

REFINITIV GLOBAL SUKUK INDICES

INDEX METHODOLOGY

December 2019

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1. INTRODUCTION

1.1 Refinitiv Global Sukuk Indices

Refinitiv Global Sukuk Index covers the US Dollar denominated, long term sukuk with the objective to track the performance of global USD sukuk. Refinitiv Global Sukuk Indices consist of two indices tracking the performance of total returns in the global USD sukuk market.

The main index, Refinitiv All Sukuk Index provides an overview of sukuk market performances while the sub index, Refinitiv Investment Grade Sukuk Index further allows returns comparison in the refined credit sector, investment grade.

2. CONSTRUCTION

2.1. Index Type

All Bond Global Sukuk Index is a Total Return Index. No explicit criterion on liquidity of issues is imposed. Numbers of constituents allowable in the indices are not fixed as they are rules-based.

2.2. Eligible Sukuk Specifications

Refers to basic sukuk characteristics available in terms and conditions of issuances.

a. Total Outstanding Amount

Sukuk with outstanding amounts of USD 100 million and above. Sizeable market size is indicative to the depth and liquidity of the sukuk and is taken as a precursor to a stable trade of the issues. Issues where redemptions reduce the outstanding amount below USD 100 million are excluded.

b. Currency

US Dollar denominated sukuk.

c. Coupon Type

Fixed and zero profit-rate sukuk. Sukuk with floating or indexed profit-rates are excluded for their volatile future cash flows which redound to volatile sukuk prices and index values.

d. Tenure

Sukuk with time to legal maturity of 6 months and above. Sukuk with short remaining tenure are relatively illiquid as they are held tightly to maturity. Such captive issues do not reflect the normal trading behaviour of fixed income instruments.

2.3. Credit Quality

The All sukuk index includes sovereign, quasi-government as well as corporate bonds without any restriction on credit rating. Defaulted issues are however, excluded.

2.4. Issue Types

The principle behind issue type inclusion is to obtain constituents with stable, known and quantifiable future cash flows. The following issue types are included:

- Zero coupon bonds
- Fixed coupon bonds

Option embedded bonds should be excluded unless they represent a significant proportion of the market sector. As this is not the case in the global sukuk market currently, issues with the following features are excluded:

- Dual currency bonds
- Callable and puttable bonds
- Convertible bonds
- Warrant bonds

Issues with sinking funds and amortization features are also excluded because the redemption schedules may be volatile due to prepayment actions which cause uncertainties in future cash flows.

2.5. Region

Only sukuk issued in Eurobond market are considered. No restriction on issuer domicile.

3. DATA SOURCES

Raw data for index generation are sourced from Refinitiv Data Scope Select (DSS) report templates.

3.1 Daily Pricing Data

Daily raw price data from End of Day Pricing Template for data starting from 5 March 2012 onwards. Price provider is Refinitiv Evaluated Pricing Service (EPS) and the daily report cut-off time is scheduled at 00:20 GMT. Settlement is based on settlement conventions of individual bonds.

3.2 Historical Index Data Backfill

Back tested historical values starting 2 May 2011 to 2 March 2012 used raw price data from Timeseries Pricing Template and price provider is Refinitiv Evaluated Pricing Service (EPS). Settlement is based on settlement conventions of individual bonds.

4. CALCULATION METHODOLOGY

4.1 Index Level Computation

Index computation of Refinitiv Global Sukuk Indices are designed from the perspective of capturing accurate measures of portfolio performances for reliable benchmarking exercises. This is done to ensure the index returns and levels calculated are comparable to a functioning portfolio.

4.2 Total Return Computation

To reflect portfolio performances, the indices utilize arithmetic calculations on its constituents to derive the total returns. The relative size of each index constituent in the respective index series will be reflected in the weight allotted to the constituent, please check 4.5.b below.

In order to maintain continuity from the previous day, the arithmetic calculations must also be chain-linked i.e previous index level is multiplied by the computed aggregate percentage return for the day.

4.3 Weighting Scheme

Each issue within an index is weighted via daily market capitalisation, similar to the equity index concept. Therefore, the indices allow larger issues greater role in influencing the total return of the index.

Furthermore, the adopted chain-link method allows constituents to change their relative sizes by placing differing weights on current and previous returns as market capitalisations change.

4.4 Reinvestment of Cash Flows

Profit payments earned by sukuk issues are reinvested into the indices on the day of scheduled payment disseminations or more specifically, when accrued profit payments accrue to 0. The proceeds are reinvested in the indices according to the proportions of issue sizes. Transaction costs are ignored.

4.5 Calculation Details

a. Issues Total Return

Daily total returns are calculated for all eligible issues. The formula for daily total return is:

$$\text{Total Return}(TR_{i,t}) = \frac{(P_{i,t} + AI_{i,t} + I_{i,t}) - (P_{i,t-1} + AI_{i,t-1})}{P_{i,t-1} + AI_{i,t-1}}$$

The total return is in fact the summation of the price return (capital gain) and the coupon return (income) for each respective issue:

$$\text{Total Return}(TR_{i,t}) = \text{Price Return}(PR_{i,t}) + \text{Coupon Return}(CR_{i,t})$$

Notation	Descriptions
$P_{i,t}$	clean price of the i-th bond at time t
AI	accrued interest
I	coupon payments
N	nominal outstanding amount

b. Index Weight

The weight of each eligible issue or index constituent is equal to the market capitalisation of the issue expressed as a percentage of the total market capitalisation of the index or subindex as of previous day, as follows:

$$w_i = \frac{(P_{i,t-1} + AI_{i,t-1}) \times N_{i,t-1}}{\sum_{j=1}^n ((P_{j,t-1} + AI_{j,t-1}) \times N_{j,t-1})}$$

c. Index Total Return

The daily total return for an index on a given day is equal to the weighted average of the total returns of eligible issues which compose the index or subindex. The formula is:

$$\text{Index Total Return}(ITR_{i,t}) = \sum_{i=1}^n w_i \times TR_{i,t}$$

d. Index Level

Daily index values are derived at the end of computation process by multiplying the previous index value by current Index Total Return, as follows:

$$\text{Total Return Index}(TRI_{i,t}) = (1 + ITR_t) \times TRI_{t-1}, TRI_0 = 100$$

5. INDEX STATISTICS COMPUTATION

By contrast to index returns and levels, index statistics are calculated to reflect the profile of the index, after rebalancing is performed. These statistics are designed to reflect the portfolio characteristics that will generate returns for the succeeding day. The following statistics are calculated:

- Market Value and No. of Issues
- Average Days to Maturity
- Average Coupon

5.1. Market Value and No. of Issues

Market value of index or subindex is calculated as the summation of dirty prices (expressed in percentage of par 100) multiplied by nominal outstanding amounts for all constituents in the respective index or subindex. No. of issues is the number of constituents which compose the index or subindex.

5.2. Index Weight

For index statistics computation, the weight of each eligible issue or index constituent is equal to the market capitalisation of the issue expressed as a percentage of the total market capitalisation of the index or subindex as of present day after rebalancing is performed, as follows:

$$w'_i = \frac{(P_{i,t} + AI_{i,t}) \times N_{i,t}}{\sum_{j=1}^n ((P_{j,t} + AI_{j,t}) \times N_{j,t})}$$

Notation	Descriptions
$P_{i,t}$	clean price of the i-th bond at time t
AI	accrued interest
I	coupon payments
N	nominal outstanding amount
T	time to maturity (in days)
CR	coupon rate

5.3. Average Days to Maturity and Average Coupon

The following formulae compute the average maturity and coupon of the index portfolios based on weighted average principles.

$$\text{Average Days To Maturity}(AT_t) = \sum_{i=1}^n w'_i \times T_{i,t}$$

$$\text{Average Coupon}(ACR_t) = \sum_{i=1}^n w'_i \times CR_{i,t}$$

6. REBALANCING METHODOLOGY

6.1. Index Base Date

Index base date begins on 2 May 2011

6.2. Inclusion of New Issues

Inclusion of new issues is done on monthly basis; on the first weekday of the month. The fixing day to identify all new issuances is at the end of the month. This is done to ensure all new sukuk issuances for the previous month are accumulated and listed completely.

6.3. Exclusion and Reallocation

Exclusion of ineligible issues, i.e issues which do not qualify any of the construction rules set out in part 3, is performed daily. Re-allocation (such as rating changes) is also adjusted accordingly upon daily calculation of indices.

7. Calendar

7.1. Timing of Index Generation

At the close of each business day, prices are sourced from the price provider, Refinitiv Evaluated Pricing Service (EPS). Based on the most recent collated prices, index returns and levels are calculated daily to reflect the performances of the portfolios. Issues without prices for the day nor previous day will not be included in the index calculation.