

STAFF PAPER

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Project	Conceptual Framework		
Paper topic	Draft Discussion Paper: Measurement – Measurements other than cost or fair value		
CONTACT(S)	Ron Lott	rwlott@fasb.org	1-203-956-5371
	Rachel Knubley	rknubley@ifrs.org	+44 207 246 6904
	Peter Clark	pclark@ifrs.org	+44 207 246 6451

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This paper is a very early draft of part of the Conceptual Framework Discussion Paper. It has been prepared by the staff for discussion by the IASB. Issues discussed and conclusions reached will be subject to change.

Measures other than cost and fair value**Summary of this section**

This section discusses:

- Descriptions of measures based on estimated cash flows (other cash-flow-based measures)
- Possible high-level principles for using other cash-flow-based measures
- Considerations in determining when to use other cash-flow-based measures
- Current market prices other than fair value and when they might be useful
- Measures in existing and proposed IFRSs

1. Cost and fair value are the most common measurement methods in financial statements today, but they are not the only ones. Others that could be necessary or appropriate in some circumstances include market prices other than fair value and a variety of possible cash-flow-based measures. The discussion in paragraphs 2 to

40 addresses matters to consider in determining one of those other measures. AP 5D(a) *Draft Discussion Paper: Measurement – Measurements in existing and proposed IFRSs* lists and describes measures used in existing and proposed IFRSs.

Definitions and illustrations

2. The following are definitions of terms used in the discussion of other cash-flow-based measures. Illustrations of the computations are also included.

Most likely cash flows or most likely amount

The single highest probability amount in a range of possible estimated amounts. In existing standards, the term best estimate is sometimes used to mean most likely, but at other times may have different meanings.

Present value

The current measure of an estimated future cash inflow or outflow, discounted at an interest rate for the number of periods between today and the date of the estimated future cash flow.

(Note: Most present value computations involve a number of cash flows occurring in different periods and therefore require different discount rates for cash flows that occur at different times.)

Estimated cash flow

A single amount to be received or paid in the future.

Expected cash flow or probability weighted cash flow

The sum of the products of each amount in a range of possible outcomes multiplied by the probability of occurrence of each.

The process of computing the expected or probability weighted amount of a single cash flow involves (a) determining the possible outcomes (amounts), (b) assigning a probability of occurrence to each possible outcome, (c) multiplying the amount by the probability of each one, and (d) adding up the results. For example, if there are three possible amounts for a single cash flow—10, 50, and 80—and there is a 10% chance the

outcome will be 10, a 60% chance the outcome will be 50, and a 30% chance the outcome will be 80, the computation is as follows:

10% times 10 equals 1,

60% times 50 equals 30, and

30% times 80 equals 24.

The sum of 1, 30, and 24 is 55.

The expected or probability weighted cash flow is 55.

Expected present value

The sum of the products of each amount in a range of possible outcomes multiplied in each case by the probability of occurrence for that outcome, all discounted using the same interest rate convention.

The difference between expected present value and expected cash flow is that each probability weighted amount is discounted using a rate appropriate for the time until it is estimated to occur. To illustrate assume that in the example used for expected cash flow, the 1 (10 times 10%) was estimated to occur in 1 year, the 30 (50 times 60%) in 2 years, and the 24 (80 times 30%) in 3 years. Because interest rates are generally higher for longer term cash flows, this illustration assumes the discount rate is different for each outcome—5%, 6%, and 7%, respectively. The expected present value computation would be as follows:

1 discounted for 1 year at 5% equals 0.95

30 discounted for 2 years at 6% equals 26.70

24 discounted for 3 years at 7% equals 19.59

The sum of the three amounts is 47.24

The expected present value of the cash flow is 47.24 (as compared to the expected cash flow of 55).

Measures based on estimated cash flows

3. In the absence of transactions on which to base measurements, assets and liabilities have traditionally been measured using estimated cash flows. In the past, those measures may or may not have been discounted to present value and may or may not have included adjustments for uncertainties and margins for risks or profits.
4. Cash-flow-based measurements can be, and have been, applied to initial measurements and periodic remeasurements of assets and liabilities and to adjustments for impairments of assets or inadequacies of liabilities. In all situations, the IASB must first decide what the measure is intended to represent before deciding what factors should affect the measurement.
5. The subsequent measurement section of this paper [paragraph references to be added in the final paper] suggests that the appropriate measurement method (what information a measure is intended to represent) for a particular asset or liability should depend on how the entity will realise value of an asset or what payment or performance a liability will require of the entity. This section does not suggest anything different. It discusses how to use estimated cash flows to construct an appropriate measurement after the IASB has decided what the measure is intended to represent.
6. Some general types of cash-flow-based measurement methods that are in use or have been used in various jurisdictions include:
 - a) *Undiscounted estimates of most-likely cash flows*, which are used in measuring impairments of inventories and in some jurisdictions in measuring provisions
 - b) *Value-in-use* and other *entity-specific measurements*, such as *deprival value*, which attempt to capture the value of an asset or liability to a particular entity.
 - c) *Fair value based or partially updated measurements*, which capture some, but not all, of the factors that market participants would consider in setting a market price.

- d) *Other discounted cash flow measurements*, which use contractual or most likely cash flows discounted at specified rates (such as the entity's incremental borrowing rate or the rate expected to be earned on assets that could be used to settle a liability) or market rates at the date of acquisition or incurrence.
7. Some of those measurement methods are based on estimates and assumptions from the perspective of management (that is, what management believes or anticipates). This section refers to those estimates and assumptions as entity-specific inputs. Other measurement methods are based on estimates and assumptions from the perspective of market participants (that is, what management can observe in market transactions or what management believes market participants would believe or anticipate). This section refers to those estimates and assumptions as market inputs.
8. An entity's own estimate of the expected present value of cash flows from an asset or liability will not necessarily equal fair value, which is based on market inputs. Some of the reasons are:
- a) Management might intend to realise the asset or settle the liability in a manner different from what market participants would assume.
 - b) The entity might hold special preferences, like tax abatements or specific property rights, not available to others. (Some such items may constitute separate assets.)
 - c) The entity might hold information, trade secrets, or processes that allow it to realize (or avoid paying) cash flows that differ from others' expectations. (Some such items may constitute separate assets.) In some cases, the entity may have less information than other market participants.
 - d) The entity might be able to realise efficiencies or other savings through use of internal resources. For example, an entity that manufactures materials used in a particular process acquires materials at cost instead of the market price charged to others. An entity that settles a liability to provide services with internal resources may avoid the profit included in services provided by outside contractors.

- e) The entity or its management may not have the same risk preferences as other market participants.
9. All of those potential differences result from perceived advantages or disadvantages relative to other market participants.
 10. A cash-flow-based measure may also differ from fair value if that measure does not consider some or all of the factors considered by market participants. Undiscounted estimates of most likely cash flows, which for example, have been used in IFRS to measure impairment of inventories, would not include any of those factors. Other measures might be discounted but not include risk premiums or other profit margins that market participants might require.
 11. The question addressed here is not whether to use a fair value estimate, but if a fair value estimate has been determined not to be appropriate, which factors a cash-flow-based measure should consider and from whose perspective.

Question 1

1. Does the IASB agree with the discussion in paragraphs 3 through 11?

What to consider in constructing a cash-flow-based measure

12. When the IASB is deciding on a cash-flow-based measure, the measure is not intended to reflect fair value. Otherwise, a fair value measure would be required. One general way to frame the question of what to reflect in a cash-flow-based measure might be ‘how close to fair value should it be?’ Because cost is often equal to fair value on the initial measurement date of an asset or liability, the question might also be phrased as ‘how close to cost should it be?’ Either way, the factors to be considered for possible inclusion are the same.
13. Every factor that can affect the value of an asset or liability is considered by the market participants whose interactions set market prices. Therefore, the factors considered in a fair value estimate (the inputs) provide a comprehensive starting point for thinking about other cash-flow-based measures. Those inputs are:

- a) The amount and timing of the future cash flow (or in more complex cases, series of future cash flows at different times) and possible variations in the amount and timing;
- b) The time value of money;
- c) The price for bearing the uncertainty inherent in the asset or liability; and
- d) Other, sometimes unidentifiable, factors including illiquidity.

14. Thinking about those factors and the fact that the measure is not intended to represent fair value raises the following question:

- a) Should cash-flow-based measures reflect the uncertainties in the amount and timing of a cash flow (or series of cash flows) or a single possible amount (or series of amounts)? (see paragraphs 16-21)
- b) Should the measurement of liabilities reflect the possibility that an entity may not be able to settle its liabilities when they are due (the entity's 'own credit')? (see paragraphs 22-24)
- c) Should cash-flow-based measures be discounted and if so, at what rate or rates? (This question is related to question (a) because uncertainties may be included in the estimate of cash flows or in the discount rate, but should not be double counted by being included in both.) (see paragraphs 25-30)
- d) Should cash-flow-based measures reflect the amount market participants would charge for bearing the risk embodied in the uncertain cash flows? (see paragraph 31)
- e) Should cash-flow-based measures reflect the effects of other factors such as illiquidity premiums or discounts if they are identifiable? (see paragraph 32)
- f) Should the estimates and assumptions underlying cash-flow-based measures reflect the reporting entity's perspective or market participants' perspectives? (see paragraphs 33-34)

g) Should all the above estimates be current (ie updated at each reporting date), or should some or all of them be locked in (ie not updated)? (see paragraph 35)

15. The answers to those questions depend on whether including that factor makes a measure more relevant, and on cost-benefit considerations.

Uncertainties

16. Uncertainties in the amount and timing of cash flows can be reflected by using a probability weighted amount whether the measure is discounted or undiscounted. Uncertainties can be reflected in a discounted measure either by using a probability weighted amount or by discounting the most likely amount at a rate commensurate with the probability of variation. To illustrate, suppose that a lender issues 1,000 loans of 1,000 each on the same day and maturing in exactly 12 months, at a contractual interest rate of 10%. Suppose also that the lender estimates that the expected cash flows (principal and interest) it will collect from this portfolio of loans are 1,078,000 (an expected default rate of 2%). The lender can calculate the expected present value of the cash flows in two ways:

- (a) Discount the contractual cash flows of 1,100,000 at the contractual interest rate of 10%, giving an expected present value of 1,000,000.
- (b) Discount the expected cash flows of 1,078,000 at a discount rate of 7.8%, reflecting the probability of default, giving the same expected present value of 1,000,000. That discount rate of 7.8% reflects the contractual interest rate of 10%, less the portion of that interest rate needed to recover the expected defaults (2% on principal, plus 2% on interest = (2% times 100%) plus (2% times 10%) = 2.2% in total).

17. The term uncertainties in the previous paragraph refers to possible variations in the amount and timing of future cash flows. It does not refer to a risk premium, which is the amount an entity would charge to bear the uncertainties, in other words to bear the risk that the actual outcome may differ from the expected present value. To illustrate, a cash flow with little uncertainty (possibilities range only from 98 to 100) and a cash flow with a great deal of uncertainty (possibilities range from 0 to 200) may have the same expected present value. However, the worst case outcome in the second cash flow is much worse. Therefore, a market

participant with little tolerance for risk would probably not be willing to pay as much for the second cash flow as for the first, even though the expected present values are the same. In addition, there is a risk that the uncertainties have been estimated incorrectly. Those factors result in adjustments for bearing the risk in highly variable cash flows.

18. Uncertainties about the amount of a future cash flow can affect decisions by investors, lenders, and other creditors, but the significance of the effect depends on the specific circumstances. In general for a material cash flow, as the level of potential variation in a future cash flow increases, so does the importance of information about the uncertainty. If the most likely amount is the measure of an item with a highly uncertain cash flow amount, disclosure of the range of possibilities and some information about probabilities of various outcomes is needed. Even if a probability weighted measure is used, additional information about the range or the more extreme outcomes probably would be needed.
19. Another factor to consider is whether the cash flow is unique or is part of a group of similar, but independent, items. Probability weighted cash flows of a sufficiently large group of similar items is statistically more likely to approximate the most likely aggregate outcome than for a single item, unless the outcomes of each item are highly correlated with each other. Measuring at the most likely cash flow amount of each item may not approximate the most likely aggregate outcome.
20. The following example illustrates the difference. In a group of 1,000 items, each has two possible outcomes, and the outcome of each item is independent of the outcome of each other item—a 60 percent chance of a cash flow of 1,000 and a 40 percent chance of no cash flow. Measuring each one at the most likely amount would result in a total carrying amount of 1 million although the most likely outcome for the group is 600,000. Probability weighting each item to arrive at 600 would result in an aggregate amount equal to the most likely outcome for the group.
21. One other point about uncertainties is a practical one. In some circumstances, it can be very difficult to compute a probability weighted value. The available information is not sufficient to allow for objective assignment of probabilities. If

the measure is undiscounted, a single most likely amount or even the midpoint of a range of possible outcomes might be the best that can be done. In that case, disclosure of the range of possible outcomes would be useful. If the measure is discounted, there may be observable market information about other items with comparably uncertain cash flows, in which case the uncertainty might be incorporated into the discount rate.

Own credit

22. One source of uncertainty in future cash flows that deserves special consideration involves the possibility that an entity will not be able to settle its liabilities when they are due. That uncertainty is reflected in market prices of loans (the interest rate charged) from banks, in the original issue price of bonds, and is incorporated in some fashion into the pricing of every liability of the entity for which there is a transaction price. Therefore, it is automatically included in the initial measures of those liabilities. In those cases, the controversial issue is whether subsequent measurements of liabilities should reflect changes in the expected cash flows due to changes in the probability of non-payment, and whether they should reflect changes in the market price for bearing the risk of changes in the probability of non-payment.
23. Updating the measure of a liability for changes in credit risk (and market interest rates) adds discriminatory power. In other words, it helps distinguish between liabilities with similar face values or original proceeds but different amounts and timings of payments. The concerns generally focus on gains recognized as a liability is discounted at a higher rate because of an entity's deteriorating credit standing or because the market price for bearing the risk has changed. Recognized gains are normally considered positive indicators of performance, but in that case, a gain is a negative indicator.
24. For other cash-flow-based measures, reflecting uncertainty due to an entity's own credit risk in the initial measure also is controversial. If the uncertainty in a cash flow estimate reflects a market perspective, the estimate certainly would include uncertainty due to the entity's credit standing. However, if the uncertainty is from the entity's own perspective it may or may not.

Discounted or undiscounted and at what rate or rates

25. Discounting distinguishes between cash flows of similar amounts due at different times. Investors, lenders, and other creditors are very interested in the timing of cash flows they can expect from their equity investment or credit instrument. That timing depends in part on the timing of cash flows to the entity to which they have provided equity capital or extended credit. Obviously, a cash flow of 1,000 tomorrow is more valuable than a cash flow of the same amount due in 10 years, and discounting distinguishes between those two.
26. In general, the information gained by discounting that cash flow increases as the time between the present date and the date of a cash flow increases. Similarly, the information gained by discounting that cash flow increases as the discount rate increases (whether because of increased time value of money, increased contractual variability, increased risk of non-payment or other factors).
27. Therefore, discounting would add discriminatory power to measurement in many cases.
28. If a decision to discount a cash flow estimate has been made, the next question is whether the discount rate should reflect uncertainties. If the estimated cash flow has been adjusted to reflect the effects of uncertainties as described in paragraph 16, the discount rate should not also reflect those same uncertainties. In addition, the discount rate should reflect the characteristics of the cash flows being measured. Thus, for example, the discount rate for a liability should reflect the characteristics of that liability, not the characteristics of assets held by the reporting entity (though if the cash flows on the liability depend in some way on the returns on those assets, the discount rate would need to reflect that dependence because it is one characteristic of the liability).
29. A discount rate lower than the time value of money would not be appropriate in most circumstances. Because the time value of money implies 100 percent certainty as to amount and timing of cash flows, using a lower rate would imply more than 100 percent certainty, which is impossible.
30. Using a rate such as the entity's incremental borrowing rate for a liability reflects the same uncertainties that would affect a borrowing to which the rate would

apply. That would be appropriate if the uncertainty in the item being measured is similar, but otherwise, it would be a practical expedient at best.

Adjustments for bearing risk

31. A cash-flow-based measure could include a price for bearing risk (or a margin for profit) if it is identifiable. Paragraph 17 discusses the distinction between the effects of uncertainties and the price for bearing risk of those uncertainties. If the item being measured is of a type for which transactions are observable (at least occasionally) or with which the entity has market experience (as for example, an insurance contract issued by an insurance company), it will be possible to make a verifiable estimate of a risk adjustment. An entity may be able to reflect the price for bearing risk in the discount rates, the cash flows or the probabilities assigned to the cash flows (taking care to avoid double counting).

Adjustments for other factors such as illiquidity

32. Market prices can also be affected by illiquidity, distressed sales, and other matters sometimes described as market abnormalities. However, unless there is a reasonable and logical basis for estimating the effects of those factors, it would be inappropriate to include them.

Entity-specific perspective or market perspective

33. Paragraph 8 discusses some of the reasons why a cash flow estimate from an entity's perspective may differ from an estimate of the cash flow from a market perspective. In some cases, there are clear advantages to estimates determined from a market perspective. In general, using a market perspective provides a clear objective which adds at least a little discipline to the estimation process. If market information is available, using inputs from a market perspective makes the estimation easier and easier to verify.
34. On the other hand, an entity-specific perspective may be the only reasonable alternative for a unique and highly uncertain cash flow and in the absence of any market information. It also may provide a better indication of ultimate cash flows if the entity plans for the asset or liability are different from what a market participant would assume.

Current estimates or locked in estimates?

35. For each factor discussed listed in paragraph 14, the IASB would need to decide whether that factor should be updated at each reporting date, or whether it should remain as it was when the entity first recognised the asset or liability. To illustrate, amortised cost, as used under IFRS 9 for some financial instruments, uses updated estimates of the cash flows but for fixed rate instruments keeps the original effective interest rate throughout the life of the instrument.

Questions 2 and 3

2. Does the IASB agree with the questions in paragraph 14 and the related discussion in paragraphs 15 to 35?
3. Does the IASB agree that the Discussion Paper should not attempt to answer the questions in paragraph 14 but only to ask respondents for suggestions and information?

Current market prices other than fair value

36. Fair value is not the only possible market price. There are other possible market prices that are not included in the definition of fair value. The two most obvious examples involve different markets and different units of account. Some existing standards also use fair value less cost to sell for impairment adjustments or fair value plus transaction costs for initial measurement.
37. It is possible to acquire assets in one market and sell them in another. For example, some entities originate loans in principal to principal transactions and sell them in a secondary market at a different price.
38. Some assets or liabilities can be sold or transferred one at time or in large groups and the market prices for the group may differ from the sum of the prices for individual items.
39. For some items with different entry or exit markets, the IASB might consider using the price an entity would pay to acquire an asset or receive to assume or

incur a liability. For example, that could make sense as an initial measurement if an entity acquires an asset for no identifiable cost, or for a cost known to differ from the market price.

40. There is at least one situation in which there are two different prices for the same unit of account in the same market—in an active dealer market with a bid-asked spread. Entities other than the dealer would buy at the asked price and sell at the bid price. It would be possible to use the mid-point of the range as a measure, although that amount is unlikely to reflect either party’s price in an actual transaction.

Question 4

4. Does the IASB agree with the discussion of current market prices other than fair value in paragraphs 36 to 40?

Question 5

5. Does the IASB agree that no preliminary views should be expressed in this section?

