

IFRS 7: Under the Hood

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The introduction of IFRS 7 is straining already overburdened corporate treasuries. Companies are now required to report both qualitatively and quantitatively on their risk management strategies and the internal metrics they use for the calculation and management of risk arising from financial instruments.

IFRS 7 breaks down the risk arising from financial instruments into three broad categories: *market risk*, *credit risk* and *liquidity risk*. In this article we will look at the most challenging aspect of IFRS 7, namely market risk. Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the company's income or the value of its financial instruments. We discuss the quantitative impact of changes in Fair Value and future cash flows due to the movements in these abovementioned factors.

Sensitivity Analysis

To measure the impact of these market variables, IFRS 7 requires that sensitivity analysis be performed on the financial instruments held by the company. The sensitivity analysis should show how both the Profit & Loss and Equity amounts reported would have been affected by a "reasonable change" in the market variables.

Quite often the market value of a financial instrument is dependent upon more than one market variable. For example, while the value of an interest-rate swap is based upon the interest rates of one currency alone, the value of a cross-currency swap is based upon the interest rates in two currencies, as well as the exchange rate between those two currencies.

This raises an important question: **"Do you have a mechanism to capture all your financial instruments, find the Fair Value of these instruments and quantify the movements in Fair Value due to a reasonable shift in the market variables?"**

IFRS 7 requires that the sensitivity analysis be performed for a **reasonable change** in the market variables. There is no clear indication in the Standard as to what the reasonable change is, so it is quite possible that the size of the selected shock might be either too large or too small and thus have no meaning. In terms of best practice, the shock should be based upon some statistical measure such as a two standard deviation shock.

Example

Let us consider the example of a manufacturing company based in Australia that has AUD as its functional currency. For the sake of simplicity, let us assume that the financial instruments of the company include borrowings of AUD100M for a 5 year term and trade receivables of USD75M. The company has covered the exposure to interest rate movements by entering into a quarterly pay fixed receive floating interest rate swap @ 5.9958% with a notional principal of AUD90M. In a similar strategy, the company has also hedged its risk to exchange rate movements by entering into a FX forward contract (FEC) for a term of 9 months with a principal of USD60M and a settlement rate of 0.7800 when the spot rate is currently 0.7854.

For the purposes of IFRS 7 reporting, the company has decided that a 100 absolute basis point shift in the AUD interest rate curve and a 10% relative shift in the AUD-USD spot rate are reasonable changes in the market risk factors for sensitivity analysis.



1. **Fair Values:**

IFRS 7 requires that companies report the Fair Values of their assets and liabilities, together with their carrying amounts in the Balance Sheet. The Fair Value of the swap and the debt is calculated based upon the present value of future cash flows. The Fair Value of the trade receivables is calculated based upon the prevailing spot rate of 0.8488 and the Fair Value of the FEC is calculated based upon the forward rate of 0.7800 on the reporting date.

	Carrying Amount	Balance Sheet Value (Fair Value)
Debt	100,000,000	(99,991,117)
Swaps	90,000,000	1,818,759
Receivables	75,000,000	88,365,243
Forwards	60,000,000	5,738,749

2. **Interest Cost Sensitivity:**

	Principal	AUD Interest Cost (over 1 year)	+100 basis points	-100 basis points
Debt	100,000,000	(6,674,531)	(853,961)	852,546
Swaps	90,000,000	596,118	768,565	(767,292)
Total		(6,078,413)	(85,396)	85,254

The ±100 basis points shift causes a change in the interest cost of the debt which is recycled through P&L where it is offset by an opposite change in the interest cost of the swap hedge. However, since the debt is not 100% hedged there is a net impact on P&L due to the 100 basis points shift in the curve.

3. **Impact on Equity and Profit and Loss:**

As a result of the company’s hedging policy, both the interest rate swap and the FEC are designated as part of a cash-flow hedge. The shock applied to the interest rates and the spot exchange rate will normally cause the hedge relationships to show a certain degree of ineffectiveness which will have an impact on P&L. This will need to be quantified for each shift for IFRS 7 purposes.

Name	Type	B/Sheet Value	Equity Value	P&L Value
	Current	1,818,759	1,734,023	84,736
IR Swaps	1% Shift	3,796,596	3,710,353	86,242
	-1% Shift	(218,797)	(218,797)	0

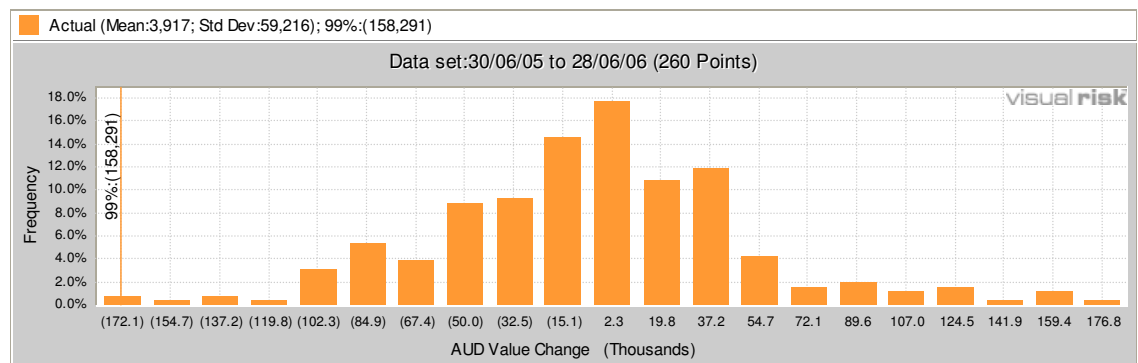
Name	Type	B/Sheet Value	Equity Value	P&L Value
	Current	5,738,749	5,738,749	0
FEC	10% AUD-USD	12,021,798	12,021,798	0
	-10% AUD-USD	(1,940,532)	(1,938,600)	(1,932)

Although such stress testing is easy to implement, one of the problems with the sensitivity analysis based on such shocks is that it is unable to quantify a confidence interval around the impact. To overcome this problem, another alternative approach is to use the Value-at-Risk measure which is a statistical method that is often used to convey, by means of a single number, the maximum loss that can be suffered over a given time horizon with a certain confidence.

Value-at-Risk

Value at Risk is a far more complex risk management metric which is not commonly applied in non-financial companies. However, for those companies who do already utilise VaR for risk management reporting, according to Paragraph 41 of the Standard, it is not necessary to apply the types of sensitivity analysis described above for IFRS 7.

The attraction of VaR is the fact that a single risk number can be reported for all market risks across the company while the above sensitivity approach requires greater analysis of valuation and exposure sensitivities across each risk silo.



Conclusion

Both the above measures are suitable for compliance with IFRS 7. The one you choose will depend on the internal risk management approach you are already applying and whether you have a suitable system in place to deliver such analytics.

To deliver under IFRS 7, a system must be able to:

- Capture all the different financial instruments in one central location.
- Provide correct fair-value valuations for the different financial instruments.
- Create arbitrary shifts in the market variables and measure sensitivity.
- Perform analytics like Value-at-Risk if so required.
- Store and access to historic market data.
- Calculate statistical measures from historic data.

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