NEUBERGER | BERMAN

SHARE CLASS CURRENCY HEDGING EXPLAINED

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Introduction

Share class currency hedging is a practice frequently used throughout the investment management industry, as investors look to subscribe, redeem, and receive distributions in currencies other than the Base Currency of a fund. Neuberger Berman Investment Funds plc ("NBIF") offers a range of currency hedged share classes across its sub-funds. Investors often choose Hedged Classes when investing in a currency other than the Base Currency of the Portfolio, particularly for fixed income funds. Investors may also choose to invest in Unhedged Classes for a number of reasons.

Participants investing in the Base Currency of a portfolio do not require share class currency hedging, as there is a natural match between the class currency and the Base Currency.

For the full list of share classes, please refer to the Prospectus and relevant Supplements. Capitalised terms that are used and not otherwise defined herein shall have the meaning ascribed to them in the prospectus of NBIF (the "Prospectus").

Why hedge?

The aim of the currency hedge is to reduce the effect of fluctuations, caused by movements in currency exchange rates, between the currency of the Hedged Class and the Base Currency of a portfolio.

In other words, the goal is to provide a similar return for the Hedged Class as would be obtained through an investment in a Base Currency share class, all other things being equal. A consequence of currency hedging is that the interest rate differential between the Hedged Class and the Base Currency (often known as "carry") is included in the return of the Hedged Class. This difference would be positive if interest rates in the hedged currency exceed those in the Base Currency and vice versa, and it explains some of the difference in returns between the hedged and Base Currency share classes. However, investors should note that no currency hedge is perfect, and there is no guarantee that the return profile of a Hedged Class will equate to that of a Base Currency share class.

How does the hedge work?

Execution is carried out by the dedicated currency team of the Investment Manager, Neuberger Berman Europe Limited ("NBEL"). NBEL employs passive currency hedging, so does not seek to extract an economic gain for the Hedged Class from the activity. Whilst NBEL aims to achieve a target of 100% hedge cover ratio with a tolerance of +/- 50bps, it may be that the hedge may not always be at 100% (please see "Exceptions", below). NBEL hedges most commonly on a three month rolling basis, which it believes is an effective balance between efficacy and transaction costs. The share class hedging process has associated transaction costs which will negatively impact the share class performance.

There are four key events in the lifecycle of a currency hedged share class, during which the currency team will carry out trades to effect a currency hedge in line with the target.

1. **Launching a new hedged share class**

   Investors buy an estimated quantity of shares (on T+0). The settlement of these proceeds in that non-Base Currency occurs three days later (T+3). The value is hedged by the currency team, simultaneously, using a currency swap. The swap is split into two legs:

   - 1st leg (or "near leg"): converting the non-Base Currency to the Base Currency for the value date T+3, and;
   - 2nd leg (or "far leg"): buying back the non-Base Currency against the Base Currency, with the value date approximately at the next quarter-end. Effectively, this takes the opposite direction to the first leg and hedges the investment (the difference between the forward rate used on the 2nd leg and the spot rate obtained on the 1st leg is the interest rate differential between the currencies and is the source of the interest rate difference that is included in the returns of the hedged share class).

2. Investor flows

Flows occur when investors subscribe and redeem shares; NBIF offers daily subscriptions and redemptions. Here, we are specifically interested in flows to hedged share classes denominated in a non-Base Currency to ensure that the Hedge is in line with the target. Investors buy or sell a number of shares at an estimated price (on T+0) and subscribe or redeem a fixed amount of cash. The settlement of these proceeds in that non-Base Currency occurs three days later (T+3). The net value of the flow is hedged by the currency team, simultaneously, which models and trades a currency swap. The value of this trade is estimated, based on the net subscriptions/redemptions received before the 3pm dealing deadline. The swap is split into two legs:

- 1st leg (or "near leg"): converting the non-Base Currency to the Base Currency for the value date T+3, and;
- 2nd leg (or "far leg"): adjusts the hedge of the entire share class, by buying back the non-Base Currency against the Base Currency, with the value date approximately at the next quarter-end (the difference between the forward rate used on the 2nd leg and the spot rate obtained on the 1st leg is the interest rate differential between the currencies and is the source of the interest rate difference that is included in the returns of the hedged share class).

Trading the near and far leg in a swap locks in the same spot rate for both, and should help to neutralize the currency impact to investors.

3. Adjusting to movements in the underlying assets

On a daily basis, the currency team monitors the hedge cover ratio to check whether movements in the market price of the funds' underlying assets (which we assume are in the Base Currency) is outside a hedged share class's hedge cover ratio.

The currency team will adjust the hedge when a crossing of the hedge cover ratio threshold has been identified and confirmed. If the value of the underlying assets falls, the currency team will model and execute a reduction of the forward hedge trade (far leg) and, for an appreciation in value, an increase in the forward hedge trade (far leg). These adjustments are carried out for the for value date approximately at the quarter end.

4. Rolling a share class

As the hedge's maturity date approaches, usually at the end of the quarter, the current open forward contracts need to be "rolled" to a new maturity date. The following steps are taken to ensure the roll is correctly carried out, and any profit/loss associated with the transaction is realised.

- **i.** 4-5 days before the maturity date the currency team will begin the process of identifying a new roll date (a business day when the two currency markets for the Base and non-Base Currencies can settle).
- **ii.** Model and execute a roll trade of a two-legged swap. The near leg closes the existing hedge, and the far leg opens the new hedge, which locks in the same spot rate for both, and should help to neutralize the currency impact to investors.
- **iii.** Herein, all trades will now have a value date consistent with the date identified in step i).
- **iv.** As the near leg of the rolling swap trade closes out the existing hedge, a profit and loss is generated and reflected.

Considerations

NBEL uses currency hedging as a way to reduce the effect of fluctuations in the exchange rate between currencies, but there can be no guarantee to the extent to which this will be successful.

Investors are likely to see a disparity between the return profiles of a Base Currency share class, and a currency hedged share class. This disparity may be explained by any of the following factors: i) transaction costs, ii) the yield differential between the two currencies (known as "carry"), and iii) the efficacy of the execution.

Execution is aggregated to minimise transaction costs, but these costs may fluctuate depending on the currency pair and liquidity on offer in the market at the time of execution.

NBEL's currency hedging process is subject to the risk management framework established by the Investment Manager.

Portfolios may have underlying investments in non-Base Currency and those exposures are not necessarily hedged back to the Portfolio base currency. Investors will remain exposed to currency fluctuation.

Investors should note that the hedging strategy may vary, there are tolerance ranges within which the hedging of a share classes is managed, and there can be no guarantee that the hedging will be 100% effective. There are several factors which could adversely impact the ability to achieve the hedging objectives and result in the hedge not being perfect.

Exceptions – Neuberger Berman Emerging Market Debt Blend Fund and Neuberger Berman Emerging Market Debt Blend Investment Grade Fund

When investors choose to allocate to Emerging Markets in local currencies, they typically do so to engage with idiosyncratic risks of those currencies. They do not seek exposure to the systematic risk of a developed market currency other than their base currency (which they are selling). In other words, USD-based investors are not looking for EUR exposure from their Emerging Market Debt allocation any more than EUR-based investors are looking for USD exposure.

For the Neuberger Berman Emerging Market Debt Blend Fund and the Neuberger Berman Emerging Market Debt Blend Investment Grade Fund, a target hedge ratio equal to the benchmark weight of USD denominated bonds is applied. These target ratios are as follows;

- 50% for the Neuberger Berman Emerging Market Debt Blend Fund
- 66% for the Neuberger Berman Emerging Market Debt Blend Investment Grade Fund

For further information, including an empirical survey on how hedging has historically affected investments in emerging local currency markets, please refer to "Staying Local" white paper produced by Neuberger Berman Group's Emerging Markets Debt team and published in May 2015. This can be found at http://www.nb.com/pages/public/en-gb/insights/staying-local.aspx

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