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Educational Note

Guidance on Asset Valuation Methods

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Memorandum

To: All Pension Practitioners

From: Jacques Tremblay, Chairperson
Practice Council

Stephen Butterfield, Chairperson
Committee on Pension Plan Financial Reporting

Date: November 7, 2007

Subject: **Educational Note – Guidance on Asset Valuation Methods**

This educational note is intended to assist actuaries in the selection of an appropriate asset valuation method in conjunction with the reporting of a pension plan's financial position, the determination of a pension plan's funding requirements, and providing advice on the determination of a pension plan's net benefit cost for financial statement reporting purposes.

In accordance with the Institute's *Policy on Due Process for the Approval of Practice-Related Material other than Standards of Practice*, this educational note has been developed and approved by the Committee on Pension Plan Financial Reporting (PPFRC) and has received final approval for distribution by the Practice Council on October 10, 2007. In accordance with that policy, this educational note is 'not binding'.

If you have any questions or comments regarding this educational note, please contact Stephen Butterfield at stephen.butterfield@towersperrin.com.

JT, SB

GUIDANCE ON ASSET VALUATION METHODS

The measurement of a pension plan's assets and the relationship between the plan's assets and its obligations are integral to the valuation process. The asset valuation method potentially affects the timing and amount of future plan contributions or costs and, hence, the plan's ability to satisfy its benefit obligations. Consequently, the actuary would use professional judgment to select an appropriate asset valuation method.

The Standards of Practice include the following references to the valuation of assets:

3200.01 *The actuary should select an asset valuation method and an actuarial cost method which are appropriate for the purpose and circumstances of the work.*

3200.04 For a going concern valuation, the value of the assets may be any of
their market value,
their market value adjusted to moderate its volatility,
the present value of their cash flows after the calculation date, and
their value assuming a constant rate of return to maturity in the case of illiquid assets with fixed redemption values.

With respect to going concern valuations, this educational note only addresses the second point in paragraph 3200.04, namely, the situation where an asset valuation method has been selected with the intention of moderating the volatility of the assets.

Objective

Assuming that an efficient market exists, the current market value (sometimes referred to as fair value) is the best measure of an asset's value. The notion that an alternate asset value may provide a "more rational" measurement of the true asset value would not normally be considered appropriate. Therefore, the objective of an asset valuation method that produces an asset value other than market value is generally not to moderate volatility in the reported financial position of a pension plan. Rather, it is usually a means to implement another objective, such as:

for a going concern valuation, to moderate the volatility of contribution rates, or

for accounting valuations, to moderate the volatility of the net benefit cost recognized in financial statements.

Desirable Characteristics of an Asset Valuation Method

Due to the large number of different asset valuation methods in use and potential variations thereof, it is not possible to create a list of acceptable methods. Instead, in selecting an asset valuation method, the actuary would focus on the objective(s), the requirements of the Standards of Practice, and any regulatory constraints. Some desirable characteristics of an asset valuation method are:

Achieves Objectives – For example, if the primary objective is to moderate the volatility of contribution rates through the deferral of investment gain and loss recognition, the asset valuation method would facilitate this result.

Tracks to market value – The asset valuation method would include current market value as a component and ensure that the asset value is expected to track to market value over time.

Does not unduly deviate from market value – In developing the asset valuation method, the actuary would consider whether the method may result in an asset value that deviates significantly from market value. If so, the actuary would consider whether it may be appropriate to restrict the asset value through the use of a “corridor” (i.e., the asset value is constrained to be within x% of the market value). If deemed appropriate, then in determining a suitable value for x%, the actuary would take into consideration the purposes of the valuation and the characteristics of the plan.

Has a reasonable and logical relationship to market value – The asset valuation method would be rational and consistent with paragraph 3200.01 of the Standards of Practice. For example, an asset valuation method that results in an asset value that always equals the liabilities would produce stable contributions but is clearly inappropriate.

Is generally free of any bias – Bias can be defined as any systematic overstatement or understatement of the asset value in relation to market value. Examples of bias that would generally be considered inappropriate include:

- the asset value equals a fixed percentage of market value,
- the asset value equals the greater of market value and the asset value derived through the use of an asset smoothing technique,
- the asset value does not converge to market value even if assumed rates of return are exactly realized every year in the future, and
- the asset value is constrained by a corridor which is unbalanced in favour of a higher smoothed value of assets (e.g., not less than 95% and not more than 110% of market value).

Has no undue influence on investment transaction decisions or vice versa – While the asset valuation method would inherently relate to the investment policy of the plan, it would not provide any incentive to influence or affect individual investment transactions or activity. Such incentive can exist where a plan’s smoothed asset value can be significantly influenced by a decision to buy or sell certain plan assets. For example, an asset valuation method that is sensitive to asset turnover may not be appropriate since such a method may result in significant changes in asset values as a result of certain events, such as a change in the plan’s investment managers.

Is consistent with the length of typical economic cycles – Asset valuation methods that delay recognition of investment related gains or losses over periods that extend well beyond the typical length of an economic cycle may go beyond moderating volatility and may create intergenerational transfers of wealth. An asset valuation method that delays recognition of investment related gains or losses over a period of more than five years typically would not be appropriate.

Notwithstanding the above items, an asset valuation method that has one or both of the following characteristics would be considered to have acceptable bias:

it produces asset values that are consistently less than (or greater than) the corresponding market values during sustained periods of investment gains (investment losses),

it produces asset values that approach the corresponding market values asymptotically, assuming constant asset returns in the future.

Adherence to all of the above desirable characteristics represents best practice but is not necessarily required to comply with accepted actuarial practice. The actuary would exercise his or her judgment in determining the minimum level of adherence to achieve accepted actuarial practice. Where deviations from the above desirable characteristics are warranted, the actuary would be prepared to justify any such deviations.

Other Considerations

Some other considerations in the selection of an appropriate asset valuation method include the following:

Conservatism – There are certain circumstances where an asset valuation method may intentionally contain a measure of conservatism and where such conservatism may be appropriate. In such circumstances, a best practice would be to disclose the inconsistency with the “generally free of any bias” characteristic and to also provide the rationale for such inconsistency. For example, many asset valuation methods smooth investment-related experience gains or losses by comparing actual returns to expected returns. The principles underlying the determination of an appropriate assumption for the expected returns are similar to the principles underlying the determination of an appropriate going concern interest rate assumption. Accordingly, when using such an asset valuation method, the actuary would be prepared to justify any differences in these two assumed rates.

Corridors – The inclusion of a corridor as part of an asset valuation method, whether by design or regulatory requirement, becomes an integral part of the asset valuation method.

Application of the method – Asset valuation methods can be applied at a portfolio level or at an asset class level. Similarly, an asset valuation method can distinguish between different types of investment earnings such as investment income, realized and unrealized capital appreciation or depreciation. However, as noted above, methods that differentiate between realized and unrealized capital appreciation may be overly sensitive to asset turnover and may actually hinder the objective of dampening volatility.

Changing asset valuation methods – Unforeseen events can affect an asset valuation method’s ability to achieve the underlying objective and the actuary is free to revise the asset valuation method in such situations. However, the actuary should be prepared to justify why the change in the asset valuation method is warranted. It is noted that changes to the asset valuation method, especially repeated changes over a relatively short period of time, may be contrary to one of the desirable characteristics of an asset valuation method – namely that the method not be biased.

Disclosure

Paragraph 3600.01 of the Standards of Practice, contains the following reference to disclosure of the asset valuation method:

In the case of an external user report on work which includes the valuation of assets and liabilities, the actuary should summarize the result of the valuation and should describe...the method to value the assets, their value, and, if available, their market value and their value in the plan's financial statements, and an explanation of any differences among them.

Best practices would include the following additional disclosures:

- the detailed calculation of the value of assets,
- the objective(s) of any asset valuation method which deviates from market value,
- the rationale supporting the asset valuation method,
- the application of any corridor,
- the type and degree of any bias that may exist in the asset valuation method, and
- the rationale for any changes in the asset valuation method.

To enhance transparency further, the actuary would consider disclosing the financial position of the plan if assets were valued using market value. This would enable readers of the report to ascertain the effect of the asset valuation method on the reported funded status of the plan.

Hypothetical Wind-Ups

When quantifying a plan's financial position on a hypothetical wind-up basis for a given calculation date, the asset value would be the market value at the calculation date, adjusted for any wind-up expenses, payables, receivables, etc.

Solvency Valuations

Solvency valuations are prescribed by legislation that varies from jurisdiction to jurisdiction. In some jurisdictions the measurement of a plan's solvency funding position is similar to a hypothetical wind-up, while in others it is not. For example, some jurisdictions allow the measurement of assets and liabilities using smoothing techniques and, further, may permit the measurement of the plan's solvency liabilities to exclude certain types of benefits that would be payable to members upon a plan wind-up. In situations where legislatively permissible approaches do not comply with accepted actuarial practice for a hypothetical wind-up valuation, the actuary would be guided by paragraph 3750.02 of the Standards of Practice,

The actuary would apply to a solvency valuation the standards for a hypothetical wind-up valuation unless

- otherwise required by legislation, or
- otherwise permitted by legislation and if called for by the terms of the engagement.

In performing solvency valuations, the actuary would comply with both accepted actuarial practice and any legislated requirements. Paragraph 3750.02 of the Standards of Practice eliminates potential conflicts between legislation and what would otherwise not be accepted actuarial practice.

Therefore, in undertaking solvency valuations, the actuary would consider adopting an asset valuation method that values assets at other than market value if permitted by legislation and if called for by the terms of the engagement.