

# MACQUARIE FUNDS GROUP

## Macquarie Dynamic Currency Hedging



### Why manage currency risk?

In an environment where investors are increasingly seeking value from offshore markets, currency movements may have a significant impact on the returns from these investments. As the local currency appreciates, the value of the offshore portfolio falls and conversely, if the local currency depreciates, the value of the offshore investment increases. To this end, an offshore asset portfolio has two distinct risk exposures – the underlying asset and currency.

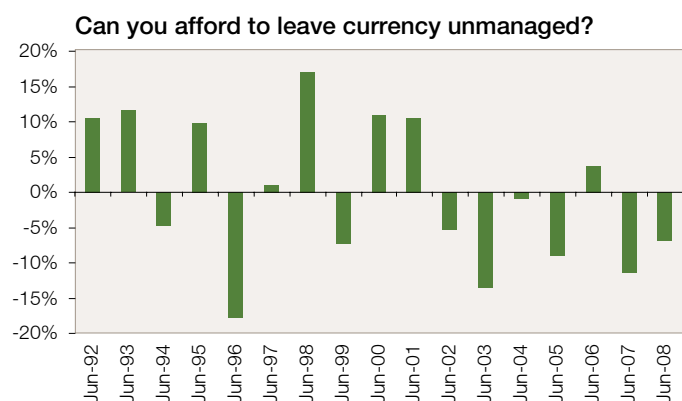
#### Long term currency view

What about over the long run? It is often said currency exposure management is a zero sum game, so the currency effects “wash out” over time. However, movements in currency can have an enormous impact on the returns of offshore investments. The chart below shows the annual currency returns on a MSCI portfolio. For 9 of the 17 financial years since the float of the Australian dollar, the impact of currency has been around 10% or more, and this volatility shows no sign of dissipating.

#### Short term currency view

Currency movements are hard to predict over any given year. Making the wrong decision on the level of hedge can be costly and have a much greater effect on your portfolio than the returns generated by the underlying portfolio. For example, in 2003, the cost of undertaking the unhedged strategy compared to the hedged strategy for an AUD based portfolio was 22%. Furthermore, the cost of the hedged strategy during the September quarter 2008 was an alarming 38%.

So can you really afford to be complacent about the effect of currency on your portfolio?



Source: Macquarie, Annual currency returns on a MSCI portfolio

### Key Features

- > Long term strategy for currency hedging.
- > Advantage of a systematic approach combined with limited manager discretion.
- > Takes away the decision to choose the starting hedge level.
- > Tailored programs.
- > One settlement per year.

### The dilemma with traditional hedging approaches

The traditional approaches to hedging are as follows:

- > **Unhedged** – the value of the portfolio is left to fluctuate with the currency movement. Clearly this is a risky strategy as currency exposure can erode the gains from the underlying portfolio from year to year.
- > **100% hedged** – the entire portfolio is hedged. Being fully hedged will reduce currency risk, but this is not without cost. In years when the local currency depreciates significantly such as the second half of 2008, the cost of hedging may have to be met by selling the underlying assets. This can be particularly problematic if the assets are illiquid.
- > **Partial static hedge** - partially hedge the portfolio in order to achieve a result somewhere between a 100% hedged portfolio and an unhedged portfolio.

Static currency hedges can create significant liquidity burdens as a result of quarterly settlements, potentially leading to premature disposal of growth assets.

Now the dilemma is 'which strategy will best suit the portfolio over the next year?'. And if you choose to be partially hedged, what level is optimal? History has shown that the optimal hedging strategy changes from year to year. What was optimal last year may be sub-optimal this year.

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## Near optimal is better than very wrong

In any given year, the optimal hedge level is either fully hedged or unhedged, but determining the optimal level in advance is a very difficult decision. The Macquarie Dynamic Currency Hedging (DCH) takes away this dilemma and the risk of getting it very wrong. DCH will systematically move the hedge level towards whichever is optimal (fully hedged or unhedged) over the life of each program. We work closely with the client to determine the characteristics of each program including initial hedge levels, proxy currencies, program maturity and basket weights to suit their risk profile.

Historical results show that in years of significant moves in the Australian dollar, the outcome of Macquarie's Dynamic Currency Hedging has been only narrowly behind the optimal strategy for the year.

### When AUD falls

	DCH	Unhedged (optimal strategy)	Fully Hedged	50% Hedged
June 1997 to June 1998	13.0%	17.1%	0.7%	8.9%

### When AUD rallies

	DCH	Unhedged	Fully Hedged (optimal strategy)	50% Hedged
June 1995 to June 1996	0.1%	-17.7%	3.1%	-7.3%

Source: Macquarie. The results are calculated based on systematic modelling using data from MSCI currency basket from June 1990 to June 2008. Modelled results are subject to inherent limitations which should be taken into account.

If you review your currency hedge annually to choose between either 0% or 100% hedged, then you need to pick the right direction at least

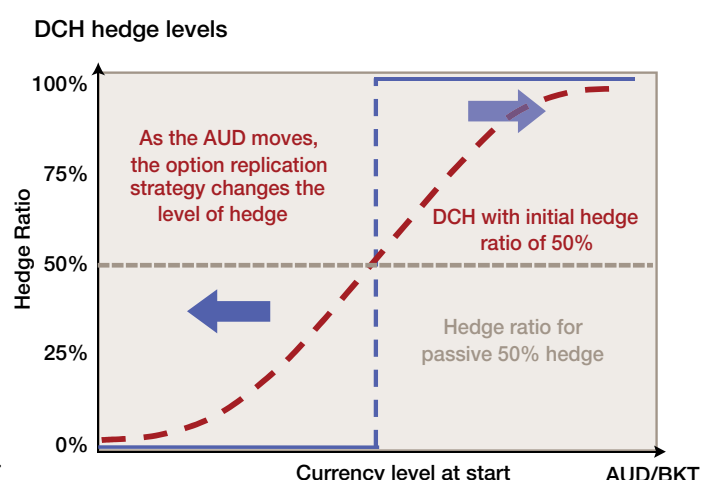
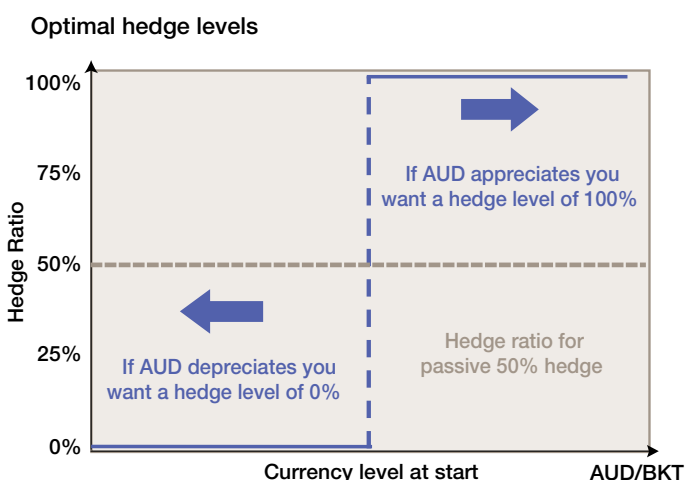
**70%**  
of the time to beat DCH

This assessment is based on historical simulation using typical DCH parameters, and is intended to provide a high level comparison of an option-based hedging strategy with a simple discretionary decision-based hedging approach. The comparison does not necessarily indicate how a client specific DCH program would perform.

## How does Dynamic Currency Hedging work?

Macquarie Dynamic Currency Hedging is an option-replication model which uses forward currency contracts to adjust the hedge level as AUD moves against the foreign currencies in your offshore portfolio. The currency exposure can be to a single foreign currency, but more often, it's to a basket of currencies.

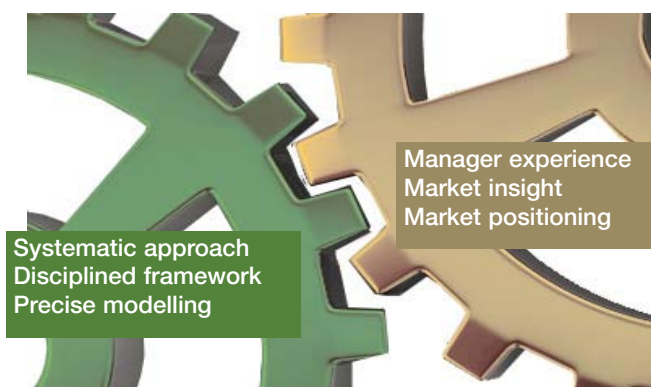
Let's look at how the program would work for an Australian investor with a portfolio of offshore assets. The optimal strategy is to have 100% hedge when AUD appreciates and 0% hedge when it depreciates. Macquarie Dynamic Currency Hedging typically starts at a half way level of 50%, and as the Australian dollar strengthens, our systematic model signals to increase the hedge towards the 100% level. Conversely, as the Australian dollar weakens, our model signals to reduce the hedge level towards the 0% level. The hedge levels can move to as low as 0% and as high as 100%.



## Value-add beyond the systematic model

Our systematic model is based on the Black-Scholes option pricing model which calculates the value of options based on various observable inputs. The model stipulates the target hedge level and generates signals to trade. However the model assumes continuous trading is feasible and free.

Here is where Macquarie's expertise in currency has the potential to add value. While the process remains largely systematic, there is a controlled scope for discretionary judgement intended to minimise trading costs. Our manager experience and access to market information complements the disciplined model framework and aims to add value to the program.



### Manager discretion includes:

- > More efficient trading of the program by keeping hedge levels in close proximity to, but not exactly at the target level.
- > Utilising FX options and other OTC derivatives
- > Strategy changes such as
  - early roll,
  - resetting the strike; and
  - changing volatility.
- > Either trade ahead of anticipated currency moves, or refrain from trading on market noise.

## How Macquarie DCH compares with other hedging strategies

Dynamic Currency Hedging aims to reduce risk while delivering returns above other static hedge strategies. The fully hedged strategy, by nature, will give low volatility, but during periods of significant currency depreciation, the large cost of hedging will need to be funded by liquidating the underlying portfolio. We refer to the cost on settlement as "drawdown". DCH can reduce the risk of drawdowns.

The table below uses a simple points system to rank the various measures that are generally important to consider when choosing a hedge strategy. Four points are given to the strategy that provides the best outcome in each measure and one point is given to the strategy with the worst outcome. If the three measures are weighted equally, DCH would provide the best overall outcome.

Measure	DCH	Unhedged	50% Hedge	100% Hedge
Performance	4	1	2	3
Volatility	3	1	2	4
Drawdown	3	4	2	1

Source: DCH outcomes are based on actual results from our longest running AUD DCH portfolio. Static outcomes are calculated based on systematic modelling using data from MSCI currency basket from June 1990 to June 2008. Past performance is not an indication of future performance.

The three measures selected in this comparison are generally considered to be important when considering hedge strategies, however there may be other factors that are important for individual clients. The rankings provided in the analysis are subjective rankings, and individual clients may rank these factors differently based on their particular circumstances.

## Risks of Dynamic Currency Hedging

In a year when the basket of currencies does not show any trend but trades in a volatile range, DCH could potentially underperform the benchmark static hedge.

## Benefits of Dynamic Currency Hedging are:

- > it aims to provide a hedging outcome that is closest to the optimal hedging strategy in a given year.
- > as the program is not static, you don't have to determine the optimal hedge level at the start of the year and then regret making the wrong decision.
- > in years of significant Australian dollar depreciation, DCH will generate a much lower drawdown and liquidity requirement when compared to fully-hedged strategies.
- > it provides a single settlement per year, potentially making cashflow more manageable.
- > it incorporates the benefit of a systematic model with some degree of manager discretion aimed at delivering better value.

## A leader in currency management

The currency team is highly experienced and has a diverse range of portfolio management skills and backgrounds.

The team operates 24 hours a day, supported by the extensive infrastructure of Macquarie Funds Group that provides research, back-office, systems and independent compliance monitoring.

We incorporate active decision making into our processes to manage risk but also with the aim to add value. Active decisions are made within a disciplined framework.

Our state-of-the-art systems and compliance and disciplined investment processes are integral to our success.

## Experienced Currency Team and years of experience

### Head of Dynamic Currency Hedging

Lloyd Alty (14)

### Portfolio Managers

Chris Ellis (13)

Supported by 2 assistant portfolio managers and an extensive research team

## About Macquarie Funds Group

Macquarie Funds Group is a full service fund manager with over 25 years of funds management experience and 16 years experience in providing DCH. It offers a diverse range of products including managed funds across a wide range of asset classes, funds-based structured products, hedge funds, and fund of funds.

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