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Frontier Market Bonds

The next chapter

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Frontier markets – an introduction

As the emerging market debt universe has matured, investors are increasingly turning to frontier markets as the next phase of diversification. Improved market access and more fairly valued currencies have significantly expanded the opportunity within frontier market debt.

First coined by the International Finance Corporation in 1992, "frontier markets" refer to countries at an earlier stage of economic and capital-market development than mainstream emerging markets. While frontier economies often share favourable long-term growth potential and, typically, moderate debt burdens, they are usually associated with higher political, governance, and liquidity risks.

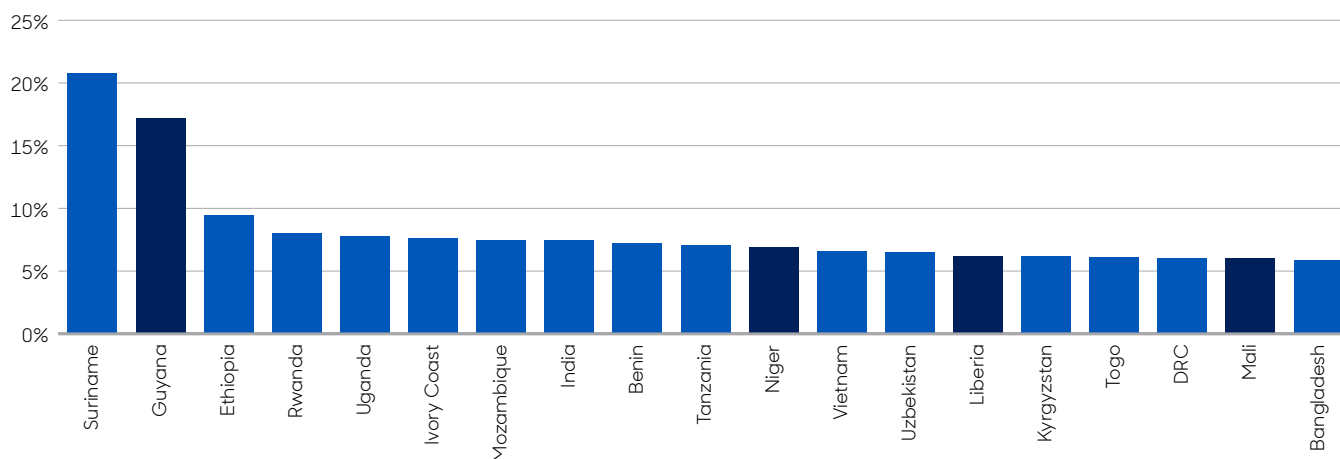
Financial markets in frontier countries remain shallower and less liquid than in emerging markets. However, access

to international capital markets has broadened over time through increased Eurobond issuance and improved policy frameworks, often supported by multilateral institutions. As a result, frontier countries continue to rely more heavily on official financing and donor support than their emerging market peers.

To compensate for these additional risks and structural limitations, frontier market debt has historically offered higher yield and return potential, driven by idiosyncratic country fundamentals rather than global macro factors.

World's fastest growing economies over the next five years

Average gross domestic product (GDP) growth, %, 2025 - 2029



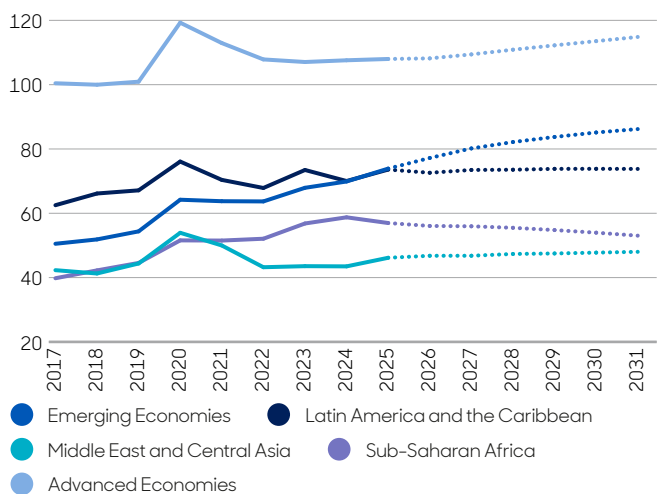
● Inaccessible markets

Source: IMF, World Economic Outlook, April 2026. For illustrative purposes only.

Projections are offered as opinion and are not reflective of potential performance. Projections are not guaranteed and actual events or results may differ materially.

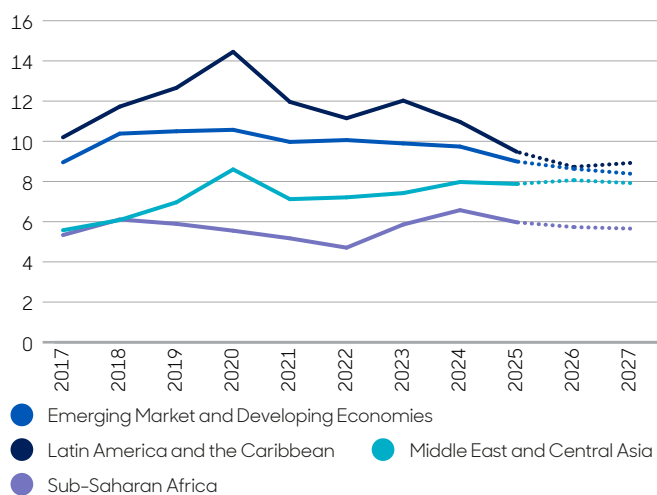
General improvement in public finances

Gross government debt (% of GDP)



Source: IMF, April 2026.

External debt service (% of GDP)



Source: IMF, April 2026.



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 an expanding working-age demographic, rising consumption and investment, a substantial commodity base, and more prudent macroeconomic policies.

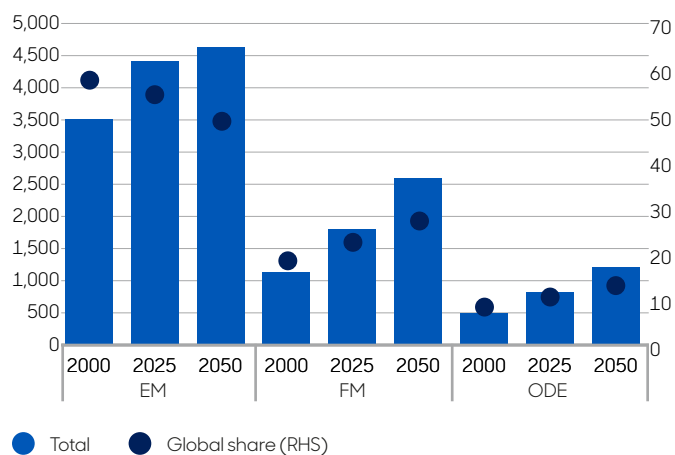
Attractive demographics

Over the next 25 years, hundreds of millions of young people will join the labour force in frontier market economies. While population growth is slowing in advanced economies – and in some emerging markets – it remains rapid in frontier markets. Many frontier market workforces are expanding faster than their dependent populations, freeing up resources for investment in economic development and family welfare.

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

Forecasts are offered as opinion and are not reflective of potential performance. Forecasts are not guaranteed and actual events or results may differ materially.

Population by groups (LHS = million, RHS = % of global population)



Sources: UN Population Prospects (database); World Bank. Note: EM = emerging markets; FM = frontier markets; ODE = other developing economies, neither EM nor FM. Sample includes 37 EMs, 56 FMs, and 57 ODEs, as of 2025 classification status. Bars show total population in millions. Navy dots show the share of total population.



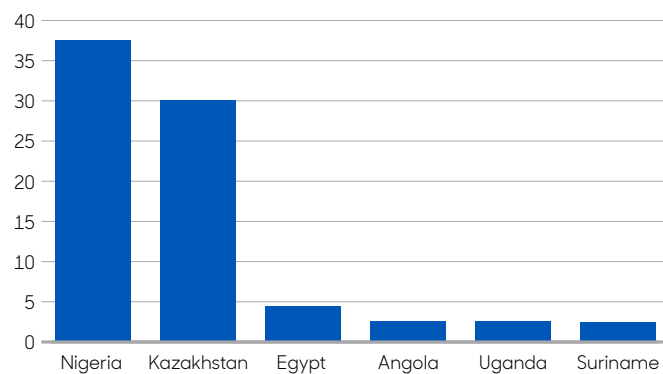
Large and diversified commodity base

Efforts by developed and emerging market countries to diversify energy sources have supported the trade balances of many frontier countries.

Recent discoveries are not limited to just oil and gas, but extend to other critical minerals and precious metals such as copper and gold. These additional resources should strengthen growth prospects and improve social and income indicators in the coming years.

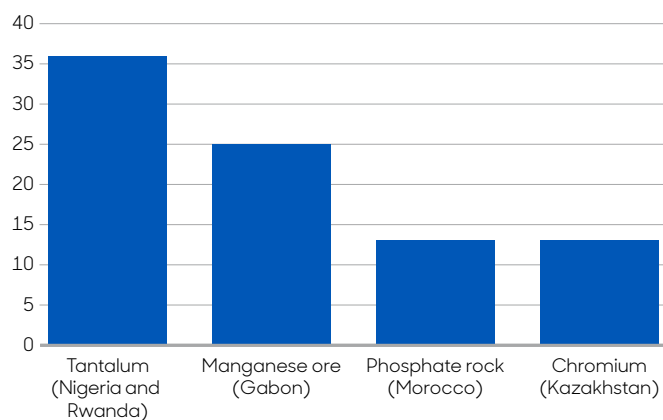
Frontier markets already account for a significant share of global mining output in several key transition minerals. For example, Gabon produces almost one quarter of global manganese output, a key input for battery technology and steel production; Morocco supplies around one eighth of mined phosphate rock, used in fertilizer and battery chemistry; and Nigeria and Rwanda together provide over one third of global tantalum, an important metal for digital technologies.

Proved reserves of crude oil, in barrels (millions bbl)



Source: OPEC, April 2026. For illustrative purposes only.

Share of global mine output (%)



Source: IMF, World Bank, April 2026.



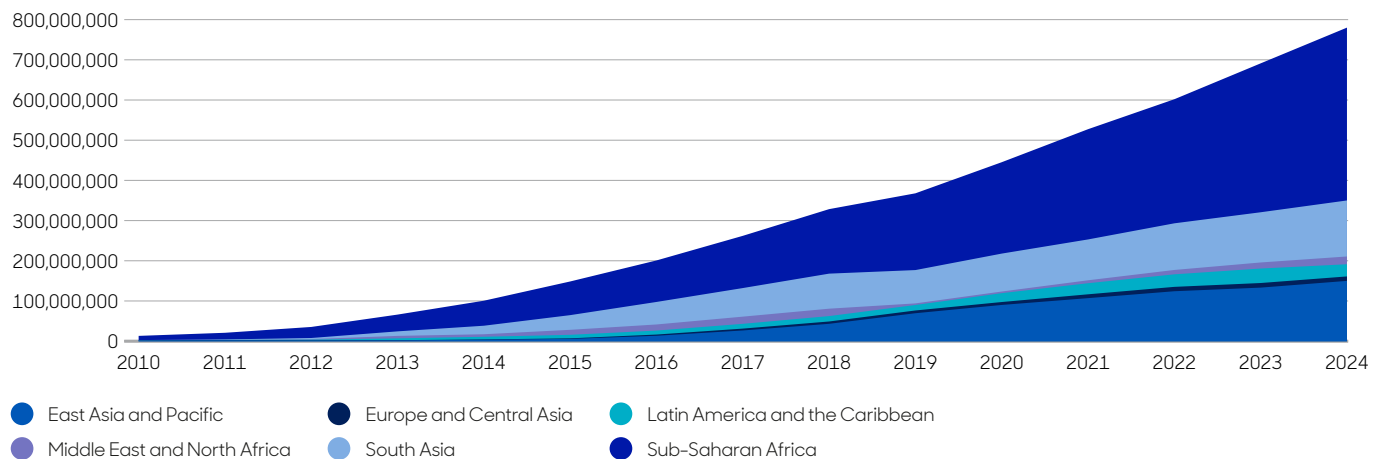


Digital money growth

In 2010, there were just 13 million mobile money accounts in the world – fewer than the population of the Netherlands. By 2024, this had reached nearly 800 million, with the majority of the growth occurring in Sub-Saharan Africa (SSA). That's more than twice the total number of Netflix subscriptions worldwide.

Still, more than one billion people across the world rely exclusively on cash. Many of them live in the poorest regions and in remote areas, where they could benefit most from financial inclusion. There remains huge untapped potential for improving lives when people gain access to basic financial services.

Active mobile money accounts



Source: World Bank, February 2026.



Frontier markets debt – complementing a wider portfolio

The value of frontier market bonds extends far beyond providing exposure to the wider frontier 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. Over the past decade – and despite perceptions among some investors that higher volatility does not equate to higher returns – frontier market bonds have consistently outperformed mainstream emerging market and comparable developed market asset classes.

Frontier markets have historically produced solid risk-adjusted returns

Asset Class	Annualised return (%)	Annualised volatility (%)	Sharpe Ratio ¹
EM Equities	8.23	20.17	0.41
Frontier Market Sovereign	8.22	13.16	0.62
US High Yield	5.36	6.75	0.79
EM Hard Currency Sovereign	6.14	8.76	0.70
EM Local Currency Sovereign	4.99	11.54	0.43
EM Hard Currency Corporate	5.61	7.33	0.77
US Investment Grade Credit	2.99	5.89	0.51
US Treasury	2.93	4.68	0.63

Source: J.P. Morgan, January 2026. Note: Period January 2015 to December 2025. Frontier Market Sov = NEXGEM Index, EM Equities = EM Free 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 = GBLEM 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. Indexes are unmanaged and have been provided for comparison purposes only. No fees or expenses are reflected. Individuals cannot invest directly in an index.

¹Sharpe 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.

In addition, although correlations can fluctuate over time, frontier market bonds have a correlation of just 0.03 to US Treasuries over the past decade. In periods of stress, the correlation between frontier market bonds and US Treasuries has increased, but this typically washes out following periods of high market volatility. The low long-term correlation to developed market assets (both equity and bonds) highlights the idiosyncratic nature of returns within frontier bonds.

Over time, we believe the frontier market bond universe will continue to 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 US Treasuries

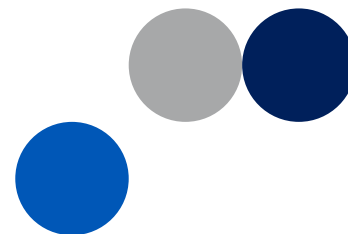
20 years to 31 Dec 25	EM Hard Currency Sovereign	EM Local Currency Sovereign	EM Hard Currency Corporate	US Inv. Grade	US High Yield	Developed Market Sovereign	US Treasury	EM Equities	US Equities	Frontier Market
Frontier Market Sovereign	0.88	0.67	0.88	0.65	0.78	0.46	0.03	0.69	0.61	1.00
US Equities	0.61	0.59	0.58	0.53	0.79	0.42	-0.07	0.72	1.00	-
EM Equities	0.70	0.81	0.69	0.56	0.69	0.56	-0.04	1.00	-	-
US Treasury	0.33	0.20	0.23	0.73	0.21	0.95	1.00	-	-	-
Developed Market Sovereign	0.69	0.77	0.58	0.80	0.60	1.00	-	-	-	-
US High Yield	0.82	0.66	0.82	0.72	1.00	-	-	-	-	-
US Inv. Grade Credit	0.83	0.63	0.81	1.00	-	-	-	-	-	-
EM Hard Currency Corporate	0.92	0.73	1.00	-	-	-	-	-	-	-
EM Local Currency Sovereign	0.80	1.00	-	-	-	-	-	-	-	-
EM Hard Currency Sovereign	1.00	-	-	-	-	-	-	-	-	-

Source: J.P. Morgan, 31 December 2025. For illustrative purposes only. US Treasuries are backed by the full faith and credit of the United States Treasury.

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. Indexes are unmanaged and have been provided for comparison purposes only. No fees or expenses are reflected. Individuals cannot invest directly in an index.



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 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.

SSA's appeal to foreign investors is clear, with inaugural issuances in recent years from the likes of the Democratic Republic of Congo (DRC), which came to the market in March 2026 with six- and 11-year bonds. The new issue was four times oversubscribed. There are also countries with multiple issuances, such as Kenya, Nigeria, Ghana, Zambia and Cameroon.

The frontier market debt universe is not confined to SSA. Several countries are considered frontier markets, including the Dominican Republic, El Salvador, Uzbekistan, Sri Lanka, Mongolia, Pakistan, Egypt and Iraq. These nations have been part of the main hard currency index for many years and are therefore more familiar to emerging market investors than some of the SSA issuers. However, their economic, political and social characteristics place them in the frontier market universe.

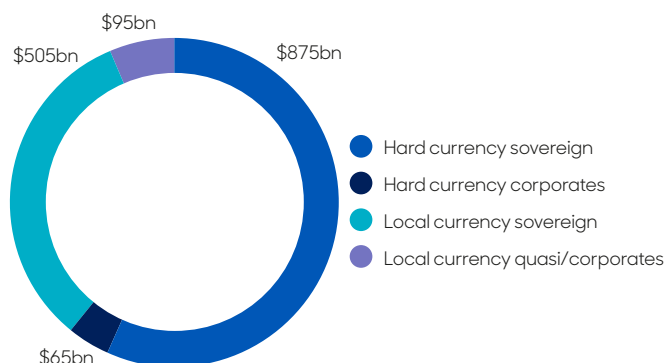
In recent years, we've seen the expansion and increased accessibility of local currency-denominated bond markets. The trend has been particularly acute following the Covid-19 pandemic, as policymakers in a number of countries have liberalised foreign-exchange (FX) regimes, returned to a more orthodox monetary policy stance and embarked on a period of fiscal consolidation. In response, there have been significant foreign portfolio inflows into markets such as Nigeria, Egypt, Kazakhstan and Pakistan. Where obtaining direct local bond market exposure is challenging, exposure can be obtained through offshore instruments such as credit-linked notes that closely resemble the performance of onshore bonds.

Unlike in mainstream emerging markets, where FX hedging is commonplace and comparatively cheap, in frontier markets the wide bid-offer spread means the cost of hedging FX exposure would erode much of the carry from the bonds. By being exposed to FX appreciation, as well as potential depreciation, local currency frontier bonds offer an attractive complement within a frontier bond portfolio.

Country	Issue	Local currency ratings	Local currency yield	Hard currency ratings	Hard currency yield
Dominican Republic	Dominican Republic 12.75% 23/09/2029	BB/Ba2/BB	9.5%	BB/Ba2/BB	4.8%
Kazakhstan	Kazakhstan 14% 12/06/2031	BBB-/Baa1/BBB	15.9%	BBB-/Baa1/BBB	4.7%
Uzbekistan	Uzbekistan 15.5% 25/02/2028	BB-/Ba3/BB-	12.9%	BB-/Ba3/BB-	5.1%
Egypt	Egypt 22.6% 07/01/28	B-/Caa1/B	22.2%	B-/Caa1/B	5.9%
Kenya	Kenya Infrastructure 18.46% 08/09/2032	B/Caa1/B-	12.9%	B/Caa1/B-	7.5%
Nigeria	Nigeria 21% 20/03/2028	B-/B3/B	16.2%	B-/B3/B	6.8%

Source: Bloomberg, 31 December 2025. For illustrative purposes only. No assumptions regarding future performance should be made. Securities selected for illustrative purposes only to demonstrate Aberdeen's investment management style and not as an investment recommendation or indication of future performance. 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-.

Frontier bond market capitalisation – \$1.54 trillion



Source: BNP, BIS, April 2026. For illustrative purposes only. Frontier debt represented by the J.P. 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 J.P. Morgan EMBI Global Diversified Index, which is a uniquely-weighted version of the J.P. Morgan EMBI Global Index. It limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts of debt outstanding.

Frontier market indices

Historically, frontier markets were more associated with equity markets, having benefited 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 J.P. Morgan Next Generation Emerging Markets (NEXGEM) Index, in December 2011.

The NEXGEM Index consists of 42 countries, 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 J.P. 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:

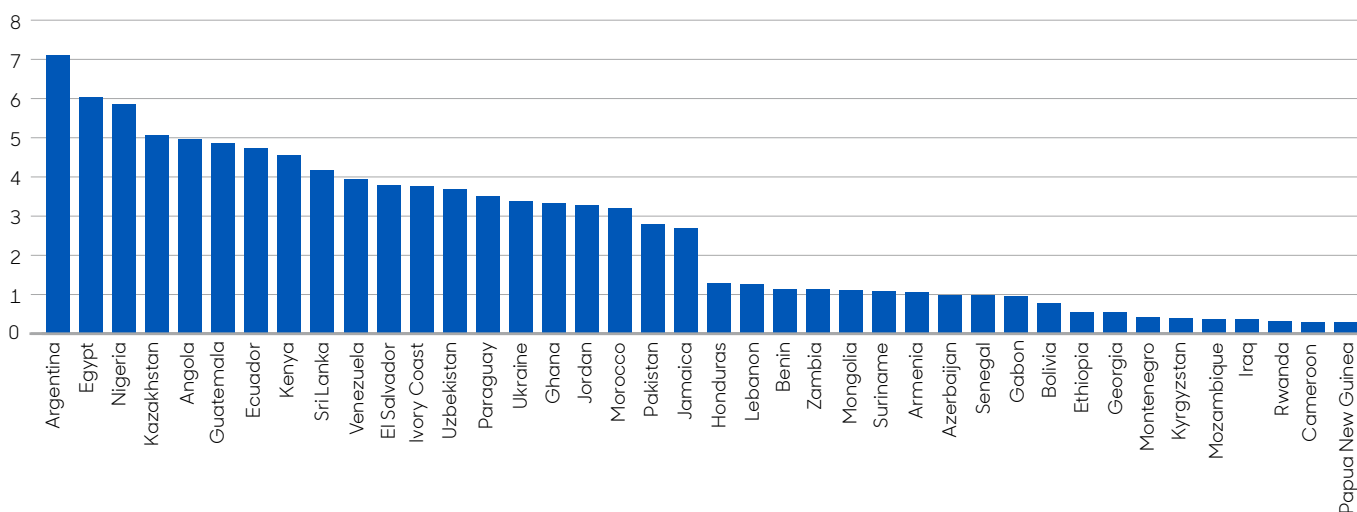
- must have a weight of less than 2% of the J.P. Morgan EMBI Global Diversified Index for the past 12 months
- must have a rating of Ba1/BB+ or lower by both Moody's and S&P
- cannot be a member of the European Union or be engaged in the process of securing EU membership

The J.P. Morgan NEXGEM Index has outperformed other EM bond indices more recently, with an annualised return of 8.22% since January 2014. The NEXGEM Index also has a lower correlation with 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, telecom and energy sectors in Nigeria and Ghana, as companies seek hard currency funding for field development to exploit new oil and gas discoveries. It's also not surprising to see Guatemalan cement companies issuing hard currency debt for long-term capacity expansion projects, given their need to support the country's infrastructure development goals.

As part of an ongoing development, J.P. Morgan is finalising plans for a new index to track frontier market local currency bonds. There will likely be a limit to ensure no country has a weighting of more than 8%. The index is set to include only bonds of at least \$250 million equivalent. We view the local currency market as having significant growth potential, and the creation of a widely followed index would attract further investor attention and inflows.

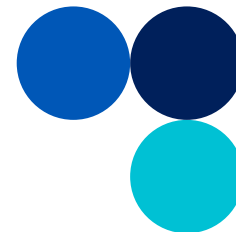
NEXGEM Index country weights %



Source: JPM Index Monitor, 31 March 2026.

J.P. Morgan Indexes are unmanaged and have been provided for comparison purposes only. The J.P. Morgan Next Generation Markets Index (NEXGEM) is a fixed income benchmark that provides exposure to non-investment grade rates, smaller, less liquid group 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.

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 rate risk, currency risk is specific to investments denominated in local currency.

Credit risk

Although geopolitical concerns and the potential for higher energy prices are at the forefront of investors' minds, default risk is generally a low concern at present. Market access has been restored, and countries have been engaging in liability management exercises, thereby considerably reducing the size of their maturity wall.

Debt reductions tend to occur during periods of positive real growth, fiscal consolidation and falling inflation. Angola is a case in point, where global oil prices and domestic production levels matter – nearly 75% of government revenues come from the hydrocarbon sector. In 2021, the country's debt-to-GDP ratio stood at 119%. By the end of 2025, it was 52% – a remarkable turnaround.

After 2022, resurgent oil prices helped support the current account deficit. The subsequent strengthening of the Angolan kwanza was also a boon, with around 80% of the country's debt denominated in foreign currency.

Proactive policy measures, including a hike in diesel prices to mitigate the impact of poorly targeted subsidies, have also had a positive impact. According to the International Monetary Fund, the government now has an additional \$3 billion to invest in education and health. This funding is critical in a country where income inequality ranks among the highest in Africa.

Senegal is at the opposite end of the spectrum, where a hidden debt crisis has led to its debt-to-GDP ratio rising above 130%, making it a likely restructuring candidate over the coming years. Outside of SSA, the picture is more mixed. Venezuela and Lebanon remain in default on their debt, including debt-to-GDP ratio in excess of 100%, having accumulated significant arrears over the past decade. In contrast, Central American and Central Asian countries have relatively healthy debt metrics.

Over the past six years, 10 countries have defaulted on their external debt. Catalysts have included Covid-19, the Russia/Ukraine conflict and rising US Treasury yields. Ballooning fiscal deficits and high debt levels also pushed some countries over the edge. Not all the defaulters were considered frontier nations, but most issuers were trading in distressed territory – also known as 'double-digit-yield territory'.

However, the same credit events have also presented attractive opportunities for investors with the analytical experience, legal expertise and, most importantly, patience to maximise returns. Indeed, we have invested in several defaulted and distressed credits where we have viewed the market price as being below the ultimate recovery value.

Liquidity risk

Of all the risks, liquidity risk is what most differentiates frontier markets from more mainstream emerging markets. By nature, frontier bonds are more thinly traded than those in 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 following 'Liberation Day' in 2025, when hard currency frontier bonds suffered large drawdowns after President Trump's tariff announcement. The sell-off was predominantly driven by market technicals rather than concerns about default risk, as frontier bonds rebounded sharply and, in 2025, recorded positive total returns of nearly 20% at an index level.

Currency risk

Currency risk could adversely affect local currency frontier market bond returns, owing to less liquidity in FX markets, a limited history of central bank independence and the persistent threat of inflation in some countries. Policy credibility has, however, improved significantly in recent years, and markets have also become more accessible. For example, in March 2026, following the outbreak of the conflict in Iran, rising commodity prices put pressure on several frontier currencies.

While it may be tempting for policymakers to rely on large external buffers to soften the impact of rising inflation, in many cases the policy response has been encouraging. Egypt allowed for the Egyptian pound to depreciate, thereby acting as the primary shock absorber. This also reduces the risk of a rise in the use of parallel FX market. In the short term, this may be seen as an adverse outcome for investors, but over the longer term the policy response will undoubtedly increase confidence among investors and encourage further foreign portfolio inflows.

Aberdeen's experience in frontier markets

Aberdeen has been at the forefront of investing in emerging debt markets since 1994. Over that period, we've developed a long track record of investing in frontier markets. We are one of the few firms to manage a dedicated frontier bond fund and have done so for over 12 years. The fund now has over \$1.5 billion asset under management (as at 30 April 2026) and has a 5-star Morningstar rating.

Our experienced and stable emerging markets debt team has over a decade of experience on average.

They are supported by Aberdeen's global network of over 90 emerging market investment professionals. We use the same investment process to screen all frontier market countries, based on comprehensive country research set in the context of global economic developments. We look at factors such as key macroeconomic variables, the political environment, and fiscal and monetary policy developments. Finally, our research is coupled with technical analysis to identify such factors as instruments structure, relative value, liquidity, and supply and demand imbalances.

Final thoughts...

Frontier market debt remains a niche but increasingly compelling area within the broader fixed income universe. As market access improves, policy frameworks strengthen and local currency markets deepen, the opportunity set continues to expand.

While risks - including liquidity, currency volatility and political uncertainty - are part of the landscape, these are often reflected in valuations. For investors able to take a long-term view and navigate the complexity, frontier markets may offer a differentiated source of returns and compelling diversification within a wider portfolio.



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