Frontier Market Bonds

The next chapter
2015

Rwenzori Mountains, Uganda

Aberdeen

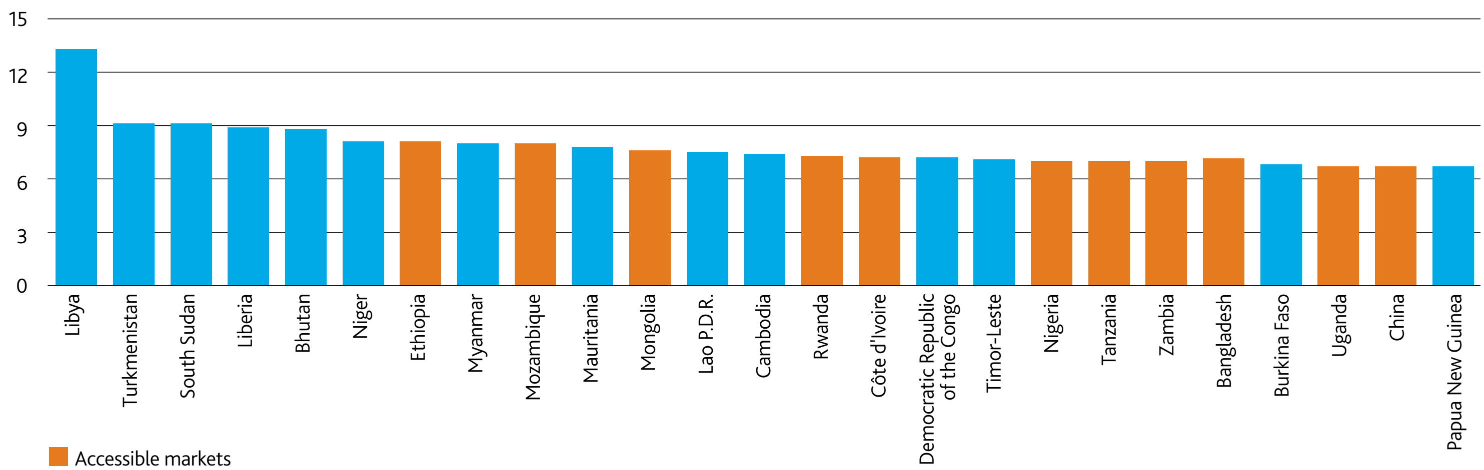
Frontier markets – an introduction

The development of the emerging market debt universe over the past decade has led many investors to seek to further diversify their portfolios into the next generation of emerging markets known as "frontier markets."

Coined in 1992 by the International Finance Corporation, "Frontier Markets" are a small part of the overall emerging market universe. Like mainstream emerging markets, frontier markets are considered to be developing economies with favorable growth dynamics and, in general, moderate debt levels. Frontier economies are, however, associated with higher levels of political and governance risks compared to their emerging market peers. Furthermore, frontier markets are largely underdeveloped with little financial intermediation. Access to international capital markets has improved in recent years, as evidenced by the increased Eurobond issuance, but frontier countries tend to be more reliant on multilateral institutions and international donors for financing. To compensate for these additional risks, frontier market debt is often associated with relatively higher return prospects compared to the wider bond universe.

World's fastest growing economies over the next five years

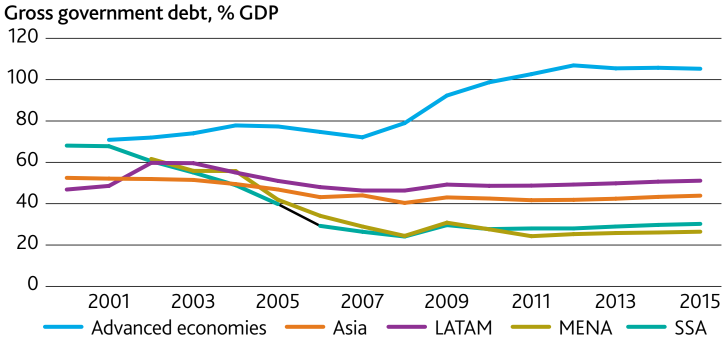
GDP growth, % 2015-2019



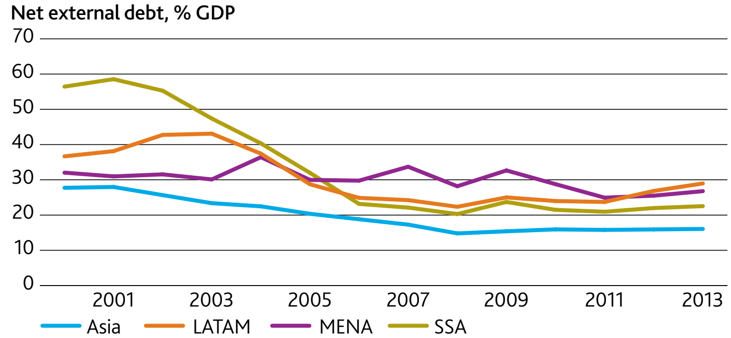
Source: International Monetary Fund, October 2014. For illustrative purposes only. Forecasts are offered as opinion and are not reflective of potential performance. Forecasts are not guaranteed and actual events or results may differ materially.

General improvement in public finances

Gross government debt, % GDP



Net external debt, % GDP



Source: International Monetary Fund, , January 2015. For illustrative purposes only.
Note: SSA = Sub-Saharan Africa, MENA = Middle East and North Africa.
LATAM = Latin America

Aberdeen's definition of Frontier Markets

JP Morgan NEXGEM index countries that issue hard currency and local currency government and corporate bonds, small and less liquid local currency government bonds and local currency corporate bonds issued by non-NEXGEM countries in emerging markets. There is no ratings threshold for frontier market bonds. Unrated securities can be included as frontier market bonds if they meet the above criteria.

Frontier markets – a long-term growth story

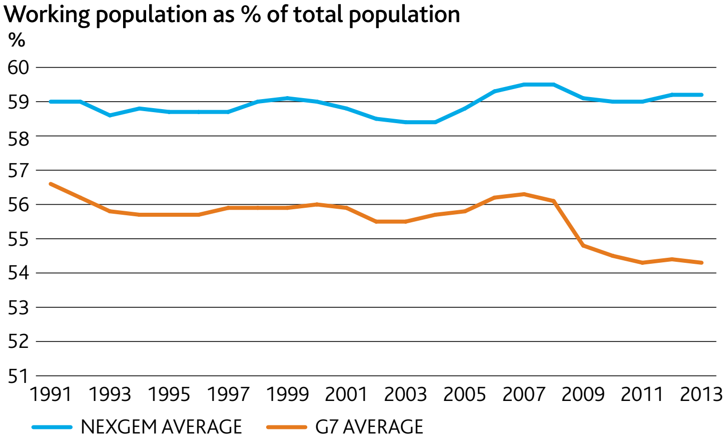
Frontier economies are expected to experience high levels of growth over the medium-term. We believe that a large proportion of growth in frontier countries can be explained by a growing working-age demographic, rising consumption and investment, a substantial commodity base, and more prudent macroeconomic policies.

Attractive demographics

Young, growing populations have caused many frontier market workforces to grow more rapidly than the population dependent on it, freeing up resources for investment in economic development and family welfare.

This is known as the "demographic dividend" effect, which can help to improve per capita income, domestic consumer spending and the sustainability of economic growth.

Working population as % of total population



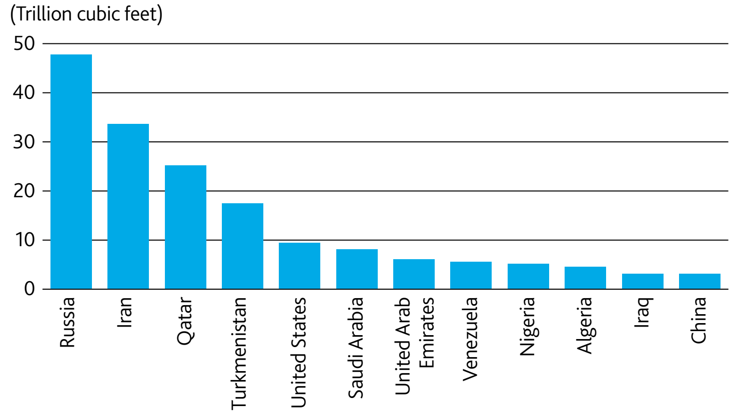
Source: World Bank, December 2014. For illustrative purposes only.

Large commodity base

Sustained demand for commodities from developed world and developing markets such as China and India have been supportive for a number of frontier countries. Recent hydrocarbon discoveries should also enhance the growth prospects of some frontier countries, and potentially improve social and income indicators in the coming years. For example, Kenya and Uganda have struck oil, Mozambique and Tanzania have uncovered significant offshore gas fields, while Mongolian growth prospects should remain strong as they develop one of the largest copper-gold mines in the world.

Proved reserves of natural gas in cubic meters

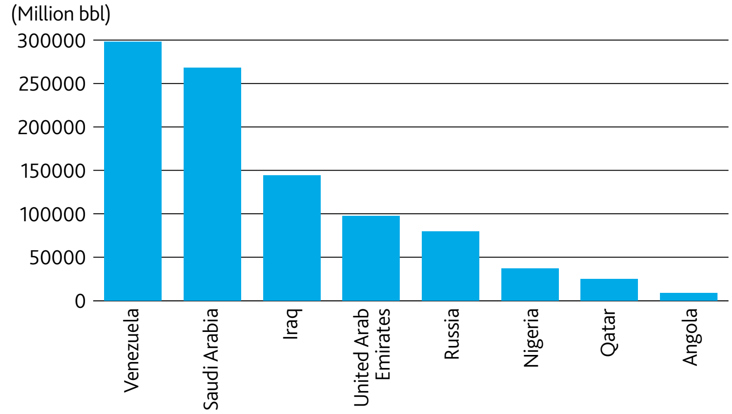
(Trillion cubic feet)



Source: CIA, The World Factbook, February 2015. For illustrative purposes only.

Proved reserves of crude oil, in barrels (bbl)

(Million bbl)



Source: CIA, The World Factbook, February 2015. For illustrative purposes only.

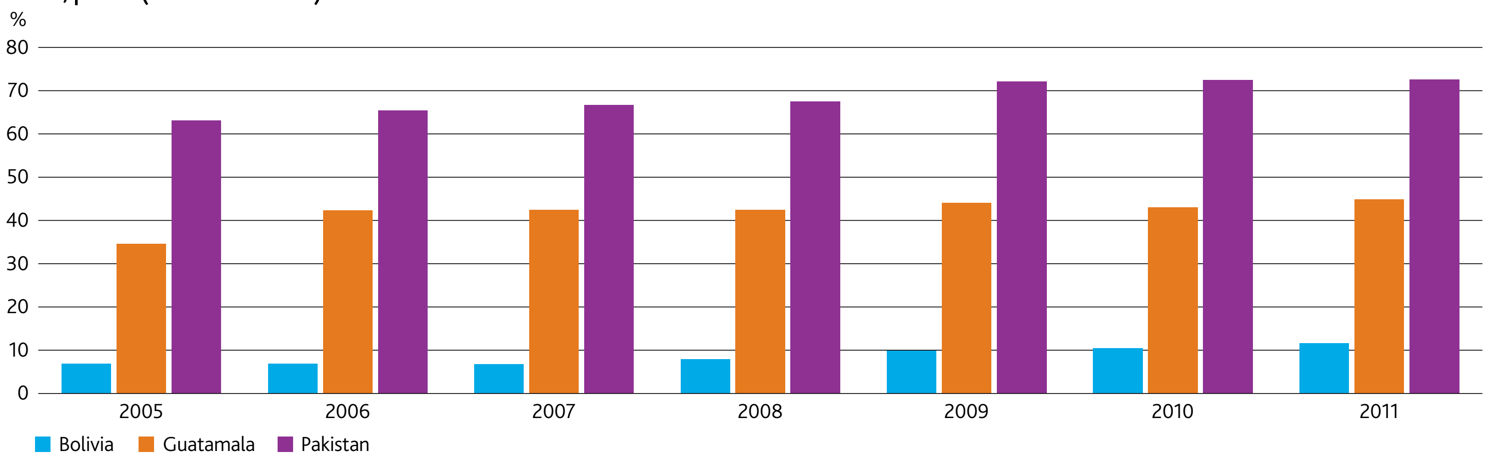
[1] The Sharpe Ratio is a measure for calculating risk-adjusted return as measured by the average return earned in excess of the risk-free rate per unit of volatility or total risk.

Frontier markets – a long-term growth story

Infrastructure investment

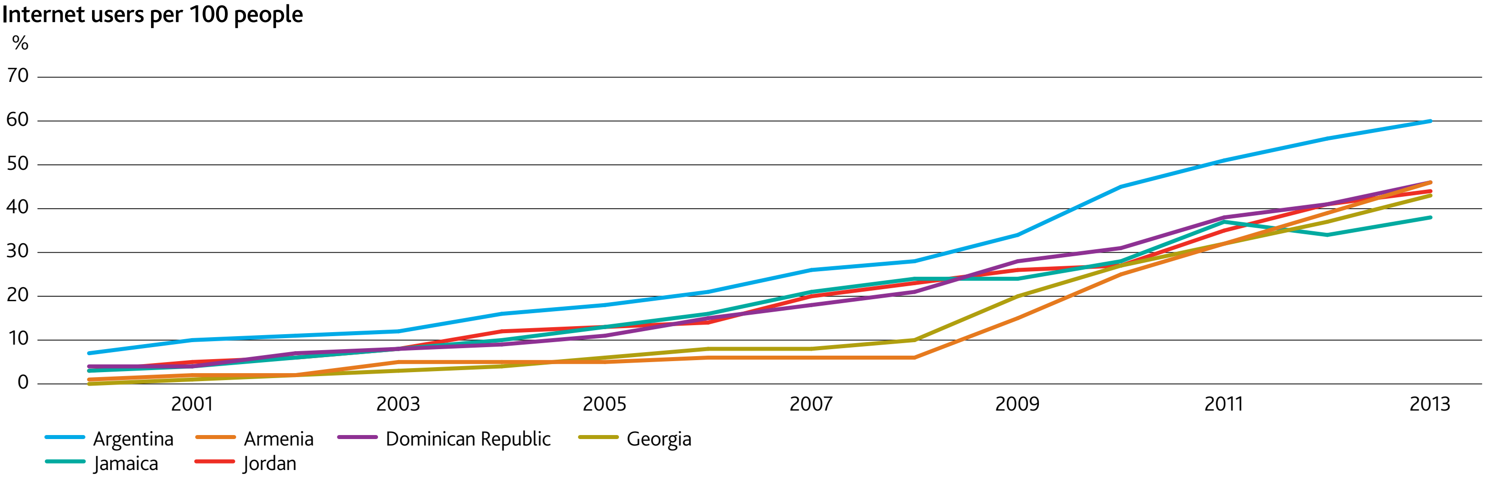
Investment in infrastructure such as roads, railways, energy plants and airports is helping to drive the smooth functioning of the production function, the efficient allocation of labour and transportation of goods, and in general, communication and business activity.

Roads, paved (% of total roads)



Source: The World Bank, June 2014. For illustrative purposes only.

Internet users per 100 people



Source: International Telecommunication Union, World Telecommunication/ICT Development Report and database, and World Bank estimates, December 2014.
For illustrative purposes only.

Frontier markets debt – complementing a wider portfolio

The value of frontier market bonds extends far beyond just providing exposure to the wider frontier market growth story.

Frontier market bonds can offer investors higher, long-term returns compared to mainstream emerging market bonds while also exhibiting less volatility compared to other risk assets. Frontier market bonds have compelling risk-adjusted returns, providing ample compensation for the liquidity risk.

Frontier markets have historically produced solid risk-adjusted returns

Asset Class	Annualized return (%)	Annualized volatility (%)	Sharpe Ratio*
EM Equities	10.24	23.14	0.36
Frontier Market Sov	9.78	13.91	0.56
US High Yield	8.15	9.60	0.64
EM Hard Currency Sov	8.12	8.66	0.71
US Equities	8.06	14.14	0.43
EM Local Currency Sov	8.04	12.28	0.50
EM Hard Currency Corp	6.70	8.30	0.57
US Inv. grade credit	6.34	5.48	0.80
US Treasury	4.45	4.48	0.59
Developed Market Sov	3.95	6.44	0.33

Source: JP Morgan, January 2015. Note: Period 2004 to May 2014. Frontier Market Sov = NEXGEM Index, US Equities = S&P 500, EM Equities = EM Free Index, Developed Market Sov = GBI Global Index, US High Yield = High Yield Index, US Inv. Grade Credit = JULI Index, EM Hard Currency Corp. = CEMBI Broad Diversified Index, EM Local Currency Sov = GBI-EM Global Diversified Index, EM Hard Currency Sov = EMBI Global Diversified Index. **PAST PERFORMANCE IS NOT AN INDICATION OF FUTURE RESULTS.** For more information and index definitions, please the last page of this report.

Country	10 year bond yield (%)	Inflation y-o-y (%)	Real yield (%)	Credit rating (S&P)[A]
Uganda	17.0	1.3	15.7	B
Serbia	11.7	1.7	10.0	BB-
Dominican Republic	10.5	1.6	9.0	B+
Nigeria	15.1	8.0	7.1	BB-
Kenya	12.4	5.5	6.9	B+
Mongolia	18.0	11.5	6.5	B+
Vietnam	6.7	0.9	5.8	BB-
Ghana[B]	22.1	17.0	5.1	B-
Sri Lanka	8.0	3.2	4.8	B+
Egypt	14.5	10.1	4.4	B-

Source: S&P Local Currency Debt Rating, Bloomberg, February 2015.
[A] Standard & Poor's credit ratings are expressed as letter grades that range from "AAA" to "D" to communicate the agency's opinion of relative level of credit risk. Ratings from 'AA' to 'CCC' may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories. The investment grade category is a rating from AAA to BBB- Indexes are unmanaged and have been provided for comparison purposes only. No fees or expenses are reflected. Individuals cannot invest directly in an index.[B] 5 year bond.

In addition, although correlations can fluctuate over time, historically frontier market bonds have shown to have a negative correlation to US Treasuries. In periods of stress, the correlation between frontier market bonds and US Treasuries has increased but remain low compared to other asset classes, and are also lower than mainstream emerging market bonds.

Over time, we believe the frontier market bond universe will gain in appeal as liquidity improves and risk premiums decline, much as we have witnessed in mainstream emerging markets over the past several decades.

Frontier market bonds have historically had a low correlation to U.S. Treasuries

10 years to 31 Dec 14	EM Hard Currency Sov	EM Local Currency Sov	EM Hard Currency Corp	US Inv. Grade	US High Yield	Developed Market Sov	US Treasury	EM Equities	US Equities	Frontier Market
Frontier Market Sov	**0.84**	**0.64**	**0.85**	**0.46**	**0.83**	**0.17**	**-0.04**	**0.67**	**0.55**	**1.00**
US Equities	0.58	0.66	0.59	0.30	0.72	0.15	-0.25	0.79	1.00	-
EM Equities	0.72	0.83	0.70	0.42	0.75	0.27	-0.17	1.00	-	-
US Treasury	0.24	0.10	0.18	0.54	-0.21	0.64	1.00	-	-	-
Developed Market Sov	0.43	0.51	0.35	0.57	0.14	1.00	-	-	-	-
US High Yield	0.78	0.65	0.81	0.55	1.00	-	-	-	-	-
US Inv. Grade Credit	0.73	0.53	0.74	1.00	-	-	-	-	-	-
EM Hard Currency Corp	0.93	0.72	1.00	-	-	-	-	-	-	-
EM Local Currency Sov	0.79	1.00	-	-	-	-	-	-	-	-
EM Hard Currency Sov	1.00	-	-	-	-	-	-	-	-	-

Source: JP Morgan, December 31, 2014. For illustrative purposes only.
Benchmarks used: EM Frontier = JPM NEXGEM, US Equities = S&P 500, EM Equities = EM Free, US Treasury = JPM GBI US, Developed Market Sov = JPM GBI Global, US High Yield = JPM US HY, US IG Credit = JPM JULI, EM Hard Currency Corporate = JPM CEMBI BD, EM LC Sovereign = JPM GBI-EM GD, EM HC Sovereign = JPM EMBI GD.
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*Sharpe Ratio is a measure for calculating risk-adjusted return and is the average return earned in excess risk-free rate per unit of volatility or total risk.

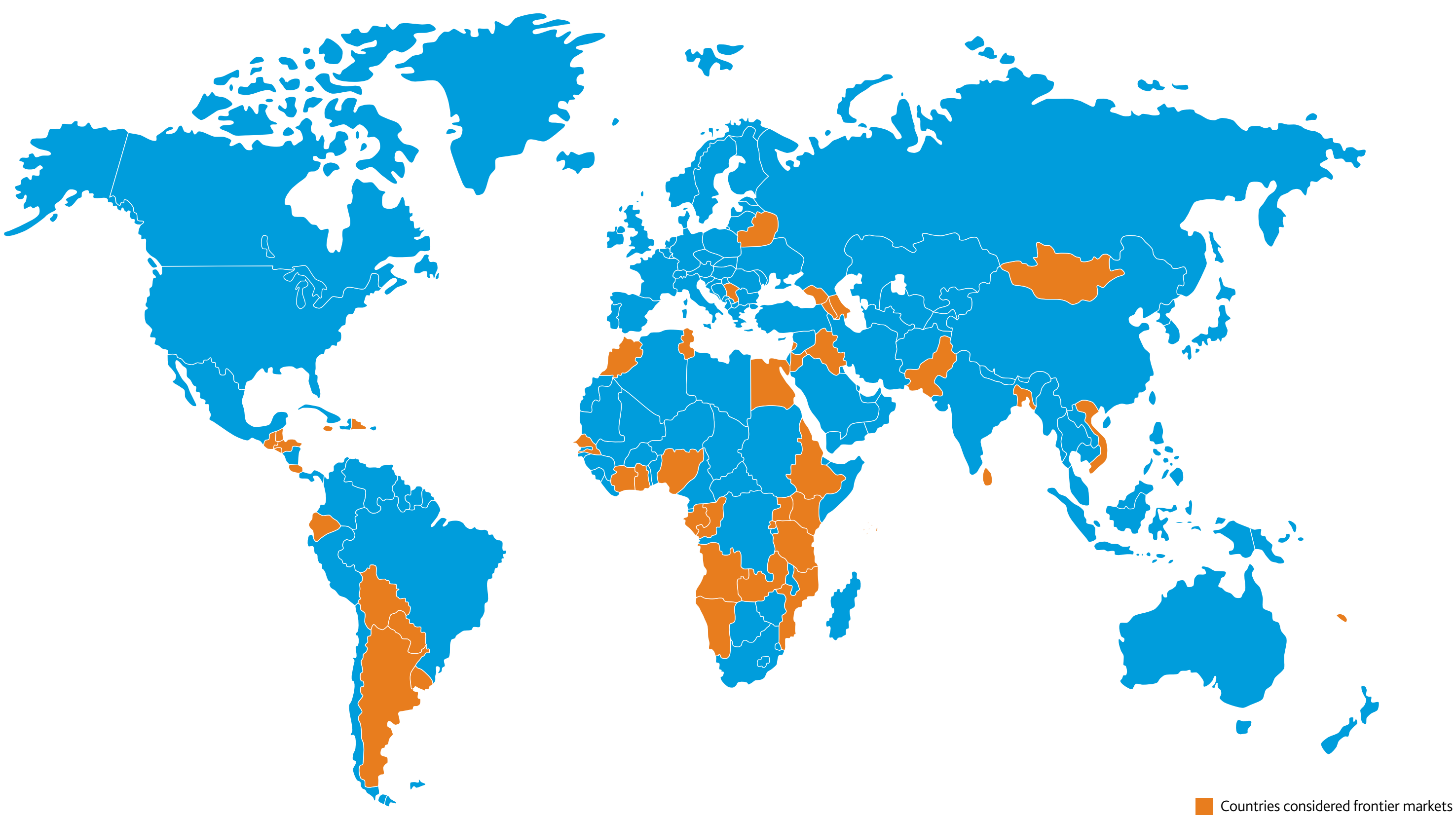
Frontier markets debt – the investment universe

From a geographical standpoint, Africa is most associated with frontier markets. As a region, it meets the criteria of a frontier market, although Sub-Saharan Africa (SSA) is also becoming an increasing part of overall emerging market portfolios due to the inclusion of more countries in the main benchmark emerging market bond indices. A good example of SSA's growing appeal with foreign investors was Kenya's inaugural Eurobond issue in June 2014, which set the record as the largest single amount ever raised by a regional issuer when they placed $2 billion in 5-year and 10-year bonds. There are now an increasing number of relative value opportunities in SSA US dollar-denominated sovereign bonds, with a total of 13 countries to choose from. There are countries such as Nigeria, Gabon, Kenya, Senegal, Ivory Coast, Zambia and Ghana with multiple issues.

Outside of SSA, there are a number of other countries that are considered to be frontier markets, including the likes of the Dominican Republic, El Salvador, Guatemala, Sri Lanka, Vietnam, Mongolia, Pakistan, Egypt and Iraq. These countries have been a part of the main hard currency index for many years and therefore are more familiar to emerging market investors compared to some of the SSA issuers, but their economic, political and social characteristics would place them in the frontier market universe.

With the exception of countries such as Nigeria and Egypt, most frontier countries have small and less liquid local currency denominated bond markets. Nonetheless, we believe the local currency universe should evolve as liability management focuses on the development of local yield curves, and mainstream emerging market investors diversify their portfolios into the next generation of emerging countries. In addition, we believe other emerging local markets such as Uruguay and Serbia exhibit some frontier traits.

Local currency corporate bonds in mainstream emerging markets are also "frontier-like" and could be an attractive complement in a frontier bond fund.



Source: BNP, BIS November 2014. For illustrative purposes only.
[A] Local market.

Frontier markets debt – the investment universe (continued)

Frontier markets increasing in size and scope

Latam/Caribbean	Africa	Europe/Asia
Argentina	Angola	Armenia
Belize	Congo	Azerbaijan
Bolivia	Cote D'Ivoire	Bangladesh
Costa Rica	Egypt	Belarus
Dominican Republic	Ethiopia	Georgia
Ecuador	Gabon	Iraq
El Salvador	Ghana	Jordan
Guatemala	Kenya	Lebanon[A]
Honduras	Morocco	Mongolia
Jamaica	Mozambique	Fiji
Paraguay	Namibia	Pakistan
Uruguay[A]	Nigeria	Serbia[A]
	Rwanda	Sri Lanka
	Senegal	Vietnam
	Seychelles	
	Tanzania	
	Tunisia	
	Uganda	
	Zambia	

Source: BNP, BIS November 2014. For illustrative purposes only.
A Local market.

Frontier bond market capitalization

Hard currency	Sovereign	$178.9 bn
	Corporates	$50.6 bn
Local currency	Sovereign	$390.1 bn
	Quasi/corporates	$91.2 bn
Total Frontier Debt		**$710.79 bn**
Total EM Debt (hard and local currency)		**$13.5 tn**

Source: BNP, BIS November 2014. For illustrative purposes only. Frontier debt represented by the JP Morgan Next Generation Markets Index (NEXGEM), which is a fixed income benchmark that provides exposure to non-investment grade rates, smaller, less liquid population of emerging market economies. EM Debt is represented by the JP Morgan EMBI Global Diversified Index, which is a uniquely-weighted version of the JP Morgan EMBI Global Index. It limits the weights of those index countries with larger deb stocks by only including specified portions of these countries' eligible current face amounts of debt outstanding.

Frontier market indices

For some time frontier markets have been more associated with equity markets, having benefitted from the introduction of several indices since 2007 and a small but dedicated investor base. In the bond universe, frontier markets had no easily identifiable index until the introduction of a new hard currency bond index, the JP Morgan Next Generation Emerging Markets (NEXGEM) index in December 2011.

The NEXGEM index consists of 32 countries, which are defined as the smaller, less liquid emerging market economies with less developed capital markets. They represent a small, but growing, portion of the more established JP Morgan EMBI indices (a well-established index that tracks total returns for US dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities).
To be eligible, countries:

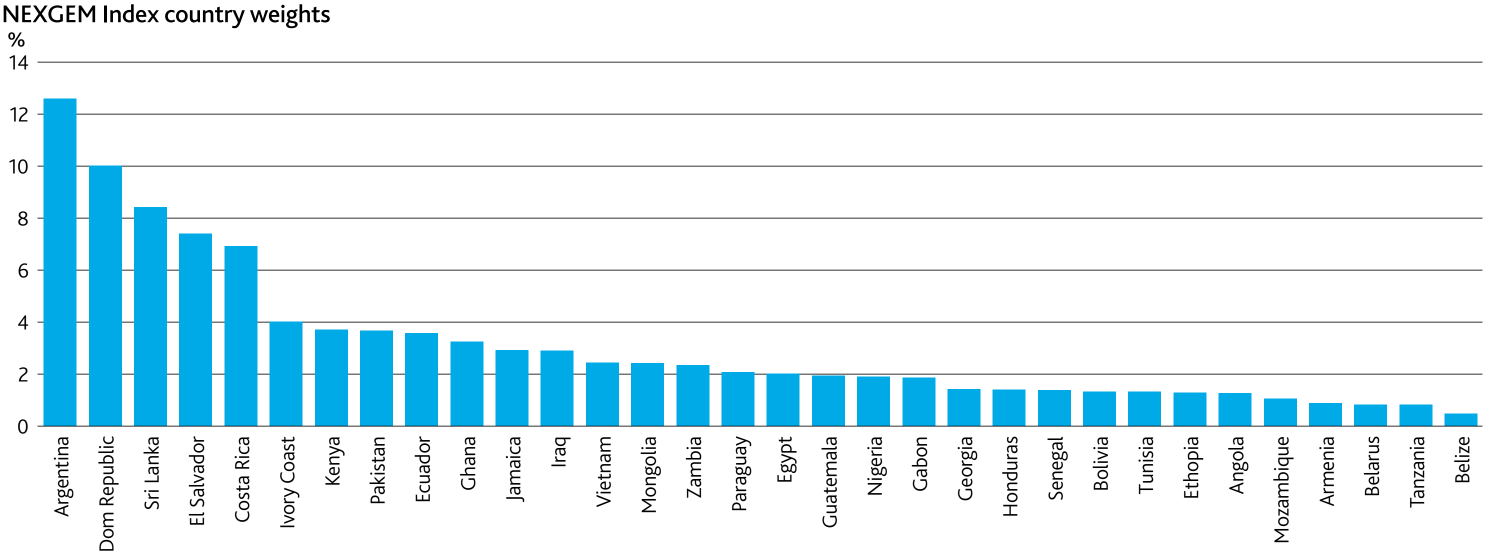
- must have possessed a weight of less than 2% of the JP Morgan EMBI Global Diversified index for the past 12 months
- must have a rating of Ba1/BB+ or lower by both Moody's and S&P
- cannot be a member of the European Union (EU) or be engaged in the process of securing EU membership

The JP Morgan NEXGEM index has outperformed other EM bond indices more recently with a return of 13.68% since January 2014.[1] The NEXGEM index also has a lower correlation versus US Treasuries compared to other EM bond and equity indices.

There is no index for hard currency frontier corporate bonds, although issuance is slowly increasing. Most of the issuance has come from the financial and energy sectors in Nigeria and Ghana, as companies seek hard currency funding for field development to exploit new oil and gas discoveries. It has also not been surprising to see Guatemalan cement companies issuing hard currency debt for long-term capacity expansion projects given their need to support the infrastructure development goals of the country. Another unique debut issue was from a Bangladeshi telecom company – this is a good example of an under-researched company, but where some extra due diligence can provide additional value and diversification to a portfolio.

Similarly, there is no index that captures local currency government bonds in frontier markets, which we view as the segment of the frontier bond market that has the most growth and return potential. As noted earlier, Africa has a number of attractive return opportunities in local markets. There is only one dedicated index for local currency corporate bonds, but this does not include any frontier issuers.

NEXGEM Index country weights



Source: JPM Index Monitor, January 31, 2015.
JP Morgan Indexes are unmanaged and have been provided for comparison purposes only. The JP Morgan Next Generation Markets Index (NEXGEM) is a fixed income benchmark that provides exposure to non-investment grade rates, smaller, less liquid population of emerging market economies. The index is unmanaged and is provided for comparison purposes only. No fees or expenses are reflected. Individuals cannot invest directly in an index.

[1] JP Morgan, February 2015

Frontier markets – the risks involved

The risks associated with investing in frontier markets debt will to an extent depend on the type of investment chosen. While all investors in frontier market debt securities are exposed to credit and interest rates risk, currency risk is specific to investments denominated in local currency.

Credit risk

Sovereign default risk is generally a low concern at present given the healthy growth outlook and moderate debt levels in most frontier countries, although there are a handful of countries with high debt levels such as Sri Lanka and Egypt. Ghana also deserves mention as a country that has seen its credit metrics deteriorate in recent years due to a burgeoning twin deficit problem. Ghana was the first of a wave of SSA countries to come to the Eurobond market in 2007, and while they enjoyed a period of high growth the outlook has clearly worsened over the past several years amid on-going currency depreciation, rising inflation, elevated local borrowing costs, a twin deficit problem and increased debt levels that forced the country to seek external support from the International Monetary Fund. A potential crisis in Ghana should not, however, result in contagion risk on regional peers despite the existence of twin deficits elsewhere. From a broader regional perspective, a prolonged negative shock in terms of trade could test the resolve of policy makers but this is unlikely to result in debt distress given the moderate debt levels in many of the SSA countries. Outside of SSA the picture is more mixed, with heavily indebted countries such as Lebanon and Jamaica weighed down by low growth prospects and debt levels in excess of total gross domestic product. In contrast, Central American countries have relatively healthy debt metrics.

Interest rate risk

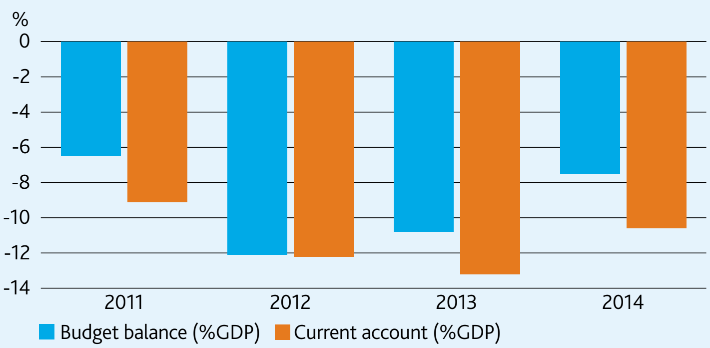
The risk of interest rates increasing due to fundamental or technical factors is a key risk for local currency bonds. The former is a risk that could occur from poorly managed monetary policy or a terms of trade shock that could lead to an inflation spike, whereas the latter is arguably a lower risk given the small size and low foreign ownership of frontier local market bonds.

Political risk

As sub-investment grade countries, political risk tends to be higher compared to mainstream emerging markets, which in turn can result in a less predictable policy environment. Nigeria is a good example of a country where political risk can at times impede structural reform prospects, as has been the case over the past year with the delay of the Petroleum Industry Bill (PIB). While the PIB is designed to improve transparency and efficiency in the oil sector, the bill has become hostage to the political cycle. In that respect, Nigeria is very similar to other emerging market countries where the election calendar can lead to a delay in structural reforms. The People's Democratic Party (PDP) have controlled the presidency since elections resumed in 1999, yet there are three other viable political parties that have also featured in the previous elections, which bodes well for the future development of the political discourse in Nigeria.

It's a Ghana!

Twin deficits: Twice the fun?

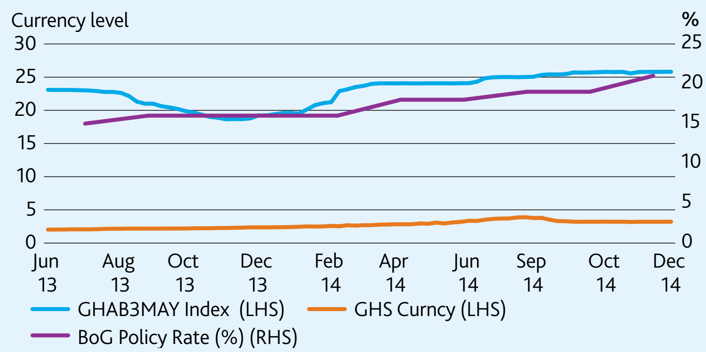


Source: International Monetary Fund, World Economic Outlook, April 2014. For illustrative purposes only.

Ghana's large twin deficits (both fiscal and current accounts) have left the country with elevated funding costs and vulnerable to a deterioration of external conditions.

The Ghanaian cedi has borne the brunt of the weak policy environment, depreciating over 60% since 2013 as both local and foreign investors have fled the country.

Distressed Assets



Source: Bloomberg, February 2015. For illustrative purposes only.

The central bank has hiked its policy interest rate to 19% in an effort to keep investments onshore, which has resulted in punitive debt service costs for a government already under stress.

The country has recently signed an agreement with the International Monetary Fund, on a 3-year Extended Credit Facility of around $1 billion. While it is a positive step to restore debt sustainability, requited fiscal adjustment will put in a dent on growth.

Liquidity risk

Of all the risks, liquidity risk differentiates frontier markets the most from more mainstream emerging markets. By nature, frontier bonds are more thinly traded than mainstream emerging markets, with wider bid-ask spreads and generally higher trading costs. A good example of how liquidity risk can impact the market occurred during the Global Financial Crisis in 2008, when hard currency frontier bonds suffered large drawdowns in October and November. The sell-off was predominantly driven by market technicals rather than concerns about default risk, as frontier bonds rebounded sharply in 2009. Local markets have not really been tested by a global liquidity shock, although one could cite the tapering episode in mid-2013 having a notable impact on Nigeria local bond yields, which rose sharply over several months due to the high foreign ownership level.

Currency risk

Currency risk could have an impact on local currency frontier market bond returns due to the lack of liquidity in foreign exchange markets, a limited history of central bank independence and the persistent threat of inflation in some countries. Generally speaking, trading volume in frontier currencies is thin and while volatility could increase on back of increased trading activity, the larger risk is likely to emanate from an exogenous shock (food inflation spike, monetary policy in the developed world) or a policy error.


Axim, Ghana

Aberdeen's experience in frontier markets

Aberdeen has been at the forefront of investing in the emerging debt markets since 1993 and over that period developed a long track record of investing in frontier markets including Nigeria, Ghana, Ivory Coast, Dominican Republic, El Salvador, Guatemala, Sri Lanka, Vietnam, Egypt, Pakistan and Iraq.

Our experienced and stable emerging markets debt team have over a decade of experience on average and are supported by Aberdeen's global network of over 70 emerging market investment professionals.

We use the same investment process to screen all frontier market countries based upon comprehensive country research, set in the context of global economic developments. We look at factors such as key macroeconomic variables, the political environment, fiscal and monetary policy developments and major risk. Our research is finally coupled with technical analysis to identify such factors as the nature of instruments, relative value, liquidity and demand and supply imbalances.


Ho Chi Minh, Vietnam

At Aberdeen, asset management is our primary business.

Aberdeen Asset Management is a global asset manager founded in 1983 via a management buyout and a member of the London-based FTSE 100, one of the world's most widely-used stock indices. Today, we manage more than $500 billion for institutional investors and private clients, as of December 31, 2014.

Our institutional clients include retirement plans, state and local governments, hospitals, insurance companies, Taft-Hartley plans, endowment and foundations, and other institutional investors. We engage with all clients using a consultative approach focusing on a rigorous investment discipline, risk control, and a commitment to transparency.

For more information about how our global capabilities can help meet your investment objectives, contact our U.S. Institutional Business Development team by calling (215) 405-5700. Learn more about how Aberdeen invests around the world by visiting Aberdeen-asset.us/InstitutionalInvestor

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