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EQUITY 101

# Developing an Appropriate Benchmark Index for African Equity Funds

Although most investors have adopted a preferred benchmark or index to measure or track the performance of developed markets, there is less consensus on the benchmarks that should be used for emerging and frontier markets. The International Finance Corporation (IFC) coined the terms “emerging markets” and “frontier markets” and was the pioneer in creating equity indices in those markets. S&P Dow Jones Indices acquired the Emerging Markets Data Base (EMDB) from the IFC in 2000 and now offers the most comprehensive index suite available, with live history dating back to 1998. Selecting the most appropriate benchmark for an Africa equity fund can be a challenging prospect, and requires taking various factors into account as these markets develop and grow.

Due to the low number of stocks in Africa, one naturally finds that most of the liquidity is concentrated in the largest stocks.

The two main factors to consider when developing or selecting any benchmark or index is the tradeoff between representativeness and tradability. As the universe of stocks represented by an index increases, the tradability of the index typically declines. Similarly, selecting only highly liquid or tradable stocks will not capture a full representation of the market.

Most index providers will construct indices by maintaining a good balance between the liquidity of stocks and capturing a large percentage of the market. Reading the methodology documents supplied on index providers' websites can be a good start to understanding how the indices are constructed.

Indices are mainly used for two purposes: benchmarking and index products. Indices used for benchmarking purposes tend to be broader, while indices used for index products tend to be more liquid and concentrated. Due to the low number of stocks in Africa, one naturally finds that most of the liquidity is concentrated in the largest stocks.

S&P Dow Jones Indices' coverage for Africa includes South Africa, Egypt, Morocco, Tunisia, Botswana, Ghana, Côte D'Ivoire, Nigeria, Kenya, Mauritius, Namibia, Zambia, and Zimbabwe, as well as African companies listed on developed exchanges in Australia, Canada, France, the U.K., Switzerland, and the U.S. African companies listed on developed exchanges need to derive a significant portion of their earnings and operations outside of Africa to qualify for inclusion.

Exhibits 1-4 give a brief summary of the main African indices available from S&P DJI.

Exhibit 1: African Indices by Country Weightage											
Index	S&P Pan Africa BMI (%)	S&P All Africa (%)	S&P All Africa Capped (%)	S&P All Africa ex-South Africa (%)	S&P All Africa ex-South Africa Capped (%)	S&P All Africa ex-South Africa Select (%)	S&P Pan Africa Ex South Africa BMI (%)	S&P Pan Africa ex-South Africa Select (%)	S&P All Sub-Saharan Africa ex-South Africa Index (%)	S&P Sub-Saharan Africa ex South Africa Select (%)	S&P Pan Africa Shariah (%)
Australia	-	0.11	0.44	0.90	0.75	-	-	-	0.82	-	-
Botswana	0.52	0.28	1.16	2.37	2.38	0.46	3.24	2.09	3.98	5.39	0.50
Canada	-	0.54	2.20	4.51	3.76	2.39	-	-	4.12	-	-
Switzerland	-	5.42	3.20	0.13	0.22	-	-	-	0.33	-	-
Cote d'Ivoire	0.66	0.36	1.47	3.01	3.96	3.62	4.12	3.99	6.12	8.87	1.31
Egypt	3.53	1.95	7.91	16.17	16.16	19.69	22.14	18.29	-	-	2.78
France	-	0.09	0.36	0.74	0.62	-	-	-	0.68	-	-
U. K.	-	38.78	30.43	18.85	15.73	20.39	-	-	17.22	-	-
Ghana	0.24	0.13	0.53	1.09	0.93	-	1.49	0.02	1.55	0.77	0.11
Kenya	2.09	1.15	4.68	9.57	11.51	12.63	13.11	17.96	18.33	33.87	2.02
Morocco	2.81	1.37	5.59	11.43	11.57	14.85	17.62	22.86	-	-	4.65
Mauritius	0.95	0.52	2.13	4.35	4.36	2.56	5.96	4.54	7.26	8.99	0.16
Namibia	0.21	0.12	0.47	0.96	0.96	-	1.32	0.02	1.60	0.52	-
Nigeria	4.43	2.44	9.92	20.28	21.06	20.92	27.77	28.59	32.41	38.86	5.34
Tunisia	0.44	0.22	0.90	1.84	1.85	-	2.75	0.19	-	-	0.38
U. S.	-	0.28	1.14	2.33	1.95	2.50	-	-	2.13	-	-
South Africa	84.04	46.05	26.75	-	-	-	-	-	-	-	82.63
Zambia	0.08	0.04	0.17	0.36	0.45	-	0.49	0.15	0.67	0.19	0.12
Zimbabwe	-	0.13	0.55	1.12	1.80	-	-	1.29	2.77	2.53	-

Source: S&P Dow Jones Indices LLC. Data as of March 30, 2016. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 2: African Indices Market Cap by Country											
Index	S&P Pan Africa BMI (USD)	S&P All Africa (USD)	S&P All Africa Capped (USD)	S&P All Africa ex-South Africa (USD)	S&P All Africa ex-South Africa Capped (USD)	S&P All Africa ex-South Africa Select (USD)	S&P Pan Africa Ex South Africa BMI (USD)	S&P Pan Africa ex-South Africa Select (USD)	S&P All Sub-Saharan Africa ex-South Africa Index (USD)	S&P Sub-Saharan Africa ex South Africa Select (USD)	S&P Pan Africa Shariah (USD)
Free Float Index Market Cap	355,997,194,541	646,792,018,446	636,229,949,207	77,798,970,143	78,317,342,453	55,030,573,405	56,830,830,551	38,781,976,890	55,185,280,302	24,444,754,556	90,317,825,544
Australia	-	701,873,845	2,806,383,777	701,873,845	589,547,670	-	-	-	454,881,674	-	-
Botswana	1,840,260,855	1,840,260,855	7,358,128,879	1,840,260,855	1,866,110,119	252,917,581	1,840,260,855	809,185,531	2,199,069,315	1,316,690,827	454,830,923
Canada	-	3,505,672,475	14,017,137,737	3,505,672,475	2,944,633,216	1,315,187,016	-	-	2,272,012,522	-	-
Switzerland	-	35,060,458,896	20,371,902,537	98,110,666	170,952,229	-	-	-	183,072,041	-	-
Cote d'Ivoire	2,342,524,142	2,342,524,142	9,366,386,559	2,342,524,142	3,099,452,213	1,992,870,788	2,342,524,142	1,548,597,842	3,378,826,270	2,168,020,042	1,187,226,363
Egypt	12,581,173,406	12,581,173,406	50,304,768,003	12,581,173,406	12,652,788,007	10,835,796,621	12,581,173,406	7,094,962,164	-	-	2,506,659,392
France	-	577,458,003	2,308,917,453	577,458,003	485,043,035	-	-	-	374,248,257	-	-
U. K.	-	250,847,524,662	193,605,834,135	14,664,994,193	12,318,044,347	11,219,364,786	-	-	9,504,324,973	-	-
Ghana	844,736,353	844,736,353	3,377,607,547	844,736,353	724,728,213	-	844,736,353	9,182,726	856,728,591	189,355,110	100,651,004
Kenya	7,448,744,767	7,448,744,767	29,783,182,008	7,448,744,767	9,010,606,048	6,948,817,914	7,448,744,767	6,964,735,314	10,114,281,181	8,280,593,357	1,826,462,967
Morocco	10,016,399,645	8,888,760,338	35,540,963,646	8,888,760,338	9,064,217,819	8,170,884,013	10,016,399,645	8,864,560,961	-	-	4,196,200,037
Mauritius	3,386,636,191	3,386,636,191	13,541,181,129	3,386,636,191	3,412,001,629	1,406,311,840	3,386,636,191	1,760,925,674	4,006,468,884	2,198,048,388	140,847,804
Namibia	749,940,374	749,940,374	2,998,573,767	749,940,374	748,902,595	-	749,940,374	9,497,731	885,501,505	127,000,667	-
Nigeria	15,779,136,496	15,779,136,496	63,091,555,541	15,779,136,496	16,490,092,512	11,514,337,418	15,779,136,496	11,088,718,498	17,883,209,299	9,498,773,037	4,825,919,293
Tunisia	1,563,551,282	1,429,835,914	5,717,079,131	1,429,835,914	1,450,484,832	-	1,563,551,282	74,429,166	-	-	345,449,939
U. S.	-	1,813,642,802	7,251,698,826	1,813,642,802	1,523,391,839	1,374,085,428	-	-	1,175,414,757	-	-
South Africa	299,166,363,990	297,848,169,604	170,208,585,386	-	-	-	-	-	-	-	74,628,264,381
Zambia	277,727,040	277,727,040	1,110,468,307	277,727,040	355,508,083	-	277,727,040	58,466,251	371,238,008	47,263,898	105,313,441
Zimbabwe	-	867,742,284	3,469,594,838	867,742,284	1,410,838,049	-	-	498,715,033	1,526,003,023	619,009,230	-

Source: S&P Dow Jones Indices LLC. Data as of March 30, 2016. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 3: Number of stocks in African Indices by Country											
Index	S&P Pan Africa BMI	S&P All Africa	S&P All Africa Capped	S&P All Africa ex-South Africa	S&P All Africa ex-South Africa Capped	S&P All Africa ex-South Africa Select	S&P Pan Africa Ex South Africa BMI	S&P Pan Africa ex-South Africa Select	S&P All Sub-Saharan Africa ex-South Africa Index	S&P Sub-Saharan Africa ex South Africa Select	S&P Pan Africa Shariah
Number Of Stocks	338	372	372	233	233	50	203	44	162	42	97
Australia	-	4	4	4	4	-	-	-	4	-	-
Botswana	9	9	9	9	9	1	9	3	9	4	2
Canada	-	8	8	8	8	2	-	-	8	-	-
Switzerland	-	2	2	1	1	-	-	-	1	-	-
Cote d'Ivoire	14	14	14	14	14	2	14	1	14	4	4
Egypt	30	30	30	30	30	14	30	6	-	-	12
France	-	2	2	2	2	-	-	-	2	-	-
U. K.	-	19	19	9	9	6	-	-	9	-	-
Ghana	8	8	8	8	8	-	8	1	8	1	2
Kenya	19	19	19	19	19	4	19	9	19	10	2
Morocco	17	12	12	12	12	7	17	5	-	-	7
Mauritius	23	23	23	23	23	2	23	3	23	3	2
Namibia	5	5	5	5	5	-	5	1	5	1	-
Nigeria	31	31	31	31	31	10	31	12	31	16	10
Tunisia	38	29	29	29	29	-	38	1	-	-	13
U. S.	-	3	3	3	3	2	-	-	3	-	-
South Africa	135	128	128	-	-	-	-	-	-	-	40
Zambia	9	9	9	9	9	-	9	1	9	1	3
Zimbabwe	-	17	17	17	17	-	-	1	17	2	-

Source: S&P Dow Jones Indices LLC. Data as of March 30, 2016. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 4: Sector Weights of African Indices											
GICS Sector Weights	S&P Pan Africa BMI (%)	S&P All Africa (%)	S&P All Africa Capped (%)	S&P All Africa ex-South Africa (%)	S&P All Africa ex-South Africa Capped (%)	S&P All Africa ex-South Africa Select (%)	S&P Pan Africa Ex South Africa BMI (%)	S&P Pan Africa ex-South Africa Select (%)	S&P All Sub-Saharan Africa ex-South Africa Index (%)	S&P Sub-Saharan Africa ex-South Africa Select (%)	S&P Pan Africa Shariah (%)
Energy	5.1	3.9	7.2	11.8	9.8	7.9	4.0	3.8	10.7	6.2	-
Materials	8.9	13.7	18.0	24.1	20.1	21.6	8.6	9.4	19.5	6.1	-
Industrials	3.9	2.1	1.7	1.2	2.0	0.8	1.5	0.0	1.7	0.6	-
Consumer Discretionary	29.0	21.3	13.1	1.8	3.1	0.7	2.3	1.2	2.8	2.3	-
Consumer Staples	8.1	30.4	22.6	11.8	20.4	19.2	15.7	22.2	25.4	27.5	-
Health Care	4.9	2.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
Financials	32.0	21.5	29.5	40.6	29.3	29.1	56.0	38.6	28.7	38.3	-
Information Technology	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
Telecommunication Services	7.4	4.1	5.7	7.9	13.7	20.0	10.6	24.6	9.6	18.0	-
Utilities	0.1	0.1	0.4	0.9	1.5	0.7	1.2	0.2	1.6	0.9	-

Source: S&P Dow Jones Indices LLC. Data as of March 30, 2016. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

As seen in Exhibits 1-4, fund managers have a wide range of appropriate indices to select from in order to meet the objective of their funds and against which to measure an investment's performance.

Broad indices like the [S&P Pan Africa BMI](#) and [S&P All Africa](#) offer a full universe of stocks without applying extremely strict liquidity, size, and capping adjustments to the universe. These indices, as well as similar indices from other index providers with less coverage, have at times been criticized for the fact that their sector and country exposure is not well-diversified; this is because African economies are still growing into mature, well-diversified economies. Outside of South Africa, financial and telecommunication companies dominate listings. Most African equity funds aim not to invest more than 30% to 40% in a particular country or sector, and some adhere to a 5/10/40 rule whereby no stock can make up more than 10% of the index, and the sum of all stocks larger than 5% can't represent more than 40% of a fund. S&P DJI addressed these concerns and requirements by introducing capped versions, where the index is capped on a country, sector, or stock level to minimize the chance of being over-exposed to a particular sector, stock, or geographical area.

Primary-listed African stocks, excluding South Africa, represent only 16% of the S&P Pan Africa BMI.

Although having capped indices may seem to have addressed diversification concerns, a larger concern relates to liquidity in Africa, as many exchanges, excluding that in South Africa, still have only a small number of equity listings, as seen in the above tables. Primary-listed African stocks, excluding those listed in South Africa, represent only 16% of the S&P Pan Africa BMI.

Another important factor to take into account when looking at African indices is the inclusion of a free-float factor. Free-float methodology excludes closely held shares, such as those held by pension funds and governments. The closely held shares are rarely traded and should not be included in the available universe.

S&P DJI has introduced indices that incorporate additional liquidity criteria, and these indices are typically referred to as "Select" indices. The constituents selected for these indices not only have to meet specific average or median trading values per day, but also trade a specific amount of days out of all trading days. The Select indices follow a capping approach in order to maintain the desirable representation and diversification. Indices like the [S&P South Africa 50](#), [S&P North Africa 15](#), [S&P East Africa 10](#), [S&P West Africa 25](#), and [S&P Southern Africa ex-South Africa 10](#) represent the largest and most liquid stocks for each of the main geographical areas.

Investors with a particular investment strategy or objective that is not aligned to a standard African index can look to work with index providers to construct a custom index. Custom indices can be constructed to

incorporate regional, size, liquidity, turnover, rebalancing, currency, tax, and many other unique requirements.

Investors seeking fair and equitable measurement should be aware of the various indices tracking African equity funds. It may no longer be necessary to pay performance fees against a cash-plus-target, like LIBOR, in order to invest in the African equity market given the wide range of free-float capital market indices available.

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