

This Agenda Paper discusses issues in relation to measuring defined benefit obligations to members of superannuation entities at fair value.

Background

1. During its November 2006 meeting, the Board discussed the prospect of applying a full fair value accounting model to superannuation entities. While these discussions focused primarily on the appropriate accounting treatment for superannuation entities in the context of the IASB's views on fair value accounting and the treatment of realisation costs, some Board members expressed concerns about the implications of measuring all items of superannuation entities, particularly the defined benefit obligations to members of superannuation plans, at fair value.
2. Given the Board has made a number of decisions regarding the appropriate treatment in concept of assets held by superannuation entities,¹ AASB staff believe that it would be useful to consider the different approaches available in concept for measuring defined benefit obligations to members of superannuation plans. Accordingly, the purpose of this paper is to:
 - (a) discuss fair value as applied in the context of Australian equivalents to IFRSs (paragraphs 3 – 8);
 - (b) discuss the requirements in the FASB's Statement No. 157 *Fair Value Measurements* (SFAS 157), which forms the basis of the proposals contained in the IASB's Discussion Paper *Fair Value Measurements*² (FVM Discussion Paper) (paragraphs 9 – 17); and
 - (c) consider some of the financial reporting implications of requiring defined benefit obligations to be measured at fair value in accordance with the requirements and guidance in Australian equivalents to IFRSs and the requirements in SFAS 157 (paragraphs 18 - 30).

Fair Value in the Context of Australian Equivalents to IFRSs

3. As the fair value of assets is dealt with in more detail in Australian equivalents to IFRSs than the fair value of liabilities, it may be useful to consider the concept of fair value as it applies to assets first.
4. Fair value is defined in Appendix A of AASB 3 *Business Combinations* as:

“The amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction”.

This definition of fair value alone does not specify precisely the measurement objective from the reporting entity's perspective. For instance, the phrase “the amount for which an asset could be exchanged” could be interpreted to mean:
 - (a) the lowest price the reporting entity could incur to purchase the asset (entry price);
 - (b) the highest price the reporting entity could receive from selling the asset (exit price); or

1 Minute item 6 from the 8-9 November 2006 AASB meeting.

2 'Part 1: Invitation to Comment and relevant IFRS guidance' and 'Part 2: SFAS 157 *Fair Value Measurements*', IASB, London, November 2006.

- (c) some point between (a) and (b).
5. Despite the inherent flexibility in the definition, the notion of fair value as applied in Australian equivalents to IFRSs is normally taken to refer to a 'bid price' (the highest price the reporting entity could receive from selling the asset) in a market for assets. For instance, paragraph 26 of AASB 136 *Impairment of Assets* states that:
- “If there is no binding sale agreement but an asset is traded in an active market, fair value less costs to sell is the asset’s market price less the *costs of disposal*. The appropriate market price is usually the current bid price. When current bid prices are unavailable, the price of the most recent transaction may provide a basis from which to estimate fair value less costs to sell, provided that there has not been a significant change in economic circumstances between the transaction date and the date as at which the estimate is made.”
6. In addition, paragraph 39 of AASB 138 *Intangible Assets* states that:
- “Quoted market prices in an *active market* provide the most reliable estimate of the fair value of an intangible asset (see also paragraph 78). The appropriate market price is usually the current bid price. If current bid prices are unavailable, the price of the most recent similar transaction may provide a basis from which to estimate fair value, provided that there has not been a significant change in economic circumstances between the transaction date and the date at which the asset’s fair value is estimated.”
7. In relation to liabilities, consistent with the approach adopted in relation to assets, the notion of fair value as applied in Australian equivalents to IFRSs is taken to refer to an 'ask price' (the lowest price the entity would have to pay to transfer a liability). For instance, paragraph AG72 of AASB 139 *Financial Instruments: Recognition and Measurement* states that:
- “The appropriate quoted market price for an asset held or liability to be issued is usually the current bid price and, for an asset to be acquired or liability held, the asking price...”
8. In addition, paragraph B17 of Appendix B to AASB 3 states that:
- “For contingent liabilities of the acquiree the acquirer shall use the amounts that a third party would charge to assume those contingent liabilities. Such an amount shall reflect all expectations about possible cash flows and not the single most likely or the expected maximum or minimum cash flow.”

Fair Value Measurement in the Context of the IASB’s Fair Value Measurement (FVM) Project

9. In November 2006, the IASB published for public comment its FVM Discussion Paper setting out its preliminary views on providing consistency in the measurement of fair value, when already prescribed under existing IASB Accounting Standards. The ultimate purpose of the FVM Discussion Paper is to establish a concise definition of fair value and a single source of guidance for all fair value measurements required by IFRSs

that will both simplify IFRSs and improve the quality of fair value information included in financial reports.

10. Consistent with the IASB recognising the need for guidance on measuring fair value in IFRSs and for increased convergence with US GAAP, the IASB decided to use SFAS 157 as the basis for its deliberations on fair value measurement. SFAS 157 establishes a single definition of fair value together with a framework for measuring fair value for US GAAP.³ The IASB plans to publish an ED by early 2008.
11. If adopted by the IASB, the SFAS 157 guidance could have implications for the measurement of fair value for financial reporting purposes. These proposals are discussed below in the context of the measurement of liabilities.

Definition and characteristics of fair value

12. The definition of fair value proposed in SFAS 157 is explicitly an exit (selling) price. Paragraph 5 of SFAS 157 states that:

“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.”

Furthermore, paragraph C26 of SFAS 157 states, in part, that:

“The transaction to sell the asset or transfer the liability is a hypothetical transaction at the measurement date, considered from the perspective of a market participant that holds the asset or owes the liability. Therefore, the objective of a fair value measurement is to determine the price that would be received for the asset or paid to transfer the liability at the measurement date, that is, an exit price...”

13. For the purpose of measuring the fair value of liabilities, SFAS 157 assumes that:
 - (a) liabilities are exchanged in an orderly transaction between market participants. An orderly transaction is not a forced a transaction and involves the item being exposed to the market for a period prior to the measurement date to allow for marketing activities that are usual and customary for transactions involving such liabilities (paragraph 7);
 - (b) transactions occur in the principal market for the liability being the market with the greatest volume and level of activity for the liability, even if there is a more advantageous market which would minimise the amount paid to transfer the liability. In the absence of a principal market, the transaction is assumed to take place in the most advantageous market (paragraphs 8 and 9);
 - (c) market participants are independent, knowledgeable and able and willing to transact (paragraphs 10 and 11); and

3 Paragraph 4 of Part 1 of the IASB’s FVM Discussion Paper states that: “Although provisions of SFAS 157 may be used in the preparation of an exposure draft, they may be reworded or altered to be consistent with other IFRSs and to reflect the decisions of the IASB.”

- (d) the liability is transferred to the market participant (i.e. liability continues to exist and is not settled at that date) and that the nonperformance risk relating to the liability is the same before and after the transfer (paragraph 15).
14. In addition, in relation to the unit of measure for a portfolio of items, paragraph 27 of SFAS 157 requires each individual item in the portfolio to be measured and the fair value of the portfolio is the same as the sum of the fair values of each item in the portfolio. Accordingly, a reporting entity that holds a position in a single financial instrument (a block) and the instrument is traded in an active market, the fair value of the position is the product of the quoted price for the individual instrument times the quantity held and the quoted price is not permitted to be adjusted because of the size of the position relative to trading volume (blockage factor). The use of a blockage factor is prohibited, even if a market's normal daily trading volume is not sufficient to absorb the quantity held and placing orders to sell the position in a single transaction might affect the quoted price.

Valuation techniques

15. The fair value of a liability would be measured in accordance with the market approach and/or the income approach.⁴ Paragraphs 18 to 20 of SFAS 157 require reporting entities to apply the valuation technique(s) that provide(s) a measurement most representative of fair value. Depending upon the circumstances, either a single valuation technique or multiple valuation techniques may be used. Where multiple valuation techniques are used, the results should be evaluated and weighted, and a fair value measurement determined to be the measurement within the range of measurements that is most representative of fair value.

Inputs to valuation techniques

16. Paragraph 21 of SFAS 157 confirms that inputs are assumptions used by market participants in pricing the liability, including assumptions about risk. The inputs can be either observable (reflect market participant's assumptions based on market data obtained from sources independent of the reporting entity) or unobservable (reflect the entity's own assumptions about the assumptions market participants would use in pricing the liability developed based on the best information in the circumstances).

Fair value hierarchy

17. SFAS 157 establishes a three-level hierarchy that assigns priorities to the inputs that valuation techniques use to measure fair value. The three levels of the fair value hierarchy are as follows:
- (a) *Level 1 inputs* – quoted prices (unadjusted) in active markets for identical liabilities that the reporting entity has access to at measurement date. There are no adjustments to quoted market prices for blockage factors or transaction costs (paragraphs 24 to 27);

⁴ Paragraph 18 of SFAS 157 also permits reporting entities to use the cost approach, which is based on the amount that would be required at the measurement date to replace the service capacity of an asset. The cost approach would not be practicable to the determination of the fair value of liabilities, such as defined benefit obligations.

- (b) *Level 2 inputs* – inputs other than quoted prices that are either directly or indirectly observable for the liability. Level 2 inputs are categorised as follows:
- (i) quoted prices for similar liabilities in active markets;
 - (ii) quoted prices for similar or identical liabilities in markets that are not active;
 - (iii) inputs other than quoted prices that are observable for the liability (e.g. interest rates); and
 - (iv) inputs that are derived principally from or corroborated by observable market data by correlation or other means (market-corroborated inputs) (paragraphs 28 and 29).
- (c) *Level 3 inputs* – unobservable inputs for the liability that will only be used to measure fair value where observable inputs are not available. Whilst observable market data may not be available, the measurement objective is still an exit price from the perspective of the market participant. Therefore, whilst the reporting entity can use their own data, the unobservable inputs must reflect the entity's own assumptions about market participant's assumptions in pricing the liability. In addition, whilst it is not required to undertake all possible efforts to obtain information about market participant assumptions, the reporting entity shall not ignore information about market participant assumptions that is reasonably available without undue cost and effort (paragraph 30).

Implications of Defined Benefit Obligations being Measured at Fair Value

18. Conceptually, it would be possible to measure defined benefit obligations at fair value in accordance with the requirements and guidance in Australian equivalents to IFRSs and SFAS 157.
19. As noted in paragraph 15 of this Agenda Paper, in accordance with SFAS 157 the fair value of a liability would be measured in accordance with the market approach and/or the income approach. Sub-paragraph 18(a) of SFAS 157 states, in part, that:
- “The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities (including a business).”
- Sub-paragraph 18(b) of SFAS 157 states, in part, that:
- “The income approach uses valuation techniques to convert future amounts (for example, cash flows or earnings) to a single present amount (discounted). The measurement is based on the value indicated by current market expectations about those future amounts.”
20. For the purpose of a defined benefit superannuation plan, members' entitlements at normal retirement age are calculated, at least in part, using a formula specified in the plan's trust deed. Typically, a member's benefit is the product of the member's salary at or near retirement, a benefit factor and the number of years of service the member has served with an employer or employers or else the number of years of membership of the plan. In addition, a retiring member can normally choose whether to receive their entitlements in the form of a lump-sum or an income stream. Theoretically, this choice should have no effect on the fair value of a member's entitlements. Nevertheless, for the purpose of examining the market and income approaches, it may be useful to

consider the measurement of defined benefit entitlements received in the form of a lump sum separately from those received in the form of an income stream.

21. Consistent with the market approach:
- (a) for each defined benefit member who can be expected to take their entitlements in the form of a lump sum,⁵ the fair value of their entitlements would be the price the employer sponsor/plan would have to pay at the reporting date to purchase a contract with a third party that provides a lump sum payment equal to the member's entitlements at the date on which they retire, resign, become totally and permanently disabled, are retrenched or die;
 - (b) for each defined benefit member who can be expected to take their entitlements in the form of an annuity, the fair value of their entitlements would be the price the employer sponsor/plan would have to pay at the reporting date to purchase a deferred annuity with guaranteed terms that matches the members' future pension payments; and
 - (c) for each defined benefit member who can be expected to take part of their entitlements in the form of a lump sum and part in the form of an annuity, the fair value of their entitlements would be calculated in accordance with both (a) and (b) above.
22. For the purpose of measuring fair value in accordance with SFAS 157, a lump sum defined benefit obligation could be conceived as comprising a number of separate components, including:
- a contract to pay a lump sum if and when the member retires;
 - a life insurance contract;
 - a total and permanent disability (TPD) insurance contract; and
 - an insurance contract to cover the possibility the member will be retrenched.
23. While an employer sponsor/plan would be unable to purchase 'off the shelf' a contract that matches all of the different components of a defined benefit obligation, the fair value of some of these defined benefit liability components could conceivably be determined in accordance with the market approach using prices and other information generated by market transactions. For instance, life and TPD insurance products are transacted on a daily basis in Australia. Nevertheless, some components, such as the contract to pay a lump sum if and when a particular member retires, are not commonly traded and, therefore, would need to be fair valued in accordance with the income approach.
24. On the basis that the market for life and TPD insurance products in Australia is relatively active, this component of a defined benefit obligation would be capable of being fair valued using Level 1 inputs. However, the other components of a defined benefit obligation may only be capable of being fair valued using Level 2 and Level 3 inputs. For instance, income protection insurance products are traded relatively

⁵ This group also includes those members who are expected to take their entitlements in the form of an annuity but die before retiring. In such circumstances, a lump sum equivalent to the member's entitlements would normally be paid to the member's beneficiary or beneficiaries.

frequently in Australia and provide a type of insurance coverage that is arguably analogous to the coverage provided by an insurance contract that compensates the holder in the event they are retrenched. Nevertheless, income protection insurance products are normally written to protect the holder against being temporarily unable to work through illness, injury or accident and provide a stream of periodic payments rather than a lump-sum payment. Accordingly, if used as a basis to fair value the retrenchment component of a defined benefit obligation, the price of the income protection insurance product would need to be adjusted, thereby making it a Level 2 input to a fair value calculation. In addition, the fair value of a contract to pay a lump sum if and when a particular member retires would need to be calculated using inputs that would be based to a large extent on information from the employer sponsor (Level 3 inputs), including:

- (a) the probability the member will die before retiring;
- (b) the expected age at which the member will retire;
- (c) the probability that the member will be retrenched prior to retiring; and
- (d) the probability that the member will resign prior to retiring.

Consequently, the fair value of a defined benefit lump sum obligation would be calculated in accordance with SFAS 157 using:

- (a) both the market and income approaches; and
- (b) a mixture of Level 1, 2 and 3 inputs.

25. Most products described as ‘deferred annuities’ that are currently being offered in Australia do not guarantee the terms of the annuity at the time of purchase.⁶ Consequently, the prices of these products may not necessarily provide a reliable guide to the price the employer sponsor/plan would have to pay at the reporting date to purchase a future income stream that matches a particular member’s future pension payments. In addition, while some deferred annuity products currently being offered in Australia do guarantee at the time of purchase a specified income stream that starts at an agreed date in the future, AASB staff believe that the number of these types of products is small and, therefore, the market in Australia for such products is relatively ‘thin’. Accordingly, for the purpose of fair value measurement in accordance with SFAS 157 of a defined benefit obligation that is expected to be taken as an annuity, the market approach would be appropriate. Furthermore, prices and other information generated by market transactions are available, but only in the form of Level 2 inputs.
26. In accordance with paragraph 6 of SFAS 157, the price of each deferred annuity should reflect the significant attributes of the particular defined benefit obligation, including the particular member’s estimated retirement date and length of retirement.⁷ As these types of inputs would be based, at least in part, on information from the employer sponsor, the price an employer sponsor/plan would notionally have to pay at the

6 For many of the products currently being marketed as deferred annuities, the underlying contract is not ‘annuitised’ (conversion of the investment into a series of income streams) at the time it is purchased. Annuitisation only occurs after the investor has reached retirement age.

7 The price of each deferred annuity would also need to reflect the estimated rates of return prior to and during the member’s retirement.

reporting date for a market participant to assume the liability for a member's future pension payments would need to be calculated using a mixture of Level 2 and Level 3 inputs. Consequently, the fair value of a defined benefit annuity obligation would be calculated in accordance with SFAS 157 using:

- (a) the market approach; and
- (b) a mixture of Level 2 and 3 inputs.

27. It is relevant to note that paragraph 22 of SFAS 157 states, in part:

“The level in the fair value hierarchy within which the fair value measurement in its entirety falls shall be determined based on the lowest level input that is significant to the fair value measurement in its entirety.”

28. It is also relevant to note that, in accordance with paragraph 15 of SFAS 157, the notional price an employer sponsor/plan would have to pay at the reporting date for a market participant to assume a member's defined benefit obligation, irrespective of whether the market or income approach is used, needs to reflect the non-performance (employer sponsor's credit) risk relating to the liability.

Arguments For and Against Fair Value Measurement of Defined Benefit Obligations

29. Arguments in favour of measuring defined benefit obligations to members of superannuation plans at fair value include:

- (a) ensures symmetry where assets are also measured at fair value. For instance, AASB 119 requires a plan's assets to be measured at fair value and defined benefit obligations to be discounted at a rate determined by reference to market yields at the reporting date on high quality corporate bonds. In circumstances where the plan's assets are invested to achieve higher returns than high quality corporate bonds, a 'structural deficit' in relation to the plan can appear in the employer sponsor's financial statements, making the plan appear under funded, despite the fact that it may be fully funded on an actuarially-determined basis; and
- (b) potential consistency with other Accounting Standards that require liabilities to be measured at fair value. For instance, loan commitments that an entity designates as financial liabilities at fair value through the profit or loss in accordance with AASB 139 *Financial Instruments: Recognition and Measurement*.

30. Arguments against measuring defined benefit obligations to members of superannuation at fair value include:

- (a) fair value measurement of defined benefit obligations is likely to be more costly to undertake than the current approaches prescribed under AAS 25 and AASB 119. For instance:
 - (i) the measurement of defined benefit obligations at fair value in accordance with the requirements and guidance in Australian equivalents to IFRSs and SFAS 157 is arguably more complex than the approaches currently being applied by actuaries under AAS 25 and AASB 119. This increased complexity is likely to translate into increased administration, accounting and auditing costs for superannuation plans with defined benefit members;

- (ii) in concept, all assets and liabilities would be measured annually under a fair value model. In contrast, at present, actuarial valuations are generally performed for superannuation plans with defined benefit obligations on a triennial basis.⁸ Superannuation plans that pay pensions directly to members are required to have actuarial valuations performed on an annual basis⁹; and
 - (iii) the costs attributable to fair valuing defined benefit obligations that will ultimately be met by employer sponsors would arguably outweigh the benefits of requiring defined benefit obligations to be fair valued, especially if employer sponsors continue to apply the requirements in AASB 119 in relation to defined benefit plans.
- (b) the fair value measurement of the defined benefit obligations to members of a superannuation plan is likely to be different from the defined benefit obligation reported by the employer sponsor under the current requirements in AASB 119. For instance, as noted in paragraph 28 of this Agenda Paper, SFAS 157 requires the calculation of the fair value of a liability to incorporate the entity's credit risk, whereas neither AAS 25 nor AASB 119 specifically requires the employer sponsor's credit risk to be incorporated into the measurement of accrued benefits or defined benefit obligations. In addition, the calculation of the fair value of a liability would arguably include a 'profit margin', reflecting the compensation that would otherwise be paid to a market participant to assume the defined benefit obligation. In contrast, neither AAS 25 nor AASB 119 currently requires an actuary's assumptions to include an implicit profit margin. Moreover, the inclusion of an implicit profit margin under the current requirements in AAS 25 and/or AASB 119 is likely to translate into higher contribution rates which, in turn, could lead to plans becoming over funded in 'real' terms;
- (c) the SFAS 157 prohibition against the use of 'blockage' factors may inhibit the reliable measurement of an entity's overall defined benefit obligation and is potentially inconsistent with the approach currently adopted by actuaries when calculating accrued benefits in accordance with AAS 25 and AASB 119.

Paragraph 27 of SFAS 157 does not explicitly consider blockage factors in relation to liabilities. Nevertheless, the principle underlying paragraph 27 of SFAS 157 would arguably require the fair value of a collection of discrete defined benefit obligations to be calculated as the sum of the individual (notional) prices an employer sponsor/plan would have to pay at the reporting date for a market participant to assume the individual obligations. Moreover, the prices are not permitted to be adjusted for factors related to the number of individual defined benefit obligations being (notionally) offered to market participants. This requirement could pose problems in relation to, for instance, the fair value measurement of an individual member's death and/or TPD benefit.

It is conceivable that some current members of defined benefit superannuation plans would be considered uninsurable by market participants if they were to individually apply for death and/or TPD insurance coverage. Nevertheless, they

8 The frequency of measurement will be dealt with as a separate issue at a future Board meeting.

9 Regulation 9.29A of the *Superannuation Industry (Supervision) Regulations 1994* (the SIS Regulation) and APRA Modification Declaration No.23 require regulated superannuation plans that are paying pensions to have an actuarial valuation performed annually. Regulation 9.29 of the SIS Regulations requires regulated superannuation plans that are not paying pensions to have an actuarial valuation performed at least every three years.

currently retain death and/or TPD insurance coverage by virtue of their guaranteed continuation of coverage when they became a member of the plan. In addition, if the member's plan has a sufficiently large membership base, it is conceivable that the otherwise uninsurable member would continue to be covered for death and/or TPD, even if the plan appointed a new death and/or TPD insurer.

In contrast, both AAS 25 and AASB 119 require actuarial assumptions in relation to the calculation of accrued benefits and defined benefit obligations to be determined at the plan level rather than individual member level. For instance, estimates in relation to mortality rates are normally based upon population statistics. An advantage of this approach is that, given a sufficiently large defined benefit population, individual-level characteristics tend to offset one another to yield more predictable population-level statistical averages. This appears to be consistent with the approach adopted by the IASB in its Insurance Contracts project in relation to risk margins. Paragraph 33 of the Insurance Contracts (Phase II) project update states, in part, that:

“Risk margins should be determined for a portfolio of insurance contracts that are subject to broadly similar risks and managed together as a single portfolio.”¹⁰

Considering that a defined benefit obligation is, in substance, arguably akin to an insurance contract, this is noteworthy; and

- (d) based on the discussion in paragraphs 18 - 28 of this Agenda Paper, the measurement of defined benefit obligations at fair value in accordance with the requirements and guidance in Australian equivalents to IFRSs and SFAS 157 is arguably no more robust than (and in many respects is almost identical to) the approaches currently being applied by actuaries under AAS 25 and AASB 119.

Staff view

Staff believe that the fair value measurement of defined benefit obligations as it might be practised under an IASB equivalent to SFAS 157 would be more onerous than the current equivalent requirements in AAS 25 and, in many cases, would be impracticable to apply. Furthermore, the fair value measurement of defined benefit obligations is inconsistent with the portfolio measurement approach currently being applied by actuaries under AASB 119 and AAS 25, as well as the approach adopted by the IASB in relation to its Insurance Contracts project. Accordingly, staff recommend the Board consider using the requirements in AASB 119 and AAS 25 in relation to the measurement of defined benefit obligations as a basis for developing equivalent requirements for a replacement Standard for AAS 25.

¹⁰ IASB, 'Insurance Contracts (Phase II) Project Update', *IASB website* (<http://www.iasb.org>), 4 October 2006.