

AFRICA INVESTMENT INDEX





Editorial Board

Prof Mthuli Ncube (Managing Director, Head of Quantum Global Research Lab)

Milton Delo (Associate Economist)

Contacts: m.ncube@quantumglobalgroup.com
m.delo@quantumglobalgroup.com

Design production: Dirlene López, Marketing Officer

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Africa Investment Index factors

The **Africa Investment Index (AII)**, developed by Quantum Global Research Lab, is aimed at providing investors in Africa a guide to which countries and markets are most attractive for investment in the short to medium term.

The AII is a multidimensional barometer based on six clusters of factors, namely Growth factors, Liquidity factors, Risk factors, Business environment factors, Demographics, and Social Capital factors.

Growth factors such as GDP growth, domestic investment and size of the economy, capture the growth opportunities and potential returns from investments. **Liquidity factors** pertain to the level of domestic real interest rates, and excess money supply as measured by M2 growth over GDP growth. A high domestic interest rate, usually due to high inflation, makes real sector investments unattractive compared to investments in treasury bills. Excess money has the potential to stimulate future economic growth. **Risk factors** include aspects such as the credit rating standing of the country, risks of currency depreciation, as measured by inflation differentials, import-cover ratio, current account and external debt levels. Import captures the risk of payment in foreign currency. On the **Business environment factors**, which are micro-institutional factors, the index uses the 'doing business indicators' developed by the World Bank. **Demographic factors** pertain to the size of the population and potential market at present and in the future.

The last factor is the **Social capital factor**, which accounts for the level of networks, knowledge and connections in the target country. The Facebook penetration rate is used as a proxy for this social capital factor. Indeed, a user of the index can also customise the business environment factors by incorporating their quality of networks in a country by adjusting the 'doing business' ranking of the country. The social capital factor is an innovation.

The countries are ranked according to the AII. The AII also gives information on the appropriate 'risk premium' and 'discount rate' for investments in any given country.



GROWTH FACTOR

Domestic investment (% GDP)
Size of the economy
Economic growth



LIQUIDITY FACTOR

Real interest rate
Excess money supply



RISK FACTOR

Exchange rate risk
Credit rating
Import cover
External debt (% GNI)
Current account ratio



BUSINESS ENVIRONMENT

Ease of doing business



DEMOGRAPHIC FACTOR

Population



SOCIAL CAPITAL FACTOR

Facebook penetration rate

The index covers all 54 countries in Africa

Country Coverage

Central Africa

Cameroon
Central African Republic
Chad
Congo, Dem. Rep.
Congo, Rep.
Equatorial Guinea
Gabon
Sao Tome and Principe

Eastern Africa

Burundi
Comoros
Djibouti
Eritrea
Ethiopia
Kenya
Rwanda
Seychelles
Somalia
South Sudan
Sudan
Tanzania
Uganda

Northern Africa

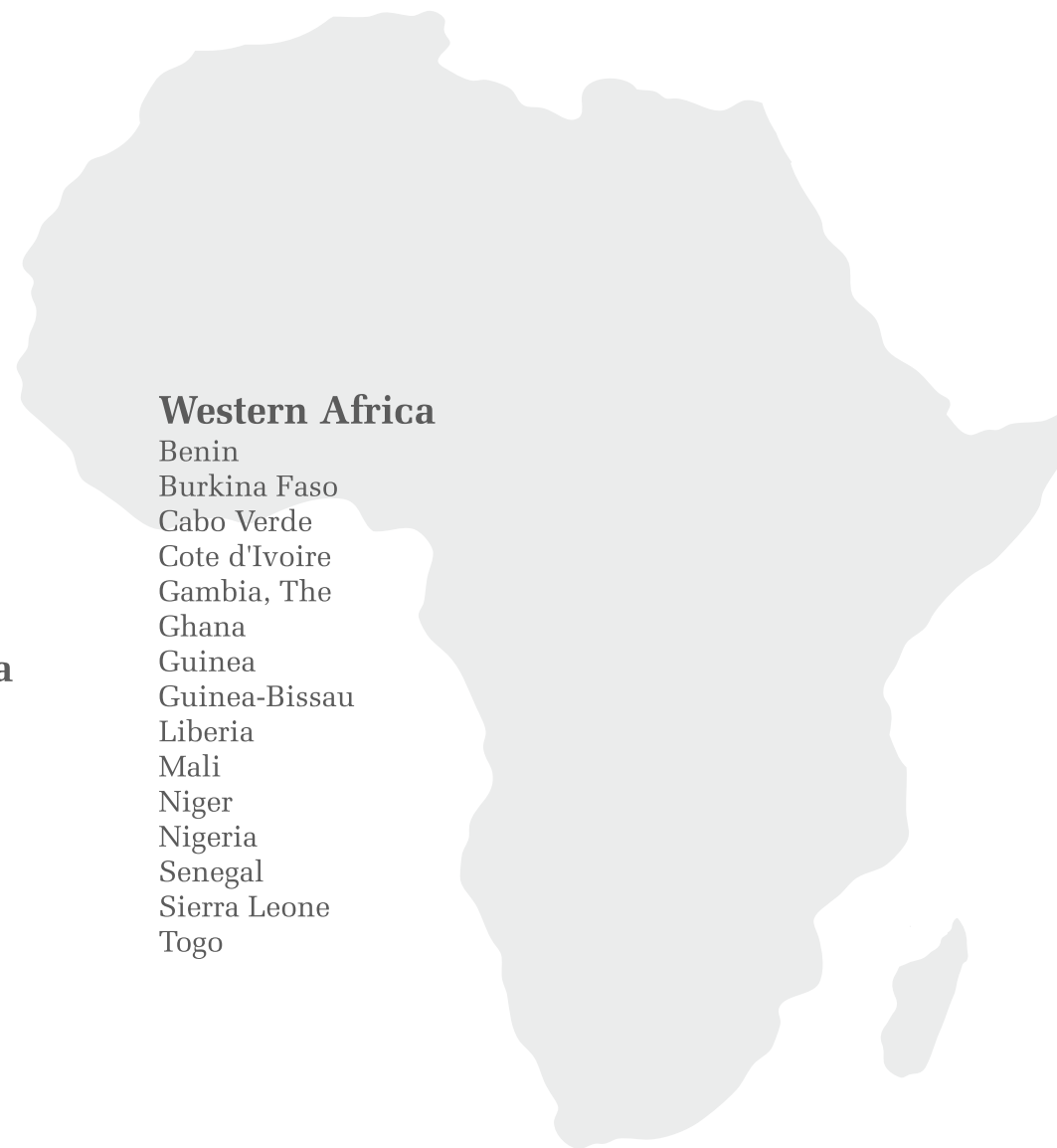
Algeria
Egypt, Arab Rep.
Libya
Mauritania
Morocco
Tunisia

Southern Africa

Angola
Botswana
Lesotho
Madagascar
Malawi
Mauritius
Mozambique
Namibia
South Africa
Swaziland
Zambia
Zimbabwe

Western Africa

Benin
Burkina Faso
Cabo Verde
Cote d'Ivoire
Gambia, The
Ghana
Guinea
Guinea-Bissau
Liberia
Mali
Niger
Nigeria
Senegal
Sierra Leone
Togo



Rankings

The rankings for the 54 African countries

Table 1: Africa Investment Index 2016

Country Name	Growth Factors ranking			Liquidity Factors ranking		Risk Factors ranking					Business Environment ranking	Demographic Factor ranking	Social Capital ranking	Africa Investment Index	
	Real GDP	Domestic Investment (%)	Economic Growth	Real Interest Rate	Excess money supply	Exchange Rate Risk	Credit Rating	Import Cover	External Debt (% GNI)	Current Account Ratio	Doing Business	Total Population	Facebook penetration rate	Total rank score	Ranking
Algeria	4		29	6	45	32	11	1	1	23	36	9	6	16.917	7
Angola	5	43	33	15	24	47	2	3	22	17	47	14	17	22.231	24
Benin	31	15	14	18	39	7	5	26	13		27	31	31	21.417	22
Botswana	21	9	50	8	6	22	1	2	5	2	4	42	9	13.923	1
Burkina Faso	28	8	21	19	14	8	5	27	12		20	19	47	19.000	10
Burundi	43	30	51	26	34	37	11	22	8	20	29	30	46	29.769	43
Cabo Verde	48		39	29	33	5	4	5	41	6	15	52	5	23.500	28
Cameroon	16	26	9		35	21	5	28	11		39	16	24	20.909	20
Central African Republic	46	37	15		40	36	11	29	32		50	37	50	34.818	52
Chad	27	12	31		46	29	11	30	6		48	25	52	28.818	39
Comoros	53		42	24	11	15	11	31			26	51	29	29.300	41
Congo, Dem. Rep.	10	33	2	38	36	11	10	23	7	8	49	4	48	21.462	23
Congo, Rep.	25	3	36		47	23	5	32	35		45	38	26	28.636	38
Cote d'Ivoire	15	23	1	9	22	12	3	33	25		18	17	22	16.667	6
Djibouti	50		8	30	15	10	11	16		26	40	49	10	24.091	31
Egypt, Arab Rep.	3	36	28	3	12	48	9	19	4	10	16	3	8	15.308	3
Equatorial Guinea	26	19	53		38	2	11	34			44	50	28	30.500	47
Eritrea	49		41			1	11	35			53	36	53	34.875	53
Ethiopia	14	4	18	2		46	11	36	24		32	2	42	21.000	21
Gabon	20	11	47		42	4	11	37	27		34	46	11	26.364	34
Gambia, The	52	22	22			39	11	38			25	44	21	30.444	46
Ghana	12	16	23		5	50	11	39	37	13	11	13	18	20.667	18
Guinea	33	39	48		9	42	11	40	9		35	26	30	29.273	40
Guinea-Bissau	51	40	17	23	4	16	11	41	19		46	45	43	29.667	42
Kenya	11	21	6	25	25	40	11	42	20		13	7	20	20.083	15
Lesotho	45		38	17	21	24	11	6		14	12	43	16	22.445	26
Liberia	44	27	45	28	30	28	11	21	34	28	43	39	32	31.538	49

Country Name	Growth Factors ranking			Liquidity Factors ranking		Risk Factors ranking					Business Environment ranking	Demographic Factor ranking	Social Capital ranking	Africa Investment Index	
	Real GDP	Domestic Investment (%)	Economic Growth	Real Interest Rate	Excess money supply	Exchange Rate Risk	Credit Rating	Import Cover	External Debt (% GNI)	Current Account Ratio	Doing Business	Total Population	Facebook penetration rate	Total rank score	Ranking
Libya	9		52		10		11	43			52	35	4	27.000	35
Madagascar	34	32	30	41	17	41	11	44	21		41	15	38	30.417	45
Malawi	36	41	32	40		51	11	45	15	19	19	21	45	31.250	48
Mali	29	29	16	14	29	17	11	46	17		21	20	35	23.667	29
Mauritania	38		27	35		13	11	47			38	40	23	30.222	44
Mauritius	30	28	25	16	27	14	11	10	42	9	1	48	2	20.231	16
Morocco	6	10	20	27	27	18	11	4	30	3	3	11	7	14.385	2
Mozambique	19	2	7	33	33	27	11	17	40	27	17	12	39	19.846	13
Namibia	24	6	11	11	11	26	11	20		21	9	41	13	18.750	9
Niger	32	5	19	21	21	9	11	48	28		31	18	51	26.167	33
Nigeria	1	34	35	20	20	44	11	9	2	4	42	1	25	20.846	19
Rwanda	37	14	4	34	34	20	11	12	16	22	2	28	44	20.308	17
Sao Tome and Principe	54		10	37	37	35	11	8		25	33	53	14	27.818	36
Senegal	22	18	5	13	13	6	11	49	29		24	24	15	19.333	11
Seychelles	47	7	26	22	22	30	11	11		24	7	54	3	23.883	30
Sierra Leone	41	35	54	32	32	43	11	50	23		23	34	40	32.417	50
Somalia	42		34				11	51	36		54	32	34	36.750	54
South Africa	2	25	40	7	7	31	11	7	33	7	5	5	12	16.000	4
South Sudan	35	42	43	1	1	52	11	52			51	27	49	33.091	51
Sudan	7	31	44			49	11	25	14	11	37	8		22.273	25
Swaziland	40		37	10	10	25	11	18	3	1	10	47	19	20.000	14
Tanzania	13	13	3	31	31	38	11	15	26	12	22	6	33	18.538	8
Togo	39	24	13	12	12	19	11	53	18		28	33	41	25.333	32
Tunisia	8	20	46	4	4	33	11	54	38	16	6	29	1	22.846	27
Uganda	17	17	12	36	36	34	11	13	10	15	14	10	36	19.462	12
Zambia	18	1	24	5	5	45	11	14	31	5	8	22	27	16.385	5
Zimbabwe	23	38	49	39	39	3	11	24	39	18	30	23	37	27.833	37

Table 2: Top 10 and Bottom 10 countries

Rank	Top 10 (best to worst)	Bottom 10 (worst to best)
1	Botswana	Somalia
2	Morocco	Eritrea
3	Egypt, Arab Rep.	Central African Republic
4	South Africa	South Sudan
5	Zambia	Sierra Leone
6	Cote d'Ivoire	Liberia
7	Algeria	Malawi
8	Tanzania	Equatorial Guinea
9	Namibia	Gambia, The
10	Burkina Faso	Madagascar

In table 2, the top 10 countries are highlighted with the top 3 being Botswana, Morocco, and Egypt, respectively.

Botswana scores highly across the categories of factors like credit rating, current account ratio, import cover and ease of doing business.

Morocco scores well in risk factors such as current account ratio and import cover, and on ease of doing business. Egypt scores well on the growth factor of the size of GDP, demographic factor of population size, liquidity factor of real interest rate and ease of doing business.

South Africa, the second largest economy, is ranked number 4 scores well on the growth factor of the size of GDP, ease of doing business and the demographic factor of population size.

Zambia, which is ranked 5th, scores well on the growth factor of domestic investment and on the liquidity factor of excess money supply. At number 6 is Côte d'Ivoire, which scores well in growth factors like GDP growth and on credit rating.

Algeria is ranked number 7, due to good scores in areas like real GDP, import cover and external debt. At

number 8 is Tanzania, due to factors like GDP growth and population size. Namibia is ranked 9th, due to domestic investment and the doing business environment. Rounding out the top 10 is Burkina Faso, due to factors such as domestic investment, exchange rate risk, credit rating and external debt.

The bottom 10 countries are Somalia, Eritrea, Central African Republic, South Sudan, Sierra Leone, Liberia, Malawi, Equatorial Guinea, the Gambia and Madagascar.

In terms of improvement in rankings over the last 3 years, countries such as Burkina Faso, Rwanda, Swaziland, and Tanzania have shown an improvement, as shown by the Delta in table 1A in appendix II. Côte d'Ivoire, Egypt and Kenya show moderate improvement. Countries such as Algeria, Equatorial Guinea, Tunisia, Seychelles and Nigeria, to name a few, have shown a worsening of their positions in the rankings over the last 3 years as measured by the Delta.



APPENDIX

APPENDIX I: METHODOLOGY

1. Key Concepts

Rank score: is the rank that a country receives for a particular variable.

Total rank score: is the average rank score for all ranked indicators.

AII ranking: or simply ranking or position is the resulting relative position of a country's total rank score.

The higher the rank score, the worse is the country's position. It measures the country's current or present standing relative to the remaining 53. The ranking of a particular country depends on the other country's position.

AII Delta: or simply Delta is the deviation of a country's ranking or position from its previous three years average ranking. Both the size and sign of a country's index score are important. For instance, an index score of + 5 means that a country improved its position by 5 points, while an index score of – 5 means that a country worsened its position by

5 points, from its three years average position. Therefore, the difference between the AII ranking and AII Delta is that the former provides a measure of the country's current position relative to the other countries while the latter measures the deviation of this current position from its 3-year average ranking.

Social Capital Factor (SCF):

This factor measures the degree, quality and depth of business and political networks that an investor can potentially develop in each country. The degree of social capital factor in a country can be measured by the penetration rates of social media usage like Facebook.

2. Index Construction

The AII is constructed from macroeconomic and financial indicators and the World Bank Group's Ease of Doing Business Indicators (DBI). The DBI ranks countries in terms of a regulatory environment conducive to business operation. The AII focuses on 6 pillars or factors

from a wider range of investment indicators, which include the share of domestic investment in GDP, the share of Africa's total FDI net inflow, GDP growth rate forecast, population augmented GDP growth factor, real interest rate, the difference of broad money growth to the GDP growth rates, inflation differential, credit rating, import cover, the share of the country's external debt in its GNI, current account ratio, ease of doing business and the country's population size. The AII indicators are based on secondary data collected from World Bank Development Indicators, IMF World Economic Outlook, UNCTAD Data Centre and own estimates.

The AII is a combination of individual indicator's rank into a single numerical ranking. It averages the country's macroeconomic and financial indicators rankings on the six different factors.

Each indicator, and hence factors, receives an equal weight. Their rank score is then averaged to produce the total average score which is consequently ranked from 1 to 54. The lower the value of the ranking, the worse the implied business investment climate. To produce an index score that captures medium-term changing aspects, individual country's ranking is scaled relative to a benchmark or reference value (i.e., the past 3-year rolling average ranking). See Table 1A.

In addition to the intended measurement, this approach enables us to avoid periods of structural changes (which may compromise the index) that may be present in a longer time span, whether we consider a change from a reference average value or a historical reference period.

APPENDIX II: THREE-YEAR ROLLING RANKINGS

Table 1A: Africa Investment Index (2013-2016)

Country Name	Total rank score				3-year average ranking	Current ranking	All Delta
	2013	2014	2015	Average		2016	
Algeria	3	4	1	16.846	2	7	-5
Angola	15	18	17	21.359	14	24	-10
Benin	31	22	19	23.564	25	22	3
Botswana	4	3	5	17.744	4	1	3
Burkina Faso	20	27	22	22.782	23	10	13
Burundi	41	40	40	28.846	40	43	-3
Cabo Verde	24	24	32	24.177	26	28	-2
Cameroon	18	17	23	22.051	19	20	-1
Central African Republic	53	53	53	36.133	53	52	1
Chad	43	37	30	27.112	37	39	-2
Comoros	42	46	45	30.831	45	41	4
Congo, Dem. Rep.	35	28	28	24.939	30	23	7
Congo, Rep.	38	44	26	27.297	38	38	0
Cote d'Ivoire	14	11	11	20.205	11	6	5
Djibouti	44	49	44	31.067	46	31	15
Egypt, Arab Rep.	10	8	8	19.513	8	3	5
Equatorial Guinea	17	34	52	26.889	34	47	-13
Eritrea	54	54	54	39.214	54	53	1
Ethiopia	12	9	2	18.767	6	21	-15
Gabon	19	15	31	22.655	22	34	-12
Gambia, The	32	41	50	29.662	42	46	-4
Ghana	11	7	9	19.556	9	18	-9
Guinea	49	48	51	33.028	51	40	11
Guinea-Bissau	47	52	47	32.396	49	42	7
Kenya	22	19	14	22.231	20	15	5
Lesotho	29	21	32	24.389	28	26	2
Liberia	46	38	43	29.846	43	49	-6
Libya	6	10	34	21.560	15	35	-20
Madagascar	39	43	41	29.568	41	45	-4
Malawi	48	51	46	32.308	48	48	0
Mali	27	31	29	24.795	29	29	0
Mauritania	36	35	35	26.981	35	44	-9
Mauritius	9	16	15	20.897	12	16	-4
Morocco	1	1	3	16.342	1	2	-1
Mozambique	23	23	12	21.947	18	13	5
Namibia	8	6	13	19.364	7	9	-2
Niger	33	36	24	25.459	32	33	-1
Nigeria	13	13	18	21.103	13	19	-6
Rwanda	30	32	27	25.051	31	17	14
Sao Tome and Principe	50	50	48	32.861	50	36	14
Senegal	16	20	15	21.564	16	11	5
Seychelles	28	12	10	21.788	17	30	-13
Sierra Leone	45	45	39	29.974	44	50	-6
Somalia	52	47	49	33.933	52	54	-2
South Africa	2	5	4	17.410	3	4	-1
South Sudan	51	42	42	31.519	47	51	-4
Sudan	26	29	25	24.374	27	25	2
Swaziland	34	30	36	26.410	33	14	19
Tanzania	20	25	19	22.487	21	8	13
Togo	37	33	37	27.103	36	32	4
Tunisia	5	14	7	19.626	10	27	-17
Uganda	25	26	21	23.205	24	12	12
Zambia	7	2	6	18.333	5	5	0
Zimbabwe	40	39	38	28.536	39	37	2

APPENDIX III: LINKS TO OTHER INDICATORS

The AII position of a country relative to others concerning its investment climate is in the same spirit as the Doing Business Indicators from the World Bank, and the Global Competitiveness Index. In fact, the AII incorporates the DBI and some factors in the GCI. There is some positive degree of correlation between these indices and indicators. The figures below present a simple correlation between the AII and two other indexes:

Figure 1 : Doing Business Index vs Africa Investment Index (without DBI)

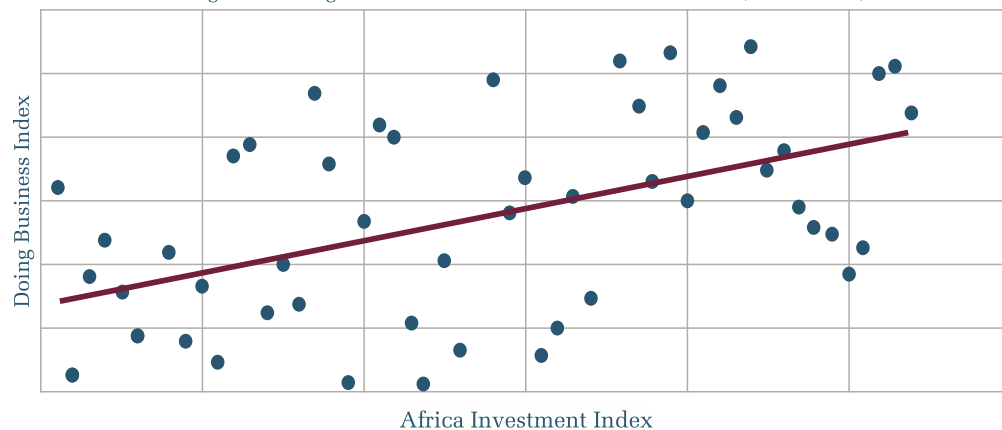
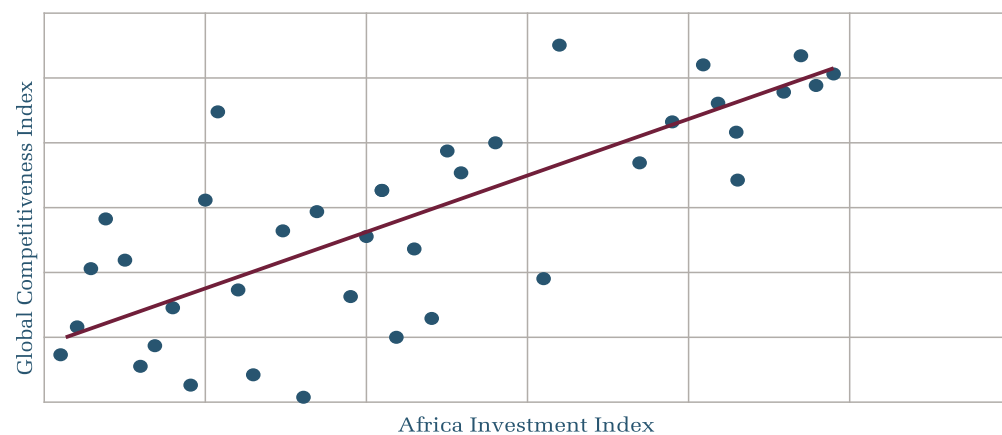


Figure 2: Global Competitiveness Index vs Africa Investment Index



QG quantum global