Hedge Accounting:
Cross Currency Interest Rate Swaps – Minimising P&L Volatility

By: Blaik Wilson, Solutions Consultant, Reval

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Executive summary

With more and more organizations seeking offshore funding, the use of cross currency interest rate swaps to hedge the associated risk is becoming more prevalent. This whitepaper explores the accounting challenges that come with such instruments and outlines the core ‘Ineffectiveness Factors’ that lead to hedge ineffectiveness and volatility in earnings. In particular, we examine how differences in the way the hedge is designated can have a significant impact on the P&L outcomes.

Introduction

Offshore funding has become very popular recently as organisations seek cheap funding in currencies other than their domestic currency. Typically, such organisations use cross currency interest rate swaps (“CCIRS”) to convert the debt back to the domestic currency, at either fixed or floating interest rates, thereby removing the implied currency risk.

From an accounting perspective, these CCIRS must be marked-to-market (“MTM”) as they meet the definition of a ‘derivative’ under the accounting standard IAS 39. Anyone who has experience with these instruments will know that the MTM on a CCIRS can be very large and volatile – often much larger than any other derivatives used by an organization. The reason for this is that the principal exchange on the CCIRS implies a locked-in currency rate, which in turn is compared against the market spot rate which can change quickly over short periods.

Consider the graphs below which illustrate the quarter-on-quarter MTM movements on 100m USD CCIRS against both EUR and AUD over the last two years. If we assume that 100m of debt could be invested to create a 10% return, you can note that in any quarter these returns can easily be wiped out by an adverse MTM movement on the related CCIRS.

About the author

Blaik Wilson is a Solutions Consultant and Vice Chairman of the Hedge Accounting Technical Taskforce (HATT) at Reval. He is a qualified Chartered Accountant and an international instructor and consultant specialising in financial instruments, hedge accounting and treasury policy. Mr. Wilson’s experience spans Asia Pacific, Europe and North America. Prior to Reval, he worked as a consultant assisting corporations and financial institutions with IAS 39 / FAS 133 compliance. He is also credited with designing treasury systems for SunGard. In 2006, Mr. Wilson was awarded the Northern Region Young Chartered Accountant of the Year Award for his work on IAS 39. He is a regular speaker at accounting and treasury conferences on compliance issues relating to international accounting standards. The author can be reached at blaik.wilson@reval.com

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Faced with this potential MTM volatility, organizations seek the benefits of hedge accounting treatment. Hedge accounting allows the MTM values of the swaps to be matched against the profit and loss impact of the hedged item. IAS 39 lays down a number of criteria to achieve hedge accounting, but provides little guidance on how this should be exactly applied to typical CCIRS hedging scenarios. This whitepaper explores some of those hedge accounting alternatives and highlights a new method of designation that is gaining traction across the globe, particularly for companies reporting under International Financial Reporting Standards (IFRS).
Economic Hedge vs. Accounting Hedge

Consider a typical example where Company A has issued fixed-rate US-based debt for 100m at 5%, and swapped it to their domestic EUR currency (69m) for floating EURIBOR + 268 basis points using a CCIRS. All USD cash flows and the repayment of the debt are exactly offset between the US Debt and the CC IRS. As far as Company A is concerned, it now holds synthetic floating rate EUR debt with a margin of 2.68%. See the diagram below:

Source: Reval
Economically, Company A is hedged. From a hedge accounting perspective, the most obvious approach is to designate this hedge as a fair value hedge of the interest rate and currency risk associated with the US Debt issuance:

While this designation is correct under the accounting standard, once you attempt to calculate effectiveness, you quickly note some issues with how fair value of the hedged item will differ from fair value of the hedging instrument. See below:
Note there are three elements to the EUR side of the CCIRS instrument that simply cannot be included in the valuation of the hedged item: Last Coupon Reset, Floating Rate Margin, and Currency Basis. Neither does IAS 39 allow any of these elements of the CCIRS to be excluded from the hedge designation to help with the reduction of ineffectiveness in this scenario. This represents the three ‘Ineffectiveness Factors’ that many organisations struggle with when testing hedge effectiveness on CCIRS.

**Ineffectiveness Factors**

Let’s consider each of these elements of ineffectiveness in more detail given our example above:

- **Last Coupon Reset** – Typically the EURIBOR rate will reset at the start of each coupon period. This means that this coupon payment will usually be at a slightly off-market rate by the next reporting period. This usually causes small amounts of ineffectiveness.

- **Floating Rate Margin** – The discounting impact of this margin will impact the NPV because as discount rates change and each coupon matures, the value of this margin also changes. Typically, the larger the margin, the higher the ineffectiveness.

- **Currency Basis** – This is the liquidity premium that is charged for borrowing floating interest rates in one currency over another. Typically it represents the credit quality of the bank quoting that interest rate and is often labelled as ‘country risk’. As much as currency basis changes over time and impacts the CCIRS valuation, this movement causes hedge ineffectiveness since the hedged item will not include currency basis at all.

Prior to the GFC, currency basis represented a small element of a valuation with little volatility. Post crisis, we have seen significant swings in currency basis by over 30 basis points or more at times, which can cause havoc to a treasurer’s P&L, on what is ‘supposed’ to be a perfect hedge. Consider the graph below showing the movements in EURIBOR 6m v. USD 3m LIBOR currency basis over the last two years:
So what does this mean from a hedge accounting perspective? These elements of ineffectiveness must be taken through the profit and loss account – it could be a gain or a loss. More significantly, the ineffectiveness could be significant enough to fail the assessment phase in the test (such as the 80 – 125% barrier), thereby resulting in no offsetting fair value adjustment on the hedged item and significant P&L volatility. On the hedging scenario and the simple fair value designation outlined above, we can back-test how this hedge would have performed over the last two years. The graph below shows the fair value movement in the hedge versus the hedged item over the last eight quarters and assesses which periods would have passed the 80-125% test. As you can see, all but two of the quarters would have failed the test, resulting in no recognition of hedged item fair value and significant P&L volatility:

![Hedge v. Hedged Item MTM Movements](image)

*Source: Reval*

This experience has driven many organizations to work with their auditors and advisors to identify a new way of designating hedge relationships that better reflect the economic hedging reality. These alternatives are explored in the section below.
Alternative Designations

Even before the financial crisis, many organisations recognized that there was a potential effectiveness issue attached to the hedge accounting of CCIRS. Companies looked to split out the margin component of a CCIRS into a separate cash flow hedge to remove the ineffectiveness caused by the floating rate margin we identified earlier. In essence, this means companies have two hedge relationships simultaneously for a single hedge. This requires that the credit component be identified on the hedged item. For instance, if the credit on the US Debt is deemed to be 200bps (or 2%), such a designation looks like this:

Naturally, such a designation must be documented upfront and be consistent with the risk management strategy of the organization. It is critical when applying this type of split designation approach that all MTM values applied to the split trades aggregate to the actual MTM on the real transaction with the market. Also, typically if one of the hedge relationships fails the hedge effectiveness tests, all hedge relationships must be de-designated from the last successful test.

The benefit of this approach is that by splitting out the floating rate margin to a separate hedge relationship, any ineffectiveness arising from that margin is removed. In effect, it will eliminate one of the three Ineffectiveness Factors identified above. However, this still leaves the other two factors—currency basis and last coupon reset—impacting effectiveness outcomes.
As illustrated earlier, currency basis has been particularly volatile since the financial crisis, which has led a number of organisations to explore yet another alternate designation of CCIRS. This designation really examines the nature of the fair value hedge component from a risk management and hedge documentation perspective. It structures the hedge such that only the benchmark interest rate risk is allocated to the fair value hedge. All fx risk, including the currency basis, sits within two cash flow hedges. The spot to spot movement on the principal of the CCIRS (which now sits in a cash flow hedge) is recycled back to the profit and loss to offset the translation gain/loss arising on the underlying debt. All fair value movements attributable to currency basis remain in the cash flow hedge relationship. See the example below:

This approach not only removes the ineffectiveness from the floating rate margin but also the currency basis component as well! This leaves only one remaining Ineffectiveness Factor—the last coupon rate reset which is usually a much smaller impact and can be sufficiently addressed with the use of regression testing for effectiveness purposes.
Conclusions

It is always a source of frustration for treasurers and CFO’s to see P&L volatility arise on what are clearly highly efficient economic hedges. It is not easy to justify such volatility to CEO’s and Risk Committees when outlining the vagaries of currency basis and the application limitations of hedge accounting. A combination of increased use of offshore funding, combined with CCIRS to hedge that risk, has meant that smarter designation of these instruments has become a higher priority.

At the same time, there is also an emerging pragmatic trend in hedge accounting. More and more, auditors are looking to align the accounting results with the economic hedging situation and each company’s risk management policy. We see this now at the highest levels, where the IASB’s early decisions around IFRS 9 include aligning hedge accounting outcomes consistent with risk management policies. The alternative designations we explored in this whitepaper are a result of this pragmatism, and are a good illustration of how a company can achieve very different accounting outcomes depending on how a hedge is established and documented under the standards.