ACCOUNTANCY IRELAND
DECEMBER 2011 VOL.43 NO.6

CREDIT RISK IN FAIR VALUE MEASUREMENT

The ongoing credit crisis has emphasised the necessity to better understand the credit risk associated with financial instruments. **John McCarroll** and **Goind Ram Khatri** outline some key considerations.

Since the start of the global financial crisis in 2008 the credibility of counter parties to the investment transactions has become increasingly important. This has resulted in investors demanding higher premiums (higher spread) for an average risk investment. And, because of the presumption of higher inherent credit risk, even the bonds issued by some governments, which were once considered as risk-free investments, are now trading well below their par. Over-the-counter transactions, on the other hand, are also significantly affected by the current economic climate because of their dependency on counterparty credit risk. Although credit risk was always considered key in fair value measurement, the financial crisis has highlighted its importance.

ACCOUNTING STANDARDS ON CREDIT RISK IN FAIR VALUE MEASUREMENT

IAS 39 *Financial Instruments: Recognition and Measurement* requires an entity to reflect credit quality in determining the fair value of financial instruments. The requirements in IAS 39 apply equally to both financial assets and financial liabilities. IAS 39, however, refers to credit risk generally and does not specifically refer to the reporting entity's own credit risk; therefore there were different interpretations of how to account for an entity's own credit risk. Some entities took into account changes in their own credit risk when measuring the fair value of their liabilities, whereas other entities did not. Consequently, the International Accounting Standards Board (IASB) decided to

Table A:
IFRS Compliance Checklist for credit risk in fair value measurement

IFRS ref.	Summary of key requirements
IAS 39. AG 69	… fair value reflects the credit quality of the instrument.
IAS 39. AG 73	…if the market-quoted rate does not include credit risk or other factors that market participants would include in valuing the instrument, the entity adjusts for those factors.
IAS 39. AG 76	... a valuation technique incorporates all factors that market participants would consider in setting a price.
IAS 39. AG 82(b)	… an appropriate technique for estimating the fair value of a particular financial instrument would incorporate credit risk.
IAS 39. BC 11(c)	… fair value of financial liabilities to include own credit risk ...
IAS 39. BC 89	… the fair value of a financial liability reflects the credit risk relating to that liability…
IFRS 13.42	The fair value of a liability reflects the effect of non-performance risk. Non-performance risk includes, but may not be limited to, an entity's own credit risk.
IFRS 9.5.7.7(a)	The amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability shall be presented in other comprehensive income, unless it creates or increases an accounting mismatch.

clarify in IFRS 13 that the fair value of a liability includes an entity's own credit risk. IFRS 13 is applicable for accounting periods beginning on or after 1 January 2013, subject to EU endorsement.

In their most recent audited financial statements, The Royal Bank of Scotland Group Plc and Barclays Plc, amongst others, show that they have considered own credit risk in determining the fair value of financial liabilities. Citigroup in its recent earnings announcement included a credit valuation adjustment on liabilities and increased earnings by $1.9 billion.

In October 2010, the IASB issued amendments to IFRS 9 in relation to classification and measurement of financial liabilities. For a financial liability designated as at fair value through profit or loss using the fair value option, the amendment requires that a change in the liability's fair value attributable to changes in its credit risk is recognised directly in other comprehensive income unless it creates or increases an accounting mismatch. These amendments are effective for accounting periods beginning on or after 1 January 2013; however, the IASB recently issued a proposal to extend its possible implementation to 1 January 2015.

COMMONLY USED METHODS TO ADJUST FAIR VALUE TO REFLECT CREDIT RISK

Determining the Credit Value Adjustment (CVA) is considered one of the critical estimations in fair value measurement because of its reliance on backward information to generate forward-looking data. Typically this can involve a high degree of judgment. Some commonly used methods or techniques to determine CVA include:

➤ Credit Default SWAPs (CDS) spreads

A CDS is similar to an insurance contract whereby a buyer pays a premium to the seller and receives payment if an event of default occurs. The CDS spread is an annual amount the buyer pays to the seller over the length of the contract, usually expressed as a percentage of the notional amount. Not all companies have CDS traded on their debt; therefore a CDS spread may not be publicly available for these entities. The CDS spreads represent the market-based view of the credit risk of an entity. For example, if the CDS spread of Highrisky Plc is 100bps, or 1%, then the investor buying €100 million worth of protection must pay €100,000 annually to the seller. A higher CDS spread indicates a higher probability of default. CVA using the credit spread is calculated as: *CVA = (Exposure x Credit Spread x Tenor)/2*

➤ Probability of default method

The probability of default (PD) is the likelihood that the amount will not be repaid and will fall into default. The methodology followed in calculation of the CVA here is similar to the one used for regulatory capital purposes in Basel II. CVA is calculated using the following formula: *CVA = PD x Exposure x (1-Recovery Ratio)*

Probability of default can be determined either from CDS spreads or obtained from historic PDs issued by credit rating agencies. The exposure includes both current and potential exposure and the recovery ratio is based entirely on the judgment of likely recovery as a percentage of total exposure.

➤ Shifting curves

This is one of the simplest and most commonly used approaches. CVA is calculated as the difference between the present value of the instrument discounted at the risk-free rate and the present value discounted at the risk-free rate plus the credit spread. The formula for calculating CVA is: *CVA = PV1 – PV2* where PV1 = present value using risk-free rate of return, normally derived from zero coupon discount curve and PV2 = risk-adjusted present value based on adjusted discount rates, normally based on credit spreads.

➤ Other models

Various other models have been developed and are being applied in practice to determine the CVA. These include the Monte Carlo Simulation Model, credit ratings and historical default models used by credit rating agencies.

CONCLUSION

Calculating credit components of the fair value of a financial instrument can require significant judgement to ensure that the approach is supportable and robust, based on the nature and complexity of the instrument being valued. Given the ongoing volatility of credit markets and the requirements of existing and newly issued accounting standards, this is an area that an increasing number of companies will need to fully address.

John McCarroll, FCA is a partner with Deloitte and Goind Ram Khatri, ACA, FCCA is a manager in the same firm. John and Goind are members of the financial instruments accounting and valuation team of the firm.