INDEX METHODOLOGY

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MSCI Global Currency Indices Methodology

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1. INTRODUCTION

MSCI Global Currency Indices measure the total return of currencies of countries in a regional or composite MSCI equity index, weighted by their country weights. The total return reflects the currency appreciation/depreciation of the currencies included the currency index relative to the home currency and interest accruing from holding the currencies. For example, the MSCI Emerging Market Currency Index in USD measures the total return of 25 emerging market currencies relative to the US Dollar where the weight of each currency is equal to its country weight in the MSCI Emerging Markets Index.

The index aims to reflect an investment process that uses a combination of monthly trades of currency forwards against the home currency and home currency Libor deposits to capture the currency and interest rate returns.

MSCI is currently offering the following currency indices:

- MSCI Emerging Markets Currency Indices in USD, Euro and Japanese Yen.
- MSCI EAFE Currency Index in USD.
- MSCI Europe Currency Index in USD.
- MSCI Asia Pacific ex Japan Currency Index in USD.

The methodology described in this guide is a generic methodology that could be applied to create other currency indices against a base currency with weights derived from existing MSCI International Indices.

2. CONSTRUCTING THE MSCI GLOBAL CURRENCY INDICES

Constructing the MSCI Global Currency Indices involves the following steps:

- Defining the home currency.
- Identifying the currencies in the index.
- Identifying the weight for each currency in the index.
- Determining the accrued interest rate for each currency in the index.

Each of these steps is described in detail below.

2.1. Defining the Home Currency

An investor investing in foreign exchange would like to measure the performance of his holdings relative to his home currency. For construction of MSCI Global Currency Indices the default home currency will be the US dollar.

2.2. Identifying the Currencies to be Included in the Index

The MSCI Global Currency Indices can be constructed against any currency included in the index. To support different foreign currency investment processes, such as benchmarking and currency hedging, MSCI calculates different currency indices. For example, for benchmarking the returns of a US based investor who is investing in emerging market currencies, MSCI calculates an MSCI Emerging Markets Currency Index, which reflects the performance of 25 emerging market currencies relative to the US dollar.

2.3. Identifying the Weight of Each Currency in the Index

In the MSCI Global Currency Indices, the currency weights are derived from the aggregate free float market capitalization of the countries in the underlying MSCI equity index as of the close of the index review date which will be the last trading day of the month.

2.4. Determining the Accrued Interest Rate for each Currency in the Index

MSCI Global Currency Indices reflect the currency appreciation/depreciation of currencies against a base currency as well as the interest earned by holding the currencies. To calculate interest, MSCI uses the accrued foreign interest rates from the forward spot relation in the currency markets.

Please see the Appendix hereto on index calculation formulas for more details on the calculation of accrued foreign interest rates.

3. MAINTAINING THE MSCI GLOBAL CURRENCY INDICES

The MSCI Global Currency Indices are maintained with an objective of reflecting the evolution of the underlying country weights on a timely basis. In particular, index maintenance involves:

- Resetting the accrued foreign currency interest rates.
- Resetting the weights of the currencies included in the index.

The MSCI Global Currency Indices are rebalanced monthly on the last trading day of the month, when the currency weights and accrued foreign interest rates are reset for the next month's index calculation.

3.1. Resetting the Accrued Interest Rate for each Foreign Currency in the Index

The accrued interest for each foreign currency is reset on the last trading day of the month. This new accrued interest rate is accrued in the index until the next rebalancing date, i.e. the last trading date of the following month. Please see the attached Appendix on index calculation formulas for more details on the calculation of accrued foreign interest rates.

3.2. Resetting the Weights of Currencies in the Index

The currency weights are reset after the close of the last trading day of the month and remain constant intra month, i.e. no changes in the weights are made during the month to account for changes in the indices due to price movement of securities, corporate events, additions, deletions or any other changes.

4. CALCULATING THE MSCI GLOBAL CURRENCY INDICES

The MSCI Global Currency indices are constructed with an objective to reflect an investment process that uses a combination of monthly trades of currency forwards against the home currency and home currency Libor deposits to capture currency and interest rate returns. The indices are marked to market every day and in real time.

4.1. Calculation Time and Frequency

The MSCI Global Currency Index is calculated at the same time as the underlying MSCI index. For example, the calculation of the real-time MSCI Emerging Markets Currency Index will commence with the opening of the Korean equity market at 8 PM EST and close at 4.50 PM EST (next day) at the closing of the Chilean equity market. The above timing is synchronized to account for daylight savings time. All currencies will contribute to the index return during the index calculation time period, i.e. even after the equity market representing a particular currency has closed. For example, if Korea's equity market closes at 2 AM US EST time, the Korean Won will still contribute to the EM currency index performance until 4.50 PM US EST time.

Please see the MSCI equity index calculation methodology book for more details: http://www.msci.com/methodology/meth_docs/MSCI_May08_IndexCalcMethodology.pdf.

Similar to the MSCI equity index calculation schedule, the official month-end index level for the currency indices is calculated on the last weekday of the month. This means for the MSCI Emerging Markets Currency Index in US dollars the official month end index level will be calculated even if the last weekday in the US is a holiday.

4.2. Closing Spot Rates

The MSCI Global Currency Indices are calculated at end-of-day and in real-time. The official closing level is calculated using WM/Reuters Closing Spot Rates (the mid-point of closing bid and ask rates to 5 decimal places), taken at 4pm London time. The WM/Reuters Closing Spot Rates are provided by The WM Company plc in conjunction with Reuters. MSCI may elect to use alternative sources of exchange rates if the WM/Reuters rates are not available, or if MSCI determines that the WM/Reuters rates may not reflect market conditions.

4.3. Forward Rates

To determine the accrued interest rate MSCI uses the spot and the 1-month Forward exchange rates on the rebalancing day of the home or base currency. To compute the 1-month Forward exchange rates MSCI uses the spot and 1-month premium/discount as provided by WM/Reuters. These values are taken at 4pm London time. If the Forward rate is missing on the rebalancing day, the previous day's premium or discount of the Forward rate over the Spot rate will be added to the current Spot exchange rate.

4.4. Currency Crisis

If there is a disruption in the currency spot and/or forward market, MSCI will analyze the situation and a decision to continue or discontinue the inclusion of a currency in the indices will be made on a case by case basis and announced in advance. This would result in currencies of certain countries being excluded from the currency indices even though they may be still included in the parent indices and the resulting currency weights may be different from the country weights in the parent index.

APPENDIX

A. Daily Currency Index Calculation Formula

There are two components to the currency index returns:

- The performance (appreciation/depreciation) of the constituent currencies relative to the home or base currency.
- The foreign currency deposit interest earned on the constituent currencies.

Index Level at time t = Index Level at time $t_0 \times \sum W_{i,n} \times (S_t / S_0) \times (1+R_{fgn,0,T} \times t/360)$

- Where is S_0 (home currency/ foreign currency) is the Spot rate at the time of rebalancing.
- $R_{fgn,0,T}$ is the foreign interest at the time of rebalancing.
- S_t (home currency/foreign currency) is the spot rate on day t.
- $W_{i,n}$ weight of i^{th} currency at the time of rebalancing.
- t is the number of days between today and the last trading day of the previous month (including weekends and non-trading days).

B. Accrued Foreign Interest Rate Calculation Formula

The accrued foreign interest rate ($R_{fgn,o,T}$) is calculated using the Forward-Spot relationship at the time of rebalancing.

$R_{fgn,0,T}$ = {So × (1+$R_{base,0,T}$ × Number of Days between Rebalancing/360) × 1/ $F_{i,0,T}$ -1} × (360/ Number of Days between Rebalancing)

- $F_{i,0,T}$ is the one month forward at the time of rebalancing.
- S_o is the spot rate at time of rebalancing.
- $R_{base,0,T}$ is the one month base currency Libor rate at time of rebalancing and is reset monthly. The source for LIBOR rates is the British Banker's Association (BBA).

C. Handling non-trading days at month end for index and accrued interest rates calculation

The official index level for each month is calculated on the last weekday of the month. The last weekday of the month may coincide with an official holiday of a constituent currency. But since currency markets will be open in other countries, the currency index will be calculated for that day.

- If the last day of next month is not a trading Day.

For example to price a one month forward on October 31, when the last trading day in November is the 29th, the days to maturity for forwards will 29 days. This will be used as number of the days in the accrued interest rate formula.

The currency index will accrue interest in November for 29 days and the official index level for November will be calculated on the same date.

- If the last day of current month is not a trading Day.

For example to price a one month forward on November 29, which happens to be last trading day in November, the days to maturity for forwards settling on December 31 will be 32 days. This will be used as number of the days in the accrued interest rate formula. The currency index will accrue interest in December for 32 days. The first accrual will happen at the opening of index on December 1.

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The company's flagship products are the MSCI International Equity Indices, which are estimated to have over USD 3 trillion benchmarked to them, and the Barra risk models and portfolio analytics, which cover 56 equity and 46 fixed income markets. MSCI Barra is headquartered in New York, with research and commercial offices around the world. Morgan Stanley, a global financial services firm, is the majority shareholder of MSCI Barra.