

J.P. Morgan DM L&G Sovereign ESG (Local Currency) Index

Index Methodology and Profile

Highlights

The J. P. Morgan Developed Markets L&G Sovereign ESG (Local Currency) Index is designed to track the performance of eligible local currency denominated central government debt issued by developed markets countries. The index follows the inclusion rules of the [J.P. Morgan GBI-DM Index](#), as well as complying with LGIM's country exclusion [criteria](#).

The J. P. Morgan Developed Markets L&G Sovereign ESG (Local Currency) Index tilts towards countries ranked higher based on [LGIM Sovereign Risk ESG scores and scaling methodology](#). On a quarterly basis, the index rebalances country weights limits to within 10% above and below their respective weights in the J.P. Morgan GBI-DM Index after applying scaling factors based upon LGIM Sovereign Risk ESG scores. Its historical returns and statistics are available from December 2017.

Global Index Research

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Index Criteria

Minimum Issue Size	US\$1 billion (or equivalent) and \$500 million for global debt
Instrument Type	Fixed-rate and zero-coupon bonds
Remaining Maturity	Remaining maturity at rebalance at least 6 months
Currency Denomination	Local currency denominated
Country Eligibility	Eligible for inclusion in the J.P. Morgan GBI DM index and not flagged for exclusion during the quarterly country screening process.

Index Characteristics and Methodology

Pricing	Mid prices are taken from a third-party pricing source
Aggregate Return	Weighted average of bond returns using mid prices
Rebalancing	Rebalances on the last weekday of the month. If FX rates from WM Reuters are unavailable on the last weekday of the month (e.g., Good Friday), indices are rebalanced on the previous business day.
Coupon Reinvestment	Immediately reinvested into the respective local market
FX Rates	All FX rates used for hedged/unhedged returns are as of 4pm London time provided by WM/Reuters
Weighting	Diversification based on LGIM Sovereign Risk Score adjusted market capitalization with cap and floor constraints of 10% above and below components' weight on J.P. Morgan GBI-DM Index at the quarter end.
Price Timing	As of the respective local market close
Settlement Convention	Respective local market country convention
Holiday Calendar	Local market calendar

See page 4 for analyst certification and important disclosures.

Eligible countries

The J. P. Morgan Developed Markets L&G Sovereign ESG (Local Currency) Index includes liquid, bullet, fixed-rate local debt issued by developed markets governments as defined in the J.P. Morgan GBI-DM Index.

A list of countries to be excluded from the J. P. Morgan Developed Markets L&G Sovereign ESG (Local Currency) Index is updated quarterly and effective from the start of the next rebalance period. Detailed exclusion rules and methodology can be referred [here](#). When a country exits the index, it will not qualify for inclusion for a period of 12 months.

In the event of default, market disruption or sanction, the J.P. Morgan Developed Markets L&G Sovereign ESG (Local Currency) Index will follow the procedures of the J.P. Morgan GBI-DM Index.

Liquidity

While the notion of liquidity differs from market to market, J.P. Morgan indices include only securities subject to several considerations including but not limited to:

- *Pricing*: Bonds must trade with enough frequency to prevent stale price quotations
- *Availability*: Bonds must be regularly traded in size at acceptable bid-offer spreads and readily redeemable for cash. A reasonable two-way market must exist for the instrument to be included in the index portfolio.
- *Replication costs*: Investors should be able to replicate the index without incurring excessive transaction costs.

ESG Scores

Global countries are assigned LGIM Sovereign Risk ESG scores quarterly. The new scores become effective from the next rebalance period. Detailed scoring methodology can be referred [here](#).

Appendix

Index Tilting Methodology

The J.P. Morgan Developed Markets L&G Sovereign ESG (Local Currency) Index adjusts its component weights by LGIM Sovereign Risk ESG score-tilted factors, derived from the formula:

$$W_i^{adj} = (c \times Score)^N \times W_i^{MV}$$

where W_i^{adj} = Adjusted market cap

Score = ESG Score

N = Tilting strength

MV = Market Value

c = Scaling factor

Instrument level weights are then determined by the cap and floor limits which are 10% above and 10% below ($\geq 0\%$) their quarterly weights in the J.P. Morgan GBI-DM Index, using a quadratic optimization methodology.

For any questions or for additional information, please contact index.research@jpmorgan.com

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