

## Chapter 6

### Discount Rates

- 6.1 Discount rates are the third key determinant of present values, along with estimates of future cash flows (chapter 4) and the treatment of risk and uncertainty (chapter 5). This section discusses the selection of discount rates. Other sections discussed the following related topics
- (a) Principle 5.2 concluded that risk and uncertainty should preferably be reflected in cash flows rather than in the discount rate.
  - (b) Principle 4.8 concluded that an insurer's credit standing should not affect the entity-specific value of its liabilities.

#### Principle 6.1

- 6.2 *The starting point for determining the discount rate for insurance liabilities and insurance assets should be the pre-tax market yield at the balance sheet date on risk-free assets. That starting point should be adjusted to reflect risks not reflected in the cash flows from the insurance contracts. The currency and timing of the cash flows from the risk-free assets should be consistent with the currency and timing of the cash flows from the insurance contracts. Risk-free assets are those assets with readily observable market prices whose cash flows are least variable for a given maturity and currency.*
- 6.3 In certain cases, the amount of future cash flows is correlated with interest rates. As explained in paragraph 4.10(d), the expected cash flow approach captures such correlations by generating various scenarios and applying a different set of discount rates to each scenario, consistent with the cash flows for that scenario.
- 6.4 The discussion below addresses:
- (a) the benchmark for the risk-free component of discount rates;
  - (b) the market yield at the balance sheet date;
  - (c) the yield curve;
  - (d) consistency with the cash flows; and
  - (e) income taxes.

#### *Benchmark for the Risk-Free Component of Discount Rates*

- 6.5 Although no assets provide certain cash flows, the risk of default is regarded as minimal for some securities issued by highly creditworthy governments. In addition, it is not usually possible to find other assets that provide more certain cash flows in the

same currencies than these securities. Although those government securities may carry other risks, for example, interest rate risk (the risk that interest rates will change) or inflation risk, such securities are sometimes described as **risk-free** and the interest rate paid on such securities is often called the **risk-free rate**.

- 6.6 The risk-free discount rate reflects the time value of money, without considering the effect of risk. The JWG Draft uses the term “**basic (or ‘risk-free’) interest**” to refer to the amount of interest that compensates the lender for the time value of money.<sup>1</sup> It may be necessary to determine risk-free discount rates either:
- (a) to use directly as the discount rate, if adjustments for risk and uncertainty are made in the cash flows rather than in the discount rate (see principle 5.2); or
  - (b) as a starting point for determining risk-adjusted discount rates if risk-adjusted rates are not observable directly in the market.
- 6.7 Some argue that central government securities are the assets that carry the lowest risk in most economies. Therefore, they believe that government securities are the appropriate benchmark for determining the risk-free component of discount rates.
- 6.8 Some argue that an insurer should use high-quality corporate bonds as the primary benchmark for the risk-free component. They accept that some default risk is present in corporate bonds, but argue that this is likely to be relatively low in high-quality corporate bonds. In countries where active markets do not exist for corporate bonds, they would use government securities as a proxy for high-quality corporate bonds. IAS 19, Employee Benefits, requires a similar approach. Those who support this view argue that:
- (a) market prices for government securities may sometimes be distorted by lack of supply or lack of demand; and
  - (b) in some countries, central government bonds may carry a significant credit risk and may not provide a useful, stable benchmark for that currency. In such countries, if some enterprises have a better credit standing than central government, the appropriate benchmark is the highest-rated corporate bond in that currency.
- 6.9 Others argue that the primary benchmark should be high-quality bonds that have the most active market in the currency under consideration. In some currencies, this might be central government bonds and in other currencies it might be high-quality corporate bonds.
- 6.10 Central government securities will often be the most appropriate benchmark for determining the risk-free component of discount rates. This is because government securities are generally regarded as carrying the lowest level of default risk in a particular economy. If there is no active market in government securities, yields on

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<sup>1</sup> JWG Draft, paragraph 14.

other high-quality securities would be used as a benchmark. The yields used for these purpose should be net of deductions for estimated defaults. To the extent that it is practicable to estimate them, risk premiums for bearing the risk of variability in defaults or other variations in returns should also be excluded from the yield.

- 6.11 This DSOP takes the view that the discount rate for a liability should reflect the characteristics of that liability, not the characteristics of some other instrument with different features. Accordingly, this DSOP does not permit a discount rate for insurance liabilities based on any of the following:
- (a) an insurer's incremental borrowing rate. Among other things, in many jurisdictions, policyholders enjoy legal priority over lenders and general creditors. Thus, an instrument with an observable market yield would not have similar characteristics, including security, to an insurance liability. It follows that an incremental borrowing rate derived from such an instrument would not reflect the characteristics of an insurance liability;
  - (b) an insurer's cost of capital. Some argue that using the cost of capital would help investors by aligning financial reporting with new performance reporting techniques that focus on shareholder value. However, the cost of capital is effectively the weighted-average return that investors require across the current mix of all the insurer's assets, liabilities and operations. It is highly unlikely to reflect the risk profile of any individual liability; and
  - (c) returns on assets held, except where the return on specified assets directly influences the amount of benefits paid to policyholders, as for certain participating contracts and unit-linked contracts.
- 6.12 In some cases, an insurer may identify one instrument with cash flows that closely matches the maturity of the insurance liability but that is traded in an inactive market, and a more actively traded instrument with cash flows that are more variable, or that match the maturity of the insurance liability less closely. In such cases, the insurer will consider the yields on both instruments in determining the appropriate yield on risk-free instruments, giving more weight to the instrument that is the closest overall match to principle 6.1 in terms of maturity, variability of cash flows and availability of readily observable prices.
- 6.13 In some cases, there may be no readily observable market prices for assets that generate cash flows in the same currency, and with the same estimated maturity, as the cash flows from an insurance liability. In such cases, an insurer considers all available market data, giving greater weight to the instrument that is the closest overall match to principle 6.1 in terms of maturity, variability of cash flows and availability of readily observable prices. For example, if there are no readily observable prices for assets with a sufficiently long maturity to match the estimated maturity of all payments to policyholders, an insurer:
- (a) uses current market rates of the appropriate term to discount shorter term payments; and

- (b) estimates the discount rate for longer maturities by extrapolating current market rates along the yield curve.
- 6.14 Principle 14.XXX requires disclosures about the discount rates used. It also requires disclosure about the methodology used when discount rates are not directly observable.
- 6.15 The time value of money reflects people's time preference - the fact that people tend to prefer to receive cash at one date rather than another (generally later) date. The use of observed market yields reflects the time preferences of market participants in general, which may differ from an insurer's own time preference. This is consistent with principle 5.3 on risk preferences, for both entity-specific value and fair value.

#### *Market Yield at the Balance Sheet Date*

- 6.16 Discount rates are one type of market assumption. Principles 4.4 and 4.5 propose that market assumptions should be consistent with current market prices and other current market-derived data, unless there is reliable and well-documented evidence that current market experience and trends will not continue. Such evidence is likely to exist only if a single, objectively identifiable, event causes severe and short-lived disruption to market prices. In such exceptional cases, the market assumptions should be based on this reliable evidence.

#### *Yield Curve*

- 6.17 The definition of risk-free assets refers to the maturity of the assets. It follows that a different risk-free asset, and hence risk-free discount rate, may exist for each maturity. Nevertheless, some propose the use of a single discount rate for each closed book of insurance contracts, to avoid complex calculations for cash flows that are expected to occur in different periods.
- 6.18 This DSOP takes the view that the discount rate(s) should incorporate yield curve effects by reflecting the estimated timing of the cash flows from an insurance liability. Using the expected present value approach, in principle a separate discount rate is used for each future time at which a cash flow may occur. In practice, it may sometimes be acceptable to use a single rate that is believed to result in a reasonable approximation to the use of separate rates for each period. IAS 19, Employee Benefits, states "The discount rate reflects the estimated timing of benefit payments. In practice, an enterprise often achieves this by applying a single weighted average discount rate that reflects the estimated timing and amount of benefit payments and the currency in which the benefits are to be paid."<sup>2</sup> Similar guidance would apply under this DSOP.
- 6.19 The JWG Draft includes the following guidance, which may also be helpful.

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<sup>2</sup> IAS 19, paragraph 80.

“Basic interest rates usually can be derived from observable government bond prices and often are quoted in financial publications. These rates typically vary with the expected dates of the projected cash flows as a result of the “yield curve” effect. For practical reasons, an enterprise may use a well accepted and readily observable general rate, such as LIBOR/swap rate, as the benchmark rate. (Since a rate such as LIBOR is not the basic interest rate, the credit risk adjustment appropriate to the particular financial instrument would be determined on the basis of its credit risk in relation to the credit risk in this benchmark rate.) In some countries, the central government’s bonds may carry a significant credit risk and may not provide a useful, stable benchmark basic interest rate for enterprises issuing financial statements in that reporting currency. Some enterprises in these countries may have better credit standings and lower borrowing rates than the central government. In such a case, basic interest rates may be more appropriately determined by reference to interest rates for the highest rated corporate bonds issued in the currency of that jurisdiction.”<sup>3</sup>

- 6.20 There can occasionally be real practical difficulties in extrapolating the yield curve to the distant future. For example, interest rates in Japan have been abnormally close to zero for the last few years. Some insurance liabilities mature many years after the final maturity of the instruments for which market prices can be readily observed. This has made it extremely difficult to assess at what future date it would be reasonable to assume a return to market conditions that are more typical of experience over the past several decades.

- 6.21 IAS 19 offers the following guidance.

In some cases, there may be no deep market in bonds with a sufficiently long maturity to match the estimated maturity of all the benefit payments. In such cases, an enterprise uses current market rates of the appropriate term to discount shorter term payments, and estimates the discount rate for longer maturities by extrapolating current market rates along the yield curve. The total present value of a defined benefit obligation is unlikely to be particularly sensitive to the discount rate applied to the portion of benefits that is payable beyond the final maturity of the available corporate or government bonds.<sup>4</sup>

- 6.22 The Steering Committee does not believe that it is practicable for this DSOP to offer further guidance on this difficulty.

### *Consistency with Cash Flows*

- 6.23 It is important to use consistent assumptions in determining discount rates and cash flows. For example, suppose that the lowest-risk instrument with an observable market price has a yield of 6%, including a premium estimated at 0.5% in total to cover both expected defaults of 0.3% and the risk that defaults may exceed 0.3%. This yield of 6% equates the contractual cash flows with the current market price of the instrument. These contractual cash flows include cash flows that will not be

<sup>3</sup> JWG Draft, paragraph 346(a)

<sup>4</sup> IAS 19, paragraph 81.

received in the 0.3% of cases when there is a default. Therefore, the expected return from the instruments is 5.7%.

- 6.24 In measuring the insurance liability, an insurer will discount the expected cash flows (using the expected present value approach) at a discount rate that does not include the premium for expected defaults. If the discount rate did not exclude this premium, the discount rate would effectively overstate the expected return on the instruments. It is also appropriate to exclude the further premium (0.2% in this example) that covers the risk that actual defaults may exceed 0.3%. This risk relates to the instrument used as a benchmark and does not reflect the characteristics of the insurance liability.
- 6.25 It follows that the yields used to determine discount rates should be determined after deducting the estimated premium for expected defaults. To the extent that it is practicable to estimate them, the yield should also exclude risk premiums for bearing the risk of variability in defaults or other variations in returns from the instrument used as a benchmark. The exclusion of the total premium of 0.5% would result in a risk-free discount rate of 5.5% in this example.
- 6.26 Under principle 4.1, costs of servicing insurance contracts, including investment administration costs are, conceptually, reflected in cash flow projections, not incorporated in the discount rate. It may be acceptable to incorporate such adjustments in the discount rate, if this can be shown to give a reasonable approximation to the conceptually preferable approach.

#### *Income Taxes*

- 6.27 As explained in paragraph 4.73, this DSOP proposes that insurance liabilities and insurance assets should be measured by discounting pre-tax cash flows at a pre-tax discount rate. Interest rates and yields observed in the capital markets are generally expressed on a pre-tax basis.
- 6.28 In some markets, interest rates for certain instruments (for example, municipal bonds) have special tax treatment that may distort market returns on those instruments. If such instruments are used as a benchmark for determining the risk-free rate, it is important to eliminate the effect of any such distortions.

#### **Foreign Currency Cash Flows**

##### **Principle 6.2**

- 6.29 *Estimated cash flows in foreign currency should be discounted using the appropriate discount rate for the foreign currency. The resulting present value should be translated into the measurement currency using the spot rate at the reporting date.*
- 6.30 If a currency is freely convertible and traded in an active market, the spot rate reflects the market's best estimate of future events that will affect that currency. Therefore, the only available unbiased estimate of a future exchange rate is the current spot rate,

adjusted by the difference in expected future rates of general inflation in the two currencies.

- 6.31 A present value calculation already deals with the effect of general inflation, since it is calculated by estimating future cash flows in either:
- (a) nominal terms (i.e., including the effect of general inflation and specific price changes) and discounting them at a rate that includes the effects of general inflation; or
  - (b) real terms (i.e., excluding the effect of general inflation but including the effect of specific price changes) and discounting them at a rate that excludes the effect of general inflation.
- 6.32 Using a forward rate to translate present value expressed in a foreign currency would count part of the time value of money twice (first in the discount rate and then again in the forward rate). This is because a forward rate reflects the market's adjustment for the differential in interest rates.
- 6.33 In some cases, a currency is not freely convertible or is not traded in an active market. In consequence, it can no longer be assumed that the spot exchange rate reflects the market's best estimate of future events that will affect that currency. Nevertheless, even in such cases, IAS 36 indicates that an enterprise uses the spot exchange rate at the balance sheet date to translate value in use estimated in a foreign currency. The argument for this approach is that it is unlikely that an enterprise can make a more reliable estimate of future exchange rates than the current spot exchange rate, adjusted by the difference in expected future rates of general inflation in the two currencies.
- 6.34 An alternative to estimating the future cash flows in the currency in which they are generated would be to estimate them in another currency as a proxy and discount them at a rate appropriate for this other currency. This solution may be simpler, particularly where cash flows are generated in the currency of a hyperinflationary economy (in such cases, some would prefer using a hard currency as a proxy) or in a currency other than the currency that an enterprise uses for measuring items in its financial statements (the **measurement currency**).
- 6.35 However, this solution may be misleading if the exchange rate varies for reasons other than changes in the differential between the general inflation rates in the two countries to which the currencies belong. In addition, this solution is inconsistent with the approach under IAS 29, Financial Reporting in Hyperinflationary Economies. If the appropriate measurement currency is the currency of a hyperinflationary economy, IAS 29 does not allow translation into a hard currency as a proxy for restatement in terms of the measuring unit current at the balance sheet date. This is confirmed by SIC-19, Reporting Currency - Measurement and Presentation of Financial Statements under IAS 21 and IAS 29.