

GBI-EM

Baa2/BBB/BBB*

- The Government Bond–Emerging Market Index (GBI-EM) series, launched in June 2005, the first comprehensive global emerging markets index of EM local government bond debt.
- There are three root versions of the GBI-EM with a *Diversified* overlay for each version:
 - GBI-EM Broad / GBI-EM Broad Diversified
 - GBI-EM Global / GBI-EM Global Diversified
 - GBI-EM / GBI-EM Diversified
- The *GBI-EM Global Diversified* version is the most popular amongst the six versions largely due to its diversification weighting scheme and country coverage.
- Currently, it is the most widely followed benchmark in its class (AUM \$213bn as of April 2018).

Overview

The GBI-EM series was launched in June 2005, with historical statistics available from 2002. The index quickly became the industry standard for most audiences looking to track performance in local emerging markets.

Three Categorizations of the GBI-EM

To cater to a wide range of investors there are three root versions of the GBI-EM benchmarks. The broadest, most encompassing version is the *GBI-EM Broad*, which tracks as many local EM countries as possible regardless of the accessibility of these markets to investors. At the opposite end of the spectrum is the *GBI-EM (Narrow)* which only includes countries that are easily replicable and where there is no impediment for investors to directly access the local bonds. In between is the *GBI-EM Global*, which was created to capture a diverse set of countries that most investors can access and replicate through bonds or derivatives. The Global version with the diversification overlay (GBI-EM Global Diversified) is the most widely used, with \$212bn in assets under management benchmarked as of March 2018.

The Diversified weighting methodology

The unique diversification methodology uses only a limited portion of a country's current face amount outstanding for calculating weights. The adjusted face amount used in calculating a country's weight is based on the respective country's relative size in the index and the

*Rating for GBI-EM Global Diversified

Index Facts	
Inception Date	Dec 2002
Launch Date	Jun 2005
Rebalance date	Last weekday of the month
Holiday	Calculated on every weekday
Pricing Source	Mid price from third party evaluation vendor (Pricing Direct)
FX spot/forward rate	WM/Reuters 16:00 London Close
Coupon Reinvestment	All coupons received are immediately reinvested back into the respective local market.
Hedging Strategy	Assume a 1-month currency forward position that begins on rebalance day and ends on next rebalance day

Index Criteria	GBI EM Broad/Div.	GBI EM Global/Div	GBI EM Narrow/Div
	(Broadest)	(Investable)	(Replicable)
Country			
Income Status	<p>Index Entry: A country's GNI per capita must be below the JPMorgan defined <i>Index Income Ceiling (IIC)*</i> for 3 consecutive years</p> <p>Index Exit: If a country's GNI per capita is above the Index Income Ceiling (IIC)* for three consecutive years as well as the country's long term local currency sovereign credit rating (the available ratings from all three agencies: S&P, Moody's & Fitch) is A-/A3/A- (inclusive) or above for three consecutive years.</p>		
Market Access			
Explicit Capital Control	√		
Tax/regulatory constraints	√	√	
Registration with local authority	√	√	√
Instrument			
Instrument Type	Local currency denominated government bond (Global Bonds are eligible)		
Min Face Amt Outstanding	\$500mn for Global bonds and \$1billion for Local issued bonds		
Maturity	Greater than 13 months to maturity on rebalance date		
Liquidity	Two-way daily pricing should be available and guidance taken from local trading desk		

*JPMorgan defines the Index Income Ceiling (IIC) as the GNI per capita level that is adjusted every year by the growth rate of the World GNI per capita, Atlas method (current US\$), provided by the World Bank annually

average size of all countries. As an additional layer of control, the maximum weight of countries is capped at 10%.

Diversification methodology anchors on the average size of countries in the index and the debt stock of the largest country in the index. To calculate the diversified (adjusted) face amount for each country, we define:

$$\text{Index Country Average (ICA)} = \frac{\sum(\text{Ctry Face Amount})}{\text{No. of Countries in the index}}$$

Based on the ICA, the diversified face amount for any country in the index is derived according to the following rules:

$$\text{Diversified Country Face Amount} = \begin{cases} \text{ICA} * 2 & , \text{ if } \text{FA}_{\text{max}} \\ \text{ICA} + \frac{\text{ICA}}{\text{FA}_{\text{max}} - \text{ICA}} * (\text{Ctry FA} - \text{ICA}) & , \text{ if } \text{Ctry FA} > \text{ICA} \\ \text{Ctry FA} & , \text{ if } \text{Ctry FA} \leq \text{ICA} \end{cases}$$

where Ctry FA represents the non-diversified country face amount and FA_{max} represent the face amount of the largest country.

Subsequently, the diversified face amount determined using the above step is then converted to a market value, which is then converted to an index weight percentage based on the proportion of the total index market capitalization that the country represents. In addition, country weights are capped at 10%. Any excess weight above the cap is redistributed to smaller countries that are below the cap to limit concentration risk

Index Rebalance methodology

The GBI-EM is rebalanced monthly on the last weekday of the month, regardless of any local holidays. If FX rates from WM Reuters are unavailable on the last weekday of the month (e.g. Good Friday), rebalance is on the previous business day. Country inclusion/exclusion eligibility is reviewed each month before rebalancing. Two reports pre-preview & preview are sent prior to the rebalancing during the third and fourth week of the month, respectively, to provide a preview of the upcoming rebalance.

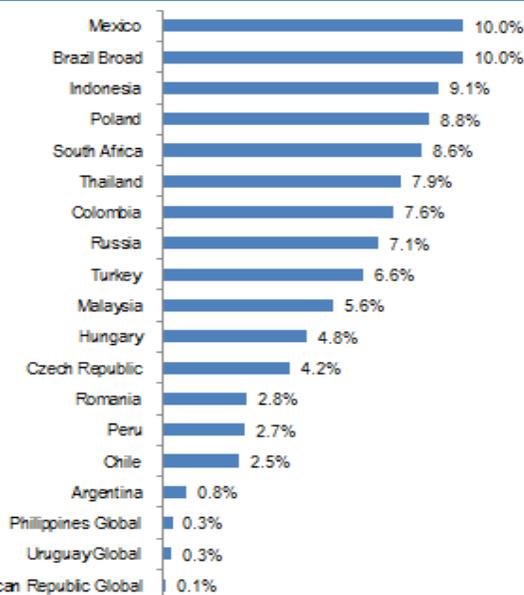
For a country to be eligible for index inclusion, its GNI per capita must be below the Index Income Ceiling (IIC) for three consecutive years. JPMorgan defines the Index Income Ceiling (IIC) as the GNI per capita level that is adjusted every year by the growth rate of the World GNI per capita, Atlas method (current US\$), provided by the World Bank annually. An existing country may be considered for removal from the index if its GNI per capita is above the *Index Income Ceiling (IIC)* for three consecutive years as well as its long term local currency sovereign credit rating (the available ratings from all three agencies: S&P, Moody's & Fitch) is A-/A3/A-(inclusive) or above for three consecutive years.

Countries having more than 10% allocation will follow the '10/10 rule' for rebalancing. This rule states that inclusion, exclusion, or re-categorization of a country (or instrument type) holding a 10% or larger weight in any of the GBI-EM indices will be staggered over at least a 10-month period. At an instrument level, new bonds/taps are confirmed by local market coordinators before being added to the index.

Custom indices / ETFs

GBI-EM Global Diversified 15% IG: We offer an Investment Grade-only version of the GBI-EM Global Diversified, with a 15% cap per country. This index requires an IG rating by *all three* rating agencies (S&P, Moody's and Fitch). The IG version has gained popularity among investors and has attracted more than \$3bn in AUM since inception in 2010. **VanEck Vectors Emerging Market Local Currency Bond ETF** tracks the GBI-EM Global Diversified Core index, which is a slight variant of the industry standard GBI-EM GD but with both a weight Cap (10%) and a weight Floor (3%). It was launched in July 2010 and can be found under the Bloomberg ticker **EMLC** (AUM \$5.4 billion).

GBI-EM Global Diversified Profile (as of April 2018)



Where to find the GBI-EM?

Bloomberg

JPMX->Emerging Markets->Local Market->GBI-EM

Dataquery

www.jpmm.com (Analyze ->Cross-Asset->Data Query->Indices->Local Market Indices)

Morgan Markets

www.jpmm.com (Research->Index->Emerging Markets->Treasuries->GBI-EM Global Div)

Publication

Index Movers Daily; EMBI Monitor, Index Quarterly Attribution

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