

## Currency-Hedged Indices Standard Methodology

# Introduction

RAFI Indices hedged indices are designed to earn the returns of a specific underlying index while shielding investors from changes in a base exchange rate relative to other currencies in that index. Weights for the currency hedge are determined and currency exposures are hedged on a monthly basis. Foreign exchange forward contracts are sold to eliminate the risk of currency fluctuations. One month forward rates are calculated using WM/Reuters closing spot rate from 4:00pm London time.

## 1. DEFINITIONS

**Rebalancing Date (RT)** – The day the hedged index is rebalanced, which is the close of the last business day of each month.

**Selection Date (ST)** – The date on which the weights for the currency hedge are determined, stated in days from the rebalancing date. The selection date for RAFI Indices hedged indices is one day prior to the rebalance date. (ST = 1)

## 2. INDEX CALCULATION

### 2.1 Calculating FX weight

If the underlying unhedged index contains more than one foreign currency, the weight of each currency is calculated based on COB on the selection date, based on the opening file for the following business day. If only one foreign currency is included in the index or the index is a local currency index, the weight is set to 1.

On month-ends where the underlying index rebalance date coincides with the hedged index rebalance date, the weights for the currency hedge are determined based on the underlying index's published pro-forma daily index opening file. On month-ends where the underlying index rebalance date does not coincide with the hedged index rebalance date, the weights for the currency hedge are determined based on the standard published underlying index daily opening file.

Example:

The underlying unhedged index is calculated in USD and includes six shares, 2 in CHF, 2 in EUR, 2 in USD.

Share	Currency	Weight (ST)
1	CHF	5%
2	CHF	15%
3	EUR	20%
4	EUR	20%
5	USD	30%
6	USD	10%

Currency	Total Weight
CHF	20%
EUR	40%

### 2.2 Calculation of the Hedge Impact (HIM)

The Hedge Impact is calculated as follows:

$$HIM_t = AF_{RT} \times \sum_{i=1}^n W_{i,ST} \times S_{i,ST}^m \times \left( \frac{1}{F_{i,RT}^m} - \frac{1}{IF_{i,t}^m} \right)$$

With:

$AF_{RT}$  = Adjustment Factor on the last rebalancing date, calculated as follows:

$$AF_{RT} = \left( \frac{HI_{ST}}{HI_{RT}} \right)$$

With:

$HI_{ST}$  = The value of the hedged index on ST

$HI_{RT}$  = The value of the hedged index on RT

$n$  = The number of different currencies in the unhedged index (without considering the currency in which the index is calculated).

$W_{i,ST}$  = The weight of currency  $i$  on selection date ST

$S_{i,t}^m$  = The mid spot of currency  $i$  on day  $t$

$F_{i,RT}^m$  = The mid forward currency  $i$  on rebalancing date RT

$IF_{i,t}^m$  = The interpolated mid forward currency  $i$  on day  $t$  calculated as follows:

$$IF_i^m = S_t^m + (F_t^m - S_t^m) \times \frac{D-d}{D}$$

With:

$D$  = The number of calendar days between the last and the next rebalancing date

$d$  = The number of calendar days between  $t$  and the last rebalancing date

### 2.3 Index Calculation

The hedged index is calculated as follows:

$$HI_t = HI_{RT} \times \left[ 1 + \left( \frac{UI_t}{UI_{RT}} - 1 \right) + HIM_t \right]$$

With:

$UI_t$  = The unhedged index on day  $t$

$UI_{RT}$  = The unhedged index on the last rebalancing date RT

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