

**STANDARD  
& POOR'S**

# S&P AFRICA 40

INDEX METHODOLOGY

February 2009

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# Introduction

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Many African countries have recently been experiencing strong economic growth, making the African equity markets an increasingly attractive investment opportunity. The S&P Africa 40 provides exposure to 40 of the largest, most liquid companies that operate purely in Africa.

## **Highlights**

To provide broad exposure across several African countries, the index limits the number of companies from any single country to eight and includes developed market listings of companies domiciled in Africa or that have the majority of their assets and operations in Africa.

Index constituents must meet minimum size and liquidity requirements to ensure investability and tradability.

The Index uses a modified market capitalization-weighting scheme. Modifications are made to market capitalization weights, if required, to reflect available float, reduce single stock and single country concentration and enhance index basket liquidity.

# Eligibility Criteria

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## **Eligibility Factors**

**Market Capitalization.** Stocks must have a float-adjusted market capitalization above US\$ 100 million.

**Liquidity.** Stocks must have three-month average daily value traded above US\$ 1 million.

**Domicile.** Companies must be domiciled in Africa or have the majority of their assets and operations in Africa.

**Exchange Listing.** Companies listed in the following local markets are eligible for inclusion: Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa and Tunisia. Companies from other African countries are also eligible if they are listed on a developed market exchange, such as through an ADR or GDR.

## **Timing of Changes**

The index is rebalanced twice a year in June and December. The semi-annual rebalancing of the index is effective after the market close of the third Friday of June and December. The reference dates for the data used in the review are the third Friday of May and November, respectively.

**Additions.** No companies are added between rebalancings.

**Deletions.** Between rebalancings, a company can be deleted from the S&P Africa 40 due to corporate events such as mergers, acquisitions, delistings or a significant event that affects company size and liquidity.

# Index Construction

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## **Approaches**

The S&P Africa 40 methodology employs a modified market capitalization-weighting scheme, using the divisor methodology used in most Standard & Poor's equity indices.

At each rebalancing, modifications are made to market capitalization weights, if required, to reflect available float, reduce single stock concentration and enhance index basket liquidity as follows:

- No stock can have a weight of more than 8% in the Index,
- No country can have a weight more than 30% in the Index, and
- The minimum initial portfolio size that can be turned over in a single day (based on recent trading volumes) cannot be lower than US\$ 200 million.

There are two steps in the creation of the S&P Africa 40. The first is the selection of the 40 companies; the second is the weighting of the index constituents.

## **Constituent Selection**

1. The initial selection universe consists of all constituents of the S&P/IFCG country indices for Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa and Tunisia, as well as all developed market listings of companies domiciled in Africa or who have the vast majority of their assets and operations in Africa.
2. The average three-month daily value traded (hereafter referred to as "liquidity") and the float-adjusted market capitalization (hereafter referred to as "market cap"), as of the reference date, are measured.
3. All stocks with a market cap of less than US\$ 100 million (the "Market Cap Threshold") and/or liquidity of less than US\$ 1 million (the "Liquidity Threshold") are removed.
4. The remaining stocks are sorted in decreasing order of their float-adjusted market capitalization. The top forty become index members, subject to the constraint that there can be no more than eight companies from any particular country. If any particular country's company count exceeds eight the next largest eligible stock from a country that does not yet have eight constituents is chosen.

The Market Cap Threshold and Liquidity Threshold are subject to change based on market conditions. If there are not a minimum of forty eligible companies at the time of

the review one or more of the eligibility requirements may be relaxed to ensure forty constituents.

### Constituent Weightings

At each rebalancing, the weight for each index constituent is set in the following manner:

1. Every stock is given an initial Index Capitalization ( $IC$ ) equal to its float-adjusted market capitalization. . Basket Liquidity ( $BL$ ), Maximum Weight ( $MW$ ) and Maximum Country Weight ( $CW$ ) are set to US\$ 200 million, 8% and 30%, respectively. The weight of the  $i^{th}$  stock in the index is defined as follows:

$$W_i = \frac{IC_i}{\sum_{i=1}^{40} (IC)_i}$$

$$W_c = \sum W_i \text{ for all companies with country } C.$$

2. Trade size,  $S$ , is calculated for each stock as follows:

$$S_i = L_i / W_i$$

where  $L_i$  is the liquidity of the  $i^{th}$  stock, as defined by the three-month average daily value traded.

3. For individual stock constraints, the  $IC$  for each stock  $i$  is, then, modified as follows:

If  $W_i > MW$  and/or  $S_i < BL$

Then  $IC_i = IC_{i, previous} - (5\% * IC_{i, previous})$

Else  $IC_i = IC_{i, previous}$

4. For country weight constraints, the  $IC$  for each stock  $i$  is, then, modified as follows:

If  $W_c \geq CW$

Then  $IC_i = IC_{i, previous} - (5\% * IC_{i, previous})$ , for every stock in country  $C$ .

Else  $IC_i = IC_{i, previous}$

5. If, for every stock  $W_i < MW$ ,  $W_c < CW$  and  $S_i > BL$ , then the process is complete and the weights derived in steps 1 and 2 are used. If not, steps 3 and 4 are repeated until all stocks and countries meet the maximum weight and basket liquidity requirements.

The basket liquidity (*BL*) parameter essentially sets a limit of the minimum portfolio size that must be turned over in a single day, based on the historical average value-traded pattern. The maximum weight (*MW*) parameter is the maximum weight of each stock at the rebalancing. The country weight (*CW*) parameter is the maximum weight of each country at the rebalancing. Steps 1 through 4 modify the market cap-weighting scheme in a looped manner until the *CW*, *MW* and *BL* constraints are satisfied for all index constituents.

The basket liquidity, maximum weight and maximum country weight constraints are subject to change based on market conditions. If the basket liquidity rule cannot be satisfied for all index constituents after all possible iterations are completed, one or more of these constraints may be changed to ensure that the constraint is satisfied for all constituents.

### Index Calculations

The index is calculated by means of the divisor methodology used in all Standard & Poor's equity indices. The index value is simply the index market value divided by the index divisor:

$$\text{Index Value} = \frac{\text{Index Market Value}}{\text{Index Divisor}} \quad (1)$$

$$\text{Index Market Value} = \sum_{i=1}^N (\text{Index Shares})_i * (\text{Price})_i \quad (2)$$

Index Shares are set at the time of rebalancing in the following manner such that for the  $i^{\text{th}}$  constituent:

$$\text{Index Shares}_i = \frac{(1000000 * W_i)}{\text{Price}_{\text{rebalancing day close, } i}} \quad (3)$$

where  $W_i$  is the weight for the  $i^{\text{th}}$  constituent at the rebalancing as described in the previous section, and  $\text{Price}_{\text{rebalancing day close, } i}$  is its price at the close of the rebalancing date.

In order to maintain basket series continuity, it is also necessary to adjust the divisor at the rebalancing.

$$(\text{Index Value})_{\text{before rebalancing}} = (\text{Index Value})_{\text{after rebalancing}} \quad (4)$$

Therefore,

$$(\text{Divisor})_{\text{after rebalancing}} = \frac{(\text{Index Market Value})_{\text{after rebalancing}}}{(\text{Index Value})_{\text{before rebalancing}}} \quad (5)$$

# Index Maintenance

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## Rebalancing

The index is rebalanced semiannually in June and December. The rebalancing of the index is effective after the market close of the third Friday of June and December. The data reference dates are the third Friday of May and November, respectively.

## Base Date

The base value of the S&P Africa 40 is 100 on January, 31, 2005. Data history begins and daily returns are available starting from that date.

## Index Actions

Corporate Action	Adjustment Made to Index	Divisor Adjustment
Spin-Off	No weight change. The price is adjusted to the Price of the Parent Company minus (Price of Spin-off company/Share Exchange Ratio). Index Shares change so that the company's weight remains the same as its weight before the spin-off.	No
Rights Offering	The price is adjusted to the Price before the rights issuance minus (the Price of the Rights Offering/Rights Ratio). Index Shares change so that the company's weight remains the same as its weight before the rights offering.	No
Stock Split	Index Shares are multiplied by and price is divided by the split factor.	No
Share Issuance or Reduction	None	No
Special Dividends	Price of the stock making the special dividend payment is reduced by the per-share special dividend amount after the close of trading on the day before ex-date.	Yes
Delisting	The stock is removed. No replacements are made.	Yes
Significant event that effects company size and liquidity	The stock is removed. No replacements are made.	Yes
Merger or acquisition	If the surviving company is already an index member, it is retained in the index. If the surviving company does not belong to one of the eligible countries or does not maintain the exchange listing included in the index, it is removed. An announcement will be made in other cases.	Yes, if there is a removal.

**Exchange Rate**

WM/Reuters foreign exchange rates are taken daily at 4:00 PM Greenwich Mean Time (GMT) and used in the calculation of the indices. These mid-market fixings are calculated by The WM Company based on Reuters data and appear on Reuters pages WMRA.

# Index Data

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## Total Return and Net Return Indices

The index has a total return counterpart, which assumes dividends are reinvested in the index after the close on the ex-date. On any given date  $t$ :

$$\text{Total Return Multiplier}_t = \frac{[\text{Index Value}_t + \text{Index Dividend Points}_t]}{\text{Index Value}_{t-1}} \quad (5)$$

$$\text{Total Return Index Value}_t = (\text{Total Return Index Value}_{t-1}) * (\text{Total Return Multiplier}_t) \quad (6)$$

$$\text{Index Dividend Points}_t = \sum_{i=1}^N (\text{Index Shares})_{i,t} * (\text{Ex - dividends})_{i,t} / \text{Divisor}_t \quad (7)$$

There is also a net return index series, which adds dividends after adjustments for withholding taxes based on a Luxembourg domicile. Effectively, the net return index adds index dividend points, as in Equation 7, except that the Ex-dividends term is multiplied by (100% - withholding tax rate).

# Index Governance

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## **Index Committee**

The S&P Africa 40 Index Committee maintains the index. The Index Committee members are all full-time professional members of Standard & Poor's staff. The Index Committee meets as needed. At each meeting, the Index Committee reviews pending corporate actions that may affect index constituents, statistics comparing the composition of the indices to the market, and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting companies, share counts, the Liquidity Threshold, the Market Cap Threshold, Basket Liquidity and Maximum Weight, or other matters. In the rare event that less than 40 stocks qualify for inclusion at the rebalancing, Standard & Poor's may modify the criteria to include multiple share classes or reduce the market cap limit, in that order.

Standard & Poor's considers information about changes to its indices and related matters to be potentially market moving and material. Therefore, all Index Committee discussions are confidential.

# Index Policy

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## **Announcements**

Rebalancing results, which may include additions, deletions and weight changes; recapping, which may result in revised index weights; other intra-rebalancing deletions; and any other relevant news affecting this Index, will be normally announced two-to-five days ahead of the effective date. These announcements are posted on the Web site and sent to clients by email. No separate announcements are made for routine corporate actions whose index implications are discussed in this document. If required, special or unusual events may warrant a posting on the aforementioned Web site.

*All index announcements are via Standard & Poor's Web site at [www.indices.standardandpoors.com](http://www.indices.standardandpoors.com).*

## **Holiday Schedule**

The index is calculated daily, throughout the calendar year. The only days the index is not calculated are on days when all exchanges where the S&P Africa 40 index constituents are listed are officially closed or if WM Reuters' exchange rates services are not published.

*A complete holiday schedule for the year is available on Standard & Poor's Web site at [www.indices.standardandpoors.com](http://www.indices.standardandpoors.com).*

## **Unscheduled Market Closures**

In situations where an exchange is forced to close early due to unforeseen events, such as computer or electric power failures, weather conditions or other events, Standard & Poor's will calculate the closing price of the indices based on (1) the closing prices published by the exchange, or (2) if no closing price is available, the last regular trade reported for each stock before the exchange closed. In all cases, the prices will be from the exchange listing included in the index. If an exchange fails to open due to unforeseen circumstances, the index will use the prior day's closing prices. If all exchanges fail to open, Standard & Poor's may determine not to publish the index for that day.

# Index Dissemination

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## **Tickers**

Index returns are available on most vendor platforms. Bloomberg and Reuters tickers are as follows:

<b>Index</b>	<b>Bloomberg</b>	<b>Reuters</b>
S&P Africa 40	SPAFRUP	.SPAFRUP
S&P Africa 40 Net Total Return	SPAFRUN	.SPAFRUN
S&P Africa 40 EUR	SPAFREP	.SPAFREP
S&P Africa 40 EUR Net Total Return	SPAFREN	.SPAFREN

## **FTP**

Daily stock level, index data and corporate action files are available via FTP on subscription.

*For further information, please refer to Standard & Poor's Web site at [www.indices.standardandpoors.com](http://www.indices.standardandpoors.com) or contact a Standard & Poor's account manager.*

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