

## International Financial Reporting Standards

Present value measurements – discount rates

Research findings

Education session 2 – Present value measurement methodology, objectives and

scope

January 2016

The views expressed in this presentation are those of the presenter, not necessarily those of the IASB or IFRS Foundation.

# Research objective

- Review discount rate requirements in IFRS and:
  - Identify any inconsistencies
  - Consider whether the IASB should address those inconsistencies.
- The research considered the following aspects:
  - **Scope of present value measurement**
  - **Measurement objectives**
  - Discount rate components
  - **Measurement methodology**
  - **Presentation and disclosure**

To continue discussion at this session

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- A series of education sessions to go through research findings on present value measurements – discount rates
- September 2015 – high-level overview;
- December 2015;
  - individual components of present value measurements including risk, liquidity, own credit, time value of money;
  - methodology findings – main principles, some discussion on tax – to be continued at this session.

# Objectives of the session

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- Discuss research findings relating to:
  - Measurement methodology with tax examples;
  - Presentation and disclosures relating to PVM;
  - Measurement objectives; and
  - When is present value measurement used.
- Findings discussed in draft research paper (AP15B from September 2015, reproduced as AP17B for this meeting)
- Next session: anything from above not covered; the way forward on the research project.

# Approach to the session

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- A brief introduction by the staff emphasising potential problems identified
- Discussion by the IASB:
  - Whether they agree with staff depiction of IFRS requirements
  - Whether they agree with potential financial reporting problems identified
  - Whether they have identified any relevant additional potential financial reporting problems
- Not a decision-making session

# Potential financial reporting problems identified in research paper

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 material effect
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

Highlighted issues discussed in Dec 2015

Other issues to be discussed at this meeting



# Recap of December discussion – components of present value measurement

**Issue 7** in draft Research Paper (para 175 – 176) – liquidity not reflected consistently

**Issue 6** in draft Research Paper (para 145 – 147) – application of entity perspective in measurement in practice

Potential new issue identified in Dec 15 – basis for determining risk adjustment

**Any other comments on the discussion in December?**

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 contracts	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 (practice appears to be mixed)	Not explicit (in practice no)	Not explicit (mixed practice)
IAS 19	Defined benefit plan obligation	Present value of ultimate cost	Yes	Yes	No	Some	Some

Note – risk premium excludes own non-performance risk which is shown separately

- Main principles identified
  - Do not double-count
  - Use internally consistent assumptions
  - Include everything
- Main aspects considered
  - How are risk adjustments reflected?
  - How is impact of tax reflected?
  - How is impact of inflation reflected?

Staff have identified several methodology issues relating to tax



# Comparison of measurement methodology in IFRS

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

# Measurement methodology for tax – issues identified

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- **Issue 10** in draft Research Paper (para 221 – 222)
  - The meaning of pre-tax rate is not clearly explained in IFRS and can lead to using a pre-tax rate from an instrument that is taxed differently which leads to misstatement. The issue is no different from reflecting risk from an instrument that has a different risk profile. This is analysed further on the following slides
- **Issue 8** in draft Research Paper (para 213 – 215)
  - As will be shown in examples on previous slides, conversion from pre-tax to post-tax rates and vice versa is not always straightforward and taking shortcuts could lead to errors. This appears not to be widely understood.
- **Issue 9** in draft Research Paper (para 216 – 217)
  - Requirement to only use pre-tax inputs in IAS 36 burdensome for preparers and does not seem to be necessary (as there is no unwinding of discount, any method used would achieve the same outcome).
  - IFRS 13 is the only standard that explicitly allows use of either pre-tax or post-tax inputs.

# Measurement methodology – tax

	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

- IFRS measurements are usually fully on a post-tax basis, except when deferred tax arises and some or all of tax effect is recognised separately
- Two ways to arrive at the (same) post-tax basis measurement, see examples on next slides
- Method used matters when unwinding of discount reported separately (to make interest expense comparable)

# Pre- and post-tax inputs example 1

Assumptions: Cash flow of CU100 in five years, gross interest of 10%, interest taxable at 30%. For example, retirement benefit obligations in some jurisdictions.

Ref	Description	Year 1	Year 2	Year 3	Year 4	Year 5	
1	Gross cash flow (before tax)					100	
2	Gross interest rate (before tax)	10%					
3	Present value, pre-tax inputs (pre-tax cash flow of 100 at pre-tax rate of 10%)	62.09					
4	Gross interest	6.21	6.83	7.51	8.26	9.09	
5	Tax	30%	- 1.86	- 2.05	- 2.25	- 2.48	- 2.73
6	Total after-tax cash flows (1+5)	- 1.86	- 2.05	- 2.25	- 2.48	97.27	
7	After-tax discount rate (2-5X2)	7%					
8	Present value, post-tax inputs (post-tax cash flows at post-tax rate of 7%)	62.09					

# Pre- and post-tax inputs example 2

Assumptions: same as in example 1, except tax applies to the ultimate cash flow of 100, no tax on interest. For example, decommissioning liabilities in some jurisdictions.

Ref	Description	Year 1	Year 2	Year 3	Year 4	Year 5
1	Gross cash flow (before tax)	-50	0	0	0	100
2	Gross interest rate (before tax)	10%				
3	Present value, pre-tax inputs (pre-tax cash flow of 100 at pre-tax rate of 10%)	62.09				
4	Gross interest	6.21	6.83	7.51	8.26	9.09
5	Tax	30%	-	-	-	- 30.00
6	Total after-tax cash flows (1+5)	-62.09213	-	-	-	70.00
7	After-tax discount rate (Internal rate of return using cash flows)	2%				
8	Present value, post-tax inputs (post-tax cash flows at post-tax rate of 2%)	62.09				

# Pre- and post-tax inputs in another way

- Now, let's assume that for both of these examples there is the same **post-tax** discount rate of 7%.
- The present value measurements in the two examples would be different:
  - For example 1, the measurement would be CU62 as calculated in previous case (7% applied to post-tax cash flows of CU97.27)
  - For example 2, the measurement would be CU50 (as the same rate of 7% would be applied to **lower** post-tax cash flows of CU70 (CU100 less tax of CU30))
- **Pre-tax** discount rates for the two examples are **different**:
  - For example 1, 10% (rate needed to accrete present value of CU62 to CU100 in 5 years)
  - For example 2, 15% (higher rate in order to accrete present value of CU50 to CU100 in 5 years)

# Pre- and post-tax inputs - implications

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- Assuming all the risks & durations are the same, instruments that are taxed differently have **same post-tax** rates but **different pre-tax** rates - yet same pre-tax rates can be used in practice.
- Added complication is deferred tax. For instruments in example 2, where the ultimate cash flow is subject to tax (eg decommissioning liabilities in some jurisdictions), tax is captured through a separate deferred tax balance. If the correct pre-tax rate from the previous example is used in the measurement of the individual liability, it would lead to double-counting of tax. In such cases, using **any** pre-tax rate would lead to tax overstatement due to separate accounting for deferred tax. Yet, IAS 37 for example requires pre-tax rates for all measurements. It can be argued that using the 'wrong' pre-tax rate from example 1 in this case is better than using 'right' rate as it minimises tax overstatement.
- The above are identified as issue 10 in draft Research Paper (para 221 – 222)

# Present value measurement presentation

- **Issue 11** in draft Research Paper (para 250 – 252) – inconsistent use of OCI and profit or loss
- Unwinding of discount mostly recognised as interest cost, but:
  - Different terms used (finance charge, finance cost etc)
  - Not always presented as interest cost on the face of profit or loss, eg IAS 19
- Effect of remeasurement recognised inconsistently:

	Pensions	Provisions	Insurance contracts
Changes in discount rate	Other comprehensive income	Profit or loss	Accounting policy choice
Changes in cash flows	Other comprehensive income	Profit or loss	Profit or loss

Staff do not expect to address presentation and disclosure issues as a part of this project, but include them in research for completeness and reference



# Present value measurement disclosures – high-level review only

**Issue 12** in draft Research Paper (para 256) - inconsistent disclosure requirements

Footnotes

1 – disclosure of significant actuarial assumptions is required

2 - if historical cost rate used for profit or loss disclosure of that rate is not required

3 - IFRS 13 does not require unbundling of components of fair value measurement

4 - bundled together with changes in other financial assumptions

5 - qualified to where necessary

6 - disaggregated

Description of disclosure	Fair value				Insurance Contracts (latest proposals)
	IAS 19	IAS 36	IAS 37		
reconciliation of opening to closing balance	Yes	Yes	n/a	Yes	Yes
discount rate used	implicit	Yes <sup>1</sup>	Yes	No	Yes <sup>2</sup>
effect of unwinding of discount	No <sup>3</sup>	Yes	n/a	Yes	Yes
effect of change in discount rate	No <sup>3</sup>	Yes <sup>4</sup>	n/a	Yes	Yes
assumptions used	Yes	Yes	Yes <sup>5</sup>	Yes <sup>5</sup>	Yes
P&L effect in the period	Yes	indirect	Yes	No	Yes <sup>6</sup>
sensitivity analysis for assumptions	Yes	Yes	No	No	some
comparatives	Yes	implicit	implicit	No	Yes
methods used	Yes	Yes	Yes	No	Yes

- Measurement objectives in individual Standards are different and explain some of the differences in discount rates but there are issues:
  - IAS 19 lacks a measurement objective (**Issue 3** (para 99 – 100) in the draft Research Paper) and the rules based guidance seems incompatible with any objectives (measurement reflects the credit risk of third parties; two types of rates used (**Issue 4** (para 101 - 104) in the draft Research Paper))
  - IAS 37 measurement objective is unclear leading to different interpretations (including whether to include own credit risk in measurement) (**Issue 5** (para 119 - 123) in the draft Research Paper).

# Measurement objectives comparison

Item measured	Objective explicit	Measurement objective (as described or inferred)	Proposed <i>Conceptual Framework</i> <sup>1</sup>
Defined benefit obligation (IAS 19)	x	Present value of ultimate cost	Fulfilment value <sup>2</sup>
Impaired non-financial assets (IAS 36)	✓	Value in use	Value in use
Provisions (IAS 37)	✓	Amount required to settle or to transfer the obligation	Fulfilment value
Insurance contracts (latest proposals)	x	Present value of net cash flows expected to fulfil	Fulfilment value

## Notes

1. Mapping to the Conceptual Framework proposals prepared by staff for the purpose of this paper.
2. Although fulfilment value is the closest matching measurement basis for the IAS 19 measurement, the IAS 19 measurement is quite different.

# When is present value measurement used and when it is not

**Issue 2** in draft Research Paper (para 63 – 66) – not using present value in measurement of deferred taxes can have a material effect

<b>Discount rate<sup>1</sup></b>	<b>PV as the only measurement technique</b>	<b>PV as a threshold measurement</b>	<b>PV as one of measurement techniques</b>
Historical discount rate	Leases, financial instruments measured at amortised cost		
Current discount rate	Provisions, Insurance contracts, Defined benefit obligations	Value in use for non-financial assets	Assets and Liabilities measured at fair value
<b>No discounting</b>	<b>Cash flows as the only measurement technique</b>	<b>Cash flows as a threshold measurement</b>	<b>Cash flows as one of measurement techniques</b>
Measurement based on cash flows only	Deferred tax, Prepayments	Net realisable value for inventories	none

**Note**

1 – Present value measurement is also used for financing component of customer consideration in IFRS 15, discounting of the expected costs to sell in IFRS 5, assessing substance of exchange transaction in IFRS 9

# Reminder of issues covered

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Highlighted issues discussed in Dec 2015

Other issues discussed at this meeting

- The staff plan on next steps includes:
  - Decide on any amendments to the issues identified in the Research Paper, reflecting IASB discussion
  - Prepare new draft Research Paper, reflecting IASB discussion
  - Ask the IASB for approval of publication, including a decision on whether to request views on the Research Paper.
- Recognising that the IASB will want to consider feedback from 2015 Agenda Consultation first, staff will ask the IASB to make decisions after that feedback.