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Currency Risk and Hedge

Executive Summary

- Investors should be able to differentiate between dealing currency, denomination currency and underlying currency of funds.
- The currency risks that investors are exposed to are mainly between the currency that they invest using and the underlying currency. Therefore, from the point of view of a SGD investor, the currency share class should not matter much if the share classes are unhedged, as the overseas currency return will ultimately be converted to SGD.
- While currency hedging does have its costs and limitations, it generally can help to reduce currency risk of the fund to a certain extent.

Introduction

Some unit trusts are available in more than one currency share class, and there is a general perception that investing in foreign currency funds means taking on greater currency risk. In this article we discuss more in-depth on how currency risk affects the portfolio return, and the pros and cons of currency hedging.

Terminology Used

Before we discuss the currency exposure of a particular fund, investors should know some of the terminologies that will be used in the article. Firstly, dealing currency refers to the currency share class that are available to investors. This is relatively easy to identify as it is the currency in which the fund's NAV is stated.

Secondly, denomination currency refers to the currency for the underlying fund in cases where one or more of the dealing currencies feed into. In determining the denomination currency, investors can probably look at the prospectus, where fund houses typically disclose the denomination currency and the dealing currencies of various share classes.

Lastly, underlying currency refers to the currency of the underlying securities in the portfolio. For the underlying currency, the semi-annual or annual report can be used as a gauge because it typically states the individual securities holdings of the portfolio at a particular point of time. However, this can only be used as a rough guide as the holdings could have changed since the date of the information.

An example would be the HSBC GIF – Thai Equity Fund which has SGD and USD share classes available on Phillip Capital's platform. The fund is denominated in USD and invests into stocks in THB. Using the terminology previously introduced, its dealing currency will be SGD and USD, denomination currency will be USD, and underlying currency would be THB. Do note that certain fund houses may use terminologies that differ from this article.



Theoretical Illustration of Currency Effects (Without Hedging)

Having explained the terminologies, we will next use a Thailand equity fund to illustrate the results of various currency fluctuations, with the following assumptions:

- Market value of underlying securities in THB remain constant
- Fund does not engage in currency hedging
- Foreign exchange market is efficient and there is no arbitrage opportunity
- Two currency share classes are available (SGD and USD)
- The denomination currency share class is USD

Base Scenario:

Table 1: Base Scenario

Currency	Underlying Investment	Exchange Rate	Initial Investment
SGD Share Class	THB 240,000	S\$1 = US\$0.80 = 24 THB	S\$10,000
USD Share Class	THB 240,000	US\$1 = THB 30	US\$8,000

Note: For illustration purposes only, do not represent actual exchange rate

In the base case scenario, we assume that two SGD investors would like to invest S\$10,000 into a Thailand equity fund, but into the SGD and USD share class respectively. Given the exchange rate given in Table 1, their initial investment is S\$10,000 and US\$8,000.

Scenario 1:

- THB depreciates 10% against SGD
- USD appreciates 20% against SGD and 33.3333% against THB

Table 2: Scenario 1

Currency	Underlying Investment	Exchange Rate	Ending Investment	Gain/Loss
SGD Share Class	THB 240,000	S\$1 = US\$0.667 = 26.667 THB	S\$9,000	-10%
USD Share Class	THB 240,000	US\$1 = THB 40	US\$6,000	-25%

The SGD and USD currency share classes make losses when SGD and USD appreciates against THB.

Source: UT Research

Note: Calculations are simplified and ignore transaction costs and commissions. Actual returns could differ.

Depreciation of THB against SGD and USD cause losses in the SGD and USD currency share classes respectively. The USD share class experience a greater loss as USD appreciates by a greater extent as compared to SGD against THB. However, from a SGD investor's point of view, the USD share class needs to be converted to SGD when the fund is sold, so its return will not be -25 percent as USD had appreciated against SGD. Theoretically, both the investors should have similar returns of -10 percent when they sell their funds and yield returns in SGD.



Scenario 2:

- THB depreciates 10% against SGD
- USD depreciates 16% against SGD and 6.667% against THB

Table 3: Scenario 2

Currency	Underlying Investment	Exchange Rate	Ending Investment	Gain/Loss
SGD Share Class	THB 240,000	S\$1 = US\$0.952 = 26.667 THB	S\$9000	-10%
USD Share Class	THB 240,000	US\$1 = THB 28	US\$8,571	+7.14%

The SGD currency share class makes a loss when SGD appreciates against THB. The USD currency share class makes a gain when USD depreciates against THB.

Source: UT Research

Note: Calculations are simplified and ignore transaction costs and commissions. Actual returns could differ.

Depreciation of THB against SGD caused a loss in the SGD share class while appreciation of THB against USD caused a gain in the USD currency share class. Again, from a SGD investors' point of view, the USD share class needs to be converted to SGD when the fund is sold. Therefore, although the USD share class gained due to USD depreciation against THB, the depreciation of USD against SGD result in net loss for SGD investors. As a result, both investors should yield similar returns regardless of their currency share class.

Overall, the returns of the different currency share classes are due to the exchange rate movements between the underlying currency (THB) and the share class currency (USD or SGD). Therefore, an USD investor of the Thailand equity fund should be affected by the exchange rate movement between USD and THB, while a SGD investor should be affected by the currency movement between SGD and THB.

However, most investors in Singapore make investments using SGD, so their portfolio return will be affected by the exchange rate movement between SGD and foreign currencies when they buy or sell foreign currency funds. As a result, their portfolio return should theoretically be the same whether it is invested in the foreign currency or SGD share class in an efficient foreign exchange market with no arbitrage opportunity. That being said, the return could differ slightly in reality due to the differences in actual exchange rates and bid-ask spread used by the fund house and distributors.

Theoretical Hedging Effects

Having concluded that the currency share class should not matter much for an SGD investor, we next determine if currency hedging will cause a difference in investors choice. Currency hedging is usually conducted through the usage of derivatives and is generally used in hopes of reducing foreign exchange risks of the portfolio. Investors can find currency hedging information about funds in their respective prospectus. While currency hedging would help to reduce currency risk of a fund by a certain extent, it does have its fair share of pros and cons as well, which will be discussed further.



The advantage of currency hedging will mainly be the reduced fluctuations in the portfolio returns caused by changes in exchange rates of the underlying currency and dealing currency. If there is perfect currency hedging, the portfolio return will only consist of returns for the underlying securities and not currency movements. In such a scenario, investors would not be subjected to currency risks and the portfolio returns will mainly be determined by the underlying securities' price fluctuations. This would mean that if the market value of underlying securities in THB gained 5 percent, the SGD share class and USD share class will both gain by 5 percent regardless of the currency movement between THB, SGD and USD.

The disadvantage of currency hedging will be its cost, imperfect hedge, and possibilities of missing out favorable currency movements. The costs of currency hedging includes dealer commissions, bid-ask spread and other transaction fees involving the derivatives, and these costs can increase the portfolio's expenses. In addition, it is difficult, or perhaps not cost-effective, to achieve a perfect hedge due to the daily fluctuations of the portfolio's fair value and the number of currency pair derivatives required for the more geographically diversified portfolios. As a result, the portfolio will still be subjected to currency movements, but possibly to a lesser extent than without currency hedging, depending on how the hedge was carried out. Lastly, while currency hedging is intended at reducing the downside risks caused by currency movements, the extent investors can gain from favorable currency movement could be limited as well.

Overall, we feel that the advantage of currency hedging outweighs the cost of currency hedging as overall currency exposure of the fund is reduced. This will be further elaborated in the 'Examples in Reality - Hedged' session later on.

Examples in Reality - Unhedged

What we have covered so far are mainly theoretical discussions of currency issues. We will next look at a few examples of actual funds carried on Phillip Capital's platform to determine how true are the theories discussed earlier on.

Table 4: Performance and Currency (Without Hedging)

Fund Name	Dealing Ccy	6 Mth Return %	1 Yr Return %	3 Yr Return %
Fidelity - America A Inc	SGD	13.73	1.31	-0.54
Fidelity - America A Inc	USD	14.19	1.8	-0.38
HSBC - GIF Thai Equity AD	SGD	5.19	27.8	3.17
HSBC - GIF Thai Equity AD	USD	5.37	27.86	3.25
Fidelity - Taiwan A	SGD	4.42	0.58	-6.25
Fidelity - Taiwan A	USD	4.01	0.26	-5.01

Source: Financial Express, as of 6 Apr 2011

Note: Returns are rebased in SGD and calculated assuming dividends are reinvested.

Highlighted are the outperforming currency share class for a particular fund.



Table 4 shows three funds, each with two currency share classes and their returns are rebased in SGD. When we compare the SGD share class return against the USD share class return when rebased in SGD, their returns are relatively similar. Therefore, from the point of view of an investor investing using SGD, his return should not be affected greatly by which currency share classes he choose if the funds are unhedged.

A closer look at the returns reveals that the SGD share class for HSBC - GIF Thai Equity AD and Fidelity - America A Inc underperformed the USD share class in the periods used but the results are mixed for Fidelity - Taiwan A. We do not have enough information to determine the cause for the differences but can conclude that for funds with more than one currency share class, one cannot say with absolute certainty that a particular share class will outperform the other. Overall, the results are aligned with our earlier proposition that SGD investors should be indifferent to the currency share classes if they are unhedged.

Examples in Reality - Hedged

Table 5: Performance and Currency (With Hedging)

Fund Name	Dealing Ccy	6 Mth Return %	1 Yr Return %
Franklin Templeton - Templeton Global Bond A Acc	USD	3.49	7.18
<i>Franklin Templeton - Templeton Global Bond AH1 MDIs</i>	<i>SGD</i>	<i>3.19</i>	<i>6.4</i>
Schroder - ISF Emerging Markets Debt Absolute Return A Acc	USD	-1.68	0.23
<i>Schroder - ISF Emerging Markets Debt Absolute Return A Hedged</i>	<i>EUR</i>	<i>-1.7</i>	<i>0.04</i>
<i>Schroder - ISF Emerging Markets Debt Absolute Return A Hedged</i>	<i>SGD</i>	<i>-1.81</i>	<i>0.06</i>
Schroder AS - Gold & Metals A Acc	USD	12.38	16.23
<i>Schroder AS - Gold & Metals A Hedged</i>	<i>SGD</i>	<i>11.94</i>	<i>15.43</i>

Return of hedged share class (in italics) and USD share class are relatively similar.

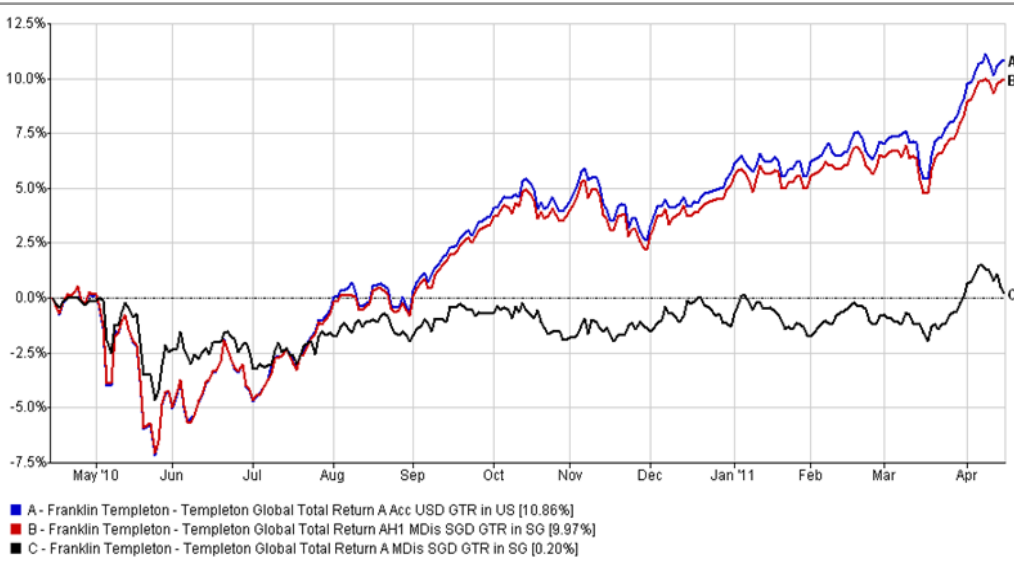
Source: Financial Express, as of 6 Apr 2011

Note: Returns are in dealing currency terms and calculated assuming dividends are reinvested.

Table 5 shows the returns for funds that engage in currency hedging, calculated in the dealing currency. The returns of the hedged funds, highlighted in italics, does not differ significantly from the return of their USD share class. A 3.5 percent gain in the USD share class of Templeton Global Bond has a corresponding 3.2 percent gain in its SGD hedged share class. Therefore, currency hedging makes hedged funds attractive as exposure between the underlying and denomination currency is reduced for SGD investors. However, do note that the currency hedge is not perfect and returns of the various currency share classes may differs according to the effectiveness and costs of currency hedge.



Chart 1: Returns in Dealing Currency Terms



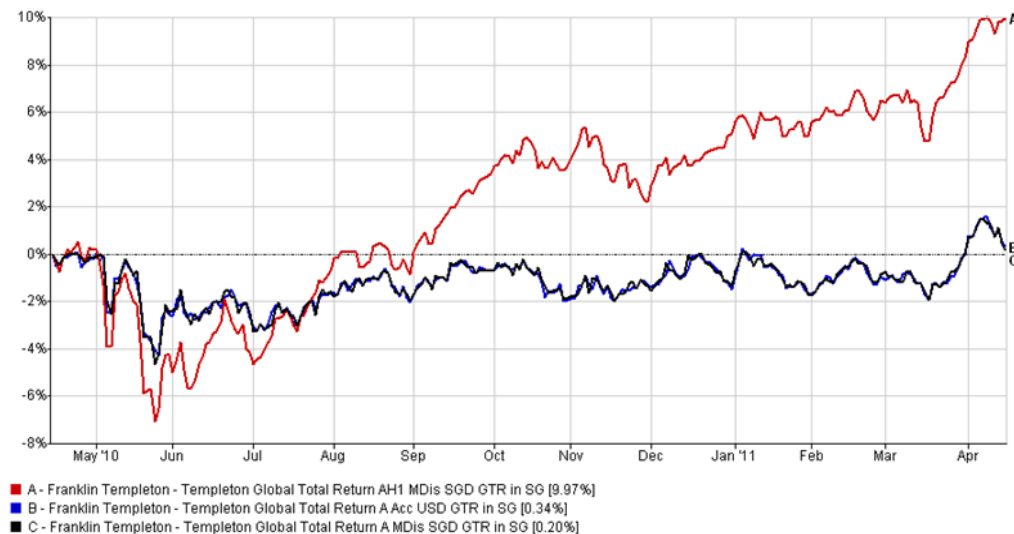
SGD hedged and USD share class performed similarly in dealing currency terms. SGD unhedged share class performance differ according to currency movement between USD and SGD.

Source: Financial Express, as of 18 Apr 2011

Note: Returns are in dealing currency terms and calculated assuming dividends are reinvested.

In chart 1 and 2, Fund A refers to the USD share class, Fund B refers to the SGD Hedged share class, while Fund C refers to the SGD unhedged share class. Looking at Chart 1, although fund A is in USD and fund B is in SGD, both the fund's return are comparable in dealing currency terms, possibly due to currency hedging. The slight difference in return could be caused by the cost of currency hedging or imperfect hedging as previously mentioned. Fund C, which is the unhedged SGD share class, underperformed the other two funds mainly due to the appreciation of SGD.

Chart 2: Returns Rebased in SGD



USD share class and SGD unhedged share class performed similarly. SGD hedged share class outperformed as currency exposure is reduced through hedging.

Source: Financial Express, as of 18 Apr 2011

15/04/2010 - 15/04/2011 © Financial Express 2011

Note: Returns are in dealing currency terms and calculated assuming dividends are reinvested.



Most investors in Singapore invest using SGD, and we rebased the returns of the same funds in SGD. (Chart 2) From the chart, we notice that the SGD unhedged fund and the USD fund yield similar returns when rebased in SGD. Therefore, this supports our earlier point that SGD investors should be indifferent to the currency share class when funds are unhedged.

The hedged SGD share class, Fund A, outperformed the USD share class when rebased in SGD, as well as the SGD unhedged share class. We infer from that its outperformance is attributed to its reduced currency risk due to hedging activities. Although Chart 1 shows that the hedge is imperfect, possibly due to costs, we feel that the reduced currency exposure in this case outweighs the costs of hedging. Overall, we feel that currency hedging is beneficial as it reduces the currency exposure of a fund to a certain extent. However, do note that in the event where the exchange rate movement are beneficial to SGD investors (eg. if USD appreciates against SGD), the currency hedged share class will underperform the unhedged share class.

Conclusion

Currency risk is evident in funds whenever the underlying currencies and the denomination/dealing currencies differ. However, instead of looking at the share class currency and determining which currency pair risks the fund are exposed to, investors should look at the currency which they are investing using and the underlying currency of the fund. For funds that do not hedge, performance are approximately the same when rebased in a single currency and it makes little difference buying into whichever currency share class from the point of view of a SGD investor. While currency hedging generally does have its limitation and costs, it could lead to significant difference in the currency share class returns by reducing currency risk exposure. Therefore, for investors looking to reduce their currency risk exposure, the hedged share class will be better than the unhedged share class.



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