STAFF PAPER

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IASB Meeting

Project	**Present value measurements – discount rates research**		
Paper topic	Draft Research Paper		
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1. The following pages include a very first draft of proposed Research Paper. The objective of presenting this draft is to give the IASB an idea of the work done, its content and the sections included. The staff needs to do more work on it before it can be published.

2. During this meeting, we will focus discussion on the sections 4 to 6 in the research paper.

3. This paper is unchanged from paper 15B presented during September 2015 IASB meeting. We thank those IASB members and directors who provided detailed comments which we have considered. We will submit a revised paper reflecting those and other comments once the IASB has had the opportunity to discuss the whole paper.

Present value measurements—discount rates

(Draft) Research Paper

Contents

Summary

Why is this Research Paper being published?

4. The International Accounting Standards Board (IASB) is publishing this Research Paper to communicate with a wide range of stakeholders and consult them about:

   (a) inconsistencies in reporting requirements for current, entity-specific measurements;

   (b) practical issues with reporting requirements for current, entity-specific measurements;

   (c) whether those issues should be addressed by the IASB.

5. This Research Paper does not include any specific accounting proposals. Instead, it considers potential financial reporting problems related to current, entity-specific present value measurements in International Financial Reporting Standards (IFRS).

Why did the IASB conduct this research?

6. The concept of the time value of money is a core principle of finance. This principle holds that money at the present time is worth more than the same amount of money at a future date. A common valuation technique, the present value measurement uses expected future cash flows combined with a discount rate in order to arrive at a current period measurement. This method requires two main inputs: an estimate of future cash flows, including their amount, timing and variability, and an estimate of a discount rate consistent with the cash flows. Each of these inputs can take into account various factors, such as risk and uncertainty.

7. Most accounting measurements use either contractual or observable marketplace-determined amounts as a basis for measurement. However, accounting requirements sometimes require or allow estimated future cash flows as a basis for measuring an asset or a liability. These measurements may be based on the present value measurement.

8. IFRS written over the years have required different factors to be reflected in the present value measurement in different Standards, which in turn means different

discount rates are required or allowed to be used. Views received during the IASB's *2011 Agenda Consultation* suggest that the reasons for using different discount rates are not well understood, with some respondents suggesting that such differences cause IFRS requirements to be inconsistent.

9. Responding to these views, the IASB has conducted this research project to examine discount rate requirements in IFRS to identify why those differences exist and assess whether there are any unjustified inconsistencies that the IASB should consider addressing.

What does this Research Paper include?

10. This Research Paper is set out as follows:

    (a) Section 1—introduction; this section provides some background to the project, describes its objectives and the IASB's approach to developing this Research Paper and explains what information the IASB is seeking from stakeholders through this Research Paper and how it will be used in its future work.

    (b) Section 2—scope of the present value measurement in IFRS; this section considers when the present value measurement is used in IFRS and when it is not, but could be.

    (c) Section 3—present value measurement objectives; this section considers whether the measurement basis for each current entity-specific present value measurement is clear.

    (d) Section 4—present value measurement components; this section considers whether it is clear which components are included in a particular present value measurement, and whether the components included are consistent with the measurement objective (if there is one) and with other Standards that have the same measurement objective.

    (e) Section 5—present value measurement methodology; this section considers whether there is consistency in the methods required or allowed to be used when arriving at a present value measurement. In particular, we considered

how risk, inflation and tax are reflected. We also considered the use of entity vs market perspective in measurement.

(f) Section 6—present value measurement presentation; this section considers whether there is consistency in the requirements for how the impact of the present value measurement is presented in reporting financial performance.

(g) Section 7—present value measurement disclosures; this section considers whether there is consistency in the disclosure requirements surrounding present value measurements.

Summary of findings

11. Present value measurements can be used in applying various measurement bases. IFRS uses a mixed-measurement model and thus the use of different discount rates (and different cash flows) for different measurements is justified. For example, a historical cost measurement would use a historical discount rate and historical estimates of the cash flows (to the extent that the carrying amount is recoverable), whereas a current value measurement would use current inputs for all factors (such as discount rates and cash flows).

12. However, some differences are more difficult to explain. For example, why is the effect of the time value of money ignored in some cash flow-based measurements? Why is there no explicit measurement basis in some Standards that use entity-specific measurements? Why is each entity-specific measurement somewhat different from other entity-specific measurements? Why is it not always clear which components those entity-specific measurements include? Why are presentation and disclosure requirements for entity-specific present value measurements different? Why does IFRS prescribe a particular present value measurement method for some entity-specific measurements when other methods could achieve the same outcome and could be easier to apply?

13. Many of these questions can be summed up in one overarching question—there is one fair value in IFRS, applied in various Standards, but arrived at using the same set of acceptable methods and accompanied by the same set of disclosure requirements; to

what extent would it be possible and desirable to seek to apply similar consistency for entity-specific current value measurements?

14. We do not think that many of the inconsistencies are intentional; instead, they seem to be a product of developing Standards independently of each other and at different times. The inconsistencies are somewhat comparable to inconsistencies in how fair value was used in different Standards before IFRS 13 *Fair Value Measurement* was developed.

15. Working for fully consistent requirements for current entity-specific measurements, such as those currently existing for fair value, would be an opportunity to achieve a level of consistency in financial reporting that has not been possible thus far.

16. We note that the Exposure Draft (ED) *Conceptual Framework for Financial Reporting*, published in May 2015, already describes what an entity-specific measurement is, but also indicates that the IASB may wish to customise it in particular Standards (see paragraph 6.35). When the IASB finalises the *Conceptual Framework*, it will decide whether to retain entity-specific measurements, how to define them and whether to permit customisation. We have therefore not considered the overarching question noted in paragraph 13 as a part of this research project.

17. The following table lists the specific issues we have identified in this research project and their potential implications.

Table 1—Summary of issues identified

Issue no	Research area	Description of the potential financial reporting problem	Consequence of not addressing the problem
1	Use of present value	Relationship between present value measurement and historical cost measurement basis not explored	No principle for the time value of money in cost-based measurements, lack of comparability of financial and non-financial assets at cost
2	Use of present value	Discounting of deferred taxes not permitted	Lack of comparability, goodwill overstated/understated
3	Measurement basis	IAS 19 lacks a measurement objective	Application of Standard is limited to the set of circumstances covered by rules, any change prompts calls for further rules
4	Measurement basis	IAS 19's measurement reflects the credit risk of third parties; dual rates used	Rate used is not relevant in all aspects to the liability measured, lack of comparability
5	Measurement basis	IAS 37's measurement objective unclear	Different understanding of objectives could lead to inconsistent measurement
6	Components	Application of entity-specific perspective in measurement	Value in use is hard to audit and enforce and some say not relevant
7	Components	Liquidity risk not consistently reflected in entity-specific measurements	Loss of comparability, for example pensions and provisions versus insurance liabilities
8	Methodology	Pre-tax and post-tax meaning and conversion	Errors in conversion and interpretation lead to misstatements
9	Methodology	Allowing only a particular method, for example pre-tax inputs requirement for the value in use in IAS 36	Additional complexity, potential misstatements
10	Methodology	Mixed use of entity and market perspective in accounting for tax	Overstatement of deferred tax balances
11	Presentation	Inconsistent use of other comprehensive income vs profit or loss in reassessment	Lack of comparability, unclear meaning of profit or loss
12	Disclosure	Inconsistent disclosure requirements; rate(s) and method used, impact on P&L and sensitivity analysis	Lack of comparability and insight in judgements made in measurement

What are the next steps in this project?

1. The IASB will consider the feedback received on this Research Paper and then decide whether to take any further steps.

Invitation to comment

2. The IASB invites comments on all matters in this Research Paper and, in particular, on the following questions:

   (a) Do you think the issues identified in this Research Paper pose financial reporting problems? If so, which issues pose problems and why?

   (b) What are the consequences for you if these problems are not addressed?

   (c) Which of the issues do you think the IASB should address? If you do not think the IASB should address these issues, how do you think they should be addressed?

   (d) Are there any financial reporting problems relating to present value measurements not mentioned in this Research Paper that you think the IASB should address? If so, which ones and why?

3. Respondents need not comment on all of the questions.

4. The IASB will consider all comments received in writing by **xxx 2016**.

Section 1—Introduction

5. This section:

   (a) provides some background to the project (see paragraphs 6–9);

   (b) describes the objectives of the project (see paragraph 10);

   (c) describes the IASB's approach to developing this Research Paper (see paragraphs 11–15); and

   (d) explains what information the IASB is seeking from stakeholders through this Research Paper and how it will be used in its future work (see paragraphs 16–17).

Background

6. We use present value measurement techniques (present value measurement) to reflect the time value of money. The present value measurement translates a sum of money

to be held at a future date (a future value) into an equivalent in terms of the money held today (a present value). So, for example, if an entity is certain that it will have CU105 in one year and if the rate of return is 5 per cent, the present value measurement converts the future value of CU105 into a present value of CU100.[1]

7. This basic description, however, is trivial. One former IASB member has observed that *any* combination of cash flow estimates and a discount rate discounted to the present day gives us a present value. The questions are what is the *objective* of the measurement and what are the *components* of the estimates.

8. Present value measurements are not limited to discounting certain future cash flows using a fixed rate of return. In the real world, there is no certainty about the future. Any of the following may be uncertain:

   (a) how much money (cash) an item, for example, an asset or a liability, will generate or require at the future date;

   (b) in some cases, when the future date will be; and

   (c) what the purchasing power of a specified sum of money will be at the specified date.

9. Depending on the measurement objective, the uncertainty can be reflected in different ways in a particular measurement.

Project objectives

10. The objective of this research project was to examine the discount rate requirements in IFRS to identify why differences exist and assess whether there are any unjustified inconsistencies that the IASB should consider addressing.

[1] In this Research Paper, monetary amounts are denominated in 'currency units' (CU).

Development of this Research Paper

Limited IASB involvement

11. This research project was discussed at two [three] public IASB meetings—in June 2014, when the scope of the project was approved, in September 2015, when the publication of this Research Paper was approved, to insert any more dates.

Advisory bodies and outreach

12. We have conducted limited outreach to understand stakeholders' views on present value measurements and practical issues they find. Appendix A of this paper summarises the stakeholders' views heard so far. It includes:

    (a) feedback from outreach during research, when we spoke with a small selection of stakeholders. This includes actuaries and valuation professionals, investors, regulators, preparers, standard-setters and people from emerging economies. Outreach also included consultation with the IASB advisory bodies, including:

        (i) two meetings with the Accounting Standards Advisory Forum;

        (ii) one meeting with the Global Preparers Forum;

        (iii) one meeting with the Emerging Economies Group; and

        (iv) individual meetings with some members of the Capital Markets Advisory Committee.

    (b) analyses of the most common alternative performance measures and adjustments that relate to present value measurements.

    (c) work of the IFRS Interpretations Committee (the 'Interpretations Committee') that is relevant to discount rates and present value measurements.

    (d) an analysis of the relevant comments received during the IASB's *2011 Agenda Consultation*.

Evidence collected

13. The research was mainly a desktop study of IFRS requirements. We also conducted limited outreach with key stakeholders, including investors, preparers, regulators, auditors, actuaries and valuation professionals.

14. We have also done limited empirical research to help us make an initial assessment of whether the issues identified presented financial reporting problems. We have focussed our empirical research in areas in which we could obtain information relatively easily, for example, when we could extract information from data aggregators or when research was already available or could be obtained easily.

15. We have reviewed a selection of academic literature but did not perform a comprehensive review, because the focus of the project was on reviewing consistency within in the IFRS literature.

Feedback being sought and next steps

16. The IASB is requesting views from stakeholders on whether the issues identified by the staff in this Research Paper cause problems that should be addressed by the IASB.

17. This will provide the IASB with feedback before it decides whether it should take any further action to address any of the issues identified in this research. That action may include any of the following, for some or all of the issues identified:

    (a) carry out further research to investigate possible solutions to some or all of the issues. After carrying out such research, the IASB would consider whether to add to its work plan one or more projects to implement the solutions. Such projects could involve amendments to one or more existing Standards or developing a new cross-cutting Standard.

    (b) develop proposals for narrow-scope amendments to one or more existing Standards to address one or more of the issues.

    (c) address one or more of the issues within the context of projects on individual Standards. For example, the IASB could consider the discount rate for pensions in a research project on post-employment benefits (either

in its existing research project on that subject or in a subsequent Standards-level project, if the IASB decides to do such a project).

(d) develop educational material or guides.

(e) take no further action.

Section 2—Scope of the present value measurement in IFRS

18. This section:

(a) describes when is present value measurement used in IFRS (see paragraphs 19-56);

(b) discusses when present value measurement is not used in IFRS, but could be (see paragraphs 57-60); and

(c) discusses potential problems with the scope of present value measurement in IFRS (see paragraphs 61-67)

Introduction

19. The present value measurement is widely used in IFRS financial reporting. Sometimes it is used:

(a) as one of the techniques that can be used to arrive at a measurement;

(b) on its own, as the only method by which to arrive at a measurement; and

(c) as a threshold test—an asset measurement that cannot be exceeded but that cannot be used directly when that measurement is not exceeded.

20. These different uses are summarised in the following table.

Table 2—Use of present value measurements in IFRS

Discount rate	① PV as one of measurement techniques	② PV as the only measurement technique	③ PV as a threshold measurement
Historical discount rate		Lease liabilities, financial instruments measured at amortised cost	
Current discount rate	Assets and Liabilities measured at Fair Value	Provisions, Insurance Contracts, Pensions	Value in use for non-financial assets
Discount rate not used		Deferred tax, Prepayments	Net realisable value for inventories

43. The following sections discuss each of the three categories identified in Table 2. We then discuss other uses of the present value measurement as well as cases when discounting is not used (but could be, in principle).

Present value as one of the measurement techniques

44. IFRS sometimes requires or allows assets and liabilities to be measured at fair value. IFRS 13 allows the use of various valuation techniques for fair value measurement, with present value measurement being one. However, valuation techniques are allowed only if observable prices for the asset or the liability are not available.

Present value as the only measurement technique

45. Some Standards specifically require the use of present value measurements in meeting the measurement objective of the Standard. These include the forthcoming *Insurance Contracts* Standard, IAS 17 *Leases* (and the forthcoming *Leases* Standard), IAS 19 *Employee Benefits* and IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*. All measurements that use present value as the only measurement method are entity-specific.

Initial measurement

46. For most assets, initial measurement is based on the price paid for the asset at the date of initial recognition and therefore does not require the use of the present value measurement.[2]

47. For liabilities, initial measurement at present value is used in the following circumstances:

    (a) liabilities incurred in an exchange transaction in which the value of the asset or the service received cannot be measured directly and the payment is to be made in the future. Examples of these are lease liabilities accounted for in accordance with IAS 17 and the proposals in the 2013 *Leases* ED, defined benefit pension liabilities accounted for in accordance with IAS 19 and insurance contracts accounted for in accordance with the proposals in the 2013 *Insurance Contracts* ED.

    (b) liabilities that are not obtained in an exchange transaction and that do not have an observable price. Examples of these include provisions within the scope of IAS 37.

Subsequent measurement

48. Some liabilities are both initially and subsequently measured using present value measurements (sometimes referred to as direct measurements).

49. As noted, financial assets and financial liabilities measured at cost typically have a price at their initial measurement that is used as a basis for measurement. However, they are subsequently measured using an effective interest method (amortisation), which requires the use of a discount rate that was determined at initial recognition. That measurement is therefore a present value measurement, although it does not seek to determine the current value. This method simply seeks to allocate the original cost using the present value measurement, allowing for any impairment that has occurred.

[2] Two exceptions to this are: (a) finance lease assets; and (b) some assets acquired in a business combination.

Present value as a threshold measurement

50. Present value measurement is also used when testing whether assets (measured at cost) have become impaired or have ceased to be impaired, which includes calculating the value in use of the asset in accordance with IAS 36 *Impairment of Assets.* In IAS 36, the value in use is used as a threshold measurement, not a measurement basis; if the asset's carrying amount (which is not determined using the present value measurement) is lower than its value in use, the carrying amount remains unchanged. In addition, an asset is measured at the value in use only if that value is higher than the asset's fair value less costs to sell (in which case the value in use is the recoverable amount).

51. If the value in use is below the asset's carrying amount, the difference between the value in use and the asset's carrying amount is recognised as an impairment loss. If the asset was previously impaired and the new value in use exceeds the asset's carrying amount, part or all of the previous impairment loss is reversed (if this is allowed). However, paragraph 116 of IAS 36 specifies that an impairment loss cannot be reversed if the only reason for that reversal is the passage of time (ie the unwinding of the discount).

52. The requirements in IAS 36 for impairment testing, including computing the value in use, apply to some assets within the scope of other Standards; this includes investments in associates accounted for in accordance with IAS 28 *Investments in Associates and Joint Ventures* and assets reclassified from the available-for-sale category in IFRS 5 *Non-current Assets held for Sale and Discontinued Operations*.

53. There are separate impairment requirements for financial instruments in IFRS 9 *Financial Instruments*. These require an estimate of any expected future losses, which is discounted using a historical rate (usually a contractual rate). This amount, if any, is recognised separately.

Other uses of present value measurements

54. If the timing of a payment for a good or service provided to a customer is not the same as the time when the good or service was provided, IFRS 15 *Revenue from Contracts with Customers* requires sellers to account for the financing component separately

from the consideration, if financing is significant. This can result in interest income or interest expense being recognised subsequently.

55. IFRS 5 requires discounting of the expected costs to sell that are included within a measurement of an asset held for sale, if the sale is expected to occur beyond one year (see paragraph 17 of IFRS 5).

56. The discount rate is also used in some assessments that do not affect measurements directly, such as assessing whether an exchange transaction has commercial substance, in accordance with IAS 16 *Property, Plant and Equipment* (see paragraph BC22 of IAS 16).

When is the present value measurement not used in IFRS?

57. Even though IFRS generally requires the time value of money to be reflected in measurements, when material, there are instances in which it does not. Some of these constitute significant parts of the statement of financial position for many entities.

58. IFRS sometimes requires a measurement that is based on future cash flows, but that either prohibits or does not require discounting. This includes:

    (a) the measurement of inventories at net realisable value in accordance with IAS 2 *Inventories*, which does not take into account the time that it would take to sell inventories or put inventories into use. IAS 2 does not have a full Basis for Conclusions and does not explain the reason for this; one possible explanation could be that the time value of money was not considered to be material in these circumstances.

    (b) requirements for accounting for deferred taxes, which do not permit discounting. Paragraph 54 of IAS 12 *Income Taxes* notes:

> The reliable determination of deferred tax assets and liabilities on a discounted basis requires detailed scheduling of the timing of the reversal of each temporary difference. In many cases such scheduling is impracticable or highly complex. Therefore, it is inappropriate to require discounting of deferred tax assets and liabilities.

However, some think that deferred taxes that arise from assets and liabilities measured on a present value basis are automatically discounted. This is because, when the tax base of the item is zero (as is common for some items, for example, in many cases for a decommissioning liability), the deferred tax measurement is derived by multiplying the carrying amount (present value) by the tax rate, and that amount equals the present value of the future tax benefit.

59. IFRS often requires a measurement that is based on past cash flows, but does not always consider the time value of money. Such areas include:

(a) prepaid expenses, which are generally measured as the aggregation of past cash flows. (Note there is mixed practice on this and the Interpretations Committee is currently researching this issue. In its previous discussions, some suggested analogising to the requirements in IFRS 15, which deal with the accounting by the recipient of these payments and require the time value of money to be considered).

(b) property, plant and equipment and intangible assets carried at cost in accordance with IAS 16 and IAS 38 *Intangible Assets*. These Standards do not permit depreciation and amortisation to reflect the time value of money when computing the consumption of future economic benefits. This has been discussed as a part of the IASB's work on some of the more recent projects such as leases (when discussing how to amortise the right-of-use asset).

60. Finally, IFRS does not require discounting when the effect of discounting is deemed to be immaterial, in line with the general materiality concept in the existing *Conceptual Framework*. Some Standards provide explicit materiality expedients; for example, IFRS 15 does not require discounting if the time between performance and payment is less than one year.

Scope of present value measurement—potential inconsistencies and the consequences of not addressing them

Issue 1

61. The use of discounting in historical-cost based measurements is inconsistent—some asset measurements reflect the time value of money (for example, financial assets measured at amortised cost), whereas others do not (for example, property, plant and equipment measured at cost).[3] Also, it is not clear if, in principle, the time value of money should, or should not, be reflected in a historical-cost based measurement.

62. Without clarity on the principle of use for the present value measurement in a historical cost measurement, future standard-setting will take more time and it will be harder to achieve consistency.

Issue 2

63. A measurement based on past or future cash flows that does not reflect the time value of money is not comparable to a measurement that does. Yet, IFRS does not currently require the time value of money to be reflected in all measurements.

64. Stakeholders have, in particular, suggested that it is appropriate to reflect the time value of money in deferred tax assets/liabilities (as some analysts and local GAAPs already do) and in prepayments made.

65. Not allowing present value measurements in some situations in which the effect of the time value of money is material can have unintended consequences. For example, in a business combination, the lack of discounting for deferred tax assets can lead to the recognition of a bargain purchase gain. There is no economic gain that corresponds to that accounting gain. And, even if the effect is not significant enough to create an accounting gain, the lack of discounting leads to an overstatement of the deferred tax assets acquired and a corresponding understatement of goodwill. Or, in the case in which an acquired company has a deferred tax liability, the lack of discounting leads to an overstatement of goodwill.

66. On the other hand, the present value measurement is often complex to apply in practice and its benefits have to be weighed against the costs of application.

[3] Measurement of all liabilities reflects the time value of money (apart from deferred tax liabilities).

67. This section discussed when the present value measurement is used in IFRS and when it is not. The following section looks at the measurement objectives.

Section 3—Present value measurement objectives

68. This section includes:

(a) review of IFRS measurement objectives in general (see paragraphs 69–86);

(b) analysis of measurement objectives and potential inconsistencies in the measurement objectives for current, entity-specific present value measurements in the following standards:

(i) IAS 19 *Employee Benefits* (see paragraphs 90-104);

(ii) IAS 36 Impairment of Assets (see paragraphs 105-113); and

(iii) IAS 37 Provisions, Contingent Liabilities and Contingent Assets (see paragraphs 114-123).

IFRS measurement objectives in general

69. IFRS does not set a single objective for present value measurements—the techniques can be used in meeting various measurement objectives. The measurements arrived at in different Standards differ, because they have different measurement objectives. In this paper we will use the terms 'measurement objective' and 'measurement basis' interchangeably.

70. The existing *Conceptual Framework* (the '*Framework*') does not describe present value merely as a technique, but refers to it as a measurement basis in its own right (without any description of what it represents or includes). However, the *Framework* is being revised and the *Conceptual Framework* ED describes the present value measurement merely as a technique. The specific proposals for the *Framework* do not refer to the present value measurement explicitly but make a broader reference to cash-flow-based measurement techniques.

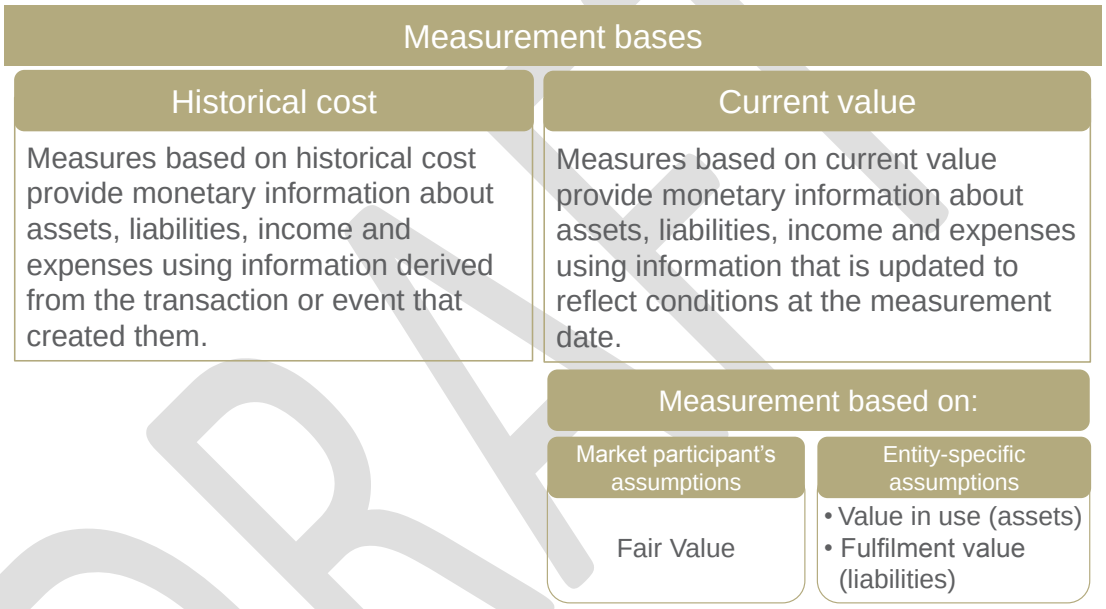
71. The *Conceptual Framework* ED includes the following discussion in paragraph A2:

> Cash-flow-based measurement techniques are not measurement bases; they are a means of estimating a

> measure. Hence, when using such a technique, it is necessary to identify the objective of using that technique (ie which measurement basis is being used) …

72. We have now established that the present value measurement itself is not a distinct measurement basis, so what are the measurement bases used in IFRS?

73. Proposals in the *Conceptual Framework* ED consider two main measurement categories, namely historical cost and current value. Current values can be determined from an entity perspective (value in use and value in fulfilment) or from a market perspective (fair value).[4] These measurements are presented in the following table:



74. Each category is described briefly in the following sections (descriptions taken from the *Conceptual Framework* ED).

Historical cost

75. Measures based on historical cost provide monetary information about assets, liabilities, income and expenses using information derived from the past transaction or an event that created them. The historical cost measures of assets or liabilities do not reflect changes in prices. However, the measures do reflect changes such as the consumption or impairment of assets and the fulfilment of liabilities.

[4] We discuss more about entity vs market perspective in the Entity-specific vs market-specific perspective.

Current values

Fair value

76. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

77. Fair value reflects the perspective of market participants. That is, the asset or the liability is measured using the same assumptions that market participants would use when pricing the asset or the liability if those market participants act in their economic best interest.

78. Fair value reflects the following factors:

    (a) estimates of future cash flows;

    (b) possible variations in the estimated amount and timing of future cash flows for the asset or liability being measured, which are caused by the uncertainty inherent in the cash flows;

    (c) the time value of money;

    (d) the price for bearing the uncertainty inherent in the cash flows (ie a risk premium or a risk discount). The price for bearing that uncertainty depends on the extent of that uncertainty. It also reflects the fact that investors would generally pay less for an asset (would generally expect to receive more for taking on a liability) that has uncertain cash flows than for an asset (liability) whose cash flows are certain; and

    (e) other factors, such as liquidity, that market participants would take into account in the circumstances.

79. For a liability, factors (b) and (d) include the possibility that the entity may fail to fulfil the liability (own credit risk).

Value in use and fulfilment value

80. Value in use and fulfilment value are entity-specific values. Value in use is the present value of the cash flows that an entity expects to derive from the continuing use

of an asset and from its ultimate disposal. Fulfilment value is the present value of the cash flows that an entity expects to incur as it fulfills a liability.

81. Value in use and fulfilment value cannot be directly observed and are determined using cash-flow-based measurement techniques. In principle, value in use and fulfilment value reflect the same factors as described for fair value, but are determined by using entity-specific assumptions instead of those of market participants. In practice, to provide the most useful information, value in use and fulfilment value may need to be customised, for example:

    (a) to require the use of market participant assumptions about the time value of money or the risk premium; or
    (b) to exclude from fulfilment value the effect of the possibility of non-performance by the entity.

How do proposed measurement objective compare to Standards

82. These differences in measurement bases go some way to explain why different discount rates are used within different Standards. For example, a historical cost measurement would use the original discount rate, whereas current value would use updated information.

83. However, the measurement objectives within individual Standards that require or allow the use of present value measurements do not always fit neatly into one of the categories in the *Conceptual Framework* ED. As a consequence, the discount rate differences go further. This is recognised in the *Conceptual Framework* ED, which discuss the use of the cash-flow-based measurement to arrive at a 'customised measurement basis'.

84. The measurement basis for each Standard that requires or allows the use of the present value measurement is shown in the following table, and is tentatively mapped to its closest matching category in the *Conceptual Framework* ED. It should be noted that many Standards do not set an explicit measurement objective, and the table infers objectives for those Standards.

Table 3—Individual measurement objectives and the *Conceptual Framework* ED[5]

Item measured	Objective explicit	Measurement objective (as described or inferred)	Proposed *Conceptual Framework*
Defined benefit obligation (IAS 19)	×	Present value of ultimate cost	Fulfilment value
Impaired non-financial asset (IAS 36)	✓	Value in use	Value in use
Provisions (IAS 37)	✓	Amount required to settle or to transfer the obligation	Fulfilment value
Insurance contracts (2013 ED)	×	Present value of net cash flows expected to fulfil	Fulfilment value
Lease liability (2013 ED)	×	Cost	Historical cost
Financial instruments at amortised cost (IFRS 9)	×	Amortised cost	Historical cost

85. This section explored the IFRS measurement basis in general. The following section discusses the measurement basis in individual Standards in detail.

More on measurement objectives of current present value measurements

86. The focus of the remainder of this paper is on the current measurements in IFRS that require or allow the use of the present value measurement (sometimes referred to as direct measurements). Historical cost measurements that require the use of the present value measurement use it simply as a way to allocate cost (amortisation). Thus, for these measurements, the following discussion of details of the discount rates and methodology is not relevant.

87. The Standards that we have reviewed are:

    (a) IAS 19, in which the present value measurement is required for the measurement of a defined benefit obligation and other long-term employee benefits;[6]

[5] Although fulfilment value is the closest matching measurement basis for the IAS 19 measurement, the IAS 19 measurement is different in some respects (see paragraph 93).

[5] Value in use is not a measurement basis per se, but a part of a threshold measurement that cannot be exceeded .

(b) IAS 36, in which the present value measurement is required to determine the value in use of non-financial assets to ascertain whether they are impaired (and also can be used to determine the fair value of assets in the scope of the Standard); and

(c) IAS 37, in which the present value measurement is required to measure provisions.

88. IFRS 13 is a recent Standard that reflects the IASB's latest thinking. However, although we refer to fair value measurement in this Research Paper, it is not within the scope of this review.

89. We do not discuss the measurement objective for the forthcoming *Insurance Contracts* Standard because the Standard is not finalised.

90. In mapping the measurement objectives of individual Standards to the proposed categories in the *Conceptual Framework* in Table 3, the measurements in all three Standards reviewed are described as entity-specific current value measurements. However, the exact measurement objectives, and related present value measurement requirements, are expressed differently and are not fully explicit in each of the Standards reviewed.

IAS 19 *Employee Benefits*

Measurement objective

91. IAS 19 sets out the requirements for the measurement of employee benefits. This includes liabilities that arise out of defined benefit schemes, which are measured as the present value of future cash flows. The Standard does not set out an explicit measurement objective for a defined benefit obligation. It only mentions estimates of the ultimate cost of providing post-employment benefits. For example, paragraph BC126(b) accompanying IAS 19 notes:

> … This is consistent with the measurement objective that the defined benefit obligation should be determined on the basis of the ultimate cost of the benefits.

[6] We do not discuss other long-term employee benefits further in this Research Paper because the impact of present value measurement on them is the same as for the defined benefit obligation.

92. IAS 19 explicitly requires discounting and specifies in paragraph 83 how to arrive at a discount rate to use:

> The rate used to discount post-employment benefit obligations (both funded and unfunded) shall be determined by reference to market yields at the end of the reporting period on high quality corporate bonds. In countries where there is no deep market in such bonds, the market yields (at the end of the reporting period) on government bonds shall be used. The currency and term of the corporate bonds or government bonds shall be consistent with the currency and estimated term of the post-employment benefit obligations.

93. There is no specific objective of discounting stated, nor is there an explanation of what the discount rate aims to represent. IAS 19 makes reference to reflecting the time value of money in the discount rate (see paragraph 84 and the Basis for Conclusions on IAS 19), but not as an explicit or sole objective. An explanation of the discount rate requirements is included in paragraph BC134 accompanying IAS 19:[7]

> IASC had not identified clear evidence that the expected return on an appropriate portfolio of assets provides a relevant and reliable indication of the risks associated with a defined benefit obligation, or that such a rate can be determined with reasonable objectivity. Consequently, IASC decided that the discount rate should reflect the time value of money, but should not attempt to capture those risks. Furthermore, the discount rate should not reflect the entity's own credit rating, because otherwise an entity with a lower credit rating would recognise a smaller liability. IASC decided that the rate that best achieves these objectives is the yield on high quality corporate bonds. In countries where there is no deep market in such bonds, the yield on government bonds should be used.

94. So, the Standard required two different rates to be used in different circumstances.

95. Some have raised concerns about inconsistencies arising from using two different rates. Thus, in 2009, the IASB published the ED *Discount Rate for Employee Benefits*

[7] Please note that the Basis for Conclusions of IAS 19 does not form a part of the authoritative guidance.

proposing to remove the requirement to use a government bond rate when there is no deep market in high-quality corporate bonds. Instead, the proposal was to require an entity to estimate the rate for a high-quality corporate bond using the guidance on determining fair value. However, the responses to the ED indicated that the proposed amendment raised more complex issues than had been expected. The IASB therefore decided that it would address measurement issues, such as the discount rate, only in the context of a fundamental review of IAS 19. The IASB did not proceed with the proposals in that ED.

IAS 19 discount rate in practice

96. So, which of the two discount rates is used when applying IAS 19 in practice? The International Actuarial Association (IAA) has conducted a limited survey of its members to identify which jurisdictions use corporate and which use government bond rates. Their findings are summarised as follows:

Table 4—Depth of corporate bond markets in jurisdictions with highest pension liabilities

Deep market = high quality corporate bonds used	Mixed practice	Market not deep = government bonds used
Canada	Portugal	Australia
Eurozone	Mexico	Brazil
Japan	Sweden	Caribbean Region
South Korea		Colombia
Switzerland		Croatia
UK		Czech Republic
US		Hong Kong
		India
		Russia
		South Africa

97. The analysis shows that companies use government bond rates for measuring defined benefit liabilities in several jurisdictions. However, the proportionate value of pension liabilities measured using government bond rates, compared to the estimated pension liabilities total, is small. For example, a study on global pension assets conducted by Towers Watson can be interpreted as showing that 98 per cent of global pension

liabilities are accounted for using corporate bond rates.[8] A summary of the study findings interpreted by the IAA is shown in the following table.

Table 5—Estimated size of corporate bond liabilities in the jurisdictions with most pension liabilities

Jurisdiction	Total pension assets (USD bln)		Assets funding defined benefit plans/total pension assets (%)		Estimated defined benefit obligations (USD bln)(1)		Discount rate used(2)
	2013	2012	2013	2012	2013	2012	
US	18,878	16,851	42	42	9,911	8,847	Corporate bonds
UK	3,263	2,736	72	74	2,937	2,025	Corporate bonds
Japan	3,236	3,721	97	98	3,924	3,647	Corporate bonds
Canada	1,451	1,483	96	96	1,741	1,424	Corporate bonds
Netherlands	1,359	1,199	95	94	1,614	1,127	Corporate bonds
Switzerland (3)	786	732	100	100	983	732	Corporate bonds
Germany	509	498	100	100	636	498	Corporate bonds
Australia	1,565	1,555	16	19	313	295	Government bonds
France	169	168	55 (4)	55 (4)	116	92	Corporate bonds
Ireland	130	113	55 (4)	55 (4)	89	62	Corporate bonds
Hong Kong	114	104	55 (4)	55 (4)	78	57	Government bonds
Brazil	284	340	10	10	36	34	Government bonds
South Africa	236	252	10	10	30	25	Government bonds
Total	31,460	29,160			22,407	18,865	
Liabilities measured using corporate					98%	98%	

(1) Based on Towers Watson asset/liability indicator, which estimates that liabilities are on average 25 per cent higher than assets at the end of 2013.
(2) Based on the IAA's limited member survey.
(3) Switzerland has a return underpin and therefore a like defined benefit for this purpose.
(4) Average proportion used; no stats available for the jurisdiction.

[8] Global Pensions Assets Study 2013, Towers Watson.

98. It should also be noted that, as the world is recovering from the most recent financial crisis, the markets are getting more liquid. For example, in some countries, in which government bond rates are currently used, a market review has taken place and, for example, Australian companies have recently concluded that corporate bond market in Australian Dollars is now deep and the entities should therefore use corporate bond rates when applying IAS 19.to liabilities denominated in that currency.[9]

IAS 19 measurement objective—potential inconsistencies and their consequences

Issue 3

99. The measurement objective in IAS 19 mostly resembles the fulfilment value. However, the measurement objective is not explicitly stated in the Standard.

100. The lack of a fully described measurement objective shifts the focus to the detailed discount rate guidance, resulting in rules-based accounting and an inability to apply judgement. In addition, the rules-based accounting can only apply in the set of circumstances covered by rules and anything outside that results in requests for more rules.

Issue 4

101. Although the IAS 19 measurement is most akin to the fulfilment value, the rate used for measurement is not relevant to the liability measured in all aspects and is not the rate that would be used in arriving at the fulfilment value. Instead, the rate reflects the average risk of market participants whose bonds are used as reference for the rate used. Arguably, that risk is not relevant to the liability measured.

102. This impairs comparability with other liabilities measured at the fulfilment value. We discuss the components of discount rates in more detail in Individual components of present value measurement(see paragraphs 0–190).

103. Also, the use of two different discount rates impairs the comparability of pension liabilities between jurisdictions that have deep markets in corporate bonds, and those that do not have.

[9] Research commissioned by Group 100 in Australia: http://www.group100.com.au/media/mr_20150415.htm

104. However, empirical research suggests this is not a major issue at the moment, because most pension liabilities are measured using corporate bond rates (see **Error! eference source not found.**). But, in recent years, defined benefit liabilities have been growing in emerging economies, where corporate bond markets tend not to be deep, and thus the proportion of liabilities accounted for using government bond rates has been rising.

IAS 36 *Impairment of Assets*

Measurement objective

105. IAS 36 applies to non-financial assets that are measured at either cost or fair value. The objective of the Standard is to ensure that the carrying amount of the asset is recoverable, ie not higher than its fair value less costs to sell or its value in use. The Standard does not set an objective for the measurement of the assets within its scope but instead specifies a measurement threshold that the asset's carrying amount must not exceed. If the carrying amount exceeds the threshold, the difference is recognised as an impairment loss.

106. The part of the IAS 36 measurement that we review here is the asset's value in use. The value in use is defined in IAS 36 as 'the present value of the future cash flows expected to be derived from an asset or cash-generating unit'.

107. By referring to present value in the definition of value in use, IAS 36 makes it clear that a discount rate is needed, because any present value measurement requires a discount rate.

108. The definition of value in use does not give further clues as to what should be a part of the measurement. However, the Standard provides detailed requirements on what the value in use should include and which discount rate to use (see Section 4—Present value measurement).

IAS 36 in practice

109. The findings of some studies (with a limited sample) indicate that, when determining the recoverable amount in accordance with IAS 36, entities mainly use the value in use.[10] This has been confirmed in our limited outreach too.

110. Our limited outreach during the research also suggests that, in practice, the value in use is not considered different from the fair value determined using the present value measurement. Some therefore consider the value in use in IAS 36 to be an unnecessary addition to complexity (see Appendix A).

IAS 36 measurement objective—potential inconsistencies

111. The objective of value in use in IAS 36 is consistent with the value in use description in the *Conceptual Framework* ED, so there are no inconsistencies relating to the measurement objective. Also, the guidance in IAS 36 is the only IFRS guidance relating to the value in use, so there is no Standard with which IAS 36 can be inconsistent.

112. The detailed guidance in IAS 36 does create some questions as to whether the value in use is truly entity-specific, for example, with respect to tax. In addition, it can be quite difficult in practice to find the rate to apply in the value in use calculation, and some shortcuts can be used that are not necessarily consistent with the measurement objective. These detailed aspects are discussed in Sections 4 and 5.

113. A larger question raised is whether the value in use is useful at all, mainly concerning the meaning of entity perspective and its implications. This is discussed further in Entity-specific vs market-specific perspective.

IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*

Measurement objective

114. IAS 37 includes requirements for measuring provisions, which are defined in IAS 37 as liabilities of uncertain timing and/or amount. The measurement objective is 'the best estimate of the expenditure required to settle the present obligation at the end of

[10] PETERSEN, C. and PLENBORG, T. (2010), *How Do Firms Implement Impairment Tests of Goodwill?*, Abacus, 46: 419–446

the reporting period'. The Standard goes on to explain that this is 'the amount that an entity would rationally pay to settle the obligation at the end of the reporting period or to transfer it to a third party at that time'.

115. The amount that an entity would rationally pay to transfer a liability to a third party sounds similar to fair value, which is defined in IFRS 13 as 'the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date'.

116. However, IAS 37 also notes that the measurement should be at an amount that **an entity** would rationally pay, whereas fair value is the price that would be paid by a **market** participant to transfer the liability in the market. IAS 37 is generally interpreted as having an entity-specific measurement objective. Consequently, we have mapped the IAS 37 measurement objective as being closest to the fulfilment value.

IAS 37 in practice

117. In a 2011 analysis of 26 European companies, IAS 37 provisions ranged from only 0.1–24.2 per cent of total liabilities.[11] The ratio was lowest for banks (no more than 0.4 per cent) and highest for oil and gas and mining companies (at least 20 per cent).

118. Some have suggested that entities do not fully update the discount rate used in the measurement of provisions in IAS 37 in line with the market movements. Consider this extract from a recent annual report of a company with significant provisions:

> We use a long-term bond rate to match the long-term nature of most of our provisions and, although the discount rate is reviewed annually, we do not adjust for changes in that rate which we consider to be more short-term in nature, the effects of which would not be material

[11] Company reporting analysis of 26 listed European companies, which feature in the Standard & Poor's Europe 350 dataset with period ends of 31 December 2011.

IAS 37 measurement objective—potential inconsistencies

Issue 5

119. The IAS 37 measurement objective seems most akin to the fulfilment value, but it is not expressed in those terms. The fulfilment value is the present value of the cash flows that **an entity expects to incur** as it fulfills the liability.

120. IAS 37 expresses the measurement objective as both the 'best estimate of expenditure required to settle … at the end of the reporting period' and 'what you would rationally pay to settle or to transfer it to the third party'. These are not necessarily the same things and it may not be clear what they mean. Consequently, different entities may draw different conclusions resulting in diversity in practice.

121. Clarifying the measurement objective would also clarify which components are to be included in the measurement and would result in a measurement that is more comparable to other liabilities. Individual components of present value measurement discusses the components of the present value measurement in more detail.

122. It should, however, be noted that the measurement of provisions in IAS 37 involves a great deal of uncertainty and requires judgement, so some differences are likely to remain, regardless of any standard-setting action.

123. This concludes our review of individual measurement objectives and next we look at the present value measurement components and then the present value measurement methodology.

Section 4—Present value measurement components

124. This section includes:

(a) Overview of components of present value measurements (see paragraphs 125-129);

(b) Review of use of entity-specific versus market-specific perspective in measurement (see paragraphs 130-147);

(c) Analysis and comparison of individual components included in the measurement, including:

(i) Estimate of cash flows (paragraphs 150-153)

(ii) Time value of money (paragraphs 154-156)

(iii) Risk adjustment (paragraphs 157-166)

(iv) Liquidity risk (paragraphs 167-176)

(v) Own credit risk (paragraphs 177-191)

Introduction

125. As noted earlier, *any* combination of cash flow estimates and a discount rate can be used to arrive at a present value. The questions to be answered are what is the *objective* of the measurement and what are the *components* of the estimates? We have discussed the objectives and are now discussing measurement components.

126. IAS 36 (for value in use) and IFRS 13 (for fair value) describe the components of present value measurement in most detail (compared to other Standards), listing factors that a market participant would consider when valuing an asset or a liability. This description includes:

(a) an estimate of the future cash flow(s);

(b) expectations about possible variations in the amount or timing of those cash flows;

(c) the time value of money, represented by the current market risk-free rate of interest;

(d) the price for bearing the uncertainty inherent in the asset;

(e) other factors (such as illiquidity) that market participants would take into account; and

(f) for a liability, the non-performance risk relating to that liability, including the entity's (ie the obligor's) own credit risk.

127. Our review uses this list as a reference and discusses each of the components individually and whether and how they are included in various present value measurements.

128. IAS 36 and IFRS 13 require all of these risks and factors to be considered in respective measurements. However, the resulting measurement is different, because IAS 36 requires an entity-specific current value when determining the value in use and fair value is a market-specific current value.

129. Given this, we first consider an entity-specific vs a market-specific measurement perspective. We then discuss each of the individual components of present value measurement and in which present value measurements they are included.

Entity-specific vs market-specific perspective

130. As already stated, fair value is a market-specific measurement whereas the other current measurements under review are entity-specific.

131. IFRS does not define entity-specific measurement apart from in IAS 16 and IAS 38, whereby it is defined as:

> The present value of the cash flows an entity expects to arise from the continuing use of an asset and from its disposal at the end of its useful life or expects to incur when settling a liability

132. In specific requirements, such as for value in use in IAS 36, the entity-specific value is interpreted as a value that incorporates an entity's own estimate of the cash flows and a market participant's assessment of the time value of money and the risks reflected in the measurement. Consequently, the discount rate used in the measurement of value in use is the same as the discount rate used for the fair value measurement.

133. The IASB explains this apparent anomaly in paragraph BCZ54 of IAS 36:

> In principle, value in use should be an enterprise-specific measure determined in accordance with the enterprise's own view of the best use of that asset. Logically, the discount rate should be based on the enterprise's own assessment both of the time value of money and of the risks specific to the future cash flows from the asset. However, IASC believed that such a rate could not be verified objectively. ..

134. This is also referred to in paragraph 6.34 of the *Conceptual Framework* ED, which states:

> … In principle, value in use and fulfilment value reflect the same factors as described for fair value, but are determined by using entity-specific assumptions instead of those of market participants. In practice, to provide the most useful information, value in use and fulfilment value may need to be customised, for example:
>
> to require the use of market participant assumptions about the time value of money or the risk premium….

135. The following table summarises the use of entity vs market perspective in present value measurements.

Standard /Project	Item measured	Measurement attribute	Cash flow perspective	Rate perspective
IFRS 13	Assets and liabilities at fair value	Fair value	market	market
IAS 36	Non-financial assets (impairment)	Value in use	entity	market
Insurance Contracts	Insurance liability (or an asset)	Present value of amount to fulfil	entity (consistent with market)	entity for risk[12], market for the rest
IAS 37	Provisions	The amount to settle or transfer	entity (implicit)	market
IAS 19	Defined benefit plan obligation	Present value of ultimate cost	entity	market

Table 6 Entity versus market perspective[13]

136. Some discount rate components are considered from the market perspective in all existing entity-specific present value measurements; for example, the time value of money is always represented by market participant's view of the rate.

[12] The risk adjustment in insurance contracts is a separate component. It is not included as a part of the rate.

137. Other components are not so clear cut. For example, risk premium is considered from a market perspective in IAS 36 and possibly also in IAS 37 (if included in IAS 37 measurement at all; see paragraphs 157–166). On the other hand, the proposed *Insurance Contracts* Standard includes a separate risk adjustment, which would be determined from the entity's perspective.

138. These differences can be explained by the fact that insurance contract measurement is based on the price charged to the customer, which reflects the insurance company's (entity's) view of the risk—it therefore makes sense that the liability measurement also reflects the entity's view of the risk. However, the proposed requirements stipulate that the entity's view is required to be consistent with the market's view so in practice there may not be much difference between two.

Entity-specific vs market-specific perspective in practice

139. Various statements in IFRS indicate that the entity's and market's perspectives are not that different after all, for example:

(a) paragraph 6.33 of the *Conceptual Framework* ED states:

> If an entity is estimating the … value of a specialised item, there may sometimes be little reason for the entity to assume that market participants would use assumptions different from those the entity itself uses. In that case, measurement from a market participant perspective and measurement from the entity's perspective are likely to produce similar measures.

(b) When present value measurement is required to determine fair value, it usually means that some of the entity's own data is used. Paragraph 89 of IFRS 13 states:

> An entity shall develop unobservable inputs using the best information available in the circumstances, which might include the entity's own data. In developing unobservable inputs, an entity may begin with its own data, but it shall adjust those data if reasonably available information indicates that other market participants would use different data or there is something particular to the entity that is not available to other market participants (eg an entity-specific synergy).

140. Paragraph 53A of IAS 36 gives specific examples of how the entity-specific value may be different to the market value:

> … For example, fair value does not reflect any of the following factors to the extent that they would not be generally available to market participants:
>
> (a) additional value derived from the grouping of assets (such as the creation of a portfolio of investment properties in different locations);
>
> (b) synergies between the asset being measured and other assets;
>
> (c) legal rights or legal restrictions that are specific only to the current owner of the asset; and
>
> (d) tax benefits or tax burdens that are specific to the current owner of the asset.

141. This may lead one to conclude that there should not be much difference between entity-specific and market-specific measurements. However, evidence in practice points to a different conclusion:

(a) the investors we spoke to during the research suggested that impairment often gets recognised after the markets have already recognised it, even in cases when one expects the two to be related, and that they therefore do not find impairment information very useful.

(b) this is arguably supported by empirical research, for example, the European Security and Market Authority (ESMA) research found that, based on a sample researched, of companies who had market capitalisation below their book value of equity, only 47 per cent had recognised impairment losses in 2011.[14]

(c) similar research conducted by KPMG compared the impairment losses between IFRS and US GAAP companies (US GAAP has a higher impairment recognition threshold but if impairment is recognised, the asset

[14] European enforcers review of impairment of goodwill and other intangible assets in the IFRS financial statements, Jan 2013.

is written down to its fair value; the value in use concept is not used) between 2006–2010 and found the following:[15]

(i) a significant prevalence of European companies with market value below book value.

(ii) between 2005 and 2010, a growing number of European companies began utilising value in use to estimate the recoverable amount of cash-generating units less costs to sell.

(iii) over 35 per cent of the European companies that recognised goodwill impairment losses had more than two write-offs in the period. On the other hand, in the US, companies with more than two write-offs in the same period accounted for less than 13 per cent

(iv) the use of value in use in goodwill impairment tests helps to explain why market value is lower than book value for some listed companies as well as the amount of goodwill reported by listed companies.

142. Auditors and regulators have pointed out to us the difficulties of challenging the entities' estimates of value in use, which sometimes results in reporting valuations that they think are overstated but that cannot be changed.

143. Such problems with the entity perspective in the measurement of assets have led some stakeholders to suggest that the value in use should be scrapped altogether and that only fair value should be used in impairment tests.

144. The staff have not seen or heard evidence of similar problems in relation to the entity-specific measurement of liabilities.

Entity-specific vs market-specific perspective—potential issues to be considered

Issue 6

145. It seems that the IASB's predecessor's thinking behind introducing the entity perspective in measurement was simply intended to allow companies to reflect entity-specific factors and reduce the burden of determining what the market participant

[15] Companies with a market value below book value are more common in Europe than in the US: evidence, explanations and implications.

assumption would be. The IASB did not anticipate that the entity-specific perspective would depart from the market perspective in many cases. Yet evidence seems to suggest that this is not how things have turned out in practice, in particular for the entity-specific measurement of assets, and that applying the entity-perspective results in delays in recognising impairment losses, and that it is hard for auditors and regulators to challenge decisions not to recognise impairment losses.

146. The staff think that there could be two problems:

(a) the principle of entity-perspective in measurement as set out in IFRS could be sound and the problems may stem from the difficulties in implementation, audit and enforcement (which may not need the IASB action to resolve); or

(b) the principle of entity perspective in measurement as set out in IFRS may be flawed (which would need the IASB action to resolve).

147. We will now move on to briefly discuss which individual components are included in which present value measurements under review.

Individual components of present value measurement

148. The following table shows which components of the present value measurement are included in Standards that require the use of current present values (direct measurements).

Table 7—Components of present value measurement in various Standards

IFRS/ Project	Item measured	Measurement description	Central estimate of cash flows	Time value of money	Risk premium	Liquidity premium	Own non-performance risk
IFRS 13	Assets and liabilities at fair value	Fair value	Yes	Yes	Yes	Yes	Yes
IAS 36	Non-financial assets (impairment)	Value in use	Yes	Yes	Yes	Yes	n/a
Insurance Contracts	Insurance contract	Present value of net cash flows expected to fulfil	Yes	Yes	Yes (separate)	Yes	No
IAS 37	Provisions	The amount to settle or transfer	Yes	Yes	Implicit	Not explicit	Not explicit (in practice no)
IAS 19	Defined benefit plan obligation	Present value of ultimate cost	Yes	Yes	No	Some	Some

149. The following sections discuss each of the components, starting with the estimate of future cash flows.

Estimate of cash flows

150. Estimating cash flows involves determining:

(a) what the future cash flows would be;

(b) when those future cash flows would occur; and

(c) the probabilities of different scenarios occurring, with respect to both amount and timing.

151. Other decisions are also needed, for example, how to reflect variations in future cash flows and whether cash flow estimates should include profit. These are discussed in the following sections.

Possible variations in estimated amount and timing of cash flows

152. The following are extracts from paragraphs A6–A9 of the *Conceptual Framework* ED, explaining the different central estimates of future cash flows:

> A6 Uncertainties about the amount of any cash flows are important characteristics of assets and liabilities. When measuring an asset or liability by reference to uncertain future cash flows, it is necessary to represent the range of possible cash flows by selecting a single amount. The most relevant amount is usually one from the centre of the range (a central estimate).
>
> A7 Different central estimates provide different information. For example:
>
> (a) the expected value (the probability-weighted average, also known as the statistical mean) reflects the entire range of outcomes and gives more weight to the outcomes that are more likely. It is not intended to predict the ultimate inflow or outflow of cash (or other economic benefits) arising from that asset or liability.
>
> (b) the maximum amount that is more likely than not to occur (similar to the statistical median) indicates that the probability of a subsequent loss is no more than 50 per cent and that the probability of a subsequent gain is no more than 50 per cent.
>
> (c) the most likely outcome (the statistical mode) predicts the ultimate inflow or outflow arising from an asset or a liability.
>
> …
>
> A9 As noted in paragraph A2, a central estimate does not capture the price for bearing the uncertainty that the ultimate outcome may differ from that central estimate.

Profit margin

153. Another question is whether a profit margin should be added to the central estimate of future cash flows. To some, it may not make sense to include required profit in the estimate of the cash flows in calculating the cost of fulfilling the liability, because they believe that an entity should not report that it has earned profit on fulfilling its obligations. However, it may make sense to include profit in the measurement of the amount payable to transfer the obligation, because no party would be prepared to take on the liability without receiving sufficient consideration to compensate it for the activity required to fulfil the liability and for any risks it undertakes. It may also make sense to include profit in the liability, which arises from undertaking a performance obligation in a revenue-generating transaction. IFRS is not very clear on whether, for example, the profit is included in measurement for provisions, which may give rise to inconsistencies in the measurement. The following table summarises inclusion of profit margin in the Standards reviewed:

Table 8—Inclusion of profit margin in measurements

Standard/ Project	Item measured	Measurement attribute	Profit margin included
IFRS 13	Assets and liabilities at fair value	Fair value	Yes (implicit)
IAS 36	Non-financial assets (impairment)	Value in use	Yes (implicit)
Insurance Contracts	Insurance liability/asset	Present value of amount to fulfil	Yes
IAS 37	Provisions	The amount to settle or transfer	Not clear
IAS 19	Defined benefit plan obligation	Present value of ultimate cost	No (implicit)

Time value of money

154. In principle, the time value of money is represented by the minimum risk rate (sometimes referred to as the risk-free rate). The following table summarises the meaning attributed to time value of money in the Standards reviewed for this Research Paper.

Table 9—Use of the term 'time value of money' (TVOM) in the Standards reviewed

Standard	refers to TVOM	refers to risk-free rate	TVOM represented by which rate?	risk-free rate = ?	Relevant paragraphs
IFRS 13	yes	yes	market risk-free rate	government bonds (in illustrative examples only)	B13(c)
IAS 19	yes	no	not specified	n/a	84
IAS 36	yes	yes	market risk-free rate	government bonds (in the Basis only)	30 (c), 55 (a), 56, A1 (c), A16(a)
IAS 37	yes	no	not specified apart from TVOM being a market rate	n/a	45 - 47

Time value of money in practice

155. Some regulators, for example, in Europe and Australia publish risk-free rates for particular purposes, which aids the consistency of application.[16] Academic research has looked at the variance in risk-free rates used in a number of jurisdictions and finds greater variance in the rates used in some of the emerging markets.

[16] Fernandez, Pablo and Ortiz Pizarro, Alberto and Fernández Acín, Isabel, Discount Rate (Risk-Free Rate and Market Risk Premium) Used for 41 Countries in 2015: A Survey (April 23, 2015). Available at SSRN: http://ssrn.com/abstract=2598104

Potential issues

156. Determining the risk-free rate is not easy in practice, especially in emerging economies in which there is generally little market for government bonds. We note that in some jurisdictions regulators assist in this process. We have not however identified this as a financial reporting problem.

Risk premium

157. What is a risk premium? A generally accepted explanation helps here: investors who buy assets expect returns over the time horizon over which they will hold the asset. The actual returns that they make over this holding period may be very different from the expected returns, and this is where risk comes in. Risk in finance is viewed in terms of the variability in actual returns around the expected return. The price investors are willing to pay for an asset therefore reflects the degree of risk that the returns may be different than expected.

158. Another way of putting it is that the risk premium is compensation for accepting the uncertainty related to the cash flow estimates. This is is how the term 'risk premium' is used in IFRS.

159. This means that simply taking into account the expected value using real probabilities does not adjust for the risk.

160. In principle, risk adjustments can increase or decrease a value of assets and liabilities. In existing Standards, however, the risk adjustment usually decreases the value of an asset and increases the value of a liability.

161. This is best illustrated with an example. Say there is an asset with the following possible future cash inflows and associated probabilities:

Probability	Cash flow	Expected value
25%	100	25
50%	150	75
25%	200	50
		150

162. For simplicity, let's assume the cash flows are to occur in the near future and the effect of time value of money is immaterial. Some might therefore think that an entity would buy the asset for CU150. However, there is a possibility that the cash flows from the assets are CU100, not CU150 and, as entities are risk-averse the asset would be exchanged for an amount smaller than CU150. That difference between CU150 and the amount at which an exchange would occur represents risk adjustment.

Therefore, to adjust for risk, a separate adjustment is needed, either to the cash flows or the discount rate used (see Section 5—Present value measurement methodology for details on the different methods for risk adjustment).

Risk in practice

163. As indicated in Table 7—Components of present value measurement in various Standards, which provides an overview of the components of present value measurement, not all present value measurements in IFRS explicitly include a risk premium.

164. For example, some think that IAS 37 is explicit in that risk adjustment is required, whereas others think that it is not (because the Standard does not explicitly say that risk adjustment is included in the measurement). This could create diversity in practice.

165. While requirements for the calculation of value in use explicitly require risk to be considered, in practice entities often use a weighted average cost of capital (WACC) rate, without necessarily adjusting it for the risks specific to the asset being measured. This is something that some regulators point out (see Appendix A).

Risk adjustment—potential inconsistencies identified

166. It appears that there are inconsistences across Standards with respect to whether a risk adjustment is explicitly included as a part of the measurement. Although it seems that the risk was intended to be included in all measurements, this is not clearly stated and does not appear to be consistently reflected in practice. Some have indicated that just clarifying when risk is included in measurement would help. We have therefore not identified this as a financial reporting problem but it is something that would benefit from clarifying to eliminate any inconsistency in practice.

Liquidity risk

167. Liquidity risk is a relatively new concept in accounting, which is only explicitly addressed in the most recent IASB work (for insurance contracts, for example).

168. IFRS does not discuss liquidity risk in much detail, apart from mentioning it within the context of IFRS 13 in assessing how active a market is. Recent proposals in the Insurance Contracts project also address liquidity risk. The discussion in paragraph BCA75 of the 2013 *Insurance Contracts* ED explains the notion:

> Discussions of the time value of money often use the notion of risk-free rates. Many use highly liquid, high-quality bonds as a proxy for risk-free rates. However, the holder can often sell such bonds in the market at short notice without incurring significant costs or affecting the market price. This means that the holder of such bonds acquires two things:
>
> (a) a holding in an underlying non-tradable investment, paying a return that is higher than the observed return on the traded bond; and
>
> (b) an embedded option to sell the investment, for which the holder pays an implicit premium through a reduction in the overall return.

169. This 'implicit premium' is liquidity premium. Or, we can talk about the illiquidity discount, which increases the return required to compensate for the lack of liquidity.

170. The IAA Monograph *Discount Rates in Financial Reporting—A Practical Guide* discusses liquidity in some detail, with relevant extracts as follows:[17]

> Generally, liquidity for the holder of an asset, such as a corporate bond, can be defined as the ability to quickly sell the asset at a predictable price. …
>
> At a basic level, the application of an illiquidity premium for asset valuation results in a less liquid asset having a higher rate of return (lower value) than an otherwise identical asset with higher liquidity, as the owner of that asset requires a

[17] The article was published in October 2013.

> greater return to compensate for not being able to trade or exchange it for cash during the period of illiquidity.
>
> The concept of an illiquidity premium within the valuation of liabilities requires a different conceptualisation because there is generally not an actively traded … Because of this, the liquidity of a liability is often defined with respect to options given to the beneficiary. The liquidity of a liability is a function of the basic contract provisions, and especially any options that might exist for the policyholder that would impact the uncertainty regarding the amount and timing of payments.
>
> …
>
> Liquid liabilities have higher uncertainty with respect to the timing and amount of payments. They therefore have a lower illiquidity premium, a lower discount rate and a higher liability value.

171. While a distinct notion, liquidity could also be seen as a part of the overall risk premium.

Liquidity in practice

172. Both IAS 36 and IAS 37 describe the discount rate as the rate that reflects the time value of money and the risks specific to the asset or the liability. IAS 36 further specifies these risks to include uncertainty risk as well as other market factors, such as illiquidity, that market participants would take into account. IAS 37 mentions risk adjustment due to variability of outcome (uncertainty risk), but it does not mention liquidity risk specifically. We understand that a concept of liquidity risk was not well known to most accountants at the time that IAS 37 was developed. However, if the objective of both measurements is to reflect risks specific to a liability, one could expect the measurements to consider the same factors.

173. We have seen no evidence that liquidity is specifically considered when applying the measurement requirements in IAS 37 or for the value in use in IAS 36.

174. However, measuring provisions is already a difficult task because of their uncertainty and because of the long-time scales usually involved. Requiring entities to

specifically reflect liquidity risks may bring more costs than benefits. Consider this statement in one of the research reports issued by the credit rating agency Moody's:

> Liquidity is recognised to be an important factor in determining asset prices. However, both the basic principle of applying liquidity adjustments to liabilities and the objective measurement of liability characteristics and point-in-time liquidity 'prices' remains controversial and technically challenging.

Liquidity risk—potential issues identified

Issue 7

175. The question of whether liquidity adjustments should be included in entity-specific measurements has only been considered by the IASB in the Insurance Contracts project. Liquidity risk was not specifically discussed and, according to the staff's understanding, it has not been reflected in practice in the measurement of entity-specific liabilities such as provisions and defined benefit obligations.

176. Including liquidity risk in all entity-specific measurements could have a major impact for both pension liabilities and provisions, which are generally not liquid and would therefore require an illiquidity discount. Thus, the discount rate would increase and the liabilities recognised would reduce. Not reflecting it can have a material impact on comparability. That impact is magnified by the long duration of such liabilities.

Own credit risk

177. Own credit risk is the risk that the entity may default on its financial obligations. As such, it is usually only relevant to liabilities.

178. The IASB considered dealing with own credit risk through a cross-cutting project in 2009. The following section provides some background.

IASB Discussion Paper on credit risk

179. In June 2009 the IASB published the Discussion Paper *Credit Risk in Liability Measurement* (the 'DP'). The DP sought respondents' views on when and how credit risk should be included in liability measurement.

180. In October 2009 meeting, the IASB discussed the 102 comment letters received and the next steps.

181. A summary of respondents' views on inclusion of credit risk in the measurement of different liabilities is shown in the following table:

Table 10 Summary of views on inclusion in credit risk in the measurement of liabilities

	Measurement	**Include own credit risk?**	
		Initial measurement	Subsequent measurement
Financial liabilities	Fair value	Yes	Yes
	Other than fair value	Yes	No
Non-financial liabilities	Fair value	Yes	Yes
	Other than fair value:		
	(a) initial consideration exchanged	Yes	No
	(b) no initial consideration exchanged	No	No

182. The IASB considered a summary of the responses to the DP and decided to stop work on credit risk as a separate project. It also tentatively decided:

(a) not to reach a general conclusion on credit risk at this time and instead to incorporate the topic into the *Conceptual Framework* project;

(b) not to change the role of credit/performance risk in the definition of fair value;

(c) to consider the application of the fair value definition in measurements that would otherwise be at fair value; and

(d) to consider the question of credit risk in every project that involves current measurement of liabilities that are not fair value.

IAS 37 and credit risk

183. IAS 37 does not provide detailed requirements with respect to own credit risk—as discussed in Section 3—Present value measurement objectives, the only requirement of the Standard is that the discount rate used in measurement should reflect the risks specific to the liability.

184. Some asked whether liability recognised in accordance with IAS 37 should reflect own credit risk. This issue was raised with the Interpretations Committee (which was then known as IFRIC) in 2010. The IFRIC referred the matter to the IASB, which was conducting a project to revise IAS 37 at the time (see the Appendix A for more details). However, the IASB halted its project before reaching any decisions on own credit risk.

185. At the time of the IFRIC's discussion, a general view was expressed that most entities excluded own credit risk from the measurement of provisions, because own credit risk is not considered to be a 'risk specific to the liability' (but is instead specific to the entity that has the liability).[18]

186. During this research project, we have consulted accounting guides issued by major audit firms, spoken to some auditors and reviewed annual reports of entities. On the basis of this limited evidence, it appears that most entities outside of Canada exclude own credit risk.

187. This issue was raised with the Interpretations Committee by entities adopting IFRS for the first time in Canada for whom provisions were significant (as is the case for oil and gas and mining industries). It is our anecdotal understanding that some of these entities interpreted the Interpretations Committee's decision as giving them a choice and have adopted an approach that includes own credit risk in the IAS 37 discount rate, which is an approach consistent with Canadian GAAP. Canadian GAAP was applied before IFRS was adopted.

188. It is our understanding that entities outside of Canada have continued to exclude own credit risk from the IAS 37 discount rate, so divergence in practice is limited.

[18] Although one could also argue that if the liability is that of an entity, anything specific to the entity, such as its credit risk, is also specific to the liability.

Own credit risk—potential issues identified

189. All entity-specific present value measurements of liabilities seem, in practice, to exclude own credit risk from the measurement. This is, however, not explicitly stated in the requirements. We have not identified this as a financial reporting problem but making this explicit may help eliminate any potential diversity in practice.

190. Some maintain that own credit should be a part of any liability measurements, including entity-specific ones. Consideration of this is outside the scope of this research project.

191. Now that we have briefly discussed each of the components of present value measurement, the following section discusses how these components are brought together in present value measurement—there are many ways in which this can be achieved.

Section 5—Present value measurement methodology

192. This section includes:

(a) an overview of present value methodology (see paragraphs 193-196);

(b) review of whether adjustments are made to the rate or the cash flows (see paragraphs 198-202);

(c) review of methodology for including tax in the measurement and the related issues identified (see paragraphs 203-222);

(d) review of methodology for including inflation in the measurement (see paragraphs 223-225); and

(e) other methodology considerations (see paragraphs 226-233).

Introduction

193. Three main principles apply when using the present value measurement:

(a) do not double-count; for example, if risk is reflected as an adjustment to the estimates of the cash flows, the discount rate used should be a risk-free rate;

(b) use internally consistent assumptions; for example, if cash flows are determined after tax, the discount rate used should also be after tax; and

(c) make sure to include everything; for example, make sure to reflect risk.

194. Some Standards prescribe the method by which the present value calculation should be performed (for example, IAS 37 stipulates the use of pre-tax discount rates and the corresponding pre-tax cash flows), whereas others do not and merely emphasise the principles noted in paragraph 193. IFRS 13 and IAS 36 provide the most comprehensive guidance for present value methodology.

195. We have identified three main aspects of present value measurement methodology in IFRS, including:

(a) How are risk adjustments reflected, ie whether as an adjustment to the rate or cash flows (or a separate measurement item)?

(b) How is tax accounted for, ie are inputs on a post-tax or a pre-tax basis?

(c) How is inflation accounted for, ie are inputs real or nominal?

196. The following table shows how different Standards deal with them.

Table 11—Present value measurement methodology in current present value measurements

Standard/ Project	Item measured	Measurement attribute	Adjustment in rate or cash flows	Rate pre-tax/ post-tax or either	Rate real/nominal or either
IFRS 13	Assets and liabilities at fair value	Fair value	either	either	either
IAS 36	Non-financial assets (impairment)	Value in use	either	pre-tax	either
Insurance Contracts	Insurance liability/asset	Present value of amount to fulfil	either	pre-tax (implicit)	either
IAS 37	Provisions	The amount to settle or transfer	either	pre-tax	either (implicit)
IAS 19	Defined benefit plan obligation	Present value of ultimate cost	n/a	pre-tax	nominal (unless real more reliable)

197. We discuss each of these aspects in the following sections as well as some other methodology considerations.

Adjustments to the rate vs cash flows

198. In accordance with present value methodology principles, risk can be reflected either through the rate or cash flows (or a separate measurement altogether), but it should be reflected only once, in order to avoid double-counting. In principle, the resulting measurement is the same regardless of whether the risk adjustments are made to the rate or the cash flows.

199. However, some think that it is more reliable to adjust the cash flows, because it avoids the assumption that the same risk adjustments are appropriate in each period and

arguably makes the risk-adjustment process more accurate[19]. Including risk in the rate seems to assume the risk is solely the function of time In particular, including the risks of making the common error of assuming that the risk-adjusted discount rate for a liability will normally be higher than the risk-free rate, which would result in a misstatement. However, some investors prefer to see adjustments made to a rate, because they report that they find that easier to understand (and the disclosure is more practical).

200. Further, if the unwinding of the discount is reported separately, such as in accounting pensions and provisions, and also for insurance contracts, the resulting interest cost will be affected by whether the risk-adjustment is included in the discount rate or not—consistency is therefore important. This is not currently an issue for value in use and fair value when there is no unwinding reported.

Risk adjustment methodology—potential issues identified

201. Wherever a risk adjustment is required to be included in the present value measurement in IFRS, it is allowed to be made either in the cash flows or in the rate. In that sense we have not identified any inconsistencies.

202. However, the unwinding of the discount which is reported in accounting for provisions in IAS 37 and the measurement also includes risk adjustment (if the discount rate used reflects risk). As the Standard does not specify where adjustment is to be made, this can give rise to inconsistency in the presentation of resulting interest expense, depending on whether the risk is reflected in the rate or in the cash flows. The staff do not see this as a financial reporting issue but perhaps a question of transparency (see Section 7—Present value measurement disclosures).

Tax

203. The use of pre-tax discount rates in present value measurements is often required in IFRS (see Table 4—Depth of corporate bond markets in jurisdictions with highest pension liabilities). The pre-tax rate is not defined in IFRS and can be described as the rate of return, before any tax payable on related cash flows is taken into account.

[19] Some have compared including the risk in the rate with making a guess, especially as there may be no observable market benchmarks.

The pre-tax rate is often observable in the market; for example, the yield on bonds or property is a pre-tax rate, as this is the yield before any tax is payable. The post-tax rate is lower than the pre-tax rate, because it reflects returns after any tax is due on the cash flows. The two rates are the same if no taxes are payable.

204. The pre-tax rate is sometimes misunderstood as a rate that does not depend on tax—but from the perspective of the holder of an asset, the required pre-tax rate is the same as the required post-tax rate, plus the tax that will be payable. The required pre-tax rate therefore depends on the rate of tax as well as the timing of the tax cash flows.

205. In theory, applying a higher pre-tax rate to discount higher pre-tax cash flows gives the same result as using a lower post-tax rate to discount lower post-tax cash flows. In both cases, the result is a measurement on a post-tax basis. This means that such measurement already includes the effect of tax and no further adjustments for tax are needed.

206. In practice, two complications arise: one relates to conversion from a post-tax to a pre-tax rate and the other one is the interaction with deferred tax and potential double-counting. These are described in the following sections.

Conversion from post-tax to pre-tax rates

207. IAS 36 requires the use of pre-tax rates when determining the value in use. Cash flows used in value in use calculations are typically available on a pre-tax basis and can be used without any adjustment (as all inputs have to be consistent, ie on a pre-tax basis). However, entities usually use WACC as a starting point for determining the discount rate, in accordance with guidance in IAS 36. WACC is usually a post-tax rate, from the entity's perspective. Now, as IAS 36 requires entities to use a pre-tax rate, what happens next is that the post-tax rate is translated into the pre-tax rate. This is usually done by using a simple formula of dividing a post-tax rate by (1-tax rate), which features in many accounting manuals.

208. This formula, however, only works in the very simple scenario of perpetual returns with no growth. In other cases, a calculation using this formula is wrong. There are two main reasons for this:

(a) pre- and post-tax cash flows are not always related by the factor of (1-tax rate). This is because not every cash flow is taxed in the same way (for

example, the return of capital is usually not taxed whereas the return on capital is).

(b) a linear relationship between pre- and post-tax rates exists only when cash flows occur evenly.

209. A number of other formulas have been devised to convert a post-tax to a pre-tax rate in other scenarios, for example, to take into account steady growth, finite number of periods etc. Yet the fact is that these are also much simpler than real-life scenarios and therefore converting the post-tax to the pre-tax rate often gives erroneous answers.

210. As a result, many academics and valuation professionals recommend using the post-tax rates available and converting pre-tax cash flows to post-tax cash flows.

211. This has led to some divergence in practice. Some companies use post-tax rates and post-tax cash flows, whereas others convert post-tax rates to pre-tax rates and apply these to pre-tax cash flows. Some disclose pre-tax rates, post-tax rates, or both.

212. Regulatory practice also differs; some regulators state that they now accept calculations on a post-tax basis, whereas others have taken regulatory action to require companies to use and disclose pre-tax discount rates.[20]

Conversion from post-tax to pre-tax rates—potential issues

Issue 8

213. Pre-tax, or post-tax, is not a defined term in IFRS. It is easy to make the mistake of thinking that pre-tax input (cash flow or a discount rate) does not depend on the rate of tax and therefore use an inappropriate pre-tax rate.

214. Also, the Basis for Conclusions on IAS 36 explains that a simple grossing-up of a post-tax rate by the rate of tax in order to arrive at a pre-tax rate is not always correct (see paragraph BCZ85). The difference in the way that a post-tax rate is adjusted to arrive at a pre-tax rate can for example mean the difference between impairment and no impairment in IAS 36. This can make a big difference to investor's analysis.

215. Explaining the concepts may go some way to help. But the question is whether this is a job for the IASB or a job for the valuation professionals.

[20] Based on information provided by IOSCO's Committee 1 on Issuer Accounting, Audit and Disclosure, which comprises 28 members.

Issue 9

216. Another question is, when the present value measurement method used does not matter (for example, there is no separate explicit unwinding of the discount), is there a need to prescribe how the tax should be reflected in the rate, as required by IAS 36?

217. Mandating the use of one method and therefore one type of rate only (pre-tax rate in the case of IAS 36) adds to complexity for the preparer, because, often, the starting point for the calculation in value in use is the post-tax rate that then needs to be converted.

Mixed use of entity and market perspective in accounting for tax

218. As already stated, using pre-tax inputs should give the same measurement as using post-tax inputs. The resulting measurement is on a post-tax basis, ie the measurement is net of any tax to be paid on future cash flows. Combinations of different tax perspectives of inputs and resulting measurements are shown in the following table.

Table 12—Tax permutations

	Pre-tax cash flows	Post-tax cash flows
Pre-tax rate	Post-tax measurement	double-counting of tax effect
Post-tax rate	Pre-tax measurement	Post-tax measurement

219. An example illustrating this will be added in final Research Paper.

220. However, in some circumstances deferred tax arises, which is then recognised separately in accordance with IAS 12. This means that measurement in individual Standards is not always on a post-tax basis. IAS 37 appears to recognise this, and in paragraph 41 states that 'The provision is measured before tax, as the tax consequences of the provision, and changes in it, are dealt with under IAS 12'. However, if using pre-tax rates, which are required by IAS 37, the resulting measurement cannot be before tax. What seems to be the case is that, in cases in which deferred tax arises, the discount rates used for the underlying measurement

reflect some, but not all, of the tax due, so the tax effect has to be recognised separately. This is not very clearly explained in IFRS and can sometimes give rise to an overstatement of future tax benefits.

Mixed use of entity and market perspective in accounting for tax—potential inconsistencies

Issue 10

221. In principle, the pre-tax rate should be a rate that only reflects tax effects that will not be picked up by the application of IAS 12. If using a market pre-tax rate in the measurement of an underlying asset/activity (which would include some tax, reflecting market perspective) and then recognising entity-specific deferred tax, the tax effects get overstated.

222. We think that this overstatement arises in relation to all deferred tax balances in which underlying items are measured using the present value measurement, for example, deferred tax relating to provisions. However, the impact of the potential misstatement may not always be material.

Inflation

223. Similar as with tax, present value measurement can use inputs that are either before or after inflation (ie nominal or real) and, providing the inputs are consistent, the resulting measurement is the same.

224. IFRS measurements are mostly based on nominal discount rates (with nominal cash flows). Real rates are sometimes found in practice in IAS 37 and occasionally in IAS 19. Resulting measurement is the same.

225. We have not identified any issues regarding the methodology for reflecting inflation in the present value measurement.

Other methodology considerations

Which date for the rate?

226. Some methodology questions brought to our attention include:

(a) whether to use the discount rate at the beginning or the end of the period for the unwinding of the discount (some Standards, like IAS 19, require rates from the beginning of period to be used (see paragraph 123 of IAS 19), others are silent). This has an effect on the split of interest income/expense and the remeasurement on the gains or losses. The advantage of using the rates at the beginning of the period is that they are known, ie you do not have to wait until year-end. The advantage of using the dates at year-end is that, unless there has been a change in the estimated future cash flows, no other reassessment is needed.

(b) whether it is meaningful to use the rates on the last day of a reporting period, when markets may be quite thin. For example, some believe there is usually little market activity on dates such as 31 December and the rates available on that day may be misleading. Anecdotal evidence suggests that year-end rates could be different from the rates available only a few days earlier or later, with the main reason being the market liquidity. However, the academic research that we have looked at on calendar effects is not conclusive.

227. We have not identified any financial reporting issues regarding the date the inputs for present value measurement are taken from.

Top-down vs bottom-up approach

228. If the rate we require for measurement is not available in the market, there are two main approaches to determining which starting point to use:

(a) use risk-free rates available in the market and add or subtract components relevant to the asset/liability measured. This is sometimes referred to as the bottom-up approach.

(b) use rates available for a different asset in the market and adjust it to remove the components that are not relevant to the asset/liability measured and add any relevant components that are not included. This is sometimes referred to as top-down approach.

229. These different methods were discussed only in the Insurance Contracts project.

230. We have not identified any financial reporting issues regarding to the use of top-down vs bottom-up approach.

Use of yield curves

231. The yield curve shows interest rates for different maturities and can be used in measurement involving cash flows at different durations, instead of a single rate.

232. The use of yield curves is increasingly common—anecdotal evidence suggests that this is partly because of a low interest rate environment in some jurisdictions, and yield curves allow for more precision in the resulting measurement than a single rate. The use of yield curves comes with a number of challenges, with scope for inconsistent application. For example, a topical question is what rate to include from the yield curve when determining the unwinding of the discount for the period. Another question is how to adjust available market data for the duration of the items measured. The different choices may have a material impact.

233. The question is whether any guidance is needed to help ensure a consistent approach. Another question is whether this is something to be addressed at all by an accounting standard-setter. The staff have not identified these potential issues as financial reporting problems today.

Section 6—Present value measurement presentation

234. This section includes:

(a) Review of presentation of unwinding of discount in present value measurements (see paragraphs 236-242)

(b) Review of presentation of present value reassessments (see paragraphs 243-249)

(c) Summary of inconsistences relating to presentation (see paragraphs 250-252)

Introduction

235. Two factors give rise to changes in a present value measurement—the unwinding of the discount with the passage of time and the reassessment of the components of the present value measurement. This reassessment can arise from reassessment of the discount rate, of the cash flow amounts or of their timing.

Unwinding of the discount/historical cost interest

236. The difference in a present value measurement from one period to another, if nothing else changes, is the effect of the passage of time, which reflects the time value of money. It is also referred to as the unwinding of the discount. A separate, explicit unwinding of the discount generally only arises in measurements that exclusively use present value measurements, such as provisions, defined benefit obligations, insurance contracts and leases.

237. The discount rate used for the unwinding of the discount can be either current, if the measurement objective is the current value, or historic/contractual, if the measurement objective is cost. However, in some current value measurements no unwinding of the discount is presented but instead historical cost interest is presented in profit or loss, with the difference between the historical cost interest and the unwinding of the discount being recognised in other comprehensive income. For example, this is in the proposals for insurance contracts and also applies to some financial assets measured at fair value through other comprehensive income under IFRS 9.

238. The unwinding of the discount in liabilities is usually recognised in the financial statements as part of the finance/borrowing/interest cost (unless capitalised as a part of an asset). This is specifically referred to in IFRS 4, IFRS 5 and IAS 37, as well as in IAS 19.[21] IAS 37 notes that the effect of the passage of time is to be recognised as a borrowing cost (see paragraph 60 of IAS 37) and IAS 19 refers to interest (see paragraphs 8 and 123–124 of IAS 19), whereas IFRS 5 refers to financing cost (see paragraph 17 of IFRS 5) and IAS 17 refers to a finance expense (see paragraph 27 of

[21] Note that interest expense in IAS 19 is required to be recognised as a net basis (a net interest) on a net defined benefit obligation, if any. Interest on the entire defined benefit obligation is only disclosed as a part of a reconciliation in the notes.

IAS 17) as well as a finance charge (see paragraph 25 of IAS 17). Thus, different terms are used for this effect, but all could be considered to mean interest.

239. The unwinding of the discount for assets is recognised as finance income in leases in IAS 17 (see paragraph 39 of IAS 17), and as interest income for financial assets within the scope of IFRS 9 and IFRS 15.

240. Individual Standards do not stipulate where interest is presented in profit or loss. This is instead dealt with in IAS 1 *Presentation of Financial Statements*.

241. IAS 1 requires finance costs to be presented as a separate line item in profit or loss (see paragraph 82 of IAS 1). However, it does not define what finance costs are and, as different terms are used throughout Standards, not all interest recognised from the unwinding of the discount is presented in finance cost line items in the statement of profit or loss, although it is always disclosed as interest in the notes, as required by individual Standards.

242. In particular, in applying IAS 19, entities may choose how to present net interest on a net defined benefit liability (asset). It can be presented either in the finance costs or together with other costs arising from employee benefits. Anecdotal evidence suggests that some entities are separating interest from other employee benefit costs and presenting it as a part of the finance costs in the statement of profit or loss.[22]

Present value reassessments

243. Continuing the discussion of the effect of the present value measurement on performance reporting, the following sections discuss the effect of changes in present value measurements. We consider the effect of the changes by each of the three main types of uses of present value measurement.

Present value as one of the measurement techniques

244. Changes in the fair value measurement (which can be determined using the present value measurement) are recognised in profit or loss, except for when other

[22] Company Reporting: CR Interim Monitor Issue 2015/0405, CR Monitor Issue 2014/0811 (www.companyreporting.com)

comprehensive income is used to reflect some or all changes in fair value, in the following circumstances:

(a) changes in own credit risk for financial liabilities if the entity elects to measure them at fair value in accordance with IFRS 9;

(b) changes in the fair value of financial assets measured at fair value through other comprehensive income in accordance with IFRS 9, excluding the amount recognised in profit or loss. The amount that would have been recognised in profit or loss would have been the same if the asset had been measured at amortised cost; and

(c) increases in the fair value of property, plant and equipment carried at the revalued amount in accordance with IAS 16.[23]

Present value as the only measurement method

245. Present value measurement requirements can specify the use of historical discount rates and cash flows (amortisation), in which case no remeasurement arises (apart from any impairment that is always recognised through profit or loss). Remeasurement arises when present value measurement components have to be updated at every reporting period (direct measurements).

246. This is summarised in the following table.

Table 13—Remeasurement requirements

Discount rate	Asset/liability	Remeasurement required?
Historical rate	Financial instruments at amortised cost, Lease liabilities	Not for liabilities[24] Assets only if impaired

[23] Unless the increase reverses previous a revaluation decrease, which was recognised through profit or loss.

[24] The discount rate used to measure lease liabilities is typically the historical discount rate determined at lease commencement. However, in some circumstances, the rate is updated (for example, if the lease term changes).

Current rate	Insurance Contracts, Provisions, Pensions	Yes

247. The effect of remeasurement is reflected in either profit or loss or other comprehensive income, or a combination of the two. This is illustrated in the following table.

Table 14—Performance impact of present value remeasurement

	Pensions	Provisions[25]	Insurance contracts[26]
Discount rate	Other comprehensive income	Profit or loss	Accounting policy choice
Cash flows	Other comprehensive income	Profit or loss	Profit or loss

248. Table 14 shows that the remeasurement is recognised differently, depending on the asset or the liability measured. Some think that this creates distortion in how requirements are applied in practice (see Appendix A on stakeholders' views for details).

Present value as a measurement threshold

249. As discussed, a change in the value in use of an asset does not immediately lead to a change in the carrying amount of the asset. If the change is recognised, it goes to profit or loss, as an impairment loss or a reversal of a previous impairment loss (when IAS 36 allows reversal).

[25] Please note that IFRIC 1 *Changes in Existing Decommissioning, Restoration and Similar Liabilities* requires changes in decommissioning liabilities to be reflected as an adjustment to the cost of the asset and not through profit or loss.

[26] Tentative, the new *Insurance Contracts* Standard is not yet finalised. Also, insurance presentation in the table is simplified, as the effect of the reassessment differs depending on the type of insurance contract and some of the changes do not go directly through either profit or loss or other comprehensive income, but are offset against the contractual service margin.

Present value measurements and the impact on performance reporting—potential inconsistencies

Issue 11

250. Interest from the unwinding of the discount in a present value measurement, when presented separately, in usually presented as a finance cost in profit or loss, but not always, especially for interest for defined benefit obligations. The effect of a change in the discount rate is sometimes reflected through profit or loss and sometimes through other comprehensive income.

251. Inconsistency in the presentation of the unwinding of the discount and reassessment of discount rates respectively can be confusing for a user of financial statements, especially if it is not clear where an item is included.

252. The difference also makes the meaning of profit or loss unclear.

Section 7—Present value measurement disclosures

253. The present value measurement often involves making estimates under the conditions of uncertainty and requires the exercise of judgement. Investors often report that disclosures surrounding management judgements that are made when preparing the financial statements are very important, because they provide transparency, which helps investors assess credibility of reporting as well as determine whether any adjustments to the reported amounts are required for their analysis.

254. Paragraphs 125–133 of IAS 1 provide disclosure requirements on sources of estimation uncertainty. These requirements apply in addition to the disclosure requirements in individual Standards, some of which may overlap with what is in IAS 1. However, the individual Standards have different disclosures requirements relating to the present value measurements, creating some inconsistences.

255. The following table compares disclosure requirements in different Standards.

Table 15—Comparison of disclosure requirements for present value measurements

description of disclosure	Fair value	IAS 19	IAS 36	IAS 37	Leases	FI amortised cost	Insurance (2013 ED)
reconciliation of opening to closing balance	Yes	Yes	n/a	Yes	No	No	Yes
discount rate used	implicit	Yes***	yes	No	No	No	implicit
effect of unwinding of discount	n/a	yes	n/a	Yes	Yes	yes	Yes
effect of change in discount rate	n/a	yes**	n/a	Yes	n/a	n/a	no
assumptions used	yes	Yes	Yes*	Yes*	n/a	n/a	Yes
P&L effect in the period	yes	indirect	Yes	No	No	implicit	Yes****
sensitivity analysis for assumptions	yes	Yes	No	No	n/a	n/a	some
comparatives	yes	implicit	implicit	No	implicit	implicit	implicit
methods used	yes	Yes	No	No	n/a	n/a	Yes

Notes to the table:

*qualified to where necessary
** together with changes in other financial assumptions
***as one of the significant assumptions used
****disaggregated

Present value measurement disclosures – potential issues identified

Issue 12

256. There are several inconsistencies in the disclosures surrounding present value measurements, including:

(a) differences in disclosure requirements make it hard to compare present value measurements, for example, discount rates used in measurements are not always required to be disclosed.

(b) the total impact of changes in the present value measurement on profit or loss is not always required to be disclosed, making the connection between primary financial statements harder to see.

(c) the sensitivity of reported numbers to changes in assumptions is not always required to be disclosed, making it hard to assess the impact of having used a different set of assumption of possible changes in the future.

(d) methods used are not always required to be disclosed, making it harder to assess the measurement and to understand any disclosures of inputs used. (For example, the disclosure that a rate of 7 per cent is used is not useful unless it is also clear whether that rate includes risk, tax or inflation as otherwise you don't know what to compare the rate with).

APPENDIX A
STAKEHOLDERS VIEWS HEARD DURING RESEARCH

A1. See paper 15C.