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Credit Risk in Liability Measurement

A paper prepared for the IASB by its staff

Comments to be received by 1 September 2009

Project Principal
Wayne S Upton Jr



International
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Board®

Staff Paper
Credit Risk in
Liability Measurement

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by its staff
and published for comment by
the International Accounting Standards Board
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Project Principal
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Accompanying DP/2009/2

This staff paper accompanies the discussion paper *Credit Risk in Liability Measurement* and is published by the International Accounting Standards Board (IASB) for comment only.

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CREDIT RISK IN LIABILITY MEASUREMENT

Introduction

- 1 Arguably, questions about the role of credit risk in liability measurement have generated more comment and controversy than any other aspect of fair value measurement. This paper examines those questions. In particular it asks: should current measurements of liabilities (including fair value) incorporate the chance that an entity will fail to perform as required? If not, what are the alternatives?
- 2 Commentators frequently refer to the role of credit risk as ‘own credit’. An entity’s credit standing affects the credit risk of its liabilities, but the effect may be different from one liability to another. For example, a well-collateralised liability has less credit risk than an entity’s other liabilities. For other liabilities, the credit risk of the entity translates directly to the credit risk of the liability. The International Accounting Standards Board has stressed that it is the particular liability that is being measured, and the relevant credit risk is the risk associated with that liability.
- 3 This paper outlines the three most often-cited arguments in favour of including credit risk and the three most often-cited arguments against. It is not an exhaustive recitation of all that has gone before. This paper includes within its scope all current measurements of liabilities. Standard-setters have concluded that the fair value of a liability is a price and, thus, necessarily includes the credit standing of that liability. It does not follow that other current measurements of the liability should do so. Alternative current measurements of liabilities might include, for example:
 - (a) fulfilment value, as it is being developed in the Board’s joint project with the US Financial Accounting Standards Board (FASB) on insurance contracts;
 - (b) the value at which the liability could be settled with the counterparty;
 - (c) fair value, but excluding the effects of credit risk, and
 - (d) the value at which the liability could be transferred in a transaction permitted by industry regulators.

- 4 Just as there are several alternative current measures of a liability, there are several reasons why the reported amount of a liability might change. Some of those changes do not involve changes in credit risk, for example, changes in expected cash flows or currency exchange rates.

A short history

- 5 Some liability measurements have always included the effects of credit risk. Explicit consideration of the idea in standards and concepts is relatively recent.

- 6 In 2000 the FASB published Concepts Statement No 7 *Using Cash Flow Information and Present Value in Accounting Measurements*. That Statement described the role of present value in ‘fresh start’^{*} measurements of the fair value of assets and liabilities. In doing so, it could not avoid the question of the entity’s credit standing. In paragraph 78 of that document, the FASB said ‘The most relevant measure of a liability always reflects the credit standing of the entity obligated to pay’. In paragraph 85, it went on to say:

However, there is no convincing rationale for why the initial measurement of some liabilities would necessarily include the effect of credit standing (as in a loan for cash) while others might not (as in a warranty liability or similar item). Similarly, there is no rationale for why, in initial or fresh-start measurement, the recorded amount of a liability should reflect something other than the price that would exist in the marketplace. Consistent with its conclusions on fair value (refer to paragraph 30), the Board found no rationale for taking a different view in subsequent fresh-start measurements of an existing asset or liability than would pertain to measurements at initial recognition.

- 7 In the late 1990s the Board’s predecessor body, the International Accounting Standards Committee, commissioned a group of national standard-setters (the Joint Working Group or JWG) to develop a draft of a standard that would require all financial instruments to be measured at fair value. The JWG concluded that the fair value of liabilities is affected by changes in the entity’s credit risk. In its basis for conclusions, the JWG made many of the same arguments offered in Concepts Statement 7.

- 8 Two of the delegations to the JWG, France and Germany, dissented from the document. Both offered the following objection to including an entity’s credit risk in the measurement of its liabilities:

The delegation points out that effects of changes in own credit risk of the reporting enterprise reflect changes in its internal operational activities and

* defined as ‘Measurements in periods following initial recognition that establish a new carrying amount unrelated to previous amounts and accounting conventions’.

affairs and may also, at least in part, reflect changes in its internally generated goodwill, which is not recorded under existing accounting standards. Therefore, they see a fundamental inconsistency in reporting the effects of changes in credit standing on an enterprise's financial liabilities, while not reporting potential offsetting changes in unrecognised goodwill. Furthermore, taking into account an enterprise's own credit risk, which reflects the possibility of an insolvency, might contradict the general presumption that the enterprise will continue as a going concern.

- 9 The original version of IAS 39 *Financial Instruments: Recognition and Measurement* did not discuss the role of credit risk in liability measurement. That is perhaps because IASC did not expect that many liabilities, other than derivatives, would be reported at fair value following initial recognition. In its amendments to IAS 39 issued in 2005 the Board introduced a fair value option, designed in part to allow greater use of fair value in subsequent liability measurement. The Board concluded that the fair value of a liability includes the credit risk associated with that liability.
- 10 In 2006 the FASB issued SFAS 157 *Fair Value Measurements*. It follows the principle outlined in Concepts Statement 7 that the fair value of a liability includes 'non-performance risk', which includes credit risk. SFAS 157 defined fair value as an exit value, and paragraph 15 reads:
- A fair value measurement assumes that the liability is transferred to a market participant at the measurement date (the liability to the counterparty continues; it is not settled) and that the nonperformance risk relating to that liability is the same before and after its transfer. Nonperformance risk refers to the risk that the obligation will not be fulfilled and affects the value at which the liability is transferred. Therefore, the fair value of the liability shall reflect the nonperformance risk relating to that liability. Nonperformance risk includes but may not be limited to the reporting entity's own credit risk. The reporting entity shall consider the effect of its credit risk (credit standing) on the fair value of the liability in all periods in which the liability is measured at fair value. That effect may differ depending on the liability, for example, whether the liability is an obligation to deliver cash (a financial liability) or an obligation to deliver goods or services (a nonfinancial liability), and the terms of credit enhancements related to the liability, if any.
- 11 SFAS 157 thus defines the fair value of a liability in the context of a particular kind of exit transaction. As noted earlier, this discussion paper has a broader scope and includes other possible current measurements of liabilities.

Credit risk in the accounting measurement of liabilities

Measurement on initial recognition

When a liability is first recognised, should its measurement (a) always, (b) sometimes or (c) never incorporate the price of credit risk inherent in the liability?

- 12 To illustrate the question, suppose that an entity issues bonds at market rates on 31 December 20X1. The entity would record the cash proceeds from the bonds and a liability for the same amount. Assuming that there are no other factors in play, that accounting is not controversial (although some disagree, as noted later in this paper).
- 13 Now suppose that the same entity also records an asset removal obligation on the same date. It will have to use estimated cash flows and a discount rate to measure the liability. The interest rate on the bonds certainly incorporates the market's view of credit risk. Should the measurement of the asset removal obligation also incorporate credit risk? If not, why? Alternatively, should both measurements **exclude** the effects of credit risk and measure the liabilities using a default risk-free rate of interest?
- 14 The two liabilities differ in many ways—a removal obligation is not the same as a bond. However, both are subject to the entity's ability to meet its obligations. The bond accounting starts with an initial debit to cash and an implied interest rate, so inferring the credit/performance risk in the bond is easy. But 'easy' is rarely a conceptual justification. Indeed, the entity may be more likely to fail in meeting the removal obligation than in repaying the bonds.

Measurement following initial recognition

Should current measurements following initial recognition (a) always, (b) sometimes or (c) never incorporate the price of credit risk inherent in the liability?

- 15 To illustrate the question, continue with the example from the previous section. It is now 31 December 20X2. Most financial liabilities are measured at amortised cost, so the subsequent accounting for the entity's bonds poses little problem. However, the entity might have elected to measure the bonds at fair value through profit or loss. If so, the question of credit risk must be considered.

- 16 Assume that market participants now demand a different rate to hold the entity's bonds as assets, and some of the difference may be attributable to the bonds' credit quality. Should the subsequent fair value measurement incorporate all of the change in the interest rate, including the part attributable to the change in credit quality? The initial measurement included the market's assessment of credit quality, so why is the subsequent measurement different?
- 17 For asset removal obligations and similar liabilities, initial and subsequent measurements are current measurements. Amortised cost is not an option for liabilities of this sort, because the cash flow estimates change from one period to another, and last year's estimate is no longer useful.

Complications

How should the amount of a change in market interest rates attributable to the price of the liability's credit risk be determined?

- 18 Some have suggested approaches that would record part of the change in the value of an entity's liabilities but exclude changes in credit risk. Isolating the effect of credit risk in a market transaction is not straightforward. Even at initial recognition, the credit premium in an interest rate can only be inferred. It cannot be observed directly. The marketplace does not deliver an itemised invoice that details the portions of the interest rate attributable to the risk-free rate, the instrument's credit enhancements such as collateral, the entity's general credit quality, the instrument's liquidity, and other factors.
- 19 Changing market conditions, especially of the sort experienced in the past two years, make the problem even more complicated. Suppose that the market interest rate on the entity's bonds has increased by 3 per cent. Portions of that change may be attributable to:
- (a) changes in the credit quality of the issuer relative to others, as indicated by rating agencies or credit default swap spreads;
 - (b) changes in the price of credit to entities of a particular quality, including the entity in question, relative to the default risk-free rate (sometimes referred to as the 'credit spread');
 - (c) changes in the value of collateral or other enhancements;
 - (d) changes in the bonds' liquidity unrelated to their credit quality; and

- (e) changes in the price that market participants attach to their confidence in information about bonds in general (sometimes referred to as the ‘lemons’ factor, after the well-known article, ‘The Market for Lemons’^{*}).
- 20 The Board recognised the difficulties inherent in isolating individual parts of a change in fair value when it issued IFRS 7 *Financial Instruments: Disclosures*. It also recognised the desire of many users of financial statements for a better understanding of the changes in an entity’s credit risk and changes in the fair value of its liabilities. It developed a proxy measurement of ‘the amount of change in fair value that is not attributable to changes in market conditions that give rise to market risk’.

Arguments for incorporating credit risk

Consistency at initial recognition

- 21 **Argument.** Accountants accept that the initial measurement of a liability incurred in an exchange for cash includes the effects of the borrower’s credit risk, adjusted for collateral, guarantees and other features of the contract. Barring evidence to the contrary, the cash exchange represents fair value in that market. There is no reason why subsequent current measurements should exclude changes in factors that were included in the initial measurement. Similarly, there is no reason why the initial measurement of some liabilities should include the effects of credit risk and others should not.
- 22 The discussion beginning at paragraph 15 introduced this question. If an entity issues a bond at market, then the proceeds of the bond represent the fair value of the future payments promised to bond holders. The proceeds and interest rate incorporate the price that purchasers charge for the possibility that a fraction of entities comparable to the borrower will fail to pay. This is true whether the bond is a traditional coupon instrument or a pure discount bond. The principle also holds for any other borrowing.

* George A Akerlof (1970). ‘The Market for “Lemons”: Quality Uncertainty and the Market Mechanism’. *Quarterly Journal of Economics* **84** (3): 488–500.

- 23 However, many liabilities do not arise in straightforward borrowing transactions. They may not even have an individual counterparty that placed a price on the chance of not being repaid. Liabilities not arising from straightforward borrowing transactions include:
- (a) asset removal or decommissioning liabilities
 - (b) product warranty liabilities
 - (c) performance obligations arising from sales to customers
 - (d) employee benefit obligations
 - (e) insurance claim liabilities.
- 24 Accounting standards differ in their treatment of credit risk for these liabilities. The question for this discussion is whether they should.
- 25 Some have suggested that liabilities like those listed above are different from traditional borrowing. Without an explicit price for credit risk in the transaction, the best measure is one that represents the entity's 'obligation'.
- 26 The difficulty with this line of argument is that it does not answer the question of discount rate. A high quality bond rate like the one used in IAS 19 *Employee Benefits* for pension liabilities substitutes some other entity's credit risk for the employer's credit risk. Unless changes in the asset and liability cash flows are highly correlated, using the discount rate on any risky asset to discount a liability's cash flows mixes unlike quantities. This quandary led the AICPA's Leonard Lorensen to propose the default risk-free rate for all liabilities.* He suggested an exception for situations in which the 'early discharge amount' was observable, but commented that those cases would be rare.
- 27 A risk-free discount rate would be straightforward, but it does not provide a consistent measurement approach unless it is applied to all liabilities. If it were used, then different entities with the same promised stream of cash flows would report the same obligation, regardless of the proceeds received in exchange for the promise. However, applying the risk-free discount rate to the initial measurement of borrowings raises a difficult question: what is to be done with the debit?

* Leonard Lorensen (1992). *Accounting for Liabilities*, AICPA Accounting Research Monograph No 4. New York. American Institute of Certified Public Accountants.

- 28 To illustrate the problem, assume that the bonds discussed so far have the following terms:
- (a) face value = CU1,000.*
 - (b) proceeds = CU1,000.
 - (c) annual coupon = CU100 (an interest rate of 10 per cent).
 - (d) principal due in 10 years.
 - (e) risk-free rate of interest = 4 per cent.
 - (f) present value of the coupon and principal payments at 4 per cent = CU1,487 (rounded).
- 29 Some, notably actuary Philip E Heckman,[†] have advocated that the CU487 (CU1,487 minus proceeds of CU1,000) should be treated as a 'borrowing penalty' and charged to earnings. Others, including Professors Lanny G Chasteen and Charles R Ransom of Oklahoma State University, maintain that the CU487 should be recorded as a debit to shareholders' equity and amortised into earnings over the life of the borrowing.[§]
- 30 The same troublesome debit is present in non-financial liabilities like those described in paragraph 23, if those liabilities are measured using a risk-free interest rate. Instead of being described as a borrowing penalty, the CU487 is subsumed in the expense recognised when the entity records the liability (for example, warranty expense).
- 31 Standard-setters have historically rejected the idea that incurring a liability in exchange for assets gives rise to a loss or that it decreases shareholders' equity. Instead, they have taken the view that borrowing, in and of itself, neither increases nor decreases the entity's net assets. The proceeds of the bond were the result of an arm's length transaction between a willing borrower and a willing lender. Stated differently, the lender was willing to pay CU1,000 for the right to hold the entity's promise as an asset. To those who favour including credit risk, a consistent accounting among liabilities requires non-financial liabilities not to be overstated by excluding the effects of credit risk when those liabilities are first recognised.

* In this paper, monetary amounts are denominated in 'currency units (CU)'.

† Philip E Heckman, 'Credit Standing and the Fair Value of Liabilities: A Critique', *North American Actuarial Journal* (2004). Society of Actuaries, Washington, DC.

§ Lanny G Chasteen and Charles F Ransom, 'Including Credit Standing In Measuring the Fair Value of Liabilities - Let's Pass This One to the Shareholders'. *Accounting Horizons*, 21/2 (2007).

Wealth transfer

- 32 **Argument.** Liabilities and equity represent the two classes of claims^{*} against the entity. A change in the credit risk of the entity's liabilities represents a transfer of wealth between those two classes. Lenders' interests are usually senior to those of equity holders and their potential gains and losses are bounded by the terms of a contract. Equity holders of an entity are not required to make any additional investment to cover losses incurred by the entity except to the extent that the equity holders have a binding obligation to do so. As the entity's ability to pay its liabilities diminishes, the effect on owners' claims is limited to the amount of their investment. Therefore, the apparent gain to the borrower can be seen as an allocation of claims between the borrower's owners and its lenders.
- 33 An entity's statement of financial position includes its recognised assets and two sets of claims against those assets—those of owners and those of others. The value of the claims derives from the value of the assets. This is captured in the classic accounting equation that assets equal liabilities plus equity. Owners' relative share of the claims increase or decrease as the value of the entity's total assets increase or decrease, in the absence of additional borrowing or other new liabilities.
- 34 One explanation for the wealth transfer looks to financial economics, notably the work of Robert Merton.[†] Equity holders have an option to put the entity to the debt holders for an amount equal to the face amount of the liabilities. The value of that option increases when the value of the entity's assets decreases. The debt holders wrote the option when they lent money to the entity, and the value of the written option increases, and thus the value of their debt decreases, when asset values decrease.
- 35 Others disagree with the application of this analysis.[§] While acknowledging the validity of the economic analysis, they maintain that the put is not an asset of the entity. They reason that the put cannot benefit the entity and cannot therefore be an asset of the entity. Instead, they conclude that the put is an asset of the owners.

* The term 'claims' in this document is used in its generic sense, rather than as a reference to the 'claims approach' to resolving distinctions between debt and equity.

† R C Merton (1974). 'On the pricing of corporate debt: The risk structure of interest rates'. *Journal of Finance* (29): 449–470.

§ Louise A Francis, Philip E Heckman and Donald Mango (2008), 'The Insolvency Put: Whose Asset?' Working paper available at <http://www.heckmanactuarial.com/RMIRPaperFinal20050727.pdf>

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- 36 For a better understanding of the notion of wealth transfer, consider the following example of a simple entity with one asset and one liability. At 31 December 20X1 the entity's fair value statement of financial position looks like this:

| | 31 December 20X1 |
|-----------|---------------------|
| Asset | 1,000 |
| Liability | (900) |
| Equity | (100) |

- 37 It is now 31 December 20X2. The value of the entity's asset has not changed, but market interest rates have increased. Neither the entity's credit quality nor the credit spread on similar liabilities has changed. Now the entity's fair value statements of financial position look like this:

| | 31 December 20X1 | 31 December 20X2 |
|---------------------------------|---------------------|---------------------|
| Asset | 1,000 | 1,000 |
| Liability | (900) | (850) |
| Equity, beginning | (100) | (100) |
| Gain from remeasuring liability | — | (50) |
| Equity, ending | <u>(100)</u> | <u>(150)</u> |

- 38 Some might argue that the possibility of this situation is an argument against the use of fair value when measuring liabilities. However, any current measurement of the liability could have produced a similar result. Suppose, for example, that the liability is one of those listed in paragraph 23. The value of the liability could have changed because of a change in the estimated future cash outflows, quite apart from any change in interest rates.
- 39 While acknowledging that point, others would argue that a change in interest rates is fundamentally different from a change in cash flows. In their view, the shareholders will ultimately realise the benefit of fewer cash outflows (see 'Realisation' at paragraphs 58–61 below). The interest rate change will reverse over time as the entity fulfils its liability.

- 40 The current measurement of a liability may change, then, as a result of:
- (a) a change in the estimated cash flows;
 - (b) a change in interest rates, unrelated to the entity's credit risk;
 - (c) a change in the credit spread for liabilities in the same class as the entity's;
 - (d) a change in the entity's credit standing; or
 - (e) some combination of (a)–(d).
- 41 Those who favour including credit risk in liability measurement maintain that all of the changes just mentioned affect the relative claims of owners and others. They see no convincing rationale for including some changes in current measurements of liabilities and not others.

Accounting mismatch

- 42 **Argument.** The failure to include changes in the credit risk of liabilities can result in an accounting mismatch between asset and liability measurements. If an entity's assets are measured at fair value, then changes in credit spreads on those assets will affect their fair value and either profit or loss or other comprehensive income. If the measurement of liabilities does not incorporate changes in credit spreads, then there is an accounting mismatch and the amounts of profit or loss or other comprehensive income will be distorted by the mismatch.
- 43 To illustrate the accounting mismatch, consider again the example of an entity with one asset and one liability. Both the asset and the liability are financial instruments. At 31 December 20X2 credit spreads have changed. Neither the risk-free interest rate nor the entity's credit risk has changed. If the financial reporting standards **excluded** all credit-related changes in the value of liabilities, then the statements of financial position would look like this:

| | 31 December 20X1 | 31 December 20X2 |
|-----------------------------|---------------------|---------------------|
| Asset | 1,000 | 950 |
| Liability | (900) | (900) |
| Equity, beginning | (100) | (100) |
| Loss from remeasuring asset | — | 50 |
| Equity, ending | <u>(100)</u> | <u>(50)</u> |

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- 44 The statements of financial position above present a distorted view of the relative shares of owners and others. The owners' relative claim is not half of what it once was, because the same market forces that changed the value of the entity's asset also changed the value of its liability. If the financial reporting standards **included** all credit-related changes in the value of liabilities, then the statements of financial position might look like this:

| | 31 December 20X1 | 31 December 20X2 |
|---------------------------------|---------------------|---------------------|
| Asset | 1,000 | 950 |
| Liability | (900) | (855) |
| Equity, beginning | (100) | (100) |
| Loss from remeasuring asset | — | 50 |
| Gain from remeasuring liability | — | (45) |
| Equity, ending | <u>(100)</u> | <u>(95)</u> |

- 45 Recent developments in the markets might lead some to criticise the presentation above for 'transforming' a loss of CU50 into a loss of CU5. If one takes the accounting process one step at a time, then the criticism is accurate but incomplete. In this simple example, the statement of financial position simply presents assets and liabilities on the same basis, even though the change in the liability incorporates the price of credit risk.
- 46 Readers might observe that the illustrations oversimplify the measurement problem. They would be correct. As noted earlier, it is difficult (if not impossible) to isolate the effects of changes in credit spread from other factors that affect the value of an entity's liabilities. The credit spread is a convenient way of expressing a relationship, as in 'the spread over treasuries of AA-rated bonds'. However, there are many factors that influence the interest rate applicable to an entity's liabilities. A change in market interest rates on an entity's bonds from, say, 5 to 6 per cent is observable. The extent to which that change is attributable to credit spreads, as opposed to other factors, is not.
- 47 For those who hold this view, a criticism of the example does not rebut the conclusion. Changes in liability values do not occur in a vacuum, and the entity's credit risk does not change without cause. Excluding credit-related changes from the measurement of an entity's liabilities will

create a mismatch. The extent of the mismatch will vary, depending on the recognition and measurement of assets. (See 'Accounting mismatch' at paragraphs 53–57 below).

Arguments against incorporating credit risk

Counter-intuitive results

- 48 **Argument.** When liability measurement includes credit risk, an entity reports a gain from a decline in the credit quality of its liabilities. This gain (or loss, in the case of improving credit quality) is counter-intuitive. Gains should result from improvements in an entity's financial position, not declines. Reporting a gain from a decline in credit quality is potentially misleading and can mask a deteriorating situation.
- 49 This is the most common objection to liability measurements that incorporate credit risk. To illustrate the objection, consider again the entity with one recognised asset and one liability. At 31 December 20X2 the entity's credit standing has been downgraded. The carrying amount of its one asset has not changed. The statements of financial position might look like this:

| | 31 December 20X1 | 31 December 20X2 |
|---------------------------------|---------------------|---------------------|
| Asset | 1,000 | 1,000 |
| Liability | (900) | (800) |
| Equity, beginning | (100) | (100) |
| Gain from remeasuring liability | — | (100) |
| Equity, ending | <u>(100)</u> | <u>(200)</u> |

- 50 Those who find the accounting counter-intuitive also find this picture unacceptable. The entity and its shareholders are not better off. Future borrowings, if possible at all, will be more expensive. The entity's obligation has not declined; it still must pay the same amounts. Yet the statement of financial position portrays a doubling of shareholders' equity.

- 51 Credit, in this view, is fundamentally different from any of the other things that might change the value of a liability. A change in interest rates for reasons other than credit affects all entities. Today, the owners are better off as a result, even though the effect of the change will reverse as the liability matures. A decrease in the liability's estimated cash flows for reasons other than credit obviously benefits the owners. A change in credit risk does not.
- 52 Bank and insurance regulators have been especially outspoken in making this argument. They maintain that the presentation in paragraph 49 is misleading. They are especially concerned that it masks underlying weakness or insolvency and may forestall their ability to take regulatory action.

Accounting mismatch

- 53 **Argument.** Including changes in credit risk is likely to increase the mismatch between assets and liabilities. A decline in an entity's credit quality usually signals a decline in the value of assets that may not be measured on a current basis (like fixed assets and goodwill), unrecognised intangible assets, and confidence in the entity's management. Because changes in those items are not recognised in financial statements, changes in credit quality should be similarly excluded.
- 54 In paragraph 47, the observation that liabilities do not change in a vacuum was used to support including credit standing in liability measurement. Here, the same observation is turned in the other direction.
- 55 The illustration in paragraph 49 points to the problem. How can the credit quality decrease if nothing happened to the asset? There might be several reasons. The price of credit risk for a particular quality (the credit spread) may have changed. The asset might be a factory that is not impaired. The market may have downgraded the prospects of all companies in a particular industry. The entity may have unrecognised intangible assets, such as patents, trademarks or goodwill. The value of those unrecognised assets may have declined.
- 56 Those who take this view maintain that there are three possible sources of accounting mismatch related to credit risk. Each is a change in the value of the entity's liabilities accompanied by:
- (a) a change in the value of assets measured at fair value;
 - (b) a change in the value of recognised assets that is not reported in the financial statements (as in the factory); or

(c) a change in the value of unrecognised assets (as in internally generated intangibles).

- 57 In their view, items (b) and (c) above are far more commonplace than item (a). They consider users of financial statements better served by excluding credit risk from liability measurement, and thus eliminating most of the causes of accounting mismatch. They might agree that financial reporting would be better if it included items (b) and (c), but unless and until it does, liability measurements should not include credit risk.

Realisation

- 58 **Argument.** One of the major arguments in favour of fair value is that realisation is not a critical event in accounting for some assets. Unless a financial asset is pledged or otherwise restricted, an entity can sell an asset whenever management wishes to do so. Assets are sold every day, but liabilities are seldom transferred. A transfer usually requires permission of the counterparty, and some liabilities cannot be transferred in any practical way. The relevant measurement of some liabilities clearly requires inclusion of current information. It does not follow, however, that accounting measurement of the liabilities should mirror the measurement of assets.

- 59 Those who hold this view accept the argument that current measurements are often more relevant than historical measurements, but only if the entity has the ability to benefit from a change in value. For example, paragraph 83 of FASB Concepts Statement No 5 *Recognition Measurement in Financial Statements of Business Enterprises* includes the following discussion:

Revenues and gains generally are not recognized until realized or realizable. Revenues and gains are realized when products (goods or services), merchandise, or other assets are exchanged for cash or claims to cash. Revenues and gains are realizable when related assets received or held are readily convertible to known amounts of cash or claims to cash. Readily convertible assets have (i) interchangeable (fungible) units and (ii) quoted prices available in an active market that can rapidly absorb the quantity held by the entity without significantly affecting the price. [Footnote reference omitted.]

- 60 There is little question that measurement of some liabilities requires current information. An asset removal obligation recorded using current estimates of the timing and amount of future cash flows is an example. A current interest rate is needed to reduce them to a present value. Those who hold this view maintain that the rate should not include the effects

of credit risk because the shareholders will neither gain nor lose from those effects. They cannot, in this view, be realised in most situations.*

- 61 An entity might be able to realise the benefits of decreased credit quality by repurchasing bonds or repaying borrowings at discounted amounts. However, an entity with decreased credit standing will find it difficult or impossible to do so. If the entity's credit quality has increased, so that its bonds now trade at a premium, it has little incentive to do so. Realisation, in this view, is more hypothetical than actual.

Alternatives to including credit risk

- 62 There are several alternatives available, some of which have been mentioned in the previous discussion. The Board has identified three categories from comment letters and published studies. There may be more, and the Board welcomes respondents' suggestions.
- (a) Measure all liabilities using the risk-free rate of interest and expected future cash flows, excluding any expectations about default. Any difference between the resulting amount and cash proceeds (if any) should be charged to income immediately.
 - (b) Measure all liabilities using the risk-free rate of interest and expected future cash flows, excluding any expectations about default. Any difference between the resulting amount and cash proceeds (if any) should be charged to equity and amortised over the life of the liability.
 - (c) Measure borrowings and other liabilities that result from an exchange for cash at the amount of the cash proceeds. Measure liabilities that do not have a cash exchange at the present value of expected future cash flows, discounted at market rates that

* In recent months, a number of entities have realised gains by retiring outstanding debt at a significant discount. See, for example:

'Lloyd's offers to buy back up to £100m debt'. Press release 22 April 2009.

http://www.lloyds.com/News_Centre/Press_releases/lloyds_offers_to_buy_back_100m_debt.htm

Rupert Steiner (2009). 'Cut price debt deal for Canary Wharf Developer'. Daily Mail Online.

<http://www.dailymail.co.uk/money/article-1168847/Cut-price-debt-deal-Canary-Wharf-developer.html>

Ian Guider (2009). 'Bank of Ireland to Buy Back Debt After Profit Slumps', Bloomberg.com.

<http://www.bloomberg.com/apps/news?sid=aTiXoEsOMcc&pid=20601087>

Roy Sudip (2009), 'Debt capital markets, Corporates buy back debt.', Euromoney.

<http://www.euromoney.com/Article/2119732/Debt-capital-markets-Corporates-buy-back-debt.html>

exclude the effect of credit risk. Subsequent current measurements should incorporate changes in market interest rates. Changes arising from the entity's credit quality or the price of its credit should be excluded from the market interest rates. This would have the effect of fixing the credit spread at the original amount and incorporating all changes in the risk-free rate.

- 63 The appendix to this paper includes simplified examples of these alternatives, along with an example of including credit risk in the liability measurement.

APPENDIX - ILLUSTRATIONS

Illustration 1 – The base case

- A1 This case shows the effects of including credit risk in the measurement of the liability.
- A2 The entity has one asset, a zero-coupon bond purchased on 31 December 20X1 for CU1,000. The bond matures in 10 years and pays CU2,500. The implicit interest rate is approximately 9.6 per cent.
- A3 The entity has one liability, a zero-coupon bond issued on 31 December 20X1 for CU900. The bond matures in 10 years and pays CU1,800. The implicit interest rate is approximately 7.2 per cent.
- A4 At 31 December 20X2 the market interest rate on the entity's bond asset has changed to 10.6 per cent and the market interest rate on its bond liability has changed to 8.5 per cent. For purposes of the illustration, those rates remain unchanged during 20X3 and 20X4. Interest income and expense are computed at the market rate prevailing at the beginning of each period.

| | 31 December | | | |
|------------------------------|-----------------|-----------------|-----------------|-----------------|
| | 20X1 | 20X2 | 20X3 | 20X4 |
| Asset | 1,000.00 | 1,009.59 | 1,116.60 | 1,234.96 |
| Liability | (900.00) | (863.78) | (937.21) | (1,016.87) |
| Equity, beginning | — | (100.00) | (145.80) | (179.40) |
| (Profit)/loss for period | — | (45.80) | (33.59) | (38.70) |
| Equity, ending | <u>(100.00)</u> | <u>(145.80)</u> | <u>(179.40)</u> | <u>(218.10)</u> |
| Interest income | — | (95.96) | (107.02) | (118.36) |
| Interest expense | — | 64.60 | 73.42 | 79.66 |
| (Gain)/loss from remeasuring | | | | |
| the asset | — | 86.37 | — | — |
| the liability | — | (100.81) | — | — |
| (Profit)/loss for period | <u>—</u> | <u>(45.80)</u> | <u>(33.59)</u> | <u>(38.70)</u> |

Illustration 2 – Borrowing penalty

- A5 All assumptions are as in the base case. The risk-free rate of interest at 31 December 20X1 is 6 per cent. At 31 December 20X2 the risk-free rate has increased to 6.5 per cent. For the purposes of the illustration, the risk-free rate remains unchanged during 20X3 and 20X4.
- A6 As described in paragraph 62(a), the liability is measured at the risk-free rate of interest. The difference between the proceeds and the measured amount is charged to income at initial recognition. The liability is remeasured whenever the risk-free rate changes. Interest expense is computed at the current risk-free rate.

| | 31 December | | | |
|------------------------------|---------------|--------------|----------------|----------------|
| | 20X1 | 20X2 | 20X3 | 20X4 |
| Asset | 1,000.00 | 1,009.59 | 1,116.60 | 1,234.96 |
| Liability | (1,005.11) | (1,021.24) | (1,087.62) | (1,158.31) |
| Equity, beginning | (100.00) | 5.11 | 11.65 | (28.99) |
| (Profit)/loss for period | 105.11 | 6.54 | (40.64) | (47.66) |
| Equity, ending | <u>5.11</u> | <u>11.65</u> | <u>(28.99)</u> | <u>(76.65)</u> |
| Interest income | — | (95.96) | (107.02) | (118.36) |
| Interest expense | — | 60.31 | 66.38 | 70.70 |
| (Gain)/loss from remeasuring | | | | |
| the asset | — | 86.37 | — | — |
| the liability | 105.11 | (44.18) | — | — |
| (Profit)/loss for period | <u>105.11</u> | <u>6.54</u> | <u>(40.64)</u> | <u>(47.66)</u> |

Illustration 3 – Shareholder ‘put’

- A7 All assumptions are as in the base case. The risk-free rate of interest at 31 December 20X1 is 6 per cent. At 31 December 20X2 the risk-free rate has increased to 6.5 per cent. For the purposes of the illustration, the risk-free rate remains unchanged during 20X3 and 20X4.

CREDIT RISK IN LIABILITY MEASUREMENT

- A8 As described in paragraph 62(b) the liability is measured at the risk-free rate of interest. The difference between the proceeds and the measured amount is charged to shareholders' equity and amortised to income over the life of the liability. The liability is remeasured whenever the risk-free rate changes. Interest expense is computed at the current risk-free rate (as in Illustration 2), adjusted by amortisation of the amount that was reported in equity.

| | 31 December | | | |
|------------------------------|-------------|--------------|----------------|----------------|
| | 20X1 | 20X2 | 20X3 | 20X4 |
| Asset | 1,000.00 | 1,009.59 | 1,116.60 | 1,234.96 |
| Liability | (1,005.11) | (1,021.24) | (1,087.62) | (1,158.31) |
| Equity, beginning | (100.00) | (100.00) | (89.1) | (124.50) |
| (Profit)/loss for period | — | 10.83 | (35.33) | (41.22) |
| Equity, ending | (100.00) | (89.17) | (124.50) | (165.73) |
| Shareholder 'put' | 105.11 | 100.82 | 95.51 | 89.07 |
| | <u>5.11</u> | <u>11.65</u> | <u>(28.99)</u> | <u>(76.65)</u> |
| Interest income | — | (95.96) | (107.02) | (118.36) |
| Interest expense | — | 60.31 | 66.38 | 70.70 |
| 'Put' amortisation | — | 4.29 | 5.31 | 6.44 |
| (Gain)/loss from remeasuring | | | | |
| the asset | — | 86.37 | — | — |
| the liability | — | (44.18) | — | — |
| (Profit)/loss for period | <u>—</u> | <u>10.83</u> | <u>(35.33)</u> | <u>(41.22)</u> |

Illustration 4 – Frozen spread

- A9 All assumptions are as in the base case. The risk-free rate of interest at 31 December 20X1 is 6 per cent. At 31 December 20X2 the risk-free rate has increased to 6.5 per cent. For the purposes of the illustration, the risk-free rate remains unchanged during 20X3 and 20X4.

- A10 As described in paragraph 62(c), the liability is measured initially at the amount of proceeds, as in Illustration 1. When interest rates change, the liability is remeasured using the sum of (a) the initial spread between the liability's interest rate and the initial risk-free rate and (b) the current risk-free rate. Thus, in year 20X2 the rate used to measure the liability increases from approximately 7.2 per cent to approximately 7.7 per cent.

| | 31 December | | | |
|------------------------------|-----------------|----------------|-----------------|-----------------|
| | 20X1 | 20X2 | 20X3 | 20X4 |
| Asset | 1,000.00 | 1,009.59 | 1,116.60 | 1,234.96 |
| Liability | (900.00) | (925.02) | (996.04) | (1,072.51) |
| Equity, beginning | (100.00) | (100.00) | (84.56) | (120.56) |
| (Profit)/loss for period | — | 15.44 | (36.00) | (41.89) |
| Equity, ending | <u>(100.00)</u> | <u>(84.56)</u> | <u>(120.56)</u> | <u>(162.45)</u> |
| Interest income | — | (95.96) | (107.02) | (118.36) |
| Interest expense | — | 64.60 | 71.02 | 76.47 |
| (Gain)/loss from remeasuring | | | | |
| the asset | — | 86.37 | — | — |
| the liability | — | (39.57) | — | — |
| (Profit)/loss for period | <u>—</u> | <u>15.44</u> | <u>(36.00)</u> | <u>(41.89)</u> |