

## IMPLEMENTING BEST PRACTICES IN CURRENCY HEDGING

## Part 7: Managing Cash Shortfall Risk with Settlement Thresholds

- *Current valuation and elevated volatility have sophisticated investors exploring appropriate ways to manage cashflow risk*
- *An optimal cashflow management strategy will be one that allows for the fund to control both the size and timing of any one negative cashflow*
- *Establishing settlement thresholds within a passive hedge program can provide an effective and optimal approach to manage cash shortfall risk*



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Although the peak of the global crisis is now some three years removed, market participants remain alert to the disruptive force heightened volatility can have on their broader investment portfolio. The implication for such an elevated posture is readily apparent in the behaviour of the Australian dollar. Australian investors remember well the volatility that unfolded during the second half of calendar 2008, as their home currency moved precipitously lower. This rapid decline exerted a painful force on many Australian superannuation funds, as the combination of lower asset prices and lack of access to liquidity within their currency hedging programs proved to create an unwanted risk for the investment plan. While volatility is certainly not at that same extreme level experienced in 2008, mid-2011 has reminded many investors that asset market volatility can create adverse movement in the Australian dollar, and with that, the potential for cash shortfall risk within a passive hedging strategy.

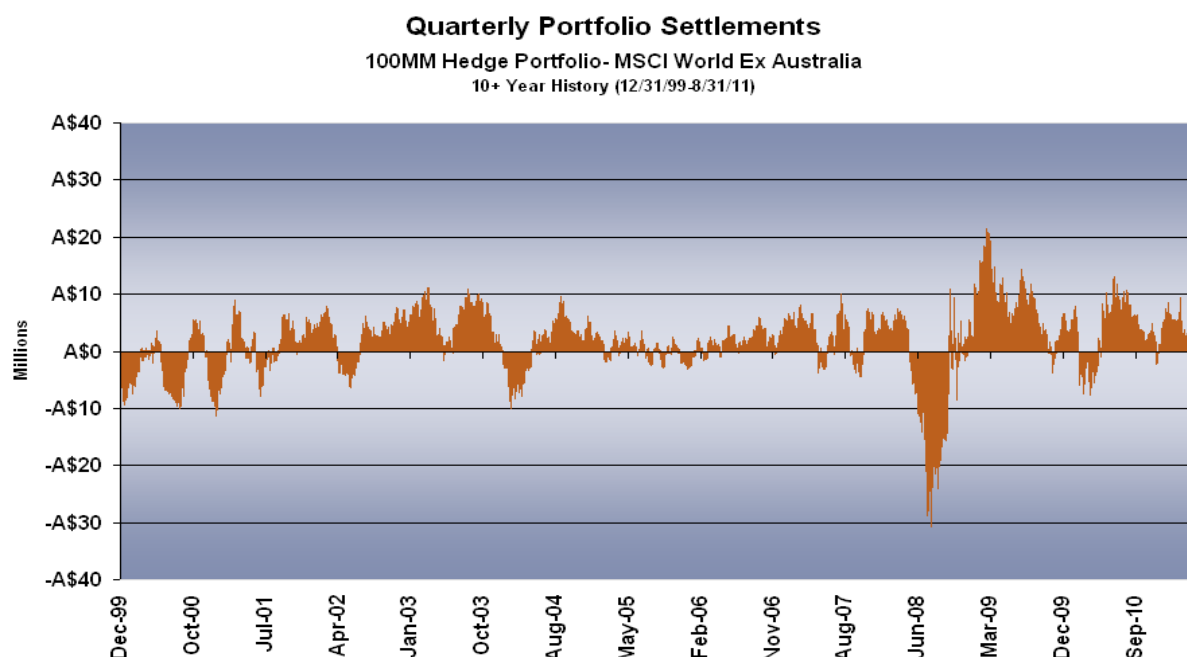
In early August, the Australian dollar pierced US\$1.10, firmly eclipsing the valuation highs experienced pre-global financial crisis, and established a new post-float valuation high versus the US dollar. Over the following weeks, however, global risk assets moved considerably lower, and the Australian dollar experienced close to a 10% retracement in very short order. This combination of elevated asset market and currency volatility, coupled with a base currency that still remains close to post-float highs, has many sophisticated investors exploring strategies to better manage cash flow swings that might arise from their passive currency hedging programs. Below we explore one useful approach to help manage such cash flow swings: establishing settlement thresholds.

**Valuation Changes and Volatility Have Led to Sizable Cash Flow Swings**

As we have identified in prior occasional papers, valuation changes and volatility are important drivers of the magnitude of currency hedging cash flows. In the below chart, we present an updated rolling analysis of quarterly passive hedges associated with fully hedging the currency exposures in the MSCI World ex-Australia Index. Valuation changes that are both large and volatile can generate sizable cash flow swings. On the chart we can observe the sizable negative cash flows that were experienced in late 2008 (i.e. >30% negative cash flow as a proportion of the portfolio hedge value) and the subsequent sizable positive cash flows in early 2009 (i.e. >20% positive cash flow). As one would expect, the move higher for AUD over the past two years has resulted in a series of positive cashflows for most passive hedging programs. The risk of a move lower in AUD, accompanied by a series of a negative cashflows, is one that causes many sophisticated investors to search for a solution. Importantly, with AUD at a historically elevated level, the AUD/USD currency pair need not move to its financial crisis lows to exert a painful force on a passive hedge strategy. Said differently, a move to even \$0.90 or slightly below, would represent a nearly 20% retracement, and would be accompanied with significant currency hedging losses if achieved in short order. This historical backdrop can help an Australian superannuation fund establish



a framework that both reflects the underlying volatility and liquidity needs for the investment plan. Next we'll examine this framework in detail.



## Cashflow Management Strategy: Controlling for Both Size and Timing

The primary focus of a cash management strategy should be to establish a methodology that achieves two principal goals. First, such a strategy should look to minimize the size of any potential negative cashflows. Second, and no less important, the strategy should control for the timing of such negative settlements. Utilizing a strategy that achieves both of these objectives, one that controls for the **size** and **timing** of negative cashflows, is consistent with global best practices.

## Cashflow Management Strategies: The Historical Subset

Historically, a variety of cashflow strategies have been explored and utilized by investors looking to manage the cashflow risk in their portfolio. Examples of these approaches include lengthening the duration of the hedges in the forward market, introducing a currency option overlay, or staggering the hedges across multiple value dates. While these approaches can certainly be effective at times, they collectively fail to address the dual objective highlighted above of controlling both the size and timing of any one negative cashflow. Below we identify the suboptimal nature of these approaches.

By utilizing forward contracts with a long-term maturity, the portfolio would be exposed to less frequent settlements, and given their long-term nature, the fund can prepare well in advance for any potential negative cashflow impact. However, with longer duration maturities comes the potential for rather large settlement amounts. Additionally, a clear risk in using such a strategy is that counterparty exposure has increased given the longer duration of the forward contracts. Thus, while longer dated forwards may be possible, this would need to be balanced against heightened counterparty concerns, and may be suboptimal from a risk management perspective.

Option strategies can be used to target downside risk control but will tend to be a more expensive approach to managing negative cashflow risk. In practice, some investors will look to maintain their



existing strategic hedge ratio, and overlay an option strategy to protect against the sizable cashflows that might materialize as their base currency moves considerably lower. However, given the volatility that has ensued in AUD, the current premiums involved in such a strategy remain elevated and will likely remain an expensive choice over the foreseeable future. Additionally, the premiums afforded for downside protection will be a drag on the overall hedge strategy, especially if continued AUD strength should materialize.

A staggered maturity program is a common cashflow management strategy employed by investors. This solution is certainly a step in the right direction as it looks to manage the magnitude of any one cashflow. For example, as opposed to maintaining all currency hedges at one prescribed three month-maturity, an investor will still look to utilize quarterly maturities, but stagger the total required hedges across three separate months (i.e. 1/3 in month one, 1/3 in month two, 1/3 in month three). The primary benefit of this approach is that size of any one cashflow has been likely reduced as only a portion of the total portfolio hedges are on any one given value date. However, there are a few risks inherent in this approach. First, while spreading the hedges across multiple dates might minimize the size of any one cashflow, it does not protect the portfolio from cumulative negative cashflows over a short period (i.e. three months) that still might be too large for a fund to comfortably manage. Said differently, this approach would not have effectively mitigated the pain felt as AUD moved from \$0.97 to \$0.60 in a three month period during 2008. In addition to this cumulative effect, the portfolio is still exposed to a large single negative cashflow should AUD move precipitously lower in short order, as there are no settlement limits in place to cap the magnitude of each cashflow. Additionally, when compared to a single value date quarterly settlement, the staggered maturity approach introduces incremental operational risks given the greater frequency of trading and portfolio settlements. Importantly, while this approach can certainly be effective, it does not allow for complete control over the magnitude and timing of cashflows.

As a result, we have seen numerous investors look to establish a more sophisticated approach, in conjunction with their existing hedge program, to better manage the cashflow risk inherent should AUD move considerably lower. Below we highlight how this would work in practice and the benefits of such an approach.

## **Establishing Settlement Thresholds: A Practical Application**

As we identified above, the most optimal strategy will be one that controls both the size of the negative cashflow and allows control of the settlement frequency. To that end, setting maximum negative settlement thresholds allows for better control of liquidity rather than being subjected to potential large and inflexible settlements from a static approach. The process begins by identifying a limit amount for any given settlement. Settlement limits should be customized based on the unique considerations of the superannuation fund and will be driven by access to liquidity at the broader portfolio level. For example, the fund might establish a settlement limit of -\$50MM. The unrealized profit/loss is then monitored in real-time against this target. If the limit is reached at any point, existing hedges are closed out and re-established for a later settlement date. This will lock in the specific settlement amount for the next settlement date, and roll forward any additional potential passive hedge losses to a future date where additional capital is available. A schedule of settlement dates would have been established in advance, outlining the sequence of future dates should a settlement threshold be met. The next value date chosen will be a convenient and customized date for liquidity purposes (i.e. additional month, three months, etc.) for the superannuation fund. Importantly, no funds are due when the hedges are closed-out, but rather only at the original forward settlement date. By targeting a pre-defined maximum settlement amount and proactively moving existing hedges if this level is met, it provides maximum flexibility with respect to both cashflow settlement amounts and the timing of those settlements. An additional benefit of this approach is that it will result in fewer settlements, on average, relative to a staggered maturity program, resulting in lower operational costs.



## Conclusion

Cash shortfall risk remains a key focus for many sophisticated investors, as they grapple with the impact of a potential sizable and rapid move lower in the Australian dollar. With current high valuation levels for AUD, and incorporating the effects of both historical and recent volatility, many sophisticated investors are actively exploring appropriate ways to manage the cashflow risk inherent in their passive currency programs. As we outlined above, it is prudent to establish a cashflow management strategy that both controls for the magnitude of the negative settlements as well as the timing of them. This approach gives the fund control over one of the most variable aspects of the portfolio – currency settlements – rather than being subject to market volatility.

## Previous Occasional Papers

*Occasional Paper 1: Managing Cash Shortfall Risk and Counterparty Risk*

*Occasional Paper 2: Resetting Currency Hedges to Match Portfolio Value*

*Occasional Paper 3: Should You Adjust A “Passive” Currency Hedge Ratio?*

*Occasional Paper 4: The Strategic Hedge Ratio and Active Risk Management*

*Occasional Paper 5: Hedging Illiquid Investments*

*Occasional Paper 6: Cash Shortfall Risk and Active Risk Management*

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