) Transaction costs (as defined) incurred on the acquisition of an asset or on the incurrence of a liability are not part of the fair value of the asset or liability on initial recognition.

(h) When more than one alternative measurement basis achieves an acceptable level of reliability, the most relevant of those bases should be adopted.

(i) In comparing and evaluating the reliability of the alternative measurement bases, consideration should be given to both (i) the nature and extent of measurement uncertainty under each basis, and (ii) the relevance and reliability of supporting information on measurement uncertainty that can be derived under each basis.

(j) Concerning fair values:
   
   (i) Their determination is subject to potentially large areas of indeterminacy in some common situations on initial recognition of assets and liabilities.

   (ii) It is questionable whether a measurement that must rely to any significant extent on entity specific assumptions can rightfully qualify to be described as “fair value” when what the market may assume is indeterminate (unknowable).
(iii) Recourse must be made to some compromising conventions or substitution of other measurement bases in order to achieve single amount measurements in situations involving significant indeterminacy.

(k) Concerning other measurement bases:

(i) Historical cost, including the lower of historical cost and a recoverable amount (and the liability equivalent), is less relevant than fair value on initial recognition of assets and liabilities.

(ii) Historical cost may be an acceptable fallback measurement basis on initial recognition when fair value is not reliably determinable and historical cost is reliably determinable. However, the determination of historical cost on initial recognition is subject to potentially large areas of indeterminacy in certain common situations in which it is not unequivocally defined by the exchange of cash or cash-equivalents.

(iii) Reproduction cost and replacement cost, and their liability equivalents, are, by themselves, less relevant than fair value on initial recognition of assets and liabilities.

(iv) Replacement cost is more relevant than historical cost and reproduction cost as a fallback measurement basis on initial recognition when fair value is not reliably determinable. However, it may be doubted whether there are many situations in which replacement cost is reliably determinable when fair value is not.

(v) Net realizable value, and its liability equivalent, is, itself, a less relevant measurement basis on initial recognition of assets and liabilities than fair value.

(vi) Net realizable value may be a more relevant fallback measurement basis than historical cost, reproduction cost and replacement cost on initial recognition when fair value is not reliably determinable. However, when net realizable value is reliably determinable, it seems likely that fair value will also be reliably determinable.

(vii) Value in use (and any liability equivalent) is not, itself, a relevant basis for the measurement of assets on initial recognition and is not an appropriate possibility as a fallback when fair value is not reliably determinable.
(viii) Deprival value, and its liability equivalent, is a less relevant measurement basis than fair value on the initial recognition of assets and liabilities.

(ix) Deprival value is a more relevant fallback measurement basis on initial recognition than replacement cost, net realizable value or value in use, by themselves, when fair value is not reliably determinable. However, deprival value is subject to all of the areas of indeterminacy inherent in those three measurement bases.

(x) The relevance of any one of these measurement bases as a fallback when fair value is not reliably determinable on initial recognition may be improved to the extent that it can be applied in a manner that is most consistent with the fair value measurement objective.